

Tuesday, March 02, 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: 10-2197  
Per Agreement Number: 126310011  
Project Cost Code: MR3A05629E00

Please analyse the enclosed samples  
according to the schedule indicated:

SHIP DATE: 3/2/2010  
TURNAROUND/REPORT DUE: 4/1/2010  
TURNAROUND REQ'D: 30 Days

**RAD SCREENING: Yes, Below Background**  
**LAB REQUEST COMMENTS:**

LANL ER SMO CONTACT:

Signature:



PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
EPA:300.0		1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
EPA:901.1		1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
EPA:906.0		1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	

Tuesday, March 02, 2010

REQUEST NUMBER: 10-2197

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
HASL-300:AM-241	1	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
HASL-300:ISOPU	1	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
HASL-300:ISOU	1	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
SW-846:6010B	1	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
SW-846:6020	1	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
SW-846:6850	1	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
SW-846:7470A	1	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
SW-846:7471A	1	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
SW-846:9012A	1	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	

Tuesday, March 02, 2010

REQUEST NUMBER: 10-2197

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
SW-846:9045C		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
		1	RE36-10-7536	W	2/25/2010	
		1	RE36-10-7537	W	2/25/2010	
		1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	

Final Page of REQUEST NUMBER 10-2197

Thursday, March 04, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-2197C

LOS ALAMOS

REQUEST NUMBER: 10-2197

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 4/1/2010

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
RE36-10-7501	1	POLY	AM241+GS+ISOPU+ ISOU	None	R
RE36-10-7501	1	POLY	H3	Ice	R
RE36-10-7501	1	POLY	METALS+U-GEL	Ice	R
RE36-10-7501	1	POLY	Perchlorate+CN+N03+ pH	Ice	R
RE36-10-7524	1	POLY	AM241+GS+ISOPU+ ISOU	None	R
RE36-10-7524	1	POLY	H3	Ice	R
RE36-10-7524	1	POLY	METALS+U-GEL	Ice	R
RE36-10-7524	1	POLY	Perchlorate+CN+N03+ pH	Ice	R
RE36-10-7525	1	POLY	AM241+GS+ISOPU+ ISOU	None	R
RE36-10-7525	1	POLY	H3	Ice	R
RE36-10-7525	1	POLY	METALS+U-GEL	Ice	R
RE36-10-7525	1	POLY	Perchlorate+CN+N03+ pH	Ice	R
RE36-10-7537	1	POLY	METALS+U-GEL	Nitric Acid	W
RE36-10-7537	1	POLY	SW-846:6850	Ice	W
RE36-10-7537	1	POLY	TCN	Sodium Hydroxide	W
RE36-10-7536	1	POLY	METALS+U-GEL	Nitric Acid	W
RE36-10-7536	1	POLY	SW-846:6850	Ice	W
RE36-10-7536	1	POLY	TCN	Sodium Hydroxide	W

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: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7501

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/25/2010		MEDIA:	QBT3		ALLH
TIME COLLECTED (HH:MM)		0910		SUB-MEDIA:	TUFF 1		NA
PRS ID:	36-008		OK	SAMPLE TECH CODE:	HA		OK
LOCATION ID:	36-610623		↓	FIELD QC TYPE:	NA		↓
LOCATION TYPE:	GENERIC		↓	FIELD PREP:	NA		↓
TOP DEPTH:	0		0.0	SAMPLE USAGE:	INV		↓
BOTTOM DEPTH:	0		0.5	SCREEN/PORT DESC:	NA		
FIELD MATRIX:	R		S	EXCAVATED: YES/NO	NA		
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		WATER FLOWING: YES/NO NA
BOREHOLE: YES/NO/NA	NA			BOREHOLE DECLINATION:	NA		BOREHOLE DIRECTION: NA

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	normal	8260B	125 ML SEPTUM AMBER GLASS	Ice	✓	
1		8270C+NMED Exp	500 ML AMBER GLASS	Ice	✓	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	✓	
1		H3	500 ML POLY	Ice	✓	
1		METALS+U-GEL	125 ML POLY	Ice	✓	
1		Perchlorate+CN+N03+pH	500 ML POLY	Ice	✓	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	✓	

SAMPLE DESC:

Brown sandy silt, roots, tuff fragments

SAMPLE COMMENTS:

NA

LOCATION DESC: 8-29

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 23 dpm  
Beta/Gamma = 1746 dpm

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

73m 2/25/10

COLLECTED BY (PRINT)

TL McFarland

REVIEWED BY (PRINT)

J. Branch

RELINQUISHED BY (Printed Name) J. Branch (Signature) <i>J. Branch</i>	Date/Time 2/25/10 1530	RECEIVED BY (Printed Name) Jennifer Sherwood (Signature) <i>Jennifer Sherwood</i>	Date/Time 2/25/10 1530
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time

## SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7524

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/25/2010		MEDIA:	QBT3	SED	
TIME COLLECTED(HH:MM)		1115		SUB-MEDIA:	TUFF 1	NA	
PRS ID:	36-008	OK		SAMPLE TECH CODE:	HA	OK	
LOCATION ID:	UNK	36-6105E1		FIELD QC TYPE:	ED		
LOCATION TYPE:	GENERIC	OK		FIELD PREP:	NA		
TOP DEPTH:	0	0.0		SAMPLE USAGE:	QC		
BOTTOM DEPTH:	0	0.5		SCREEN/PORT DESC:	NA		
FIELD MATRIX:	R	SED		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	882+8270+NME D-EXP	500 ML AMBER GLASS	Ice	Y	
1		8260B	125 ML SEPTUM AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		METALS+U-GEL	125 ML POLY	Ice	Y	
1		Perchlorate+CN+N03+pH	500 ML POLY	Ice	Y	
1	✓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: QC Sample of RE36-10-7437

Brown loamy silt, roots

SAMPLE COMMENTS:

LOCATION DESC: 8-38

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha  $\leq$  58 dpmBeta/Gamma  $\leq$  1785 dpmPID  $\frac{\text{Ambient Reading}}{\text{Reading}} = \text{ppm}$ 

COLLECTED BY (PRINT)

T. McFarland

REVIEWED BY (PRINT)

J. Branch

RELINQUISHED BY (Printed Name) J. Branch (Signature) <i>J. Branch</i>	Date/Time 2/25/10 1530	RECEIVED BY (Printed Name) <i>Sherry Sherwood</i> (Signature) <i>Sherry Sherwood</i>	Date/Time 2/25/10 1530
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time

## SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7525

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/25/2010		MEDIA:	QBT3		11h
TIME COLLECTED (HH:MM)		1345		SUB-MEDIA:	TUFF 1		n/a
PRS ID:	36-008	OK		SAMPLE TECH CODE:	HA		OK
LOCATION ID:	UNK	36-610597		FIELD QC TYPE:	ED		
LOCATION TYPE:	GENERIC	OK		FIELD PREP:	NA		
TOP DEPTH:	0	0.0		SAMPLE USAGE:	QC		
BOTTOM DEPTH:	0	0.5		SCREEN/PORT DESC:	NA		
FIELD MATRIX:	R	S		EXCAVATED: YES/(NO) NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		WATER FLOWING: YES/(NO) NA
BOREHOLE: YES/(NO) NA		BOREHOLE DECLINATION:	NA	BOREHOLE DIRECTION:	NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	normal	8082+8270+NME D-EXP	500 ML AMBER GLASS	Ice	g	
1		8260B	125 ML SEPTUM AMBER GLASS	Ice		
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None		
1		H3	500 ML POLY	Ice		
1		METALS+U-GEL	125 ML POLY	Ice		
1		Perchlorate+CN+N03+pH	500 ML POLY	Ice		
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	✓	

SAMPLE DESC: QC Sample of RE36-10-7449

Brown, moist, silty soil w/roots &amp; organics

SAMPLE COMMENTS:

N/A

LOCATION DESC: 8-40

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha  $\leq$  29 dpm  
 Beta/Gamma  $\leq$  1790 dpm

PID  $\frac{\text{Ambient Reading}}{2.25/10} = \text{ppm}$

COLLECTED BY (PRINT)

REVIEWED BY (PRINT)

RELINQUISHED BY (Printed Name) J. Branch (Signature) <i>J. Branch</i>	Date/Time 2/25/10 1530	RECEIVED BY (Printed Name) <i>Sherry Sherwood</i> (Signature) <i>Sherry Sherwood</i>	Date/Time 2/25/10 1530
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time

## SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7536

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/25/2010		MEDIA:	NA		OK
TIME COLLECTED (HH:MM)		1216		SUB-MEDIA:	OTHER		
PRS ID:	36-008	OK		SAMPLE TECH CODE:	DC		
LOCATION ID:	UNK	36-610592		FIELD QC TYPE:	FR		
LOCATION TYPE:	GENERIC	OK		FIELD PREP:	UF		
TOP DEPTH:	0			SAMPLE USAGE:	QC		
BOTTOM DEPTH:	0			SCREEN/PORT DESC:	NA		
FIELD MATRIX:	W			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	METALS+U-GEL	1 LITER POLY	Nitric Acid	Y	
1		NO3NO2	250 ML POLY	Sulfuric Acid (Hydrogen Sulfate)	N	
1	normal	SW-846:6850	250 ML POLY	Ice	Y	
1	normal	TCN	500 ML POLY	Sodium Hydroxide	Y	

SAMPLE DESC: QC Sample of

RE 36-10-7440

SAMPLE COMMENTS:

LOCATION DESC: 8-39

FIELD SCREENING/MEASUREMENT RESULTS:

NA

COLLECTED BY (PRINT)

T. McFarland

REVIEWED BY (PRINT)

J. Branch

RELINQUISHED BY (Printed Name) J. Branch (Signature) [Signature]	Date/Time 2/25/10 1530	RECEIVED BY (Printed Name) Sherrill Sherwood (Signature) [Signature]	Date/Time 2/25/10 1530
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

## SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7537

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/25/2010		MEDIA:	NA		OK
TIME COLLECTED (HH:MM)		1300		SUB-MEDIA:	OTHER		
PRS ID:	36-008	OK		SAMPLE TECH CODE:	QC		
LOCATION ID:	UNK	36-610596		FIELD QC TYPE:	FR		
LOCATION TYPE:	GENERIC	OK		FIELD PREP:	UF		
TOP DEPTH:	0			SAMPLE USAGE:	QC		
BOTTOM DEPTH:	0			SCREEN/PORT DESC:	NA		
FIELD MATRIX:	W			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	METALS+U-GEL	1 LITER POLY	Nitric Acid	Y	
1		NO3NO2	250 ML POLY	Sulfuric Acid (Hydrogen Sulfate)	N	
1	normal	SW-846:6850	250 ML POLY	Ice	Y	
1	normal	TCN	500 ML POLY	Sodium Hydroxide	Y	

SAMPLE DESC: QC Sample of RE 36-10-7448

SAMPLE COMMENTS:

LOCATION DESC: 8-42

FIELD SCREENING/MEASUREMENT RESULTS:

NA

COLLECTED BY (PRINT)

REVIEWED BY (PRINT)

RELINQUISHED BY (Printed Name) J. Branch (Signature) [Signature]	Date/Time 2/25/10 1530	RECEIVED BY (Printed Name) Sherin Sherwood (Signature) [Signature]	Date/Time 2/25/10 1530
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

## SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2485

EVENT NAME: 4th Qtr. FY09 - AOC 36-008 - Threemile Canyon

SAMPLE ID: RE36-10-7543

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/25/2010		MEDIA:	NA		OK
TIME COLLECTED (HH:MM)		1220		SUB-MEDIA:	OTHER		
PRS ID:	36-008	OK		SAMPLE TECH CODE:	DC		
LOCATION ID:	UNK	36-610596		FIELD QC TYPE:	FTB		
LOCATION TYPE:	GENERIC	OK		FIELD PREP:	NA		
TOP DEPTH:	0			SAMPLE USAGE:	QC		
BOTTOM DEPTH:	0			SCREEN/PORT DESC:	N/A		
FIELD MATRIX:	S			EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	N/A			COMPOSITE TIME INTERVAL:	N/A		
				WATER FLOWING: YES/NO/NA			
BOREHOLE: YES/NO/NA				BOREHOLE DECLINATION:	N/A		
				BOREHOLE DIRECTION:	N/A		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
32 1	Normal	8260B Trip Blank	40 ML SEPTUM AMBER GLASS	Ice	g	

SAMPLE DESC: QC Sample of RE36-10-7447

SAMPLE COMMENTS:

FTB

LOCATION DESC:

NA

FIELD SCREENING/MEASUREMENT RESULTS:

NA

COLLECTED BY (PRINT)

J. Branch

REVIEWED BY (PRINT)

L. Lopez

RELINQUISHED BY (Printed Name) J. Branch (Signature) <i>J. Branch</i>	Date/Time 2/25/10 1530	RECEIVED BY (Printed Name) <i>Shenivisnewood</i> (Signature) <i>Shenivisnewood</i>	Date/Time 2/25/10 1530
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

## DATA VALIDATION COVER SHEET

5121-1

## Data Validation Cover Sheet

Records Use only



## Section I.

REQUEST NUMBER: 10-2197 VALIDATION DATE: 04/22/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Kevin A. Lambert 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 | 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 water LCS %R for perchlorate was > the laboratory UAL. The associated sample results were NDs and, thus, were not qualified.
2. It should be noted that the water and soil MS/MSD analyses were performed on LANL samples from other RNs, and the parent sample raw data was not included in the data package. No sample data were qualified.

Reviewed by: Allison Felix Level: 1 Date: 4/23/10

VALIDATOR'S SIGNATURE: Kevin A. Lambert DATE: 04/22/10


Form 5121-1, Revision 0.0

LOS ALAMOS  
Environmental Restoration Project


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"/>	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 $\leq 5X$ 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 $\leq 5X$ 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	
<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"/>	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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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: SOIL  
 Extraction Batch ID: 963897  
 Extraction Type: Solid Prep  
 Client Sample No. RE36-10-7501  
 Date Received: 03-MAR-10  
 GEL Job No (SDG): 10-2197  
 GEL Sample ID: 248515001  
 Date Filtered: 17-MAR-10  
 Injection Volume (uL): 20  
 Sample Volume/Weight: 2.00 g  
 % Solids: 76  
 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	.658	2.63	7.75	ug/kg		1	23-MAR-10 07:42	per0322101a
	Perchlorate Isotope Ratio			2.94			1	23-MAR-10 07:42	per0322101a
14797-73-0	Perchlorate-101	.658	2.63	8.01	ug/kg		1	23-MAR-10 07:42	per0322101a
	Perchlorate-O(18)			6.85	ug/kg		1	23-MAR-10 07:42	per0322101a

<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: 963897  
 Extraction Type: Solid Prep  
 Client Sample No. RE36-10-7524  
 Date Received: 03-MAR-10  
 GEL Job No (SDG): 10-2197  
 GEL Sample ID: 248515002  
 Date Filtered: 17-MAR-10  
 Injection Volume (uL): 20  
 %Solids: 84  
 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	.595	2.38	2.30	ug/kg	J	1	23-MAR-10 07:55	per0322102a
	Perchlorate Isotope Ratio			2.91			1	23-MAR-10 07:55	per0322102a
14797-73-0	Perchlorate-101	.595	2.38	2.41	ug/kg		1	23-MAR-10 07:55	per0322102a
	Perchlorate-O(18)			6.24	ug/kg		1	23-MAR-10 07:55	per0322102a

<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: 963897  
 Extraction Type: Solid Prep  
 Client Sample No. RE36-10-7525  
 Date Received: 03-MAR-10  
 GEL Job No (SDG): 10-2197  
 GEL Sample ID: 248515003  
 Date Filtered: 17-MAR-10  
 Injection Volume (uL): 20  
 %Solids: 80

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	.626	2.5	0.666	ug/kg	J	1	23-MAR-10 08:07	per0322103a
	Perchlorate Isotope Ratio			2.53			1	23-MAR-10 08:07	per0322103a
14797-73-0	Perchlorate-101	.626	2.5	0.799	ug/kg	J	1	23-MAR-10 08:07	per0322103a
	Perchlorate-Q(18)			6.07	ug/kg		1	23-MAR-10 08:07	per0322103a

<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: WATER

Extraction Batch ID: 962135

Extraction Type: Filter/DAI

Sample Volume/Weight: 10.0 mL

Concentrated Extract Volume: 10.0

Client Sample No.

RE36-10-7537

Date Received: 03-MAR-10

GEL Job No (SDG): 10-2197-1

GEL Sample ID: 248516001

Date Filtered: 08-MAR-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	17-MAR-10 05:25	per0316101a
	Perchlorate Isotope Ratio						1	17-MAR-10 05:25	per0316101a
14797-73-0	Perchlorate-101	.05	.2	0.050	ug/L	U	1	17-MAR-10 05:25	per0316101a
	Perchlorate-O(18)			0.459	ug/L		1	17-MAR-10 05:25	per0316101a

<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: WATER  
 Extraction Batch ID: 962135  
 Extraction Type: Filter/DAI  
 Sample Volume/Weight: 10.0 mL  
 Concentrated Extract Volume: 10.0  
 Client Sample No. RE36-10-7536  
 Date Received: 03-MAR-10  
 GEL Job No (SDG): 10-2197-1  
 GEL Sample ID: 248516002  
 Date Filtered: 08-MAR-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	17-MAR-10 05:34	per0316102a
	Perchlorate Isotope Ratio						1	17-MAR-10 05:34	per0316102a
14797-73-0	Perchlorate-101	.05	.2	0.050	ug/L	U	1	17-MAR-10 05:34	per0316102a
	Perchlorate-O(18)			0.461	ug/L		1	17-MAR-10 05:34	per0316102a

<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  $\frac{1}{\% \text{Solids}}$

## DATA VALIDATION COVER SHEET

5118-1

## Data Validation Cover Sheet

Records Use only



## Section I.

REQUEST NUMBER: 10-2197 VALIDATION DATE: 04/22/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Kevin A. Lambert 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 checked="" 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 | 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):


- In the soil MB, K was detected. The associated sample results were detects >50X the MB concentration and, based on professional judgment, were not qualified.
- In the water ICB/CCB, K and Tl were detected. The Tl result for sample RE36-10-7536 was a ND and, thus, was not qualified. All other associated sample results were detects ≤5X the greatest ICB/CCB concentration and, thus, were qualified U,I4b.  
  
In the soil ICB/CCB, K and Ag were detected. All associated sample results were either NDs or detects >5X the greatest ICB/CCB concentrations and, thus, were not qualified.
- In the FR blanks, samples -7537 and -7536, associated with all field samples, Fe and Na were detected. The Na results were detects ≤5X the FR blank concentration and, thus, were qualified U,I4d. All other associated sample results were detects >5X the FR blank concentration and, thus, were not qualified.
- The soil MS %R for Na was < the laboratory LAL but ≥10%, and the soil MS %Rs for Al, Ba, Ca, Fe, Pb, Mg, Mn, K, and Zn were > the laboratory UAL. However, the associated parent sample concentrations for Al, Fe, and Mn were >4X the spike concentrations. Thus, no sample data were qualified as result, based on professional judgment. The Na results were qualified NDs and, thus, were qualified UJ,I6a. All Ba, Ca, Pb, Mg, K, and Zn results were detects and, thus, were qualified J+,I6b.
- The soil duplicate RPD value for Ca was >35%, and both the parent sample and duplicate results were ≥5X the PQL. The associated sample results were detects and, thus, were qualified J,I10a.




DATA VALIDATION COVER SHEET	
<b>5118-1</b>  <b>Data Validation Cover Sheet</b>	Records Use only   <b>Los Alamos</b> NATIONAL LABORATORY EST. 1945
<p>6. It should be noted that the parent samples for the water and soil matrix QC analyses were LANL samples from other RNs, and the parent sample raw data were not included in the data package. No sample data were qualified.</p> <p>Reviewed by: Allison Felix    Level: 1    Date: 4/23/10</p>	
<p>VALIDATOR'S SIGNATURE: <u>Kevin A. Lambert</u>    DATE: <u>04/22/10</u></p>	
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	
<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"/>	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 type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input 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 (Check One)				Assign Qualifier Listed Below If Criterion = Yes	
				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 checked="" type="checkbox"/>	<input 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: 10-2197

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 248515001

BASIS: Dry Weight

DATE COLLECTED 25-FEB-10

CLIENT ID: RE36-10-7501

LEVEL: Low

DATE RECEIVED 03-MAR-10

MATRIX: SOIL

%SOLIDS: 76

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	3620000	ug/Kg		8250	24300	24300	1	P	HSC	03/30/10 22:00	033010B-1	962575
7440-36-0	Antimony	1210	ug/Kg	U	401	1210	1210	1	P	HSC	03/30/10 22:00	033010B-1	962575
7440-38-2	Arsenic	1.46	mg/kg		0.251	1.25	1.25	2	MS	SKJ	04/14/10 00:48	100413-2	962569
7440-39-3	Barium J+,16b	41200	ug/Kg		121	607	607	1	P	HSC	03/30/10 22:00	033010B-1	962575
7440-41-7	Beryllium	0.536	mg/kg		0.0251	0.125	0.125	2	MS	SKJ	04/14/10 00:48	100413-2	962569
7440-43-9	Cadmium	607	ug/Kg	U	121	607	607	1	P	HSC	03/30/10 22:00	033010B-1	962575
7440-70-2	Calcium J+,16b	1820000	ug/Kg		9710	30300	30300	1	P	HSC	03/30/10 22:00	033010B-1	962575
7440-47-3	Chromium	9010	ug/Kg		182	607	607	1	P	HSC	03/30/10 22:00	033010B-1	962575
7440-48-4	Cobalt	1820	ug/Kg		182	607	607	1	P	HSC	03/30/10 22:00	033010B-1	962575
7440-50-8	Copper	3020	ug/Kg		364	1210	1210	1	P	HSC	03/30/10 22:00	033010B-1	962575
7439-89-6	Iron	7810000	ug/Kg		9710	30300	30300	1	P	HSC	03/30/10 22:00	033010B-1	962575
7439-92-1	Lead J+,16b	5970	ug/Kg		303	1210	1210	1	P	HSC	03/30/10 22:00	033010B-1	962575
7439-95-4	Magnesium J+,16b	900000	ug/Kg		10300	36400	36400	1	P	HSC	03/30/10 22:00	033010B-1	962575
7439-96-5	Manganese	132000	ug/Kg		243	1210	1210	1	P	HSC	03/30/10 22:00	033010B-1	962575
7439-97-6	Mercury	16.3	ug/kg		5.03	14.8	14.8	1	AV	JXL1	03/16/10 14:02	031610S1-3	964741
7440-02-0	Nickel	3.86	mg/kg		0.125	0.501	0.501	2	MS	SKJ	04/14/10 00:48	100413-2	962569
7440-09-7	Potassium J+,16b	809000	ug/Kg		7770	30300	30300	1	P	HSC	03/30/10 22:00	033010B-1	962575
7782-49-2	Selenium	1.25	mg/kg	U	0.627	1.25	1.25	2	MS	SKJ	04/14/10 00:48	100413-2	962569
7440-22-4	Silver	607	ug/Kg	U	121	607	607	1	P	HSC	03/30/10 22:00	033010B-1	962575
7440-23-5	Sodium U,14d	100000	ug/Kg		8500	30300	30300	1	P	HSC	03/30/10 22:00	033010B-1	962575
7440-28-0	Thallium	0.0829	mg/kg	J	0.0752	0.251	0.251	2	MS	SKJ	04/14/10 00:48	100413-2	962569
7440-61-1	Uranium	0.503	mg/kg		0.0165	0.0501	0.0501	2	MS	SKJ	04/14/10 00:48	100413-2	962569
7440-62-2	Vanadium	11000	ug/Kg		121	607	607	1	P	HSC	03/30/10 22:00	033010B-1	962575
7440-66-6	Zinc J+,16b	32400	ug/Kg		401	1210	1210	1	P	HSC	03/30/10 22:00	033010B-1	962575

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
962569	962563	SW846 3050B	0.525	g	50	mL	03/16/10	AXG2
962575	962573	SW846 3050B	0.542	g	50	mL	03/16/10	AXG2
964741	964740	SW846 7471A Prep	0.534	g	30	mL	03/15/10	TXB3

KAL  
04/22/10

METALS  
-1-  
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-2197

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 248515002

BASIS: Dry Weight

DATE COLLECTED 25-FEB-10

CLIENT ID: RE36-10-7524

LEVEL: Low

DATE RECEIVED 03-MAR-10

MATRIX: SOIL

%SOLIDS: 84

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	4930000	ug/Kg		7890	23200	23200	1	P	HSC	03/30/10 22:02	033010B-1	962575
7440-36-0	Antimony	1160	ug/Kg	U	383	1160	1160	1	P	HSC	03/30/10 22:02	033010B-1	962575
7440-38-2	Arsenic	0.766	mg/kg	J	0.23	1.15	1.15	2	MS	SKJ	04/14/10 00:53	100413-2	962569
7440-39-3	Barium J+,16b	79000	ug/Kg		116	580	580	1	P	HSC	03/30/10 22:02	033010B-1	962575
7440-41-7	Beryllium	0.297	mg/kg		0.023	0.115	0.115	2	MS	SKJ	04/14/10 00:53	100413-2	962569
7440-43-9	Cadmium	580	ug/Kg	U	116	580	580	1	P	HSC	03/30/10 22:02	033010B-1	962575
7440-70-2	Calcium J+,16b	4940000	ug/Kg		9280	29000	29000	1	P	HSC	03/30/10 22:02	033010B-1	962575
7440-47-3	Chromium	6170	ug/Kg		174	580	580	1	P	HSC	03/30/10 22:02	033010B-1	962575
7440-48-4	Cobalt	2200	ug/Kg		174	580	580	1	P	HSC	03/30/10 22:02	033010B-1	962575
7440-50-8	Copper	6570	ug/Kg		348	1160	1160	1	P	HSC	03/30/10 22:02	033010B-1	962575
7439-89-6	Iron	8430000	ug/Kg		9280	29000	29000	1	P	HSC	03/30/10 22:02	033010B-1	962575
7439-92-1	Lead J+,16b	12300	ug/Kg		290	1160	1160	1	P	HSC	03/30/10 22:02	033010B-1	962575
7439-95-4	Magnesium J+,16b	1360000	ug/Kg		9870	34800	34800	1	P	HSC	03/30/10 22:02	033010B-1	962575
7439-96-5	Manganese	750000	ug/Kg		232	1160	1160	1	P	HSC	03/30/10 22:02	033010B-1	962575
7439-97-6	Mercury	121	ug/kg		4.86	14.3	14.3	1	AV	JXL1	03/16/10 14:04	031610S1-3	964741
7440-02-0	Nickel	2.17	mg/kg		0.115	0.46	0.46	2	MS	SKJ	04/14/10 00:53	100413-2	962569
7440-09-7	Potassium J+,16b	1210000	ug/Kg		7430	29000	29000	1	P	HSC	03/30/10 22:02	033010B-1	962575
7782-49-2	Selenium	1.15	mg/kg	U	0.575	1.15	1.15	2	MS	SKJ	04/14/10 00:53	100413-2	962569
7440-22-4	Silver	580	ug/Kg	U	116	580	580	1	P	HSC	03/30/10 22:02	033010B-1	962575
7440-23-5	Sodium U,14d	64500	ug/Kg		8120	29000	29000	1	P	HSC	03/30/10 22:02	033010B-1	962575
7440-28-0	Thallium	0.230	mg/kg	U	0.069	0.23	0.23	2	MS	SKJ	04/14/10 00:53	100413-2	962569
7440-61-1	Uranium	0.883	mg/kg		0.0152	0.046	0.046	2	MS	SKJ	04/14/10 00:53	100413-2	962569
7440-62-2	Vanadium	9520	ug/Kg		116	580	580	1	P	HSC	03/30/10 22:02	033010B-1	962575
7440-66-6	Zinc J+,16b	41900	ug/Kg		383	1160	1160	1	P	HSC	03/30/10 22:02	033010B-1	962575

## Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
962569	962563	SW846 3050B	0.518	g	50	mL	03/16/10	AXG2
962575	962573	SW846 3050B	0.513	g	50	mL	03/16/10	AXG2
964741	964740	SW846 7471A Prep	0.5	g	30	mL	03/15/10	TXB3

KAL  
04/22/10

METALS  
-1-  
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-2197

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 248515003

BASIS: Dry Weight

DATE COLLECTED 25-FEB-10

CLIENT ID: RE36-10-7525

LEVEL: Low

DATE RECEIVED 03-MAR-10

MATRIX: SOIL

%SOLIDS: 80

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	6080000	ug/Kg		8520	25000	25000	1	P	HSC	03/30/10 22:04	033010B-1	962575
7440-36-0	Antimony	1250	ug/Kg	U	413	1250	1250	1	P	HSC	03/30/10 22:04	033010B-1	962575
7440-38-2	Arsenic	1.48	mg/kg		0.241	1.2	1.2	2	MS	SKJ	04/14/10 00:57	100413-2	962569
7440-39-3	Barium J+,I6b	81200	ug/Kg		125	626	626	1	P	HSC	03/30/10 22:04	033010B-1	962575
7440-41-7	Beryllium	0.467	mg/kg		0.0241	0.12	0.12	2	MS	SKJ	04/14/10 00:57	100413-2	962569
7440-43-9	Cadmium	626	ug/Kg	U	125	626	626	1	P	HSC	03/30/10 22:04	033010B-1	962575
7440-70-2	Calcium J+,I6b	4000000	ug/Kg		10000	31300	31300	1	P	HSC	03/30/10 22:04	033010B-1	962575
7440-47-3	Chromium	6810	ug/Kg		188	626	626	1	P	HSC	03/30/10 22:04	033010B-1	962575
7440-48-4	Cobalt	3300	ug/Kg		188	626	626	1	P	HSC	03/30/10 22:04	033010B-1	962575
7440-50-8	Copper	6170	ug/Kg		376	1250	1250	1	P	HSC	03/30/10 22:04	033010B-1	962575
7439-89-6	Iron	10500000	ug/Kg		10000	31300	31300	1	P	HSC	03/30/10 22:04	033010B-1	962575
7439-92-1	Lead J+,I6b	10200	ug/Kg		313	1250	1250	1	P	HSC	03/30/10 22:04	033010B-1	962575
7439-95-4	Magnesium J+,I6b	1600000	ug/Kg		10600	37600	37600	1	P	HSC	03/30/10 22:04	033010B-1	962575
7439-96-5	Manganese	320000	ug/Kg		250	1250	1250	1	P	HSC	03/30/10 22:04	033010B-1	962575
7439-97-6	Mercury	35.9	ug/kg		4.9	14.4	14.4	1	AV	JXL1	03/16/10 14:05	031610S1-3	964741
7440-02-0	Nickel	3.99	mg/kg		0.12	0.482	0.482	2	MS	SKJ	04/14/10 00:57	100413-2	962569
7440-09-7	Potassium J+,I6b	1450000	ug/Kg		8020	31300	31300	1	P	HSC	03/30/10 22:04	033010B-1	962575
7782-49-2	Selenium	1.2	mg/kg	U	0.602	1.2	1.2	2	MS	SKJ	04/14/10 00:57	100413-2	962569
7440-22-4	Silver	626	ug/Kg	U	125	626	626	1	P	HSC	03/30/10 22:04	033010B-1	962575
7440-23-5	Sodium U,I4d	68100	ug/Kg		8770	31300	31300	1	P	HSC	03/30/10 22:04	033010B-1	962575
7440-28-0	Thallium	0.241	mg/kg	U	0.0723	0.241	0.241	2	MS	SKJ	04/14/10 00:57	100413-2	962569
7440-61-1	Uranium	1.36	mg/kg		0.0159	0.0482	0.0482	2	MS	SKJ	04/14/10 00:57	100413-2	962569
7440-62-2	Vanadium	18700	ug/Kg		125	626	626	1	P	HSC	03/30/10 22:04	033010B-1	962575
7440-66-6	Zinc J+,I6b	35000	ug/Kg		413	1250	1250	1	P	HSC	03/30/10 22:04	033010B-1	962575

## Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
962569	962563	SW846 3050B	0.52	g	50	mL	03/16/10	AXG2
962575	962573	SW846 3050B	0.5	g	50	mL	03/16/10	AXG2
964741	964740	SW846 7471A Prep	0.521	g	30	mL	03/15/10	TXB3

KAL  
04/22/10



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

SDG No: 10-2197-1

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 248516001

BASIS: As Received

DATE COLLECTED 25-FEB-10

CLIENT ID: RE36-10-7537

LEVEL: Low

DATE RECEIVED 03-MAR-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	03/30/10 17:45	033010B-1	962580
7440-36-0	Antimony	3	ug/L	U	1	3	3	1	MS	PRB	04/13/10 09:33	100412-7	962585
7440-38-2	Arsenic	30	ug/L	U	5	30	30	1	P	HSC	03/30/10 17:45	033010B-1	962580
7440-39-3	Barium	5	ug/L	U	1	5	5	1	P	HSC	03/30/10 17:45	033010B-1	962580
7440-41-7	Beryllium	0.50	ug/L	U	0.1	0.5	0.5	1	MS	PRB	04/12/10 21:39	100412-2	962585
7440-43-9	Cadmium	1	ug/L	U	0.11	1	1	1	MS	PRB	04/12/10 21:39	100412-2	962585
7440-70-2	Calcium	200	ug/L	U	50	200	200	1	P	HSC	03/30/10 17:45	033010B-1	962580
7440-47-3	Chromium	5	ug/L	U	1	5	5	1	P	HSC	03/30/10 17:45	033010B-1	962580
7440-48-4	Cobalt	5	ug/L	U	1	5	5	1	P	HSC	03/30/10 17:45	033010B-1	962580
7440-50-8	Copper	10	ug/L	U	3	10	10	1	P	HSC	03/30/10 17:45	033010B-1	962580
7439-89-6	Iron	100	ug/L	U	30	100	100	1	P	HSC	03/30/10 17:45	033010B-1	962580
7439-92-1	Lead	2	ug/L	U	0.5	2	2	1	MS	PRB	04/12/10 21:39	100412-2	962585
7439-95-4	Magnesium	300	ug/L	U	85	300	300	1	P	HSC	03/30/10 17:45	033010B-1	962580
7439-96-5	Manganese	5	ug/L	U	1	5	5	1	MS	PRB	04/12/10 21:39	100412-2	962585
7439-97-6	Mercury	0.20	ug/L	U	0.066	0.2	0.2	1	AV	JXL1	03/13/10 08:07	031310W1-8	964196
7440-02-0	Nickel	5	ug/L	U	1.5	5	5	1	P	HSC	03/30/10 17:45	033010B-1	962580
7440-09-7	Potassium	271	ug/L		50	150	150	1	P	HSC	03/30/10 17:45	033010B-1	962580
7782-49-2	Selenium	30	ug/L	U	5	30	30	1	P	HSC	03/30/10 17:45	033010B-1	962580
7440-22-4	Silver	5	ug/L	U	1	5	5	1	P	HSC	03/30/10 17:45	033010B-1	962580
7440-23-5	Sodium	221	ug/L	J	100	300	300	1	P	HSC	03/30/10 17:45	033010B-1	962580
7440-28-0	Thallium	0.670	ug/L	J	0.3	1	1	1	MS	PRB	04/12/10 21:39	100412-2	962585
7440-61-1	Uranium	0.20	ug/L	U	0.05	0.2	0.2	1	MS	PRB	04/12/10 21:39	100412-2	962585
7440-62-2	Vanadium	5	ug/L	U	1	5	5	1	P	HSC	03/30/10 17:45	033010B-1	962580
7440-66-6	Zinc	10	ug/L	U	3.3	10	10	1	P	HSC	03/30/10 17:45	033010B-1	962580

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
962580	962579	SW846 3005A	50	mL	50	mL	03/15/10	BCD1
962585	962584	SW846 3005A	50	mL	50	mL	03/15/10	BCD1
964196	964195	SW846 7470A Prep	20	mL	20	mL	03/12/10	TXB3

KAL  
04/22/10

METALS  
-1-  
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-2197-1

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 248516002

BASIS: As Received

DATE COLLECTED 25-FEB-10

CLIENT ID: RE36-10-7536

LEVEL: Low

DATE RECEIVED 03-MAR-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	03/30/10 17:48	033010B-1	962580
7440-36-0	Antimony	3	ug/L	U	1	3	3	1	MS	PRB	04/13/10 09:35	100412-7	962585
7440-38-2	Arsenic	30	ug/L	U	5	30	30	1	P	HSC	03/30/10 17:48	033010B-1	962580
7440-39-3	Barium	5	ug/L	U	1	5	5	1	P	HSC	03/30/10 17:48	033010B-1	962580
7440-41-7	Beryllium	0.50	ug/L	U	0.1	0.5	0.5	1	MS	PRB	04/12/10 21:44	100412-2	962585
7440-43-9	Cadmium	1	ug/L	U	0.11	1	1	1	MS	PRB	04/12/10 21:44	100412-2	962585
7440-70-2	Calcium	200	ug/L	U	50	200	200	1	P	HSC	03/30/10 17:48	033010B-1	962580
7440-47-3	Chromium	5	ug/L	U	1	5	5	1	P	HSC	03/30/10 17:48	033010B-1	962580
7440-48-4	Cobalt	5	ug/L	U	1	5	5	1	P	HSC	03/30/10 17:48	033010B-1	962580
7440-50-8	Copper	10	ug/L	U	3	10	10	1	P	HSC	03/30/10 17:48	033010B-1	962580
7439-89-6	Iron	38.5	ug/L	J	30	100	100	1	P	HSC	03/30/10 17:48	033010B-1	962580
7439-92-1	Lead	2	ug/L	U	0.5	2	2	1	MS	PRB	04/12/10 21:44	100412-2	962585
7439-95-4	Magnesium	300	ug/L	U	85	300	300	1	P	HSC	03/30/10 17:48	033010B-1	962580
7439-96-5	Manganese	5	ug/L	U	1	5	5	1	MS	PRB	04/12/10 21:44	100412-2	962585
7439-97-6	Mercury	0.20	ug/L	U	0.066	0.2	0.2	1	AV	JXL	03/13/10 08:09	031310W1-8	964196
7440-02-0	Nickel	5	ug/L	U	1.5	5	5	1	P	HSC	03/30/10 17:48	033010B-1	962580
7440-09-7	Potassium	246	ug/L		50	150	150	1	P	HSC	03/30/10 17:48	033010B-1	962580
7782-49-2	Selenium	30	ug/L	U	5	30	30	1	P	HSC	03/30/10 17:48	033010B-1	962580
7440-22-4	Silver	5	ug/L	U	1	5	5	1	P	HSC	03/30/10 17:48	033010B-1	962580
7440-23-5	Sodium	211	ug/L	J	100	300	300	1	P	HSC	03/30/10 17:48	033010B-1	962580
7440-28-0	Thallium	1	ug/L	U	0.3	1	1	1	MS	PRB	04/12/10 21:44	100412-2	962585
7440-61-1	Uranium	0.20	ug/L	U	0.05	0.2	0.2	1	MS	PRB	04/12/10 21:44	100412-2	962585
7440-62-2	Vanadium	5	ug/L	U	1	5	5	1	P	HSC	03/30/10 17:48	033010B-1	962580
7440-66-6	Zinc	10	ug/L	U	3.3	10	10	1	P	HSC	03/30/10 17:48	033010B-1	962580

## Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
962580	962579	SW846 3005A	50	mL	50	mL	03/15/10	BCD1
962585	962584	SW846 3005A	50	mL	50	mL	03/15/10	BCD1
964196	964195	SW846 7470A Prep	20	mL	20	mL	03/12/10	TXB3

KAL  
04/22/10

## DATA VALIDATION COVER SHEET

5120-1

## Data Validation Cover Sheet

Records Use only



## Section I.

REQUEST NUMBER: 10-2197 VALIDATION DATE: 04/22/10 LAB CODE: GELCONTRACT LABORATORY NAME: GEL Laboratories LLCVALIDATOR: Kevin A. Lambert 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): _____      |  |   |  |

## Section II. Completeness Check

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

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


1. It should be noted that the parent samples for water matrix QC analyses and soil matrix QC analyses for pH were LANL samples from other RNs. No sample data were qualified as a result.

Reviewed by: Allison Felix Level: 1 Date: 4/23/10


VALIDATOR'S SIGNATURE: Kevin A. Lambert DATE: 04/22/10

Form 5120-1, Revision 0.0


 LOS ALAMOS  
 Environmental Restoration Project

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 (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 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	
<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"/>	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 type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input 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	
<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"/>	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: March 27, 2010

Client SDG: 10-2197

Client Sample ID: RE36-10-7525  
Sample ID: 248515003  
Matrix: R  
Collect Date: 25-FEB-10 12:00  
Receive Date: 03-MAR-10  
Collector: Client  
Moisture: 20.2%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
<b>Electrode Analysis</b>											
<i>SW9045C pH "As Received"</i>											
pH at Temp 19.3C	H	6.46	0.010	0.100	SU	1	TXT1	03/05/10	1726	961560	1
<b>Flow Injection Analysis</b>											
<i>SW9012A Cyanide, Total "Dry Weight Corrected"</i>											
Cyanide, Total	J	80.6	78.9	290	ug/kg	1	AXC2	03/10/10	1211	961284	2
<b>Ion Chromatography</b>											
<i>EPA 300.0 Nitrate in Soil "Dry Weight Corrected"</i>											
Nitrate-N		2.11	0.376	1.25	mg/kg	1	GXM	03/25/10	0855	968241	3

### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
EPA 300.0 PREP	EPA 300.0 Total Anions in Soil	GXM3	03/24/10	1411	968239
SW846 9010B Prep	SW846 9010B Prep	AXS5	03/10/10	0837	961282

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9045C/9045D	
2	SW846 9012A	
3	EPA 300.0	

KAL  
04/22/10

# 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, Rm111  
Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: March 27, 2010

Client SDG: 10-2197

Client Sample ID: RE36-10-7524  
Sample ID: 248515002  
Matrix: R  
Collect Date: 25-FEB-10 12:00  
Receive Date: 03-MAR-10  
Collector: Client  
Moisture: 16%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
<b>Electrode Analysis</b>											
<i>SW9045C pH "As Received"</i>											
pH at Temp 19.2C	H	6.19	0.010	0.100	SU	1	TXT1	03/05/10	1725	961560	1
<b>Flow Injection Analysis</b>											
<i>SW9012A Cyanide, Total "Dry Weight Corrected"</i>											
Cyanide, Total		584	79.4	292	ug/kg	1	AXC2	03/10/10	1208	961284	2
<b>Ion Chromatography</b>											
<i>EPA 300.0 Nitrate in Soil "Dry Weight Corrected"</i>											
Nitrate-N		2.77	0.357	1.19	mg/kg	1	GXM	03/25/10	0825	968241	3

### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
EPA 300.0 PREP	EPA 300.0 Total Anions in Soil	GXM3	03/24/10	1411	968239
SW846 9010B Prep	SW846 9010B Prep	AXS5	03/10/10	0837	961282

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9045C/9045D	
2	SW846 9012A	
3	EPA 300.0	

KAL  
04/22/10



# 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, Rm111  
Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: March 27, 2010

Client SDG: 10-2197

Client Sample ID: RE36-10-7501  
Sample ID: 248515001  
Matrix: R  
Collect Date: 25-FEB-10 12:00  
Receive Date: 03-MAR-10  
Collector: Client  
Moisture: 24%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
<b>Electrode Analysis</b>											
<i>SW9045C pH "As Received"</i>											
pH at Temp 19.1C	H	5.48	0.010	0.100	SU	1	TXT1	03/05/10	1723	961560	1
<b>Flow Injection Analysis</b>											
<i>SW9012A Cyanide, Total "Dry Weight Corrected"</i>											
Cyanide, Total	U	ND	81.3	299	ug/kg	1	AXC2	03/10/10	1201	961284	2
<b>Ion Chromatography</b>											
<i>EPA 300.0 Nitrate in Soil "Dry Weight Corrected"</i>											
Nitrate-N	U	ND	0.395	1.32	mg/kg	1	GXM	03/25/10	0625	968241	3

### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
EPA 300.0 PREP	EPA 300.0 Total Anions in Soil	GXM3	03/24/10	1411	968239
SW846 9010B Prep	SW846 9010B Prep	AXS5	03/10/10	0837	961282

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9045C/9045D	
2	SW846 9012A	
3	EPA 300.0	

**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: March 24, 2010

Client SDG: 10-2197-1

Client Sample ID: RE36-10-7537  
Sample ID: 248516001  
Matrix: W  
Collect Date: 25-FEB-10 12:00  
Receive Date: 03-MAR-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	03/08/10	1056	958168	1

**The following Prep Methods were performed**

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	03/05/10	1535	958167

**The following Analytical Methods were performed**

Method	Description	Analyst Comments
1	SW846 9012A	

# 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: March 24, 2010

Client SDG: 10-2197-1

Client Sample ID: RE36-10-7536  
Sample ID: 248516002  
Matrix: W  
Collect Date: 25-FEB-10 12:00  
Receive Date: 03-MAR-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	03/08/10	1057	958168	1

### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	03/05/10	1535	958167

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

## DATA VALIDATION COVER SHEET

5119-1

## Data Validation Cover Sheet

Records Use only



## Section I.

REQUEST NUMBER: 10-2197 VALIDATION DATE: 04/22/10 LAB CODE: GELCONTRACT LABORATORY NAME: GEL Laboratories LLCVALIDATOR: Kevin A. Lambert ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

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

## Section II. Completeness Check


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


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

1. All reported gamma spec results that were rejected by the laboratory due to interference and low abundance were qualified R,R5a. Also, it should be noted that several results in the matrix QC samples were rejected by the laboratory. No sample data were qualified as a result.
2. The alpha spec U-232 tracer %R for sample RE36-10-7525 was < the laboratory LAL. The associated U-233/234 and U-238 results were detects and, thus, were qualified J+,R3b. The U-235/236 result was a ND and, thus, was not qualified.
3. It should be noted that an MS was not analyzed for tritium. However, an LCS was analyzed and passed acceptance criteria. Thus, no sample data were qualified.
4. It should be noted that the parent samples for all matrix QC analyses were LANL samples from other RNs. No sample data were qualified as a result.


Reviewed by: Allison Felix Level: 1 Date: 4/23/10

VALIDATOR'S SIGNATURE: Kevin A. Lambert DATE: 04/22/10


DATA VALIDATION COVER SHEET	
<b>5119-1</b>  <b>Data Validation Cover Sheet</b>	Records Use only  Los Alamos NATIONAL LABORATORY EST. 1945
Form 5119-1, Revision 0.0	LOS ALAMOS Environmental Restoration Project

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				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12. The tracer is < the Lower Acceptance Level (LAL) but $\geq 10\%R$ . Follow the external laboratory limits located within the associated data package. Tracer%R is not applicable for Gamma Spectroscopy.	UJ, R3a	J-, R3a
<input 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 (Check One)				Assign Qualifier Listed Below If Criterion = Yes	
				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	21. The associated matrix spike recovery was <10%. Follow the external laboratory limits. MS/MSD is not applicable to Gamma Spectroscopy.	R, R6	R, R6
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	22. The associated matrix spike recovery was <10%. Follow the external laboratory limits. MS/MSD is not applicable to Gamma Spectroscopy.	UJ, R6a	J-, R6a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	23. The associated matrix spike recovery was above the UAL. Follow the external laboratory limits. MS/MSD is not applicable to Gamma Spectroscopy.	UJ, R6b	J+, R6b
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	24. Required matrix spike information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information. If LCS information is present, do not Reject. Qualify data based on LCS information. MS/MSD is not applicable to Gamma Spectroscopy.	R, R6c	R, R6c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25. Duplicate, dilution, or reanalysis.	UJ, R88	J, R88
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	26. The LANL project chemist identified quality deficiencies in the reported data that require further qualification. This code can ONLY be used and/or under advisement by the LANL project chemist.	UJ, R, R19	J, R, R19
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	27. Quantification of data via data validation did not occur based on Quality Control requirements in this procedure. Adhere to the external laboratory qualifiers found within the Form I analytical data summary sheets generated by the external laboratory.	U, U_LAB	J, J_LAB NQ, NQ



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## Certificate of Analysis

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

Report Date: March 31, 2010

Client Sample ID: RE36-10-7501  
Sample ID: 248515001  
Matrix: R  
Collect Date: 25-FEB-10  
Receive Date: 03-MAR-10  
Collector: Client  
Moisture: 24%

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	-0.000148	0.0222	+/-0.00289	0.050	pCi/g		MXE1	03/25/10	2212	965494	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00574	0.0232	+/-0.00373	0.050	pCi/g		MXE1	03/25/10	1655	965495	3
Plutonium-239/240	U	-0.00455	0.0196	+/-0.00332	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.937	0.103	+/-0.0894	0.100	pCi/g		MXE1	03/27/10	1301	965496	4
Uranium-235/236	U	0.0226	0.0631	+/-0.0121	0.100	pCi/g						
Uranium-238		1.06	0.0726	+/-0.0985	0.100	pCi/g						
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0298	0.306	+/-0.104	0.200	pCi/g		MXR1	03/19/10	2040	961099	5
Bismuth-211	UI	4.50	R,R5a	0.399	+/-0.340	pCi/g						
Bismuth-214		1.32		0.138	+/-0.117	pCi/g						
Cadmium-109	U	1.56		1.87	+/-0.777	pCi/g						
Cerium-139	U	0.0109		0.063	+/-0.0205	pCi/g						
Cesium-134	UI	0.134	R,R5a	0.116	+/-0.0405	pCi/g						
Cesium-137	U	0.0197		0.0771	+/-0.0222	pCi/g						
Cobalt-60	U	-0.0487		0.060	+/-0.0219	pCi/g						
Europium-152	U	0.0457		0.198	+/-0.0665	pCi/g						
Lanthanum-140	U	-0.12		0.248	+/-0.0857	pCi/g						
Lead-212		1.98		0.110	+/-0.123	pCi/g						
Lead-214		1.63		0.147	+/-0.131	pCi/g						
Mercury-203	U	0.0291		0.0915	+/-0.0267	pCi/g						
Potassium-40		31.3		0.724	+/-1.74	pCi/g						
Radium-223	U	1.11		1.42	+/-0.453	pCi/g						
Radium-224	UI	4.83	R,R5a	1.18	+/-0.825	pCi/g						
Radium-226		1.32		0.138	+/-0.117	pCi/g						
Radium-228		2.06		0.289	+/-0.227	pCi/g						
Ruthenium-106	U	0.170		0.662	+/-0.191	pCi/g						

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

Report Date: March 31, 2010

Client Sample ID:  
Sample ID:

RE36-10-7501  
248515001

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	-0.0136	0.0944	+/-0.029	0.080	pCi/g						
Strontium-85	UI	0.174	R,R5a	0.114	+/-0.031	pCi/g						
Thallium-208		0.548		0.076	+/-0.0581	pCi/g						
Thorium-227	U	0.179		0.558	+/-0.162	pCi/g						
Thorium-231	U	1.11		1.42	+/-0.453	pCi/g						
Thorium-234		3.63		2.65	+/-1.54	pCi/g	2.00					
Tin-113	U	-0.0233		0.0962	+/-0.0302	pCi/g	0.100					
Uranium-235	U	-0.18		0.390	+/-0.120	pCi/g	0.500					
Yttrium-88	U	-0.0306		0.0658	+/-0.0238	pCi/g	0.100					
<b>Rad Liquid Scintillation Analysis</b>												
<i>H3 "As Received"</i>												
Tritium	U	-8.03	174	+/-47.7	250	pCi/L		KXK2	03/29/10	1407	964063	6

### 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
6	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	83.7	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	88.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	70.1	(50%-105%)

### Notes:

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

The Qualifiers in this report are defined as follows :

- \*\* Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.

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## Certificate of Analysis

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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: March 31, 2010

Client Sample ID: RE36-10-7524  
Sample ID: 248515002  
Matrix: R  
Collect Date: 25-FEB-10  
Receive Date: 03-MAR-10  
Collector: Client  
Moisture: 16%

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	0.00454	0.0186	+/-0.00234	0.050	pCi/g		MXE1	03/30/10	1431	969981	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00521	0.0303	+/-0.0043	0.050	pCi/g		MXE1	03/25/10	1655	965495	4
Plutonium-239/240		0.0453	0.0256	+/-0.0114	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.25	0.133	+/-0.121	0.100	pCi/g		MXE1	03/27/10	1301	965496	5
Uranium-235/236	U	0.0759	0.0814	+/-0.0218	0.100	pCi/g						
Uranium-238		1.83	0.0936	+/-0.164	0.100	pCi/g						
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0183	0.130	+/-0.0439	0.200	pCi/g		MXR1	03/19/10	2040	961099	6
Bismuth-211	UI	5.27	R,R5a	0.475	+/-0.374	pCi/g						
Bismuth-214		1.45		0.168	+/-0.137	pCi/g						
Cadmium-109	UI	4.59	R,R5a	1.17	+/-0.540	pCi/g						
Cerium-139	U	-0.0195	0.0634	+/-0.0201	0.050	pCi/g						
Cesium-134	U	0.0615	0.128	+/-0.042	0.100	pCi/g						
Cesium-137		0.744	0.0901	+/-0.0721	0.100	pCi/g						
Cobalt-60	U	0.00184	0.0721	+/-0.0224	0.100	pCi/g						
Europium-152	U	-0.0449	0.216	+/-0.0818	0.200	pCi/g						
Lanthanum-140	U	0.0474	0.245	+/-0.0807		pCi/g						
Lead-212		1.98	0.124	+/-0.129	0.100	pCi/g						
Lead-214		1.91	0.173	+/-0.146	0.100	pCi/g						
Mercury-203	U	-0.00409	0.0957	+/-0.0287	0.100	pCi/g						
Potassium-40		27.7	0.703	+/-1.35	1.00	pCi/g						
Radium-223	U	-0.965	1.46	+/-0.471		pCi/g						
Radium-224	UI	5.20	R,R5a	1.33	+/-0.855	pCi/g						
Radium-226		1.45	0.168	+/-0.137		pCi/g						
Radium-228		2.11	0.335	+/-0.223	0.500	pCi/g						
Ruthenium-106	U	0.0214	0.727	+/-0.225	0.800	pCi/g						
Sodium-22	U	-0.0255	0.0918	+/-0.030	0.080	pCi/g						

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

Report Date: March 31, 2010

Client Sample ID:  
Sample ID:

RE36-10-7524  
248515002

Project: LANL01004  
Client ID: LANL010

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

*GAMMA SPEC "Dry Weight Corrected"*

Strontium-85	UI	0.122	R,R5a	0.101	+/-0.0304							
Thallium-208		0.607		0.0885	+/-0.062	0.080						
Thorium-227	U	-0.0391		0.547	+/-0.164							
Thorium-231	U	-0.965		1.46	+/-0.471							
Thorium-234		3.04		1.27	+/-0.741	2.00						
Tin-113	U	-0.04		0.103	+/-0.0325	0.100						
Uranium-235	U	0.0752		0.443	+/-0.137	0.500						
Yttrium-88	U	0.00368		0.0598	+/-0.0179	0.100						

### Rad Liquid Scintillation Analysis

*H3 "As Received"*

Tritium	U	18.6		173	+/-48.8	250	pCi/L	KXK2	03/29/10	1500	964063	7
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### 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
7	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	78.9	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	69.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	62.2	(50%-105%)

### Notes:

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

The Qualifiers in this report are defined as follows :

\*\* Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

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

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## Certificate of Analysis

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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: March 31, 2010

Client Sample ID: RE36-10-7525  
Sample ID: 248515003  
Matrix: R  
Collect Date: 25-FEB-10  
Receive Date: 03-MAR-10  
Collector: Client  
Moisture: 20.2%

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	0.00922	0.0223	+/-0.00379	0.050	pCi/g		MXE1	03/25/10	2212	965494	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00499	0.0259	+/-0.00438	0.050	pCi/g		MXE1	03/25/10	1840	965495	3
Plutonium-239/240		0.0222	0.0219	+/-0.00828	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.33	J+,R3b	0.174	+/-0.136	0.100	pCi/g	MXE1	03/27/10	1301	965496	4
Uranium-235/236	U	0.0456		0.106	+/-0.0218	0.100	pCi/g					
Uranium-238		1.26	J+,R3b	0.122	+/-0.130	0.100	pCi/g					
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.108		0.123	+/-0.038	0.200	pCi/g	MXR1	03/19/10	2040	961099	5
Bismuth-211	UI	5.01	R,R5a	0.457	+/-0.399		pCi/g					
Bismuth-214		1.64		0.168	+/-0.152	0.200	pCi/g					
Cadmium-109	UI	4.26	R,R5a	1.08	+/-0.488		pCi/g					
Cerium-139	U	0.0067		0.060	+/-0.0182	0.050	pCi/g					
Cesium-134	U	0.0363		0.126	+/-0.0366	0.100	pCi/g					
Cesium-137		0.580		0.0987	+/-0.0679	0.100	pCi/g					
Cobalt-60	U	-0.0124		0.105	+/-0.0332	0.100	pCi/g					
Europium-152	U	-0.0211		0.205	+/-0.0672	0.200	pCi/g					
Lanthanum-140	U	-0.117		0.302	+/-0.103		pCi/g					
Lead-212		1.91		0.110	+/-0.122	0.100	pCi/g					
Lead-214		1.82		0.166	+/-0.153	0.100	pCi/g					
Mercury-203	UI	0.108	R,R5a	0.0824	+/-0.0376	0.100	pCi/g					
Potassium-40		26.9		0.664	+/-1.64	1.00	pCi/g					
Radium-223	U	-0.714		1.33	+/-0.439		pCi/g					
Radium-224	UI	6.04	R,R5a	1.18	+/-0.967		pCi/g					
Radium-226		1.64		0.168	+/-0.152		pCi/g					
Radium-228		1.66		0.367	+/-0.274	0.500	pCi/g					
Ruthenium-106	U	-0.402		0.718	+/-0.246	0.800	pCi/g					
Sodium-22	U	0.0432		0.116	+/-0.0335	0.080	pCi/g					

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

Report Date: March 31, 2010

Client Sample ID:  
Sample ID:

RE36-10-7525  
248515003

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	0.059	0.102	+/-0.0327		pCi/g						
Thallium-208		0.549	0.0802	+/-0.0713	0.080	pCi/g						
Thorium-227	U	-0.272	0.533	+/-0.179		pCi/g						
Thorium-231	U	-0.714	1.33	+/-0.439		pCi/g						
Thorium-234		3.21	1.17	+/-0.738	2.00	pCi/g						
Tin-113	U	0.00286	0.0987	+/-0.0297	0.100	pCi/g						
Uranium-235	U	-0.122	0.374	+/-0.123	0.500	pCi/g						
Yttrium-88	U	-0.0185	0.0774	+/-0.0265	0.100	pCi/g						
<b>Rad Liquid Scintillation Analysis</b>												
<i>H3 "As Received"</i>												
Tritium	U	-29.2	173	+/-46.1	250	pCi/L		KXK2	03/29/10	1553	964063	6

### 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
6	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	78.6	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	71.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	45.3 *	(50%-105%)

### Notes:

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

The Qualifiers in this report are defined as follows :

\*\* Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

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

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

KAL  
04/22/10

Thursday, March 04, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-2197C

LOS ALAMOS

REQUEST NUMBER: 10-2197

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 4/1/2010

General Engineering Laboratories, Inc., Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

248515, 248516

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE36-10-7501	1	POLY	AM241+GS+ISOPU+ ISOU	None	R
RE36-10-7501	1	POLY	H3	Ice	R
RE36-10-7501	1	POLY	METALS+U-GEL	Ice	R
RE36-10-7501	1	POLY	Perchlorate+CN+N03+ pH	Ice	R
RE36-10-7524	1	POLY	AM241+GS+ISOPU+ ISOU	None	R
RE36-10-7524	1	POLY	H3	Ice	R
RE36-10-7524	1	POLY	METALS+U-GEL	Ice	R
RE36-10-7524	1	POLY	Perchlorate+CN+N03+ pH	Ice	R
RE36-10-7525	1	POLY	AM241+GS+ISOPU+ ISOU	None	R
RE36-10-7525	1	POLY	H3	Ice	R
RE36-10-7525	1	POLY	METALS+U-GEL	Ice	R
RE36-10-7525	1	POLY	Perchlorate+CN+N03+ pH	Ice	R
RE36-10-7537	1	POLY	METALS+U-GEL	Nitric Acid	W
RE36-10-7537	1	POLY	SW-846:6850	Ice	W
RE36-10-7537	1	POLY	TCN	Sodium Hydroxide	W
RE36-10-7536	1	POLY	METALS+U-GEL	Nitric Acid	W
RE36-10-7536	1	POLY	SW-846:6850	Ice	W
RE36-10-7536	1	POLY	TCN	Sodium Hydroxide	W

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

Tuesday, March 02, 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: 3/2/2010

TURNAROUND/REPORT DUE: 4/1/2010

TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background

LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature:



Page 1 of 3

REQUEST NUMBER: 10-2197

These Samples are on:

LANL Request Number: 10-2197  
Per Agreement Number: 126310011  
Project Cost Code: MR3A05529E00

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA-300.0	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
	EPA-901.1	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
	EPA-906.0	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	



Tuesday, March 02, 2010

REQUEST NUMBER: 10-2197

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:AM-241	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
	HASL-300:ISOPU	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
	HASL-300:ISOU	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
	SW-846:6010B	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
	SW-846:6020	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
		1	RE36-10-7536	W	2/25/2010	
		1	RE36-10-7537	W	2/25/2010	
	SW-846:6850	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
		1	RE36-10-7536	W	2/25/2010	
		1	RE36-10-7537	W	2/25/2010	
	SW-846:7470A	1	RE36-10-7536	W	2/25/2010	
		1	RE36-10-7537	W	2/25/2010	
	SW-846:7471A	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
	SW-846:9012A	1	RE36-10-7501	R	2/25/2010	

Tuesday, March 02, 2010

REQUEST NUMBER: 10-2197

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	SW-846:9012A	1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
		1	RE36-10-7536	W	2/25/2010	
		1	RE36-10-7537	W	2/25/2010	
	SW-846:9045C	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	

Final Page of REQUEST NUMBER 10-2197



March 10, 2010

[www.gel.com](http://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: 248515 248516  
SDG: 10-2197

Dear Ms. Valdez:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on March 03, 2010, and analyzed for 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: 10-2197  
Enclosures

**Los Alamos National Laboratory (72733-001-09)**  
**LANL ER Project**  
**Work Order #: 248515 and 248516**  
**SDG: 10-2197**

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# Case Narrative

**Case Narrative for  
Los Alamos National Laboratory (72733-001-09)  
LANL ER Project  
Workorder #: 248515 and 248516  
SDG # : 10-2197**

**March 10, 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 March 03, 2010 for analysis. The samples were prepared/analyzed within the required holding time. Shipping container temperatures were checked, documented, and within specifications. The samples were screened according to GEL Standard Operating Procedure. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. Containers were checked for pH, where appropriate, and matched the preservative as documented on the accompanying chain of custody. The containers for radiochemistry were received at 14,15,17C temperatures. Shipping container temperature was within specification (0 - 6C).

**Sample Identification** The laboratory received the following samples:

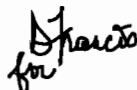
<b><u>Laboratory ID</u></b>	<b><u>Client ID</u></b>
248515001	RE36-10-7501
248515002	RE36-10-7524
248515003	RE36-10-7525
248516001	RE36-10-7537
248516002	RE36-10-7536

**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: 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 10 March 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, March 04, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-2197C

LOS ALAMOS

REQUEST NUMBER: 10-2197

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 4/1/2010

General Engineering Laboratories, Inc., Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

248515, 248516

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE36-10-7501	1	POLY	AM241+GS+ISOPU+ ISOU	None	R
RE36-10-7501	1	POLY	H3	Ice	R
RE36-10-7501	1	POLY	METALS+U-GEL	Ice	R
RE36-10-7501	1	POLY	Perchlorate+CN+N03+ pH	Ice	R
RE36-10-7524	1	POLY	AM241+GS+ISOPU+ ISOU	None	R
RE36-10-7524	1	POLY	H3	Ice	R
RE36-10-7524	1	POLY	METALS+U-GEL	Ice	R
RE36-10-7524	1	POLY	Perchlorate+CN+N03+ pH	Ice	R
RE36-10-7525	1	POLY	AM241+GS+ISOPU+ ISOU	None	R
RE36-10-7525	1	POLY	H3	Ice	R
RE36-10-7525	1	POLY	METALS+U-GEL	Ice	R
RE36-10-7525	1	POLY	Perchlorate+CN+N03+ pH	Ice	R
RE36-10-7537	1	POLY	METALS+U-GEL	Nitric Acid	W
RE36-10-7537	1	POLY	SW-846:6850	Ice	W
RE36-10-7537	1	POLY	TCN	Sodium Hydroxide	W
RE36-10-7536	1	POLY	METALS+U-GEL	Nitric Acid	W
RE36-10-7536	1	POLY	SW-846:6850	Ice	W
RE36-10-7536	1	POLY	TCN	Sodium Hydroxide	W

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

Tuesday, March 02, 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: 3/2/2010**

**TURNAROUND/REPORT DUE: 4/1/2010**

**TURNAROUND REQ'D: 30 Days**

**RAD SCREENING: Yes, Below Background**

**LAB REQUEST COMMENTS:**

LANL ER SMO CONTACT:

Signature:



These Samples are on:

LANL Request Number: 10-2197  
Per Agreement Number: 126310011  
Project Cost Code: MR3A05529E00

Page 1 of 3  
REQUEST NUMBER: 10-2197

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:300.0	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
	EPA:901.1	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
	EPA:906.0	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	

Tuesday, March 02, 2010

Page 2 of 3

REQUEST NUMBER: 10-2197

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:AM-241	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
	HASL-300:ISOPU	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
	HASL-300:ISOU	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
	SW-846:6010B	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
	SW-846:6020	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
		1	RE36-10-7536	W	2/25/2010	
		1	RE36-10-7537	W	2/25/2010	
	SW-846:6850	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
		1	RE36-10-7536	W	2/25/2010	
		1	RE36-10-7537	W	2/25/2010	
	SW-846:7470A	1	RE36-10-7536	W	2/25/2010	
		1	RE36-10-7537	W	2/25/2010	
	SW-846:7471A	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
	SW-846:9012A	1	RE36-10-7501	R	2/25/2010	

Tuesday, March 02, 2010

Page 3 of 3

REQUEST NUMBER: 10-2197

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	SW-846:9012A	1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	
		1	RE36-10-7536	W	2/25/2010	
		1	RE36-10-7537	W	2/25/2010	
	SW-846:9045C	1	RE36-10-7501	R	2/25/2010	
		1	RE36-10-7524	R	2/25/2010	
		1	RE36-10-7525	R	2/25/2010	

Final Page of REQUEST NUMBER 10-2197

**SAMPLE RECEIPT & REVIEW FORM**

Client: LANL			SDG/ARCO/Work Order: 10-2197		
Received By: Patricia Dover-Dent			Date Received: 3/3/10		
Suspected Hazard Information		Yes	No	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.	
COC/Samples marked as radioactive?			X	Maximum Counts Observed*: 60cpm	
Classified Radioactive II by RSO?			X		
COC/Samples marked containing PCBs?			X		
Shipped as a DOT Hazardous?			X	Hazard Class Shipped: UN#:	
Samples identified as Foreign Soil?			X		

Sample Receipt Criteria		Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	X			Circle Applicable: seals broken    damaged container    leaking container    other (describe)
2	Samples requiring cold preservation within 0 ≤ 6 deg. C?	X			Preservation Method: ice bags    blue ice    dry ice    none    other 1-5    14,15,17
3	Chain of custody documents included with shipment?	X			
4	Sample containers intact and sealed?	X			Circle Applicable: seals broken    damaged container    leaking container    other (describe)
5	Samples requiring chemical preservation at proper pH?	X			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?		X		Sample ID's and containers affected:
7	Are Encore containers present?			X	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	X			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	X			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?		X		Sample ID's affected: <b>No time on Chain of Custody.</b>
11	Number of containers received match number indicated on COC?	X			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	X			

**Comments:**

**Fed Ex Tracking Numbers:**

7209 7850 3083 1C    7209 7850 3061 2C    7209 7850 3028 17C

7209 7850 3040 1C    7209 7850 3072 3C

7209 7850 3094 1C    7209 7850 3120 4C

7209 7850 3109 2C    7209 7850 3110 5C

7209 7850 3039 2C    7209 7850 3153 5C

7209 7850 3050 2C    7209 7850 3006 14C

7209 7850 3142 2C    7209 7850 2992 14C

7209 7850 3131 2C    7209 7850 3071 15C

PM (or PMA) review: Initials

Date

3/4/10

ORIGIN ID: SAFA (505) 865-9968  
JOYLENE VALDEZ  
LOS ALAMOS NATL LAB  
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545  
UNITED STATES US

SHIP DATE: 02MAR10  
ACTWGT: 49.0 LB MAN  
CAD: 0014176/CAFE2450

BILL SENDER

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: 02MAR10  
ACTWGT: 47.9 LB MAN  
CAD: 0014176/CAFE2450

BILL SENDER

VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

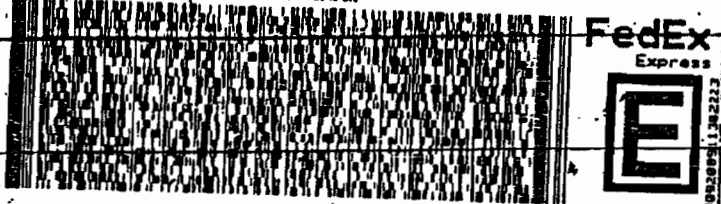
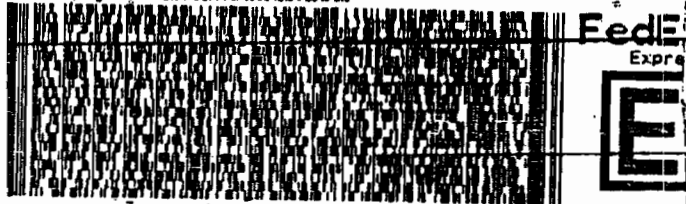
CHARLESTON SC 29407

(843) 556-8171  
REF: 6B010AMR3A0532VA00

VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171  
REF: 6B010AMR3A0532VA00



2 of 2  
WED - 03MAR A1  
1PSH 7209 7850 3083  
2263  
1str# 7209 7850 3072 0201  
PRIORITY OVERNIGHT

XX CHSA

29407  
SC-US  
CHS

1 of 3  
WED - 03MAR A1  
TRKH 7209 7850 3040  
0201  
HH MASTER HH  
PRIORITY OVERNIGHT

XX CHSA

29407  
SC-US  
CHS



LOS ALAMOS NATL LAB  
TA00 BLDG 1237 DPU 03

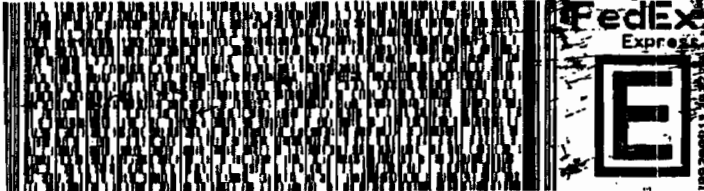
LOS ALAMOS, NM 87545  
UNITED STATES US

VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171  
REF: 6B010AMR3A05529E00

LOS ALAMOS NATL LAB  
TA00 BLDG 1237 DPU 03



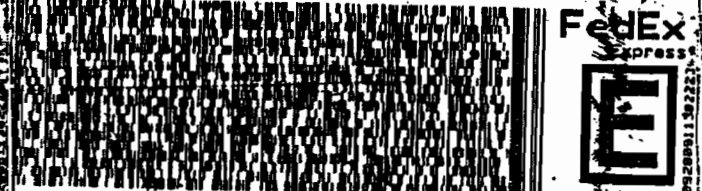
LOS ALAMOS, NM 87545  
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REF: 6B010AMR3A05529E00

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TA00 BLDG 1237 DPU 03



1 of 3  
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TRKH 7209 7850 3094  
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PRIORITY OVERNIGHT

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TRKH 7209 7850 3109  
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PRIORITY OVERNIGHT

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

LOS ALAMOS, NM 87545  
UNITED STATES US

TO VALERIE DAVIS  
GENERAL ENGINEERING LAB  
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CHARLESTON SC 29407

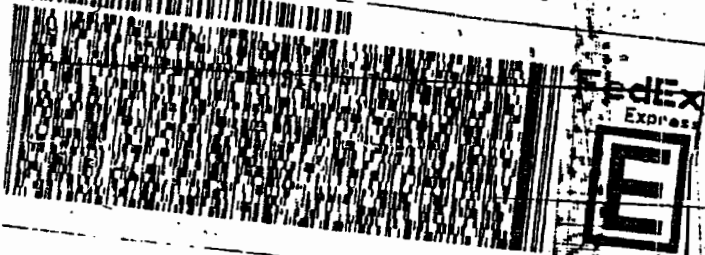
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REF: 6B010AMR3A0532VA00

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BILL SENDER

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3 of 3  
MPSH 7209 7850 3039  
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PRIORITY OVERNIGHT

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JOYLENE VALDEZ  
LOS ALAMOS NATL LAB  
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REF: 6B010AMR3A05529E00



3 of 3  
MPSH 7209 7850 3142  
Matr# 7209 7850 3120 0201

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PRIORITY OVERNIGHT

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LOS ALAMOS NATL LAB  
TA00 BLDG 1237 DPU 03

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UNITED STATES US

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GENERAL ENGINEERING LAB  
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 656-8171

REF: 6B010AMR3A0532VA00

ACTWGT: 49.0 LB MAN  
CAD: 0014178/CAFE2450

BILL SENDER

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2 of 3  
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Matr# 7209 7850 3040 0201

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PRIORITY OVERNIGHT

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JOYLENE VALDEZ  
LOS ALAMOS NATL LAB  
TA00 BLDG 1237 DPU 03

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UNITED STATES US

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GENERAL ENGINEERING LAB  
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 656-8171

REF: 6B010AMR3A05529E00



2 of 3  
MPSH 7209 7850 3131  
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WED - 03MAR A1  
PRIORITY OVERNIGHT

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CHS



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

LOS ALAMOS, NM 87545  
UNITED STATES US

SHIP DATE: 02MAR10  
ACTWGT: 49.0 LB MAN  
CAD: 0014176/CAFE2

BILL SENDER

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

SHIP DATE: 02MAR10  
ACTWGT: 49.0 LB MAN  
CAD: 0014176/CAFE2450

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TO VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 656-8171

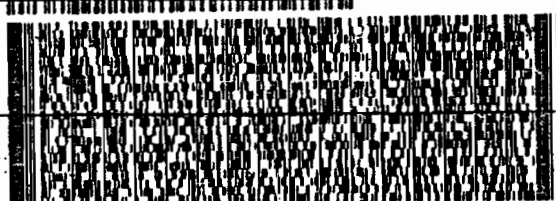
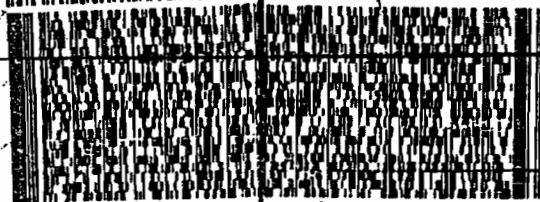
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GENERAL ENGINEERING LAB  
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 656-8171

REF: 6B010AMR3A0532VA00



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1 of 2

TRK# 7209 7850 3072

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CHS



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

LOS ALAMOS, NM 87545  
UNITED STATES US

SHIP DATE: 02MAR10  
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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: 02MAR10  
ACTWGT: 48.0 LB MAN  
CAD: 0014176/CAFE2450

BILL SENDER

TO VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 656-8171

REF: 6B010AMR3A05529E00

TO VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 656-8171

REF: 6B010AMR3A05529E00



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PRIORITY OVERNIGHT

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MPS# 7209 7850 3110

Master 7209 7850 3094 0201

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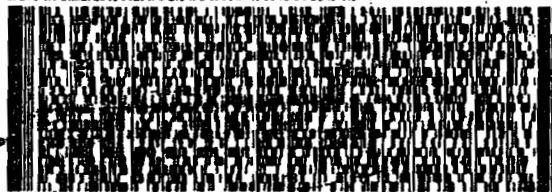
ORIGIN ID: SAFA (505) 865-9968  
JOYLENE VALDEZ  
LOS ALAMOS NATL LAB  
TA00 BLDG 1237 DPU 03  
LOS ALAMOS, NM 87545  
UNITED STATES US

SHIP DATE: 02MAR10  
ACTWGT: 21 0 LB 00 OZ  
CND: 00141763CAFE2460  
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TO VALERIE DAVIS  
GENERAL ENGINEERING LAB  
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CHARLESTON SC 29407  
(843) 556-8171  
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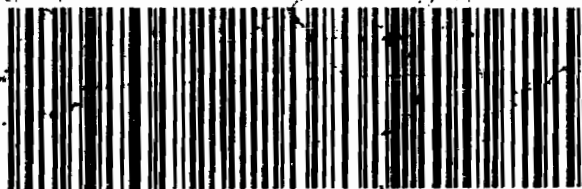


2 of 3  
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HstrH 7209 7850 3017 0201

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

# LC/MS/MS PERCHLORATE ANALYSIS

**Perchlorate by LC/MSMS  
Los Alamos National Laboratory (LANL)  
SDG 10-2197**

**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:** 963899

**Prep Batch Number:** 963897

**Sample Analysis**

Sample ID	Client ID
248515001	RE36-10-7501
248515002	RE36-10-7524
248515003	RE36-10-7525
1202067814	Interference Check Sample (ICS)
1202067810	Method Blank (MB)
1202067811	Laboratory Control Sample (LCS)
1202067812	248374002(RE36-10-7493) Matrix Spike (MS)
1202067813	248374002(RE36-10-7493) 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.

**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.

10-2197-PERLCMS



**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.

**Laboratory Control Sample Duplicate (LCSD) Recovery**

A laboratory control sample duplicate (LCSD) was not extracted.

**LCS/LCSD Relative Percent Difference (RPD) Statement**

A laboratory control sample duplicate (LCSD) was not extracted.

**QC Sample Designation**

Sample 248374002 (RE36-10-7493) was chosen for matrix spike and matrix spike duplicate analysis. Please see the raw data in the Miscellaneous Section.

**Matrix Spike (MS) Recovery Statement**

Low recovery for Perchlorate-101 was observed in 1202067812 (MS). The recovery was 71% and the acceptance range is 75-125%. The low recovery may be the result of the background concentration present in the parent sample, 248374002, and the non-homogeneity of the sample matrix. 1202067812 (RE36-10-7493).

**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.

10-2197-PERLCMS

## **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**

The following DER was generated for this SDG: 808569 1202067812 (RE36-10-7493).

### **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.

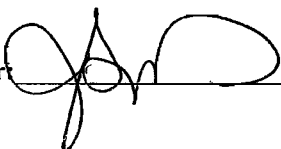
**Certification Statement**

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:  Date: 3/28/2010

# SAMPLE DATA SUMMARY

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 963897

Extraction Type: Solid Prep

Client Sample No.

RE36-10-7501

Date Received: 03-MAR-10

GEL Job No (SDG): 10-2197

GEL Sample ID: 248515001

Date Filtered: 17-MAR-10

Injection Volume (uL): 20

%Solids: 76

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	.658	2.63	7.75	ug/kg		1	23-MAR-10 07:42	per0322101a
	Perchlorate Isotope Ratio			2.94			1	23-MAR-10 07:42	per0322101a
14797-73-0	Perchlorate-101	.658	2.63	8.01	ug/kg		1	23-MAR-10 07:42	per0322101a
	Perchlorate-O(18)			6.85	ug/kg		1	23-MAR-10 07:42	per0322101a

<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  $\frac{1}{\% \text{Solids}}$

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC  
 Lab Code: GEL  
 Instrument: LCMSMS  
 Method: SW846 6850 Modified  
 Matrix: SOIL  
 Extraction Batch ID: 963897  
 Extraction Type: Solid Prep  
 Sample Volume/Weight: 2.00 g  
 Concentrated Extract Volume: 20.0  
 Client Sample No. RE36-10-7524  
 Date Received: 03-MAR-10  
 GEL Job No (SDG): 10-2197  
 GEL Sample ID: 248515002  
 Date Filtered: 17-MAR-10  
 Injection Volume (uL): 20  
 %Solids: 84

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.595	2.38	2.30	ug/kg	J	1	23-MAR-10 07:55	per0322102a
	Perchlorate Isotope Ratio			2.91			1	23-MAR-10 07:55	per0322102a
14797-73-0	Perchlorate-101	.595	2.38	2.41	ug/kg		1	23-MAR-10 07:55	per0322102a
	Perchlorate-O(18)			6.24	ug/kg		1	23-MAR-10 07:55	per0322102a

<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

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 963897

Extraction Type: Solid Prep

Client Sample No.

RE36-10-7525

Date Received: 03-MAR-10

GEL Job No (SDG): 10-2197

GEL Sample ID: 248515003

Date Filtered: 17-MAR-10

Injection Volume (uL): 20

%Solids: 80

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	.626	2.5	0.666	ug/kg	J	1	23-MAR-10 08:07	per0322103a
	Perchlorate Isotope Ratio			2.53			1	23-MAR-10 08:07	per0322103a
14797-73-0	Perchlorate-101	.626	2.5	0.799	ug/kg	J	1	23-MAR-10 08:07	per0322103a
	Perchlorate-O(18)			6.07	ug/kg		1	23-MAR-10 08:07	per0322103a

<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): 10-2197

Extract Batch Code: 963897 Date Filtered: 17-MAR-10

Matrix: SOIL Sample ID: 1202067811

Analyte <sup>^</sup>	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	2.00	1.98	ug/kg	98.8		70 - 130
Perchlorate Isotope Ratio		3.27				-
Perchlorate-101	2.00	1.84	ug/kg	91.9		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.

Perchlorate Interference Check Sample

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No. (SDG): 10-2197

Extract Batch Code: 963897

Date Filtered: 17-MAR-10

Matrix: SOIL

Sample ID: 1202067814

Analyte^	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	2.00	2.05	ug/kg	102		70 - 130
Perchlorate Isotope Ratio		2.9				
Perchlorate-101	2.00	2.15	ug/kg	108		70 - 130
Perchlorate-O(18)		4.97	ug/kg			

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

Quantify Sample Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322077a

Date: 23-Mar-2010

Time: 02:49:43

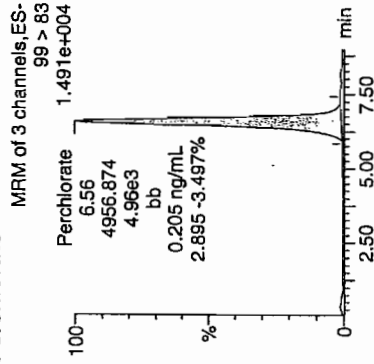
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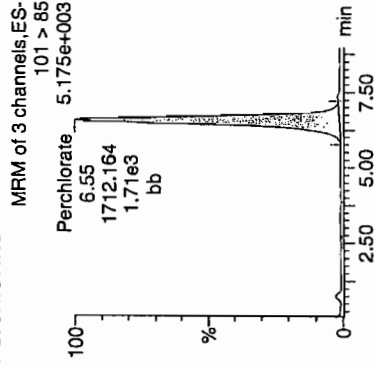
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1202067814 | 3070 | 1.5

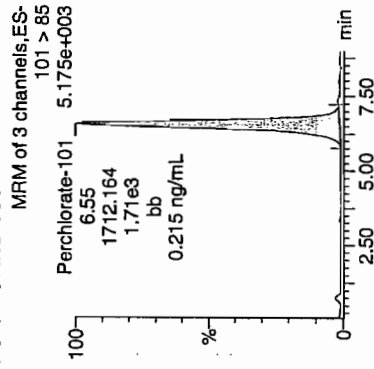
Perchlorate



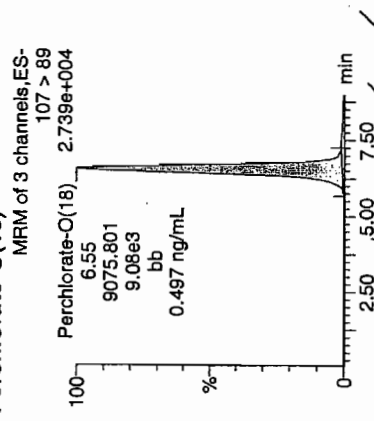
Perchlorate



Perchlorate-101



Perchlorate-O(18)



ID	Name	Trace	RT	Area	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Day	SN	Ion Ratio
1202067814	Perchlorate	99 > 83	6.56	4956.874	4956.874	bb			0.2049	102.47	2.47	1986.4...	2.90
1202067814	Perchlorate-101	101 > 85	6.55	1712.164	1712.164	bb			0.2150	107.52	7.52	241.853	
1202067814	Perchlorate-O(18)	107 > 89	6.55	9075.801	9075.801	bb			0.4974	99.48	-0.52	2512.9...	

Perchlorate Spike/Spike Duplicate Summary

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No (SDG): 10-2197

Extract Batch Code: 963897

Date Extracted: 17-MAR-10

GEL MS/PS ID: 1202067812

Client ID: RE36-10-7493

GEL MSD/PSD ID: 1202067813

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	2.68	9.31	ug/kg	11.4	77.8		11.8	93.8		3.71		30	75 - 125
Perchlorate Isotope Ratio	0	0.00		3.1			3			0			-
Perchlorate-101	2.68	9.27	ug/kg	11.2	71.2	*	12	100		6.77		30	75 - 125
Perchlorate-O(18)	0	6.42	ug/kg	6.55			6.78			3.43			-

<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

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-2197

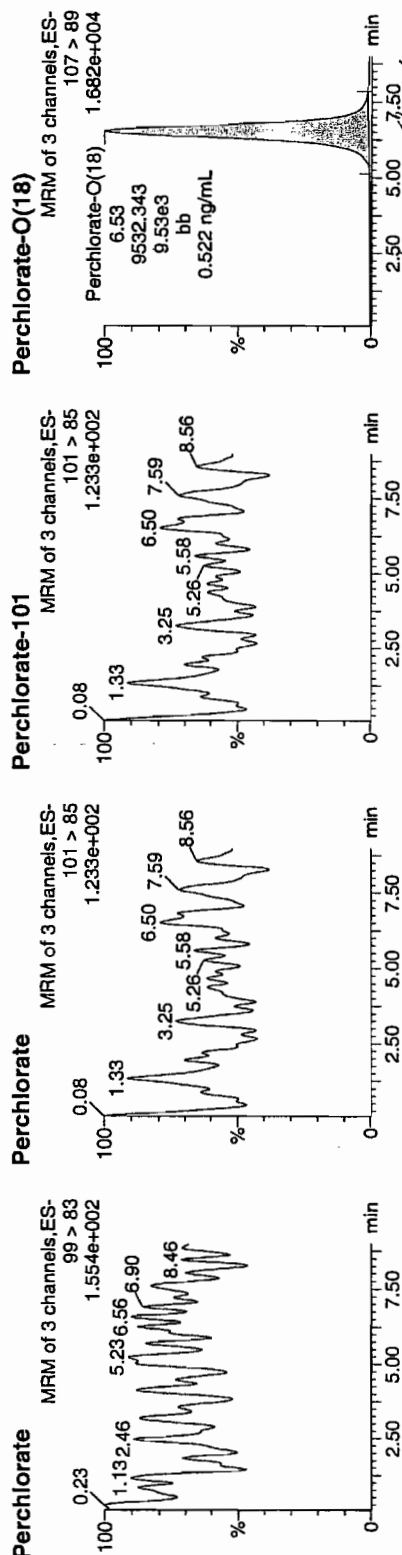
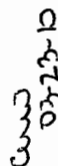
Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id	GEL Sample ID
Perchlorate	0.00	0	NA	22-MAR-10	per0322001a	IPB001
Perchlorate-101	0.00	0	NA	22-MAR-10	per0322001a	IPB001
Perchlorate	0.00	0	NA	22-MAR-10	per0322002a	IPB001
Perchlorate-101	0.00	0	NA	22-MAR-10	per0322002a	IPB001

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322001a  
Date: 22-Mar-2010  
Time: 11:30:33  
ID: IPB001  
Vial: 1:1.A



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN-Ion Ratio
IPB001	Perchlorate	99 > 83										0.00
IPB001	Perchlorate-101	101 > 85										
IPB001	Perchlorate-O(18)	107 > 89	6.53	9532.343	9532.343	bb			0.5224	104.48	4.48	384.191

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

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322002a

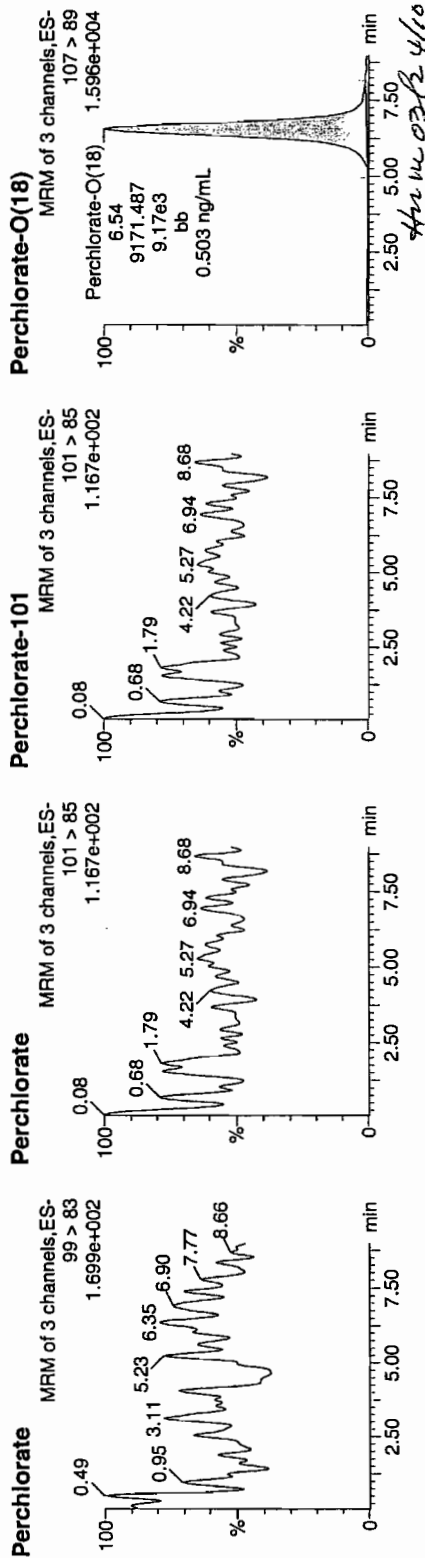
Date: 22-Mar-2010

Time: 11:42:55

ID: IPB001

Vial: 1:1,A

03.23-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB001	Perchlorate	99 > 83											0.00
IPB001	Perchlorate-101	101 > 85											
IPB001	Perchlorate-O(18)	107 > 89	6.54	9171.487	9171.487	bb			0.5026	100.53	0.53	692.431	

Perchlorate Continuing Calibration Blank

GEL Job No.(SDG): 10-2197

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	22-MAR-10	per0322008a	IPB002
Perchlorate-101	0.00	0	NA	22-MAR-10	per0322008a	IPB002
Perchlorate	0.00	0	NA	22-MAR-10	per0322010a	IPB003
Perchlorate-101	0.00	0	NA	22-MAR-10	per0322010a	IPB003
Perchlorate	0.00	0	NA	22-MAR-10	per0322023a	IPB004
Perchlorate-101	0.00	0	NA	22-MAR-10	per0322023a	IPB004
Perchlorate	0.00	0	NA	22-MAR-10	per0322036a	IPB005
Perchlorate-101	0.00	0	NA	22-MAR-10	per0322036a	IPB005
Perchlorate	0.00	0	NA	22-MAR-10	per0322040a	IPB006
Perchlorate-101	0.00	0	NA	22-MAR-10	per0322040a	IPB006
Perchlorate	0.00	0	NA	22-MAR-10	per0322049a	IPB007
Perchlorate-101	0.00	0	NA	22-MAR-10	per0322049a	IPB007
Perchlorate	0.00	0	NA	22-MAR-10	per0322062a	IPB008



Perchlorate Continuing Calibration Blank

GEL Job No.(SDG): 10-2197

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-101	0.00	0	NA	22-MAR-10	per0322062a	IPB008
Perchlorate	0.00	0	NA	23-MAR-10	per0322073a	IPB009
Perchlorate-101	0.00	0	NA	23-MAR-10	per0322073a	IPB009
Perchlorate	0.00	0	NA	23-MAR-10	per0322086a	IPB010
Perchlorate-101	0.00	0	NA	23-MAR-10	per0322086a	IPB010
Perchlorate	0.00	0	NA	23-MAR-10	per0322099a	IPB011
Perchlorate-101	0.00	0	NA	23-MAR-10	per0322099a	IPB011
Perchlorate	0.00	0	NA	23-MAR-10	per0322105a	IPB012
Perchlorate-101	0.00	0	NA	23-MAR-10	per0322105a	IPB012
Perchlorate	0.00	0	NA	23-MAR-10	per0322107a	IPB013
Perchlorate-101	0.00	0	NA	23-MAR-10	per0322107a	IPB013
Perchlorate	0.00	0	NA	23-MAR-10	per0322112a	IPB014
Perchlorate-101	0.00	0	NA	23-MAR-10	per0322112a	IPB014

**Quantify Sample Report** MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
 Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322008a

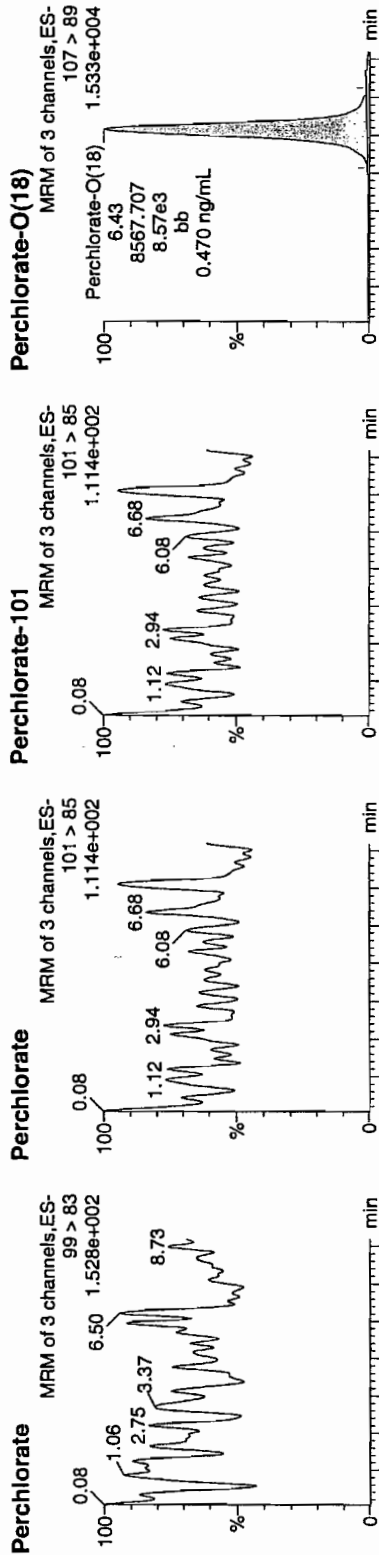
Date: 22-Mar-2010

Time: 12:55:34

ID: IPB002

Vial: 1:1,A

03-23-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB002	Perchlorate	99 > 83											0.00
IPB002	Perchlorate-101	101 > 85											
IPB002	Perchlorate-O(18)	107 > 89	6.43	8567.707	8567.707	bb			0.4695	93.91	-6.09	840.144	

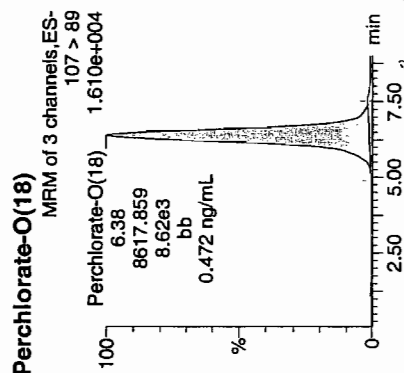
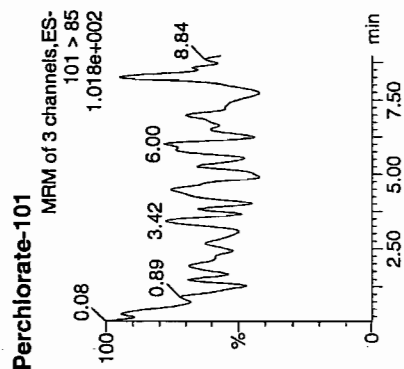
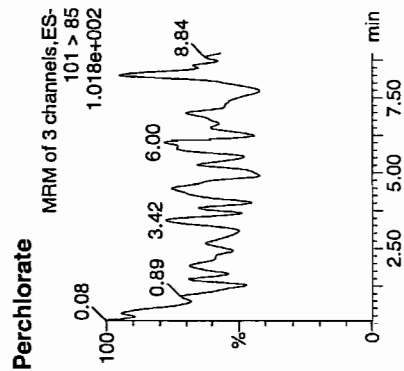
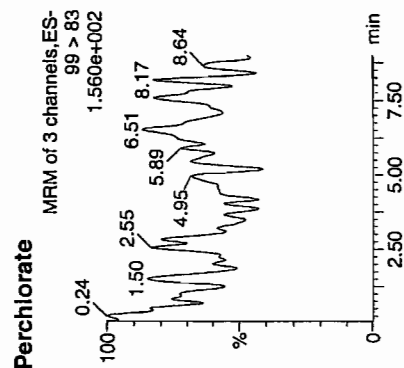
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322010a  
Date: 22-Mar-2010  
Time: 13:19:46  
ID: IPB003  
Vial: 1:1,A

03-23-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB003	Perchlorate	99 > 83											0.00
IPB003	Perchlorate-101	101 > 85											
IPB003	Perchlorate-O(18)	107 > 89	6.38	8617.859	8617.859	bb			0.4723	94.46	-5.54	154.848	

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

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322023a

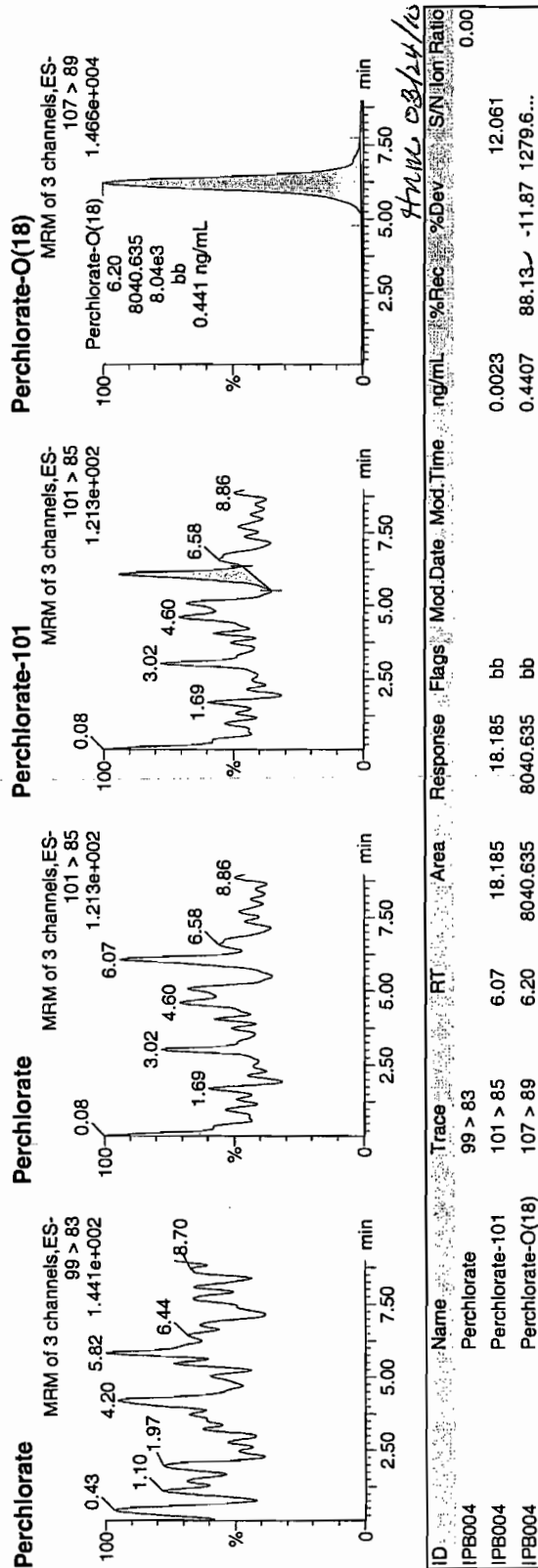
Date: 22-Mar-2010

Time: 15:56:51

ID: IPB004

Vial: 1:1,A

QW  
03-23-10



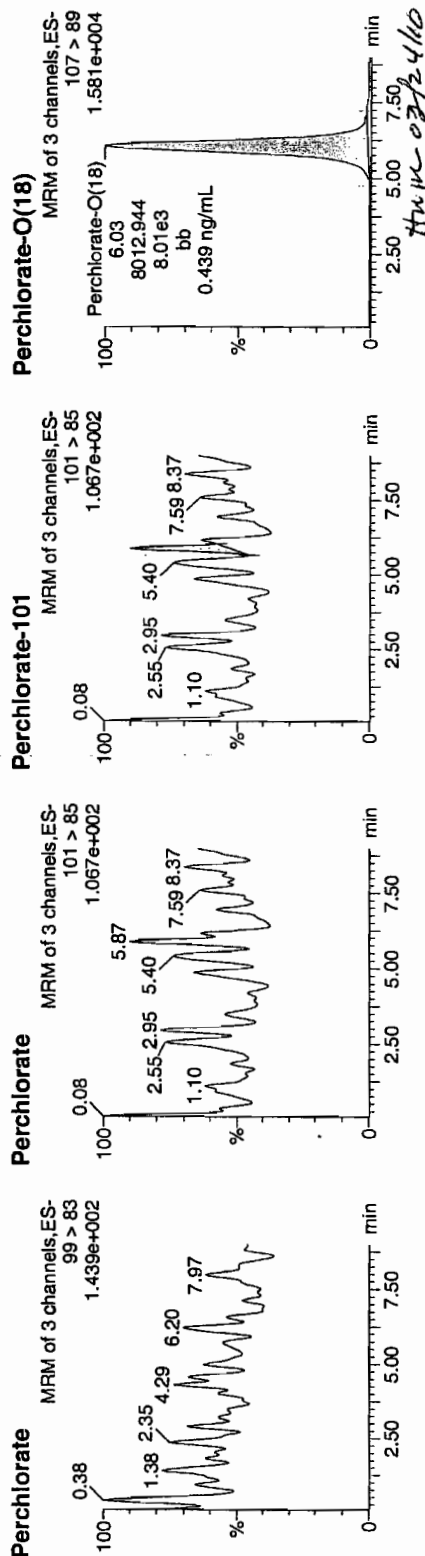
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322036a  
Date: 22-Mar-2010  
Time: 18:34:07  
ID: IPB005  
Vial: 1:1,A

03-23-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB005	Perchlorate	99 > 83											0.00
IPB005	Perchlorate-101	101 > 85	5.87	7.461	7.461	bb			0.0009				13.240
IPB005	Perchlorate-O(18)	107 > 89	6.03	8012.944	8012.944	bb			0.4391	87.83	-12.17		132.616

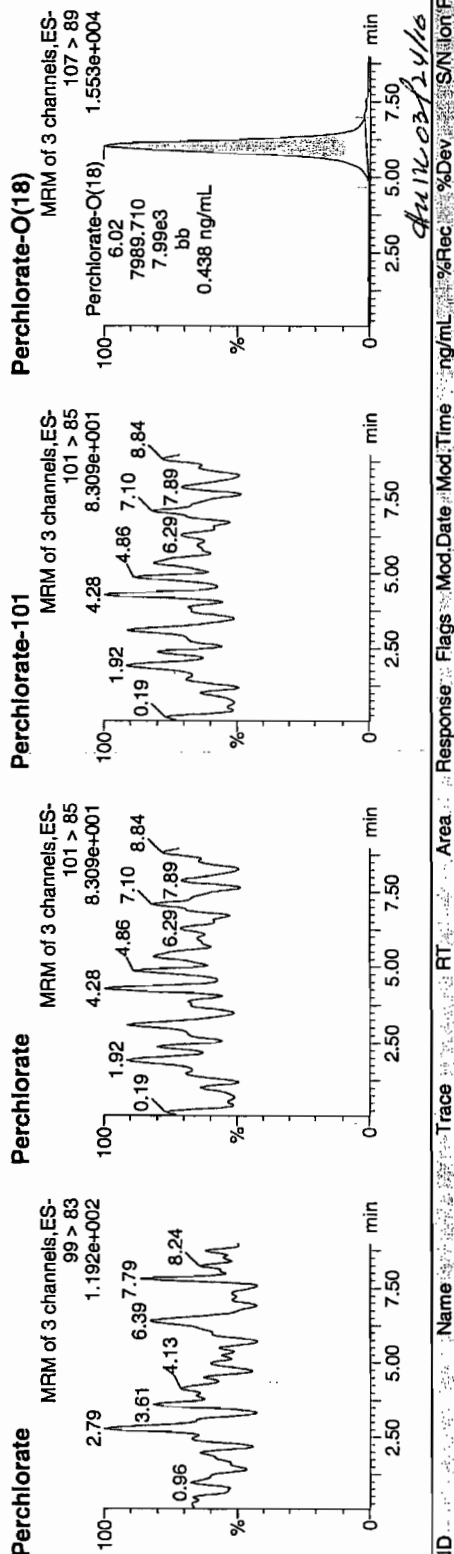
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322040a  
Date: 22-Mar-2010  
Time: 19:22:34  
ID: IPB006  
Vial: 1:1,A

*03-23-10*



ID	Name	Trace	RT	Area	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	SN	Ion Ratio
IPB006	Perchlorate	99 > 83											0.00
IPB006	Perchlorate-101	101 > 85											
IPB006	Perchlorate-O(18)	107 > 89	6.02	7989.710	7989.710	bb			0.4379	87.57	-12.43	2604.0...	

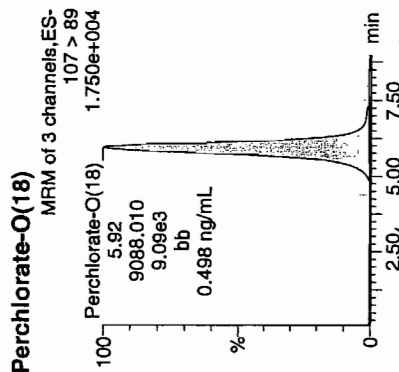
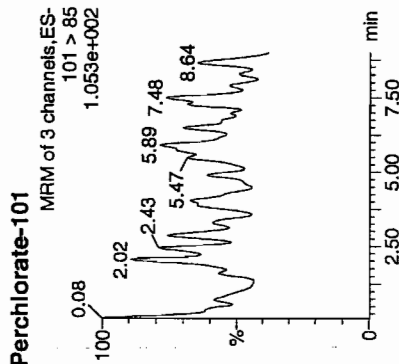
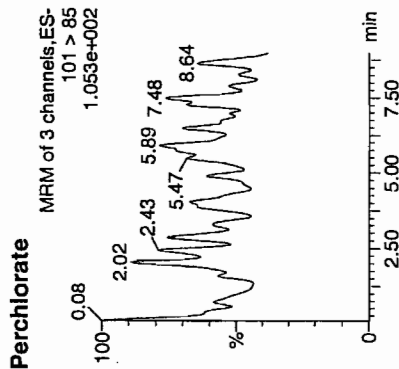
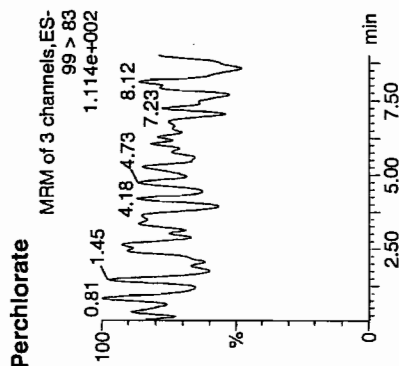
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322049a  
Date: 22-Mar-2010  
Time: 21:11:37  
ID: IPB007  
Vial: 1:1,A

0323-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB007	Perchlorate	99 > 83											0.00
IPB007	Perchlorate-101	101 > 85											
IPB007	Perchlorate-O(18)	107 > 89	5.92	9088.010	9088.010	bb			0.4981	99.61	-0.39	614.610	

# Quantify Sample Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
 Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

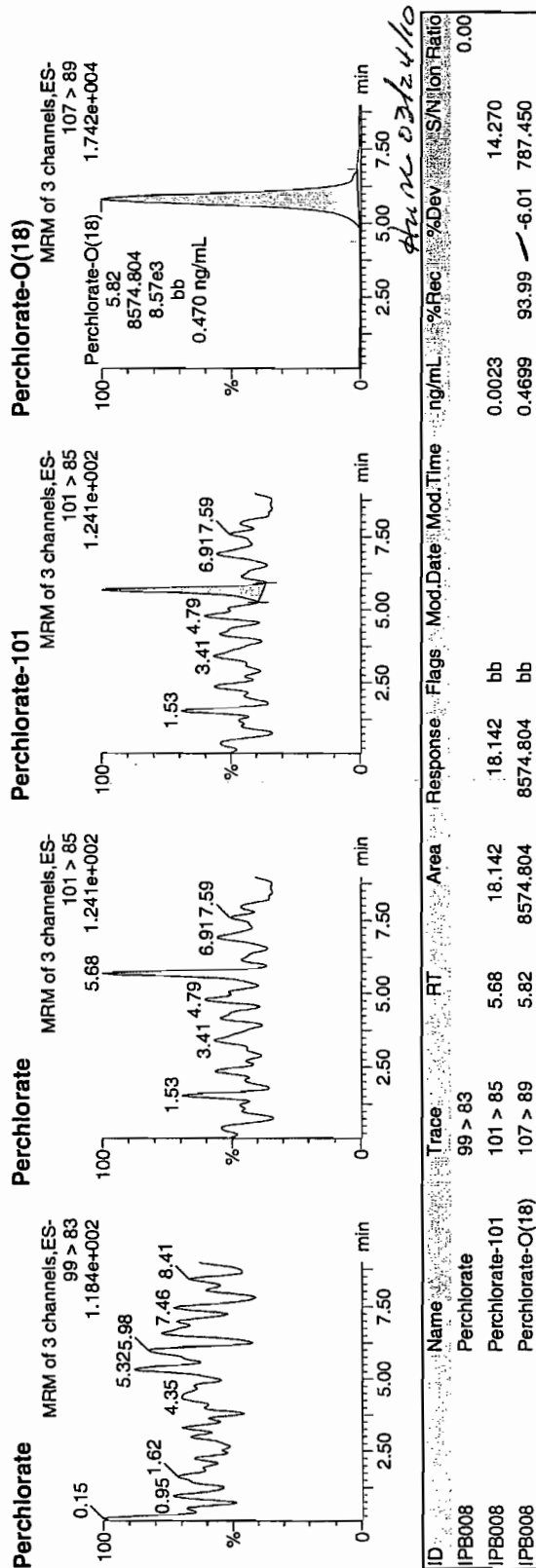
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Date: 22-Mar-2010

Time: 23:48:27

ID: IPB008

Vial: 1:1,A





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

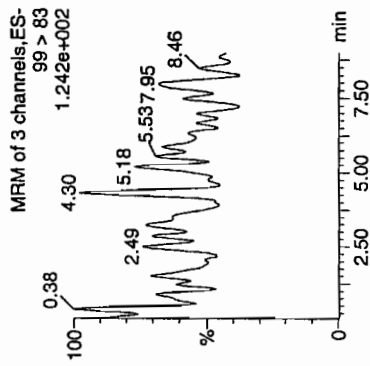
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Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

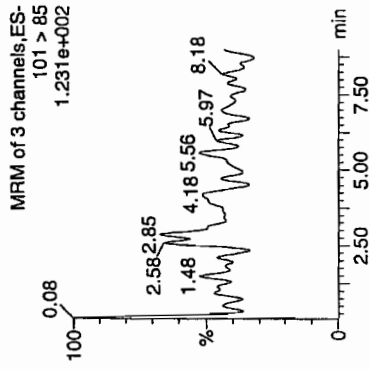
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Time: 02:01:20  
ID: IPB009  
Vial: 1:1,A

03-23-10

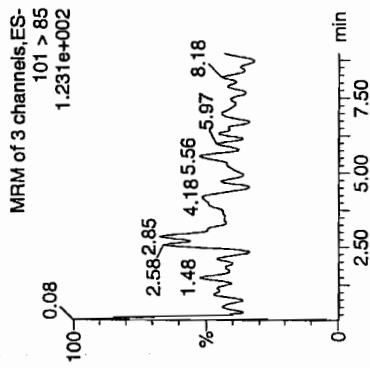
**Perchlorate**



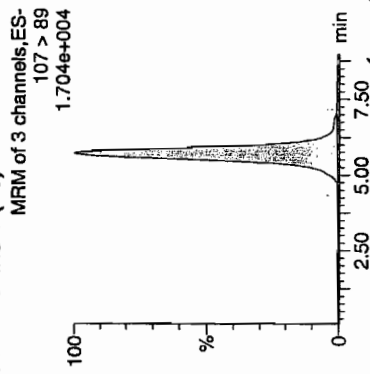
**Perchlorate**



**Perchlorate-101**



**Perchlorate-O(18)**



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB009	Perchlorate	99 > 83											0.00
IPB009	Perchlorate-101	101 > 85											
IPB009	Perchlorate-O(18)	107 > 89	5.71	8642.843	8642.843	bb			0.4737	94.73	-5.27	276.563	

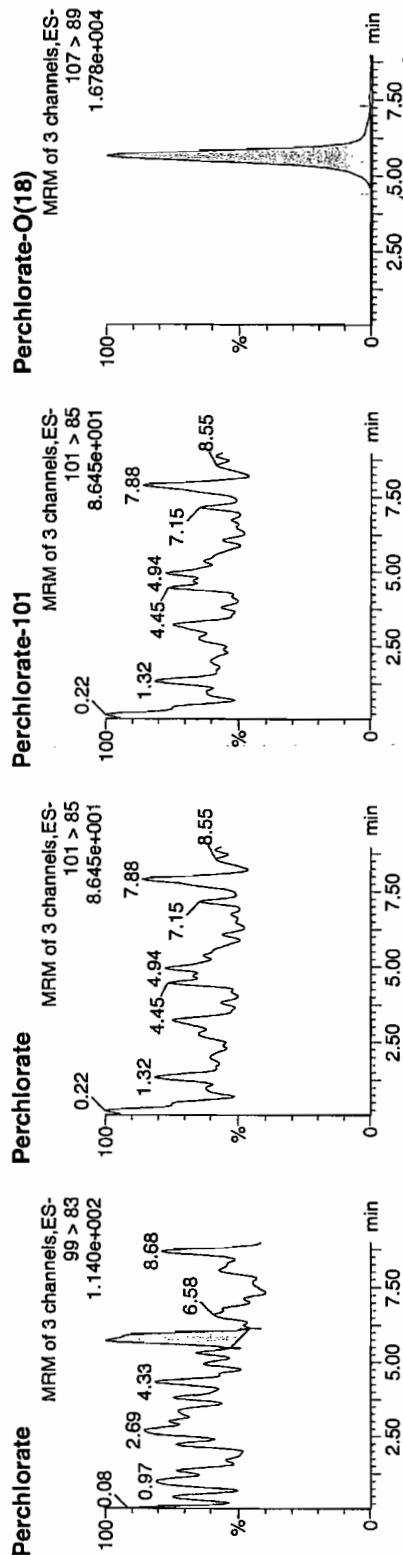
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322086a  
Date: 23-Mar-2010  
Time: 04:38:11  
ID: IPB010  
Vial: 1:1,A

03-23-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB010	Perchlorate	99 > 83	5.71	22.210	22.210	bb			0.0009			12.081	0.00
IPB010	Perchlorate-101	101 > 85											
IPB010	Perchlorate-O(18)	107 > 89	5.64	8465.981	8465.981	bb			0.4640	92.79	-7.21	1511.7...	

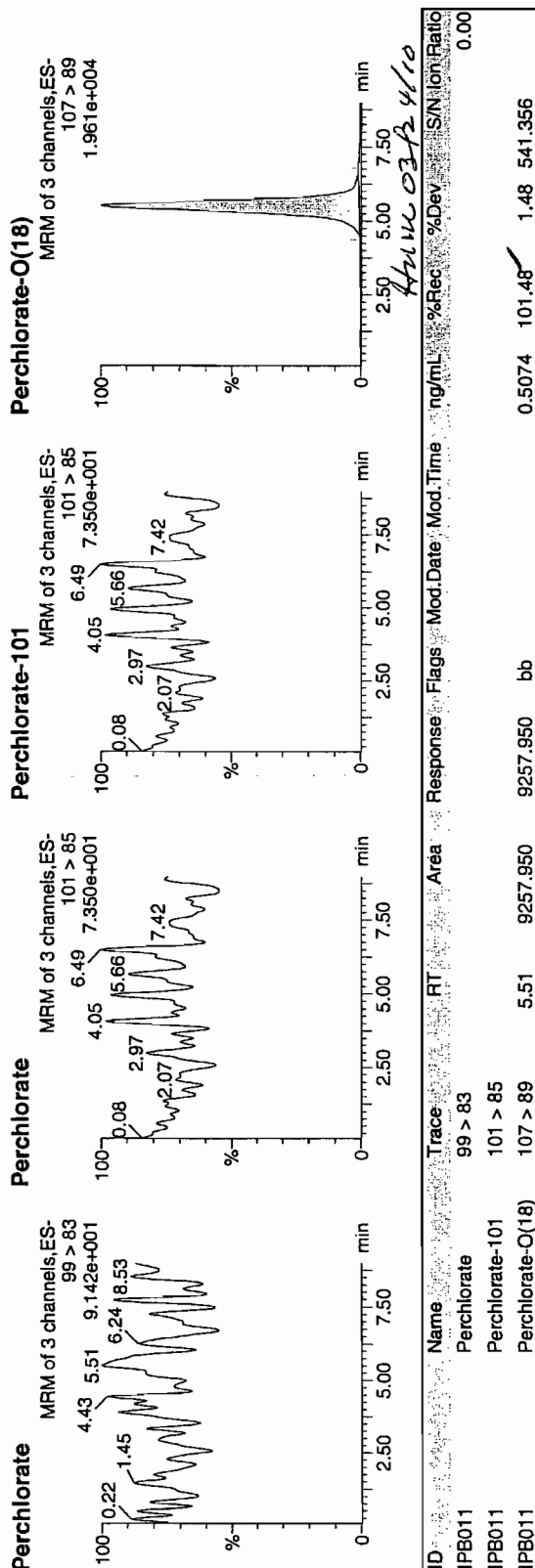
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

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Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322099a  
Date: 23-Mar-2010  
Time: 07:18:34  
ID: IPB011  
Vial: 1:1,A

03-23-10



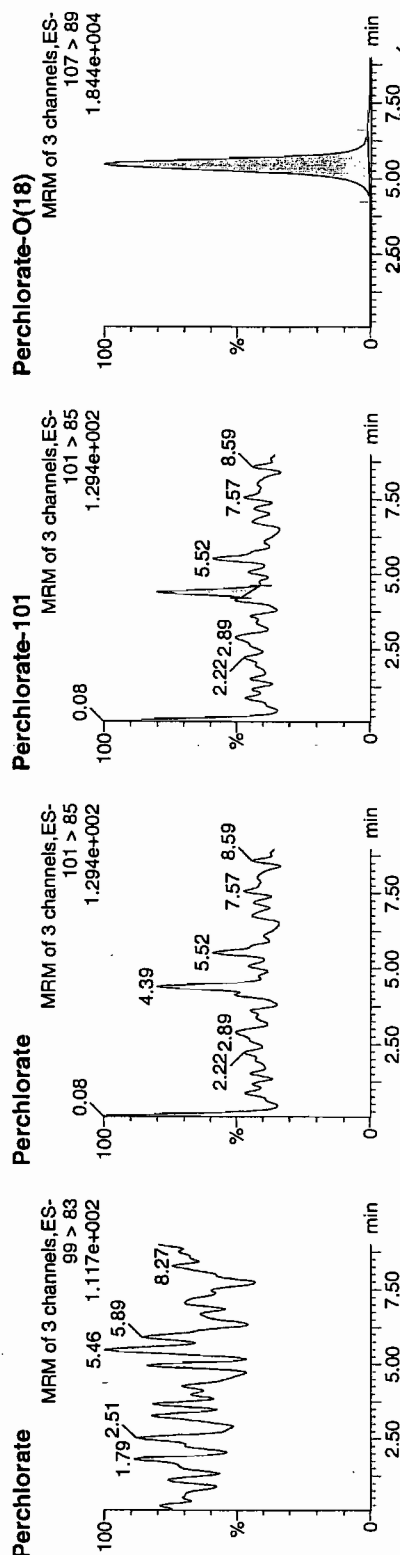
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322105a  
Date: 23-Mar-2010  
Time: 08:31:10  
ID: IPB012  
Vial: 1:1,A

03-23-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB012	Perchlorate	99 > 83											0.00
IPB012	Perchlorate-101	101 > 85	4.39	8.788	8.788	bb			0.0011			16.388	
IPB012	Perchlorate-O(18)	107 > 89	5.45	8970.789	8970.789	bb			0.4916	98.33	-1.67	697.456	

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

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

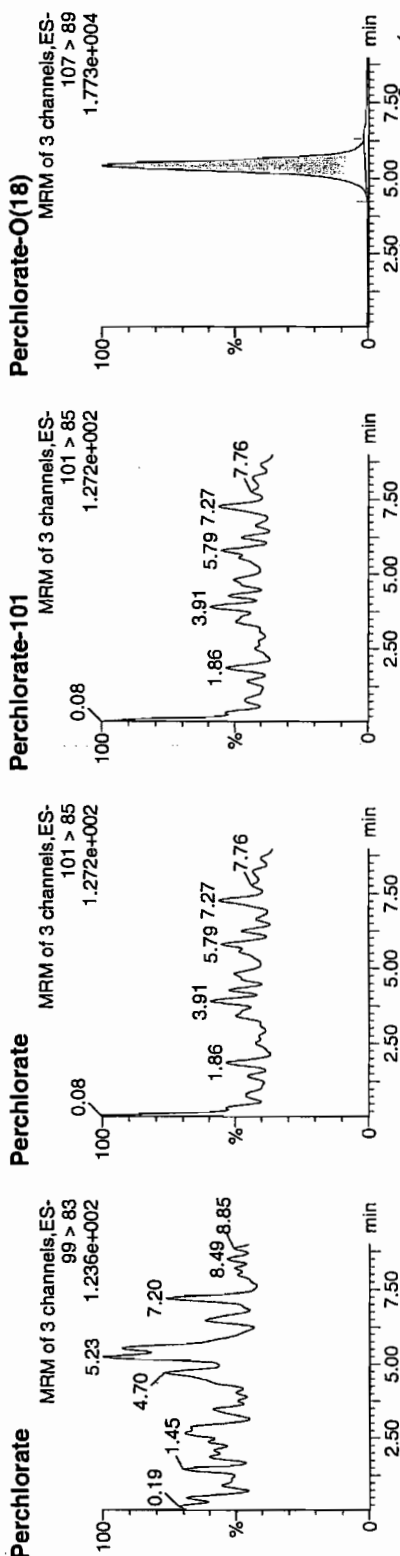
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Date: 23-Mar-2010

Time: 08:55:27

ID: IPB013

Vial: 1:1,A



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB013	Perchlorate	99 > 83											0.00
IPB013	Perchlorate-101	101 > 85											
IPB013	Perchlorate-O(18)	107 > 89	5.42	8393.238	8393.238	bb			0.4600	92.00	-8.00	398.146	

Quantify Sample Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\P perchlorate.PRO\per032210a.qld

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Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322112a

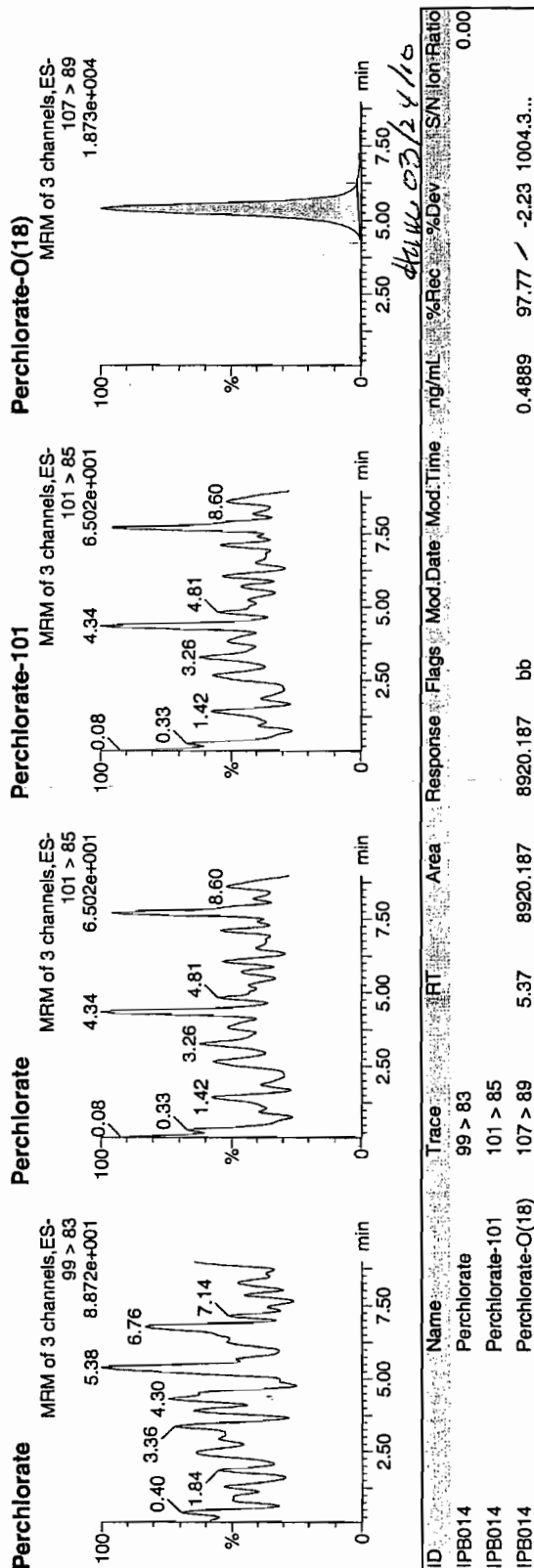
Date: 23-Mar-2010

Time: 09:55:44

ID: IPB014

Vial: 1:1,A

03-23-10



Nairb.rcf

;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

QUANTO ULTIMA: nairb\_01-08-08.cal

Calibration Report - MS1 Static

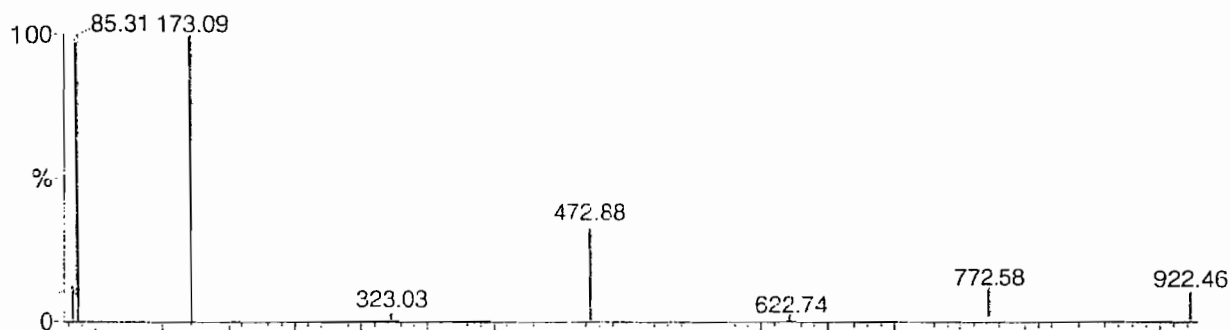
Page 1 of 1

Printed: Tue Jan 08 12:19:12 2008

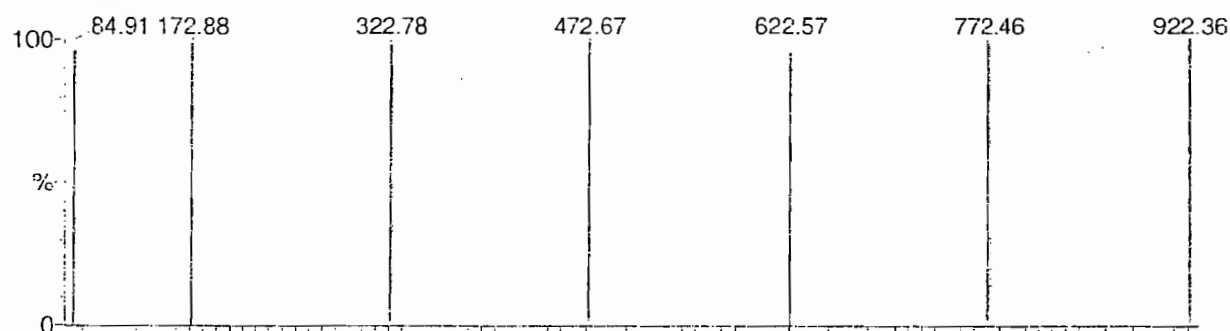
POINTS HIGHLIGHTED BY CURVE 01-07-03

Data file: STATMS1 - Uncalibrated

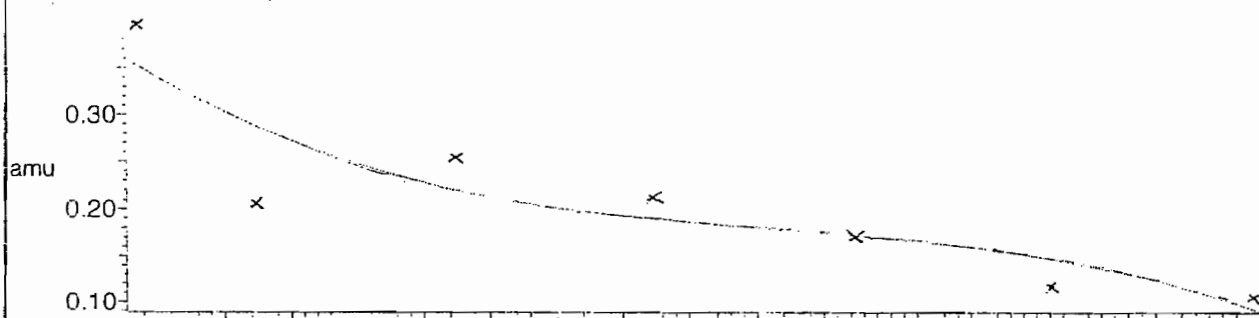
7 matches of 7 tested references



Reference file: Nairb

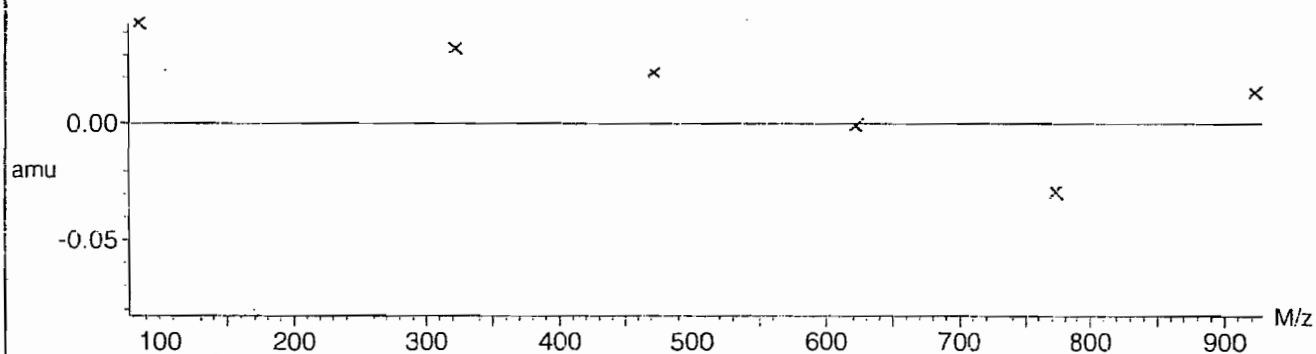


Mass difference (Raw - Ref mass)



Residuals

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

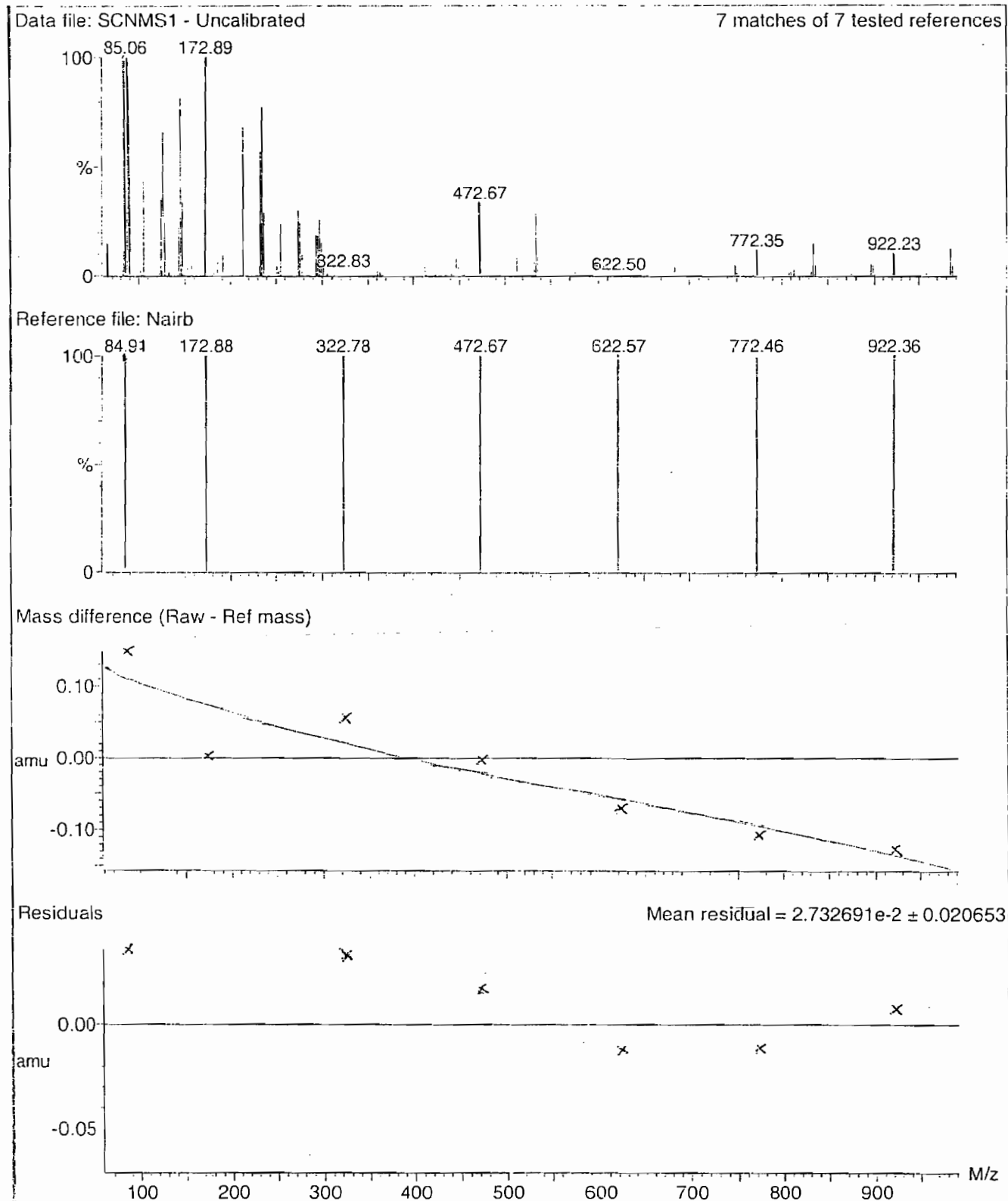




Calibration Report - MS1 Scanning

Page 1 of 1

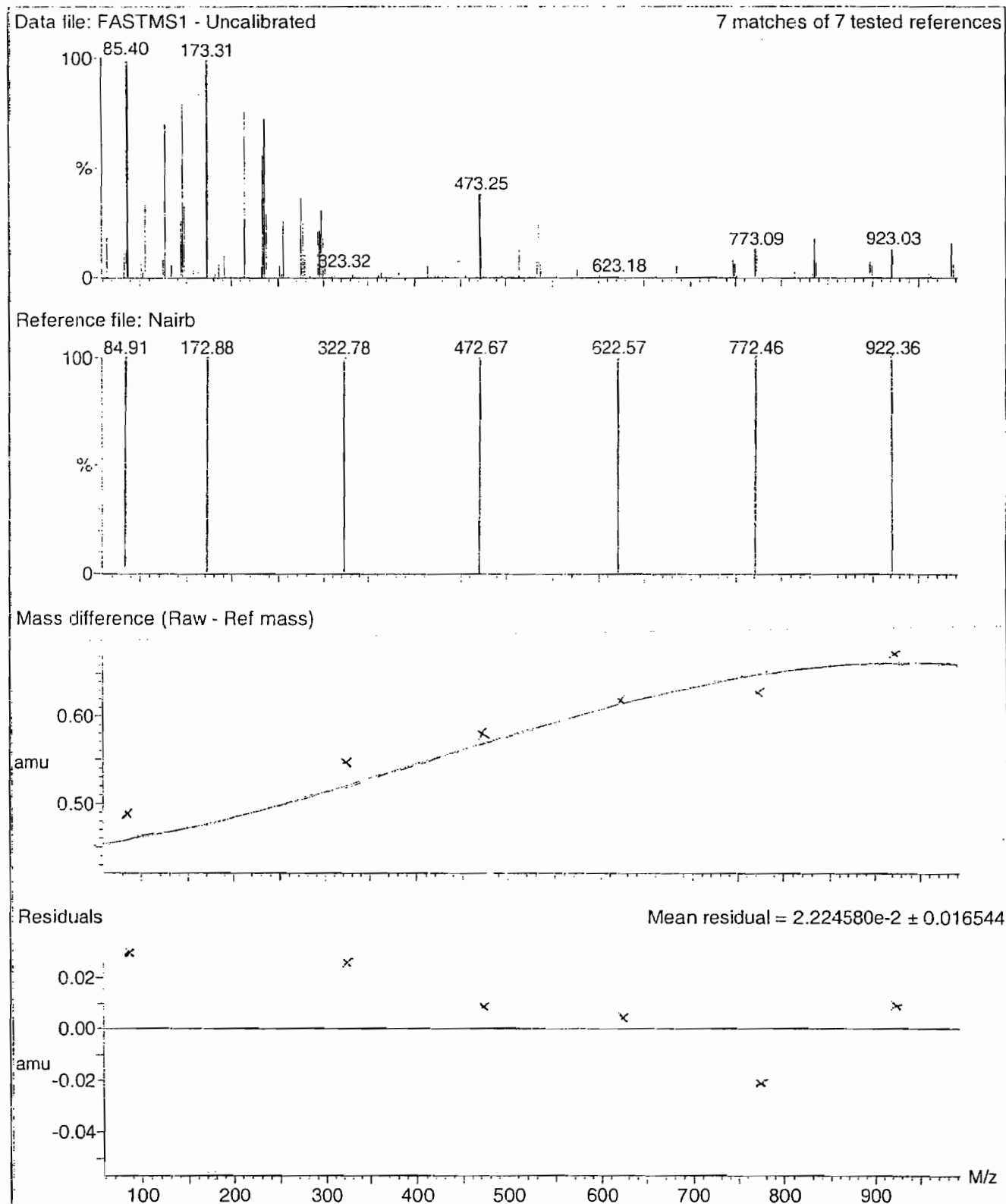
Printed: Tue Jan 08 12:20:09 2008



Calibration Report - MS1 Scan Speed Compensation

Page 1 of 1

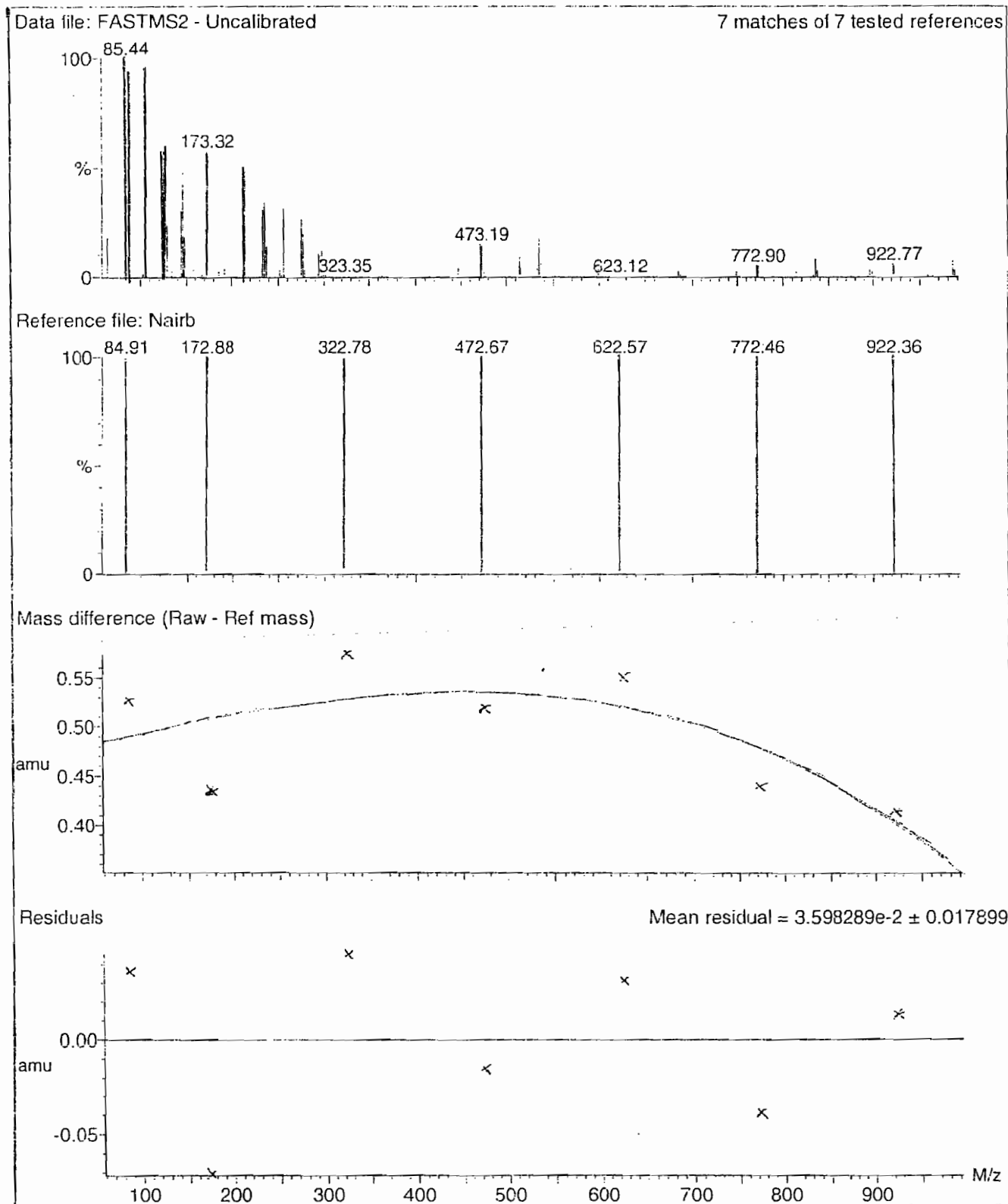
Printed: Tue Jan 08 12:21:04 2008



Calibration Report - MS2 Scan Speed Compensation

Page 1 of 1

Printed: Tue Jan 08 12:23:51 2008



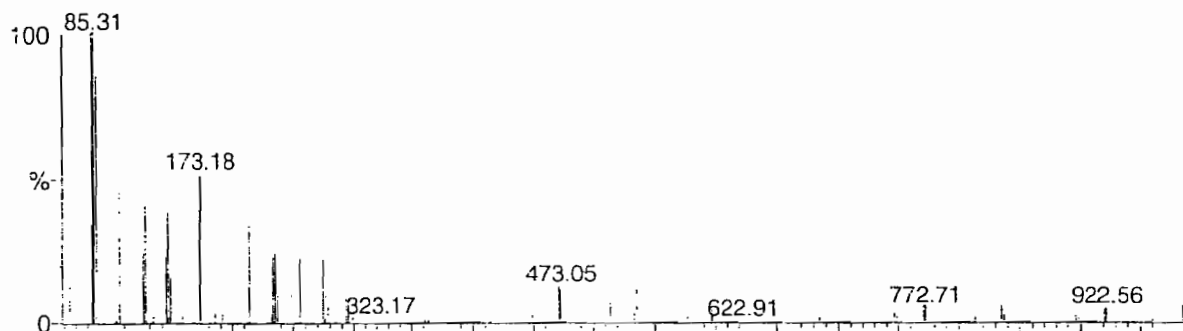
Calibration Report - MS2 Scanning

Page 1 of 1

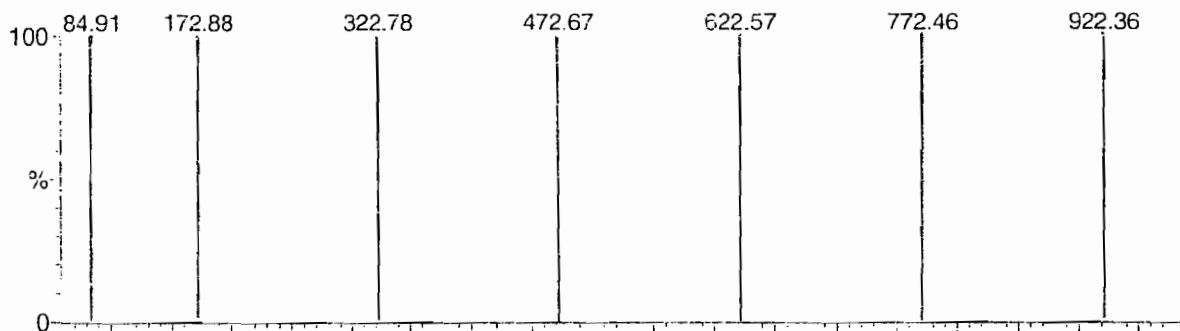
Printed: Tue Jan 08 12:22:56 2008

Data file: SCNMS2 - Uncalibrated

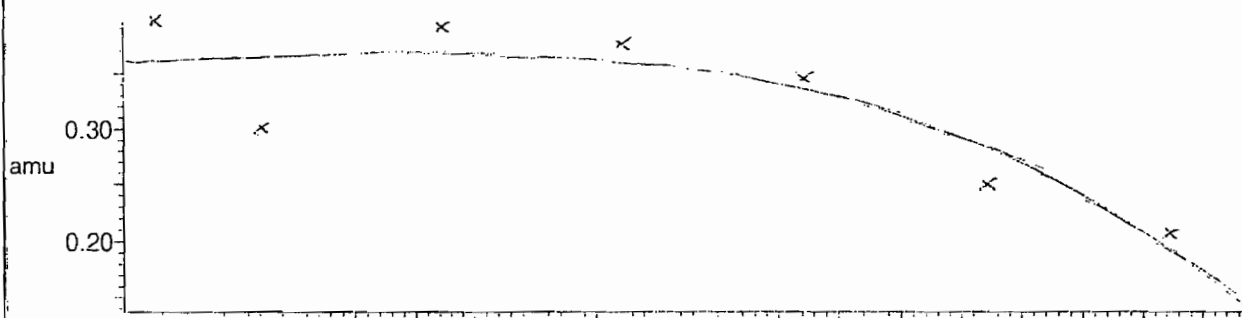
7 matches of 7 tested references



Reference file: Nairb

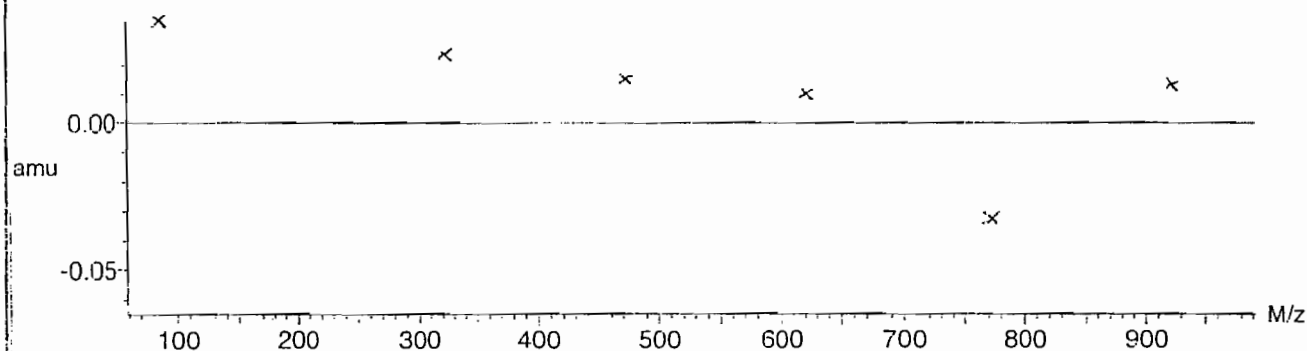


Mass difference (Raw - Ref mass)



Residuals

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



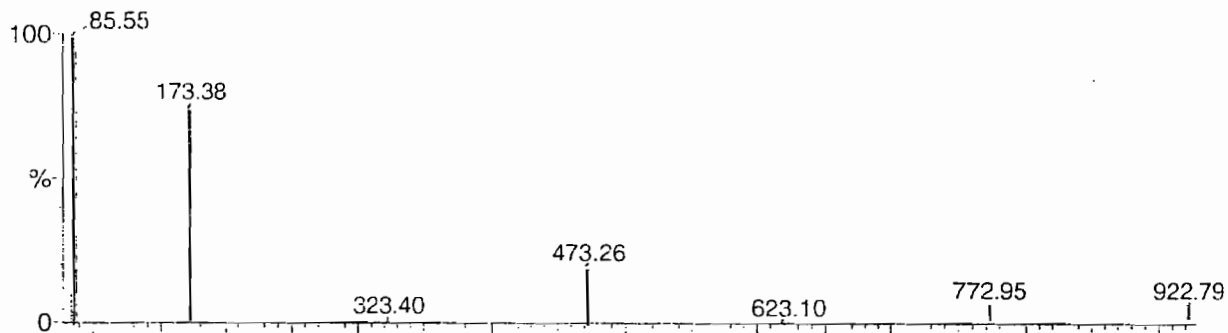
Calibration Report - MS2 Static

Page 1 of 1

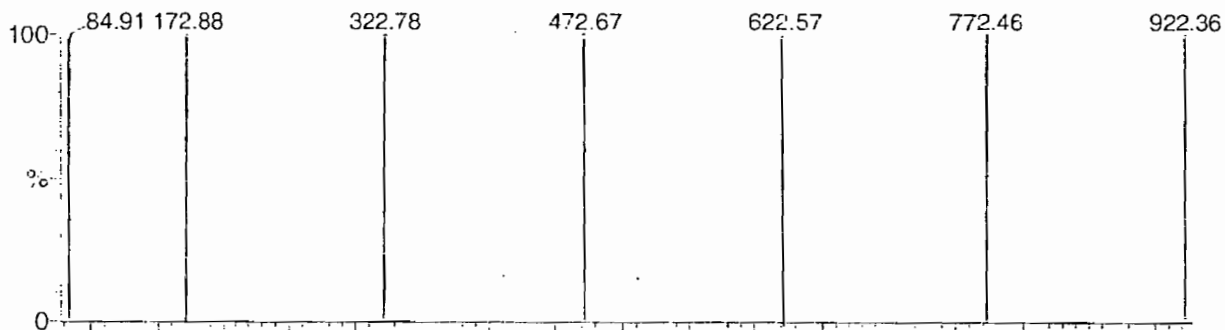
Printed: Tue Jan 08 12:21:59 2008

Data file: STATMS2 - Uncalibrated

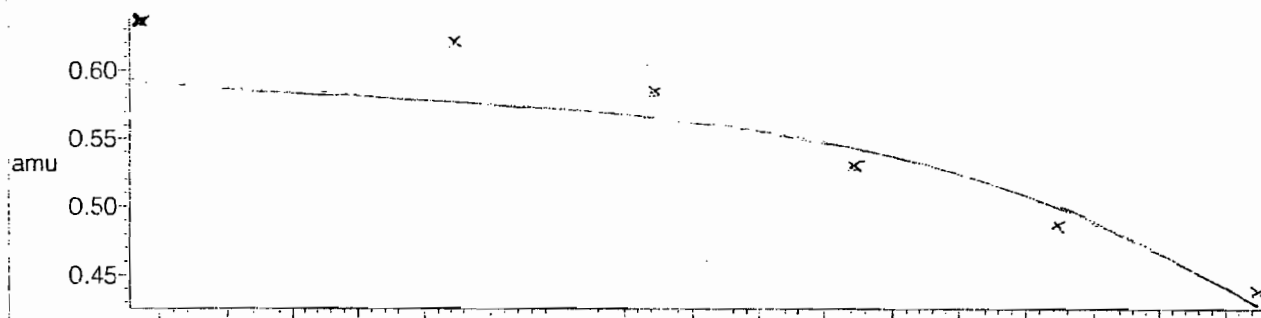
7 matches of 7 tested references



Reference file: Nairb

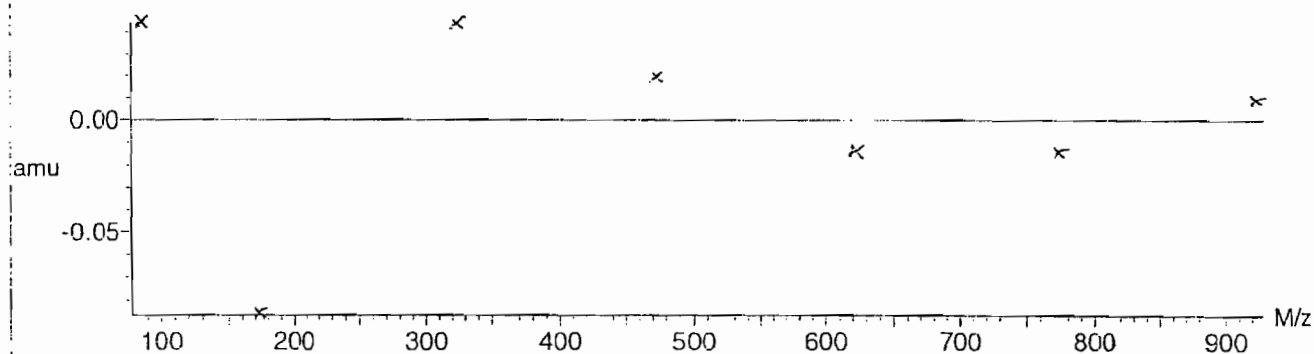


Mass difference (Raw - Ref mass)



Residuals

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



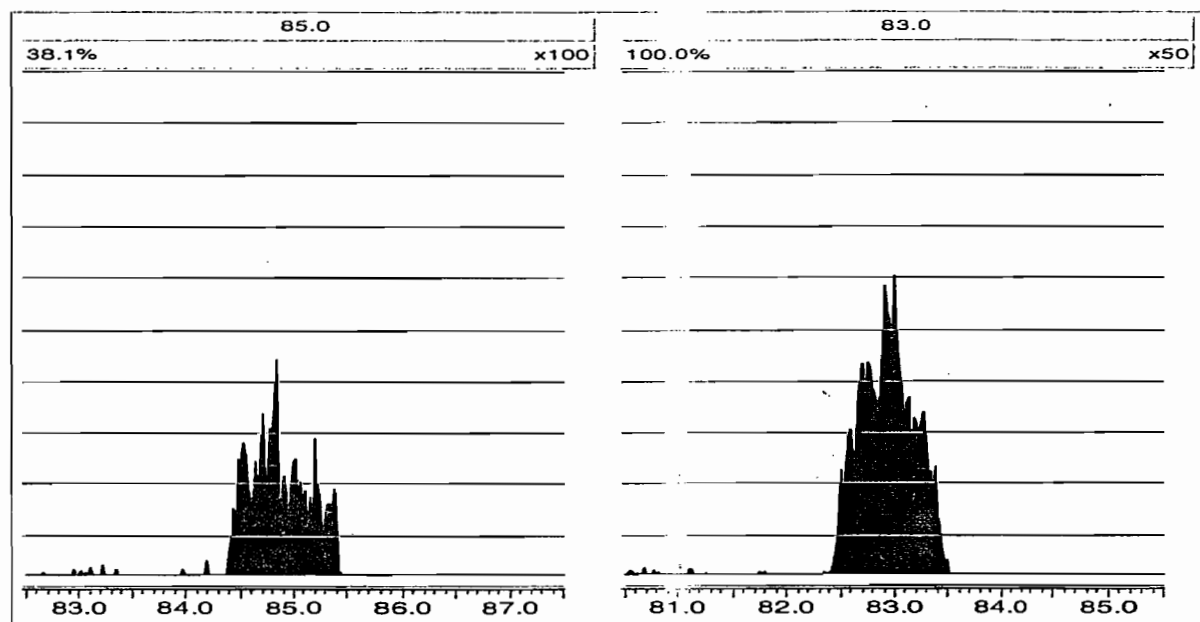
**Tune Parameters**

**MassLynx 4.0 SP4**

Page 1 of 1

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

Printed: Monday, March 22, 2010 08:32:35 Eastern Standard Time



Perchlorate RT And Area Summary

Lab Name: General Engineering Laboratories  
GEL Job No.(SDG): 10-2197

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	per0322006a	22-MAR-10	9056.69				
Lower Area Limit			4528.345				
Upper Area Limit			18113.38				
1202067810	per0322075a	23-MAR-10 02:25	8975.38	5.72	5.7686	1.008	
1202067811	per0322076a	23-MAR-10 02:37	8991.55	5.71	5.73125	1.004	
1202067814	per0322077a	23-MAR-10 02:49	9075.8	6.55	6.56365	1.002	
248515001	per0322101a	23-MAR-10 07:42	9506.97	5.48	5.5202	1.007	
248515002	per0322102a	23-MAR-10 07:55	9564.53	5.46	5.48295	1.004	
248515003	per0322103a	23-MAR-10 08:07	8847.49	5.46	5.48285	1.004	

# SAMPLE DATA



Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC  
 Lab Code: GEL  
 Instrument: LCMSMS  
 Method: SW846 6850 Modified  
 Matrix: SOIL  
 Extraction Batch ID: 963897  
 Extraction Type: Solid Prep  
 Sample Volume/Weight: 2.00 g  
 Concentrated Extract Volume: 20.0  
 Client Sample No. RE36-10-7501  
 Date Received: 03-MAR-10  
 GEL Job No (SDG): 10-2197  
 GEL Sample ID: 248515001  
 Date Filtered: 17-MAR-10  
 Injection Volume (uL): 20  
 %Solids: 76

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.658	2.63	7.75	ug/kg		1	23-MAR-10 07:42	per0322101a
	Perchlorate Isotope Ratio			2.94			1	23-MAR-10 07:42	per0322101a
14797-73-0	Perchlorate-101	.658	2.63	8.01	ug/kg		1	23-MAR-10 07:42	per0322101a
	Perchlorate-O(18)			6.85	ug/kg		1	23-MAR-10 07:42	per0322101a

<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: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322101a

Date: 23-Mar-2010

Time: 07:42:50

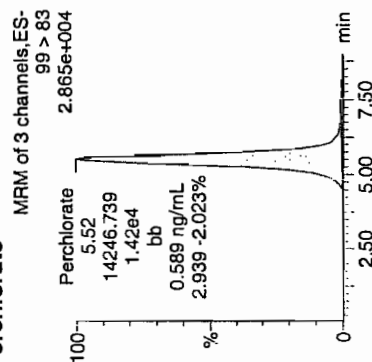
ID: 248515001

Vial: 3:4,C

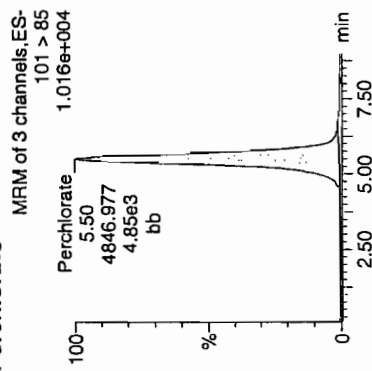
03-23-10

172NL | 963849 | 5020 | 1 |

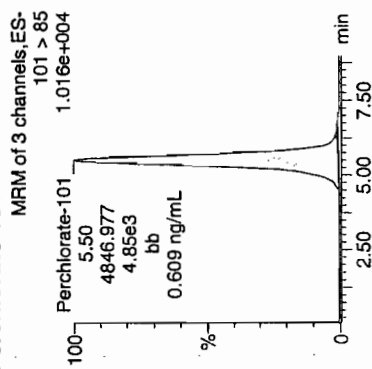
### Perchlorate



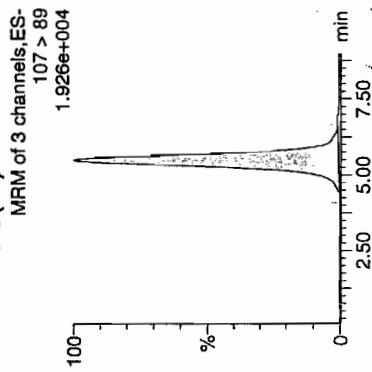
### Perchlorate



### Perchlorate-101



### Perchlorate-O(18)



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
248515001	Perchlorate	99 > 83	5.52	14246.739	14246.739	bb			0.5890			787.930	2.94
248515001	Perchlorate-101	101 > 85	5.50	4846.977	4846.977	bb			0.6087			655.348	
248515001	Perchlorate-O(18)	107 > 89	5.48	9506.965	9506.965	bb			0.5210	104.20	4.20	824.111	

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC  
 Lab Code: GEL  
 Instrument: LCMSMS  
 Method: SW846 6850 Modified  
 Matrix: SOIL  
 Extraction Batch ID: 963897  
 Extraction Type: Solid Prep  
 Client Sample No. RE36-10-7524  
 Date Received: 03-MAR-10  
 GEL Job No (SDG): 10-2197  
 GEL Sample ID: 248515002  
 Date Filtered: 17-MAR-10  
 Injection Volume (uL): 20  
 Sample Volume/Weight: 2.00 g  
 %Solids: 84

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	.595	2.38	2.30	ug/kg	J	1	23-MAR-10 07:55	per0322102a
	Perchlorate Isotope Ratio			2.91			1	23-MAR-10 07:55	per0322102a
14797-73-0	Perchlorate-101	.595	2.38	2.41	ug/kg		1	23-MAR-10 07:55	per0322102a
	Perchlorate-O(18)			6.24	ug/kg		1	23-MAR-10 07:55	per0322102a

<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  
 1

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

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322102a

Date: 23-Mar-2010

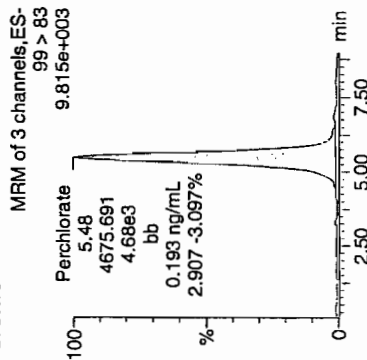
Time: 07:55:05

ID: 248515002

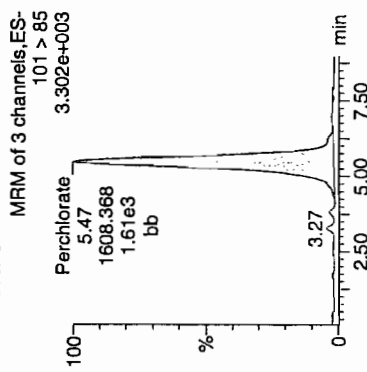
Vial: 3:4,D

1963819 | 3022 | 1.1  
0323-10

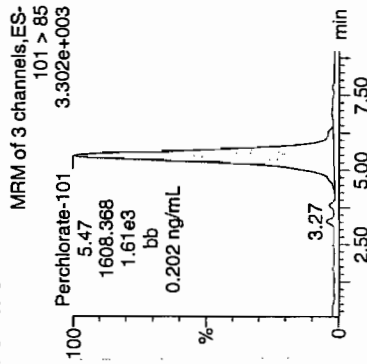
**Perchlorate**



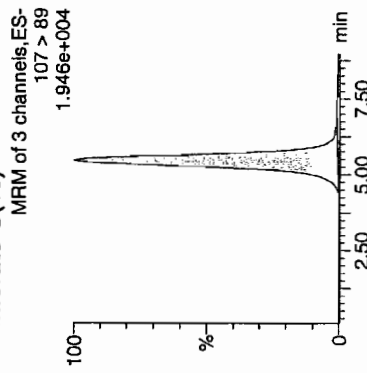
**Perchlorate**



**Perchlorate-101**



**Perchlorate-O(18)**



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
248515002	Perchlorate	99 > 83	5.48	4675.691	4675.691	bb			0.1933			778.124	2.91
248515002	Perchlorate-101	101 > 85	5.47	1608.368	1608.368	bb			0.2020			430.869	
248515002	Perchlorate-O(18)	107 > 89	5.46	9564.531	9564.531	bb			0.5242	104.84	4.84	428.583	

P perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 963897

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.

RE36-10-7525

Date Received: 03-MAR-10

GEL Job No (SDG): 10-2197

GEL Sample ID: 248515003

Date Filtered: 17-MAR-10

Injection Volume (uL): 20

%Solids: 80

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.626	2.5	0.666	ug/kg	J	1	23-MAR-10 08:07	per0322103a
	Perchlorate Isotope Ratio			2.53			1	23-MAR-10 08:07	per0322103a
14797-73-0	Perchlorate-101	.626	2.5	0.799	ug/kg	J	1	23-MAR-10 08:07	per0322103a
	Perchlorate-O(18)			6.07	ug/kg		1	23-MAR-10 08:07	per0322103a

<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: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322103a

Date: 23-Mar-2010

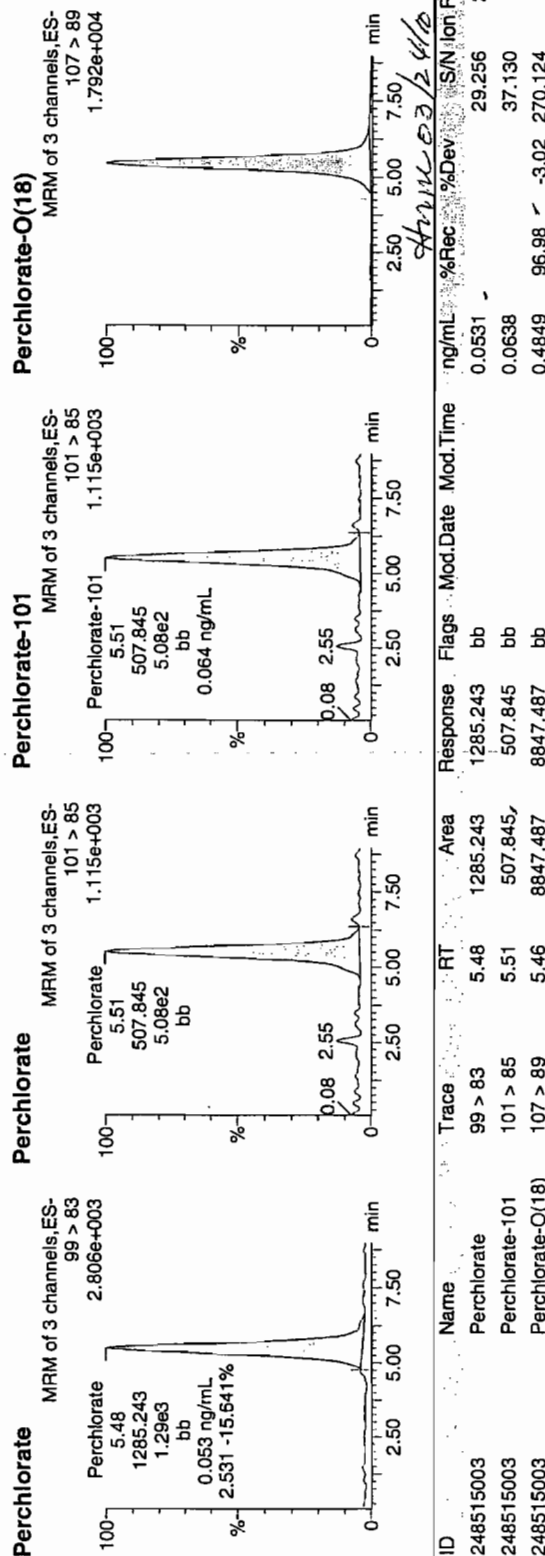
Time: 08:07:07

ID: 248515003

Vial: 3:4,E

03-23-10

12420 | 96384 | 3070 | 11



# STANDARDS DATA

Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories GEL Job No.(SDG): 10-2197

Lab Code: GEL

Instrument ID: LCMSMS Date Analyzed: 22-MAR-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: 24186.2  
Response Type: External Standard  
Curve Type: RF



Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories GEL Job No.(SDG): 10-2197

Lab Code: GEL

Instrument ID: LCMSMS Date Analyzed: 22-MAR-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

Parunname Perchlorate-101

Coefficient of Determination:

Calibration Curve: 7962.2

Response Type: External Standard

Curve Type: RF

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

Page 1 of 2

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Method: C:\MassLynx\Perchlorate.PRO\MethDB\per032210a.mdb 23 Mar 2010 10:24:18  
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per032210a.cdb 23 Mar 2010 10:24:34

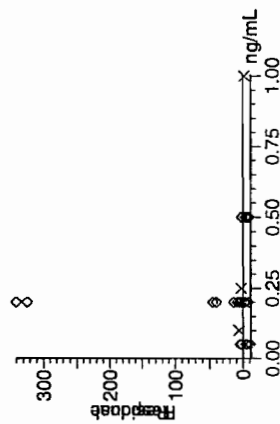
Compound name: Perchlorate

Response Factor: 24186.2

RRF SD: 1053.84, % Relative SD: 4.3572

Response type: External Std, Area

Curve type: RF



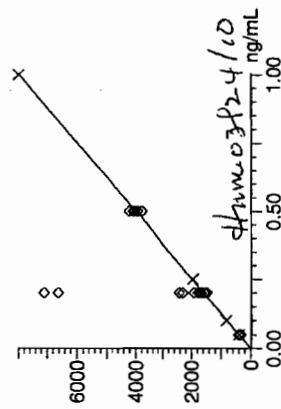
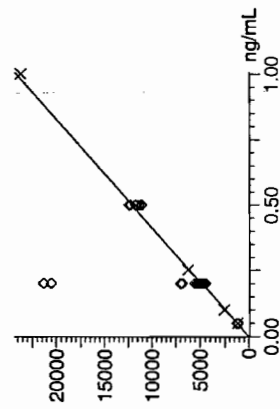
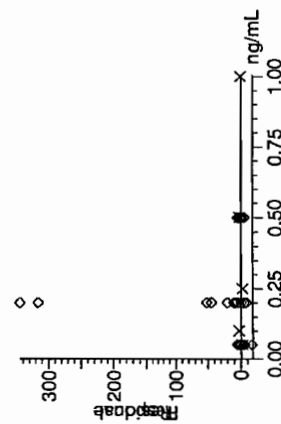
Compound name: Perchlorate-101

Response Factor: 7962.2

RRF SD: 189.293, % Relative SD: 2.3774

Response type: External Std, Area

Curve type: RF



03-23-10

03-23-10

Quantify Calibration Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time

Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

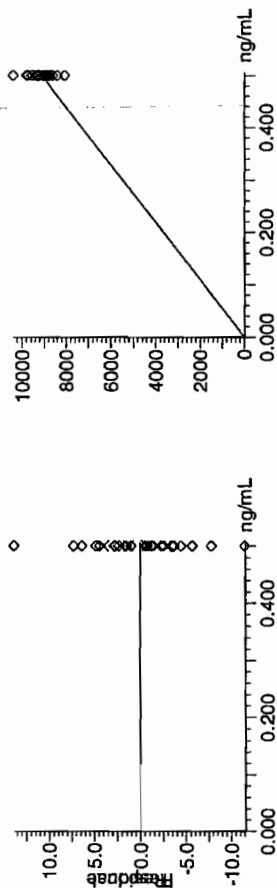
Compound name: Perchlorate-O(18)

Response Factor: 18246.7

RIF SD: 488.232, % Relative SD: 2.67573

Response type: External Std, Area

Curve type: RIF



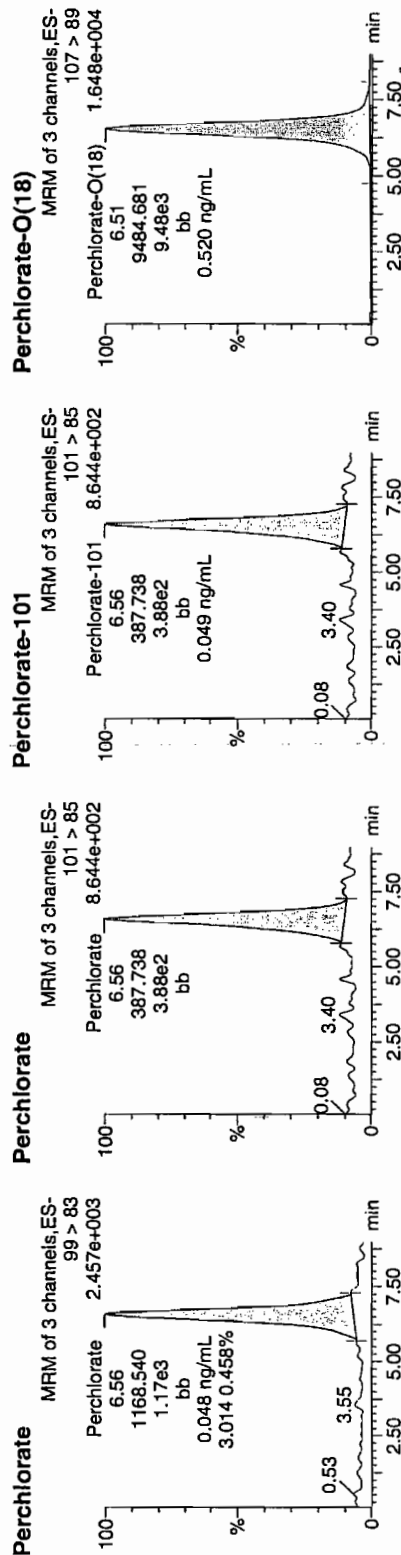
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\P perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322003a  
Date: 22-Mar-2010  
Time: 11:55:05  
ID: WCL100318-01  
Vial: 1:1,B

Rep  
ans  
0323-13



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100318-01	Perchlorate	99 > 83	6.56	1168.540	1168.540	bb			0.0483	96.63	-3.37	181.559	3.01
WCL100318-01	Perchlorate-101	101 > 85	6.56	387.738	387.738	bb			0.0487	97.39	-2.61	26.717	
WCL100318-01	Perchlorate-O(18)	107 > 89	6.51	9484.681	9484.681	bb			0.5198	103.96	3.96	868.186	

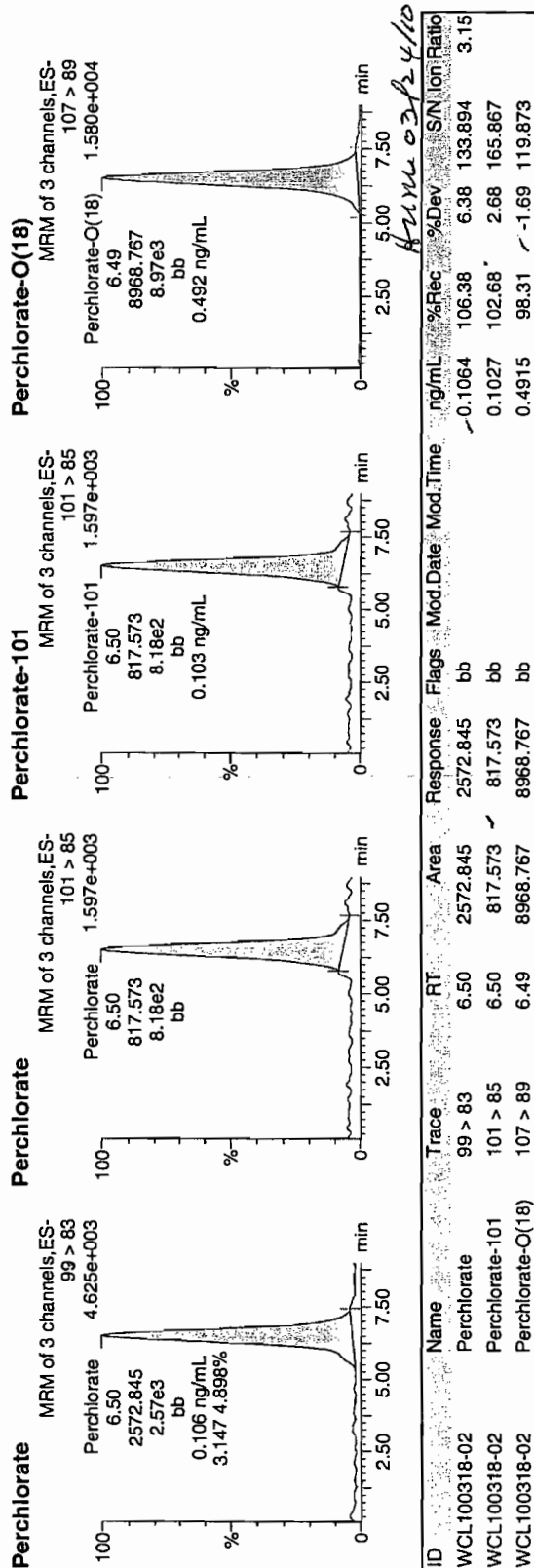
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322004a  
Date: 22-Mar-2010  
Time: 12:07:15  
ID: WCL100318-02  
Vial: 1:1,C

03.23-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100318-02	Perchlorate	99 > 83	6.50	2572.845	2572.845	bb			0.1064	106.38	6.38	133.894	3.15
WCL100318-02	Perchlorate-101	101 > 85	6.50	817.573	817.573	bb			0.1027	102.68	2.68	165.867	
WCL100318-02	Perchlorate-O(18)	107 > 89	6.49	8968.767	8968.767	bb			0.4915	98.31	-1.69	119.873	

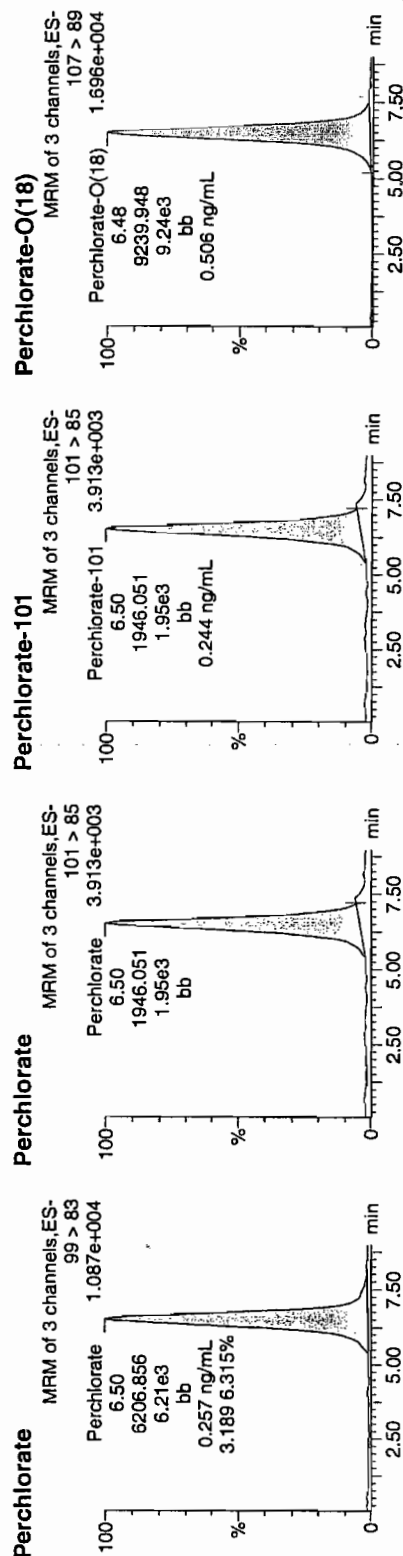
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322005a  
Date: 22-Mar-2010  
Time: 12:19:24  
ID: WCL100318-03  
Vial: 1:1,D

03-23-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100318-03	Perchlorate	99 > 83	6.50	6206.856	6206.856	bb			0.2566	102.65	2.65	139.150	3.19
WCL100318-03	Perchlorate-101	101 > 85	6.50	1946.051	1946.051	bb			0.2444	97.76	-2.24	249.518	
WCL100318-03	Perchlorate-O(18)	107 > 89	6.48	9239.948	9239.948	bb			0.5064	101.28	1.28	2508.4...	

# Quantify Sample Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

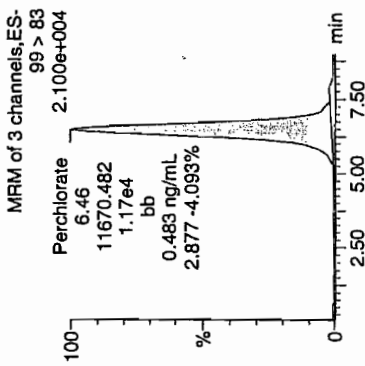
Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
 Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

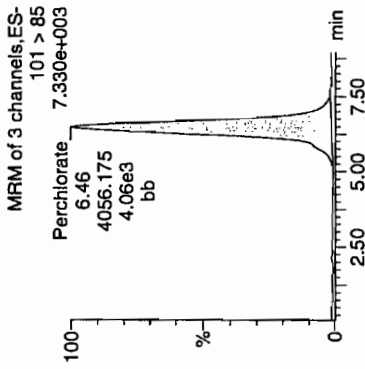
Name: per0322006a  
 Date: 22-Mar-2010  
 Time: 12:31:25  
 ID: WCL100318-04  
 Vial: 1:1,E

03-23-10

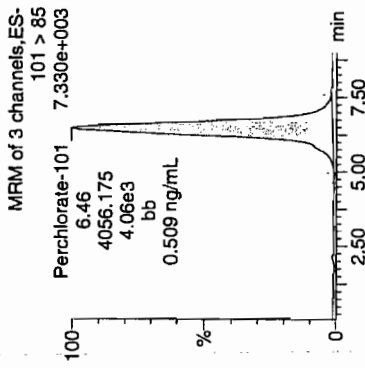
## Perchlorate



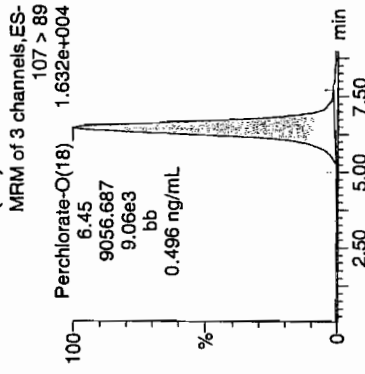
## Perchlorate



## Perchlorate-101



## Perchlorate-O(18)



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100318-04	Perchlorate	99 > 83	6.46	11670.482	11670.482	bb			0.4825	96.51	-3.49	183.709	2.88
WCL100318-04	Perchlorate-101	101 > 85	6.46	4056.175	4056.175	bb			0.5094	101.89	1.89	236.673	
WCL100318-04	Perchlorate-O(18)	107 > 89	6.45	9056.687	9056.687	bb			0.4963	99.27	-0.73	520.805	

4/24/2010 4:10

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

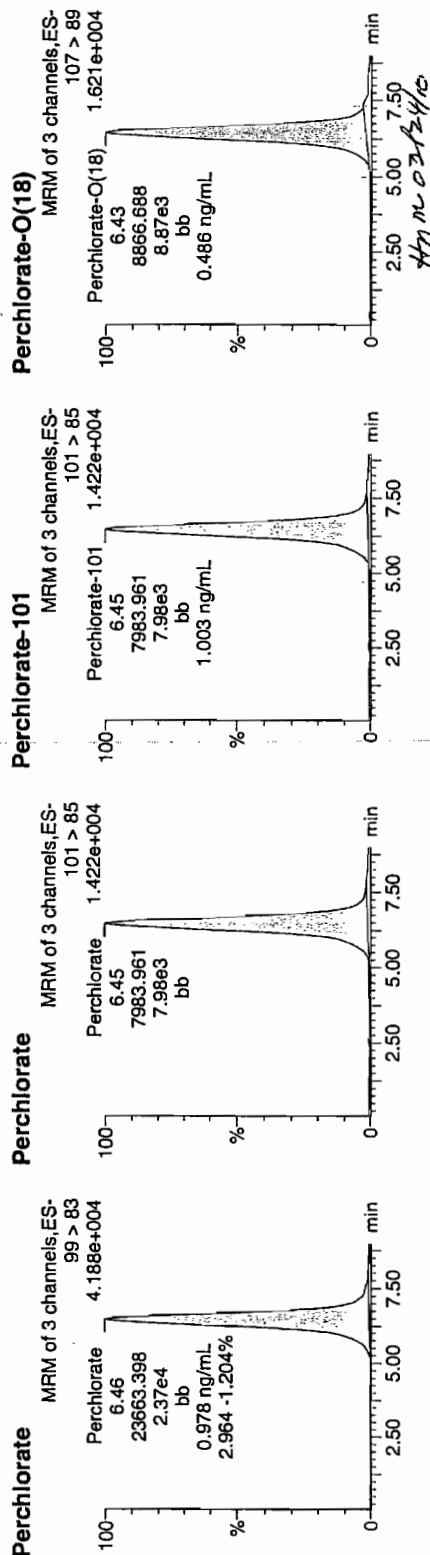
Page 7 of 113

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322007a  
Date: 22-Mar-2010  
Time: 12:43:26  
ID: WCL100318-05  
Vial: 1:1,F

03-23-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100318-05	Perchlorate	99 > 83	6.46	23663.398	23663.398	bb			0.9784	97.84	-2.16	1973.6...	2.96
WCL100318-05	Perchlorate-101	101 > 85	6.45	7983.961	7983.961	bb			1.0027	100.27	0.27	257.728	
WCL100318-05	Perchlorate-O(18)	107 > 89	6.43	8866.688	8866.688	bb			0.4859	97.19	-2.81	581.435	



Perchlorate Initial Calibration Verification

GEL Job No.(SDG): 10-2197

Lab Name: General Engineering Laboratories

Lab Code: GEL

Reporting Units: ug/kg

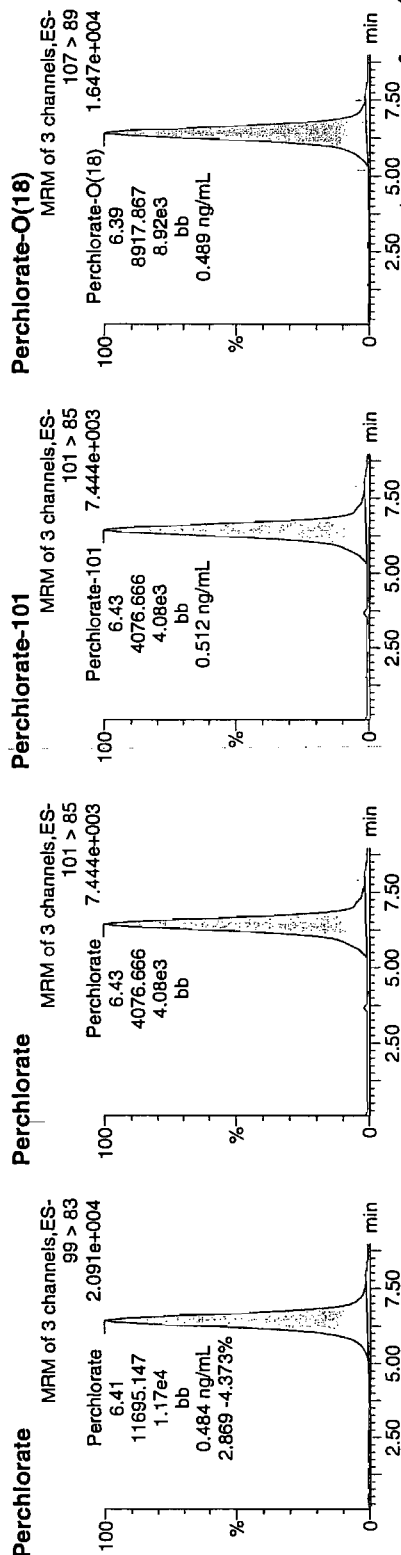
Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.48	96.71	22-MAR-10 13:07	per0322009a
Perchlorate Isotope Ratio		2.87		22-MAR-10 13:07	per0322009a
Perchlorate-101	.5	.51	102.4	22-MAR-10 13:07	per0322009a

Quantify Sample Report MassLynx 4.0 SP4  
 The GEL Group, LLC Analyst: Charlers W. Wilson  
 Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
 Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322009a  
 Date: 22-Mar-2010  
 Time: 13:07:36  
 ID: WCL100318-06ICV  
 Vial: 1:2,A

Pure  
 03-23-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100318-06ICV	Perchlorate	99 > 83	6.41	11695.147	11695.147	bb			0.4835	96.71	-3.29	250.846	2.87
WCL100318-06ICV	Perchlorate-101	101 > 85	6.43	4076.666	4076.666	bb			0.5120	102.40	2.40	1210.6...	
WCL100318-06ICV	Perchlorate-O(18)	107 > 89	6.39	8917.867	8917.867	bb			0.4887	97.75	-2.25	457.149	

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

Perchlorate Continuing Calibration Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-2197

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.47	93.78	22-MAR-10 15:44	per0322022a
Perchlorate Isotope Ratio		2.99		22-MAR-10 15:44	per0322022a
Perchlorate-101	.5	.48	95.32	22-MAR-10 15:44	per0322022a
Perchlorate	.5	.45	90.99	22-MAR-10 18:21	per0322035a
Perchlorate Isotope Ratio		2.88		22-MAR-10 18:21	per0322035a
Perchlorate-101	.5	.48	95.82	22-MAR-10 18:21	per0322035a
Perchlorate	.5	.51	102.25	22-MAR-10 20:59	per0322048a
Perchlorate Isotope Ratio		2.94		22-MAR-10 20:59	per0322048a
Perchlorate-101	.5	.53	105.57	22-MAR-10 20:59	per0322048a
Perchlorate	.5	.48	95.78	22-MAR-10 23:36	per0322061a
Perchlorate Isotope Ratio		2.93		22-MAR-10 23:36	per0322061a
Perchlorate-101	.5	.5	99.27	22-MAR-10 23:36	per0322061a
Perchlorate	.5	.51	102.76	23-MAR-10 01:49	per0322072a

Perchlorate Continuing Calibration Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-2197

Lab Code: GEL

Reporting Units: ug/kg

Perchlorate Isotope Ratio		3.08		23-MAR-10 01:49	per0322072a
Perchlorate-101	.5	.51	101.37	23-MAR-10 01:49	per0322072a
Perchlorate	.5	.46	92.01	23-MAR-10 04:25	per0322085a
Perchlorate Isotope Ratio		2.76		23-MAR-10 04:25	per0322085a
Perchlorate-101	.5	.51	101.12	23-MAR-10 04:25	per0322085a
Perchlorate	.5	.49	97.02	23-MAR-10 07:02	per0322098a
Perchlorate Isotope Ratio		3.11		23-MAR-10 07:02	per0322098a
Perchlorate-101	.5	.47	94.9	23-MAR-10 07:02	per0322098a
Perchlorate	.5	.5	100.89	23-MAR-10 09:43	per0322111a
Perchlorate Isotope Ratio		3.1		23-MAR-10 09:43	per0322111a
Perchlorate-101	.5	.49	98.95	23-MAR-10 09:43	per0322111a

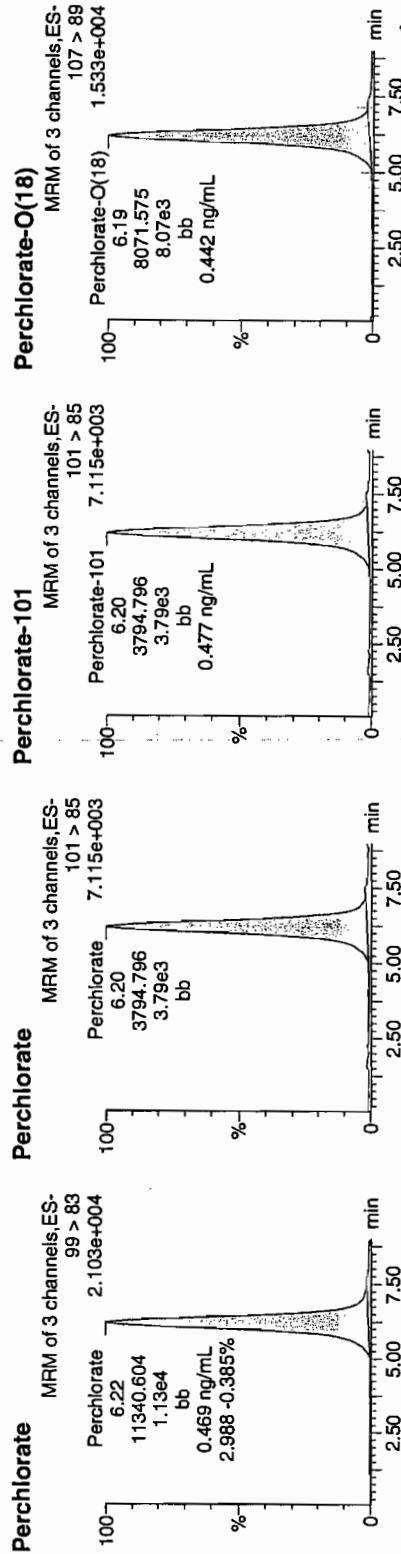
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charles W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322022a  
Date: 22-Mar-2010  
Time: 15:44:41  
ID: WCL100318-06CCV  
Vial: 1:2,A

Pure  
and  
03-23-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100318-06CCV	Perchlorate	99 > 83	6.22	11340.604	11340.604	bb			0.4689	93.78	-6.22	78.315	2.99
WCL100318-06CCV	Perchlorate-101	101 > 85	6.20	3794.796	3794.796	bb			0.4766	95.32	-4.68	121.502	
WCL100318-06CCV	Perchlorate-O(18)	107 > 89	6.19	8071.575	8071.575	bb			0.4424	88.47	-11.53	409.576	

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

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322035a

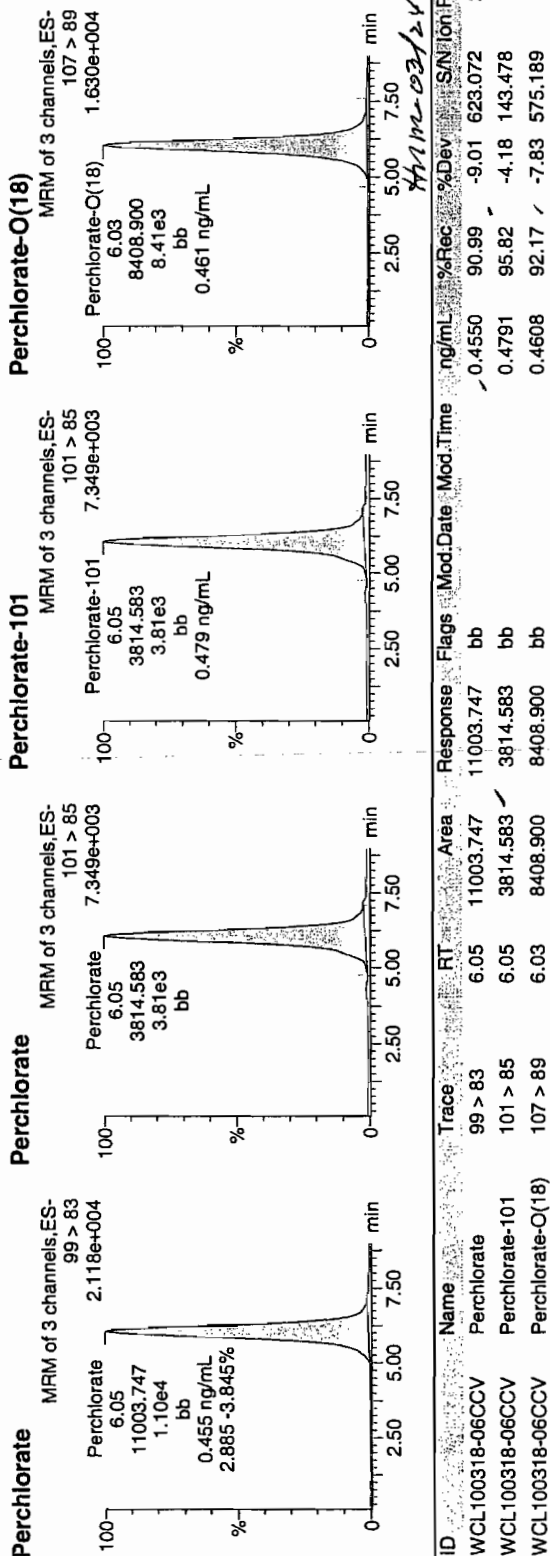
Date: 22-Mar-2010

Time: 18:21:57

ID: WCL100318-06CCV

Vial: 1:2,A

*Per*  
*03-23-10*



# Quantify Sample Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

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Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322048a

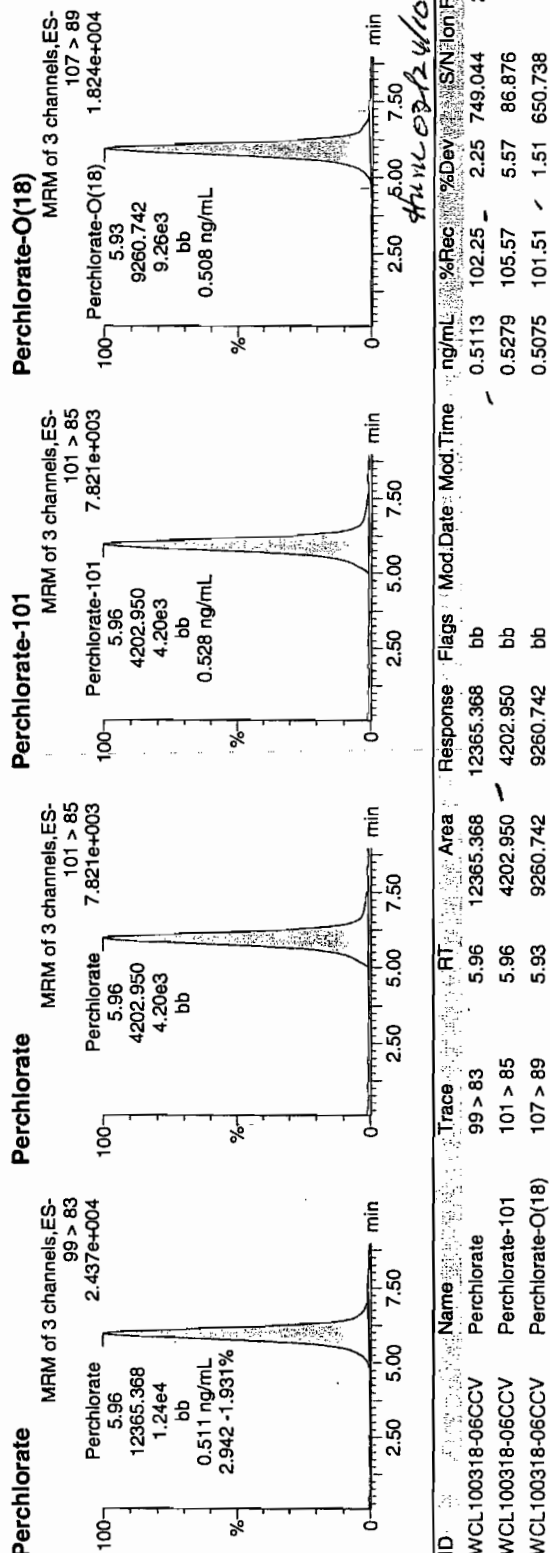
Date: 22-Mar-2010

Time: 20:59:20

ID: WCL100318-06CCV

Vial: 1:2,A

*Run and 03-23-10*



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

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322061a

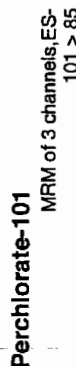
Date: 22-Mar-2010

Time: 23:36:10

ID: WCL100318-06CCV

Vial: 1:2,A

*Per and*  
*03-23-10*



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100318-06CCV	Perchlorate	99 > 83	5.83	11582.971	11582.971	bb			0.4789	95.78	-4.22	1071.2...	2.93
WCL100318-06CCV	Perchlorate-101	101 > 85	5.82	3951.918	3951.918	bb			0.4963	99.27	-0.73	628.944	
WCL100318-06CCV	Perchlorate-O(18)	107 > 89	5.81	9006.179	9006.179	bb			0.4936	98.72	-1.28	674.962	



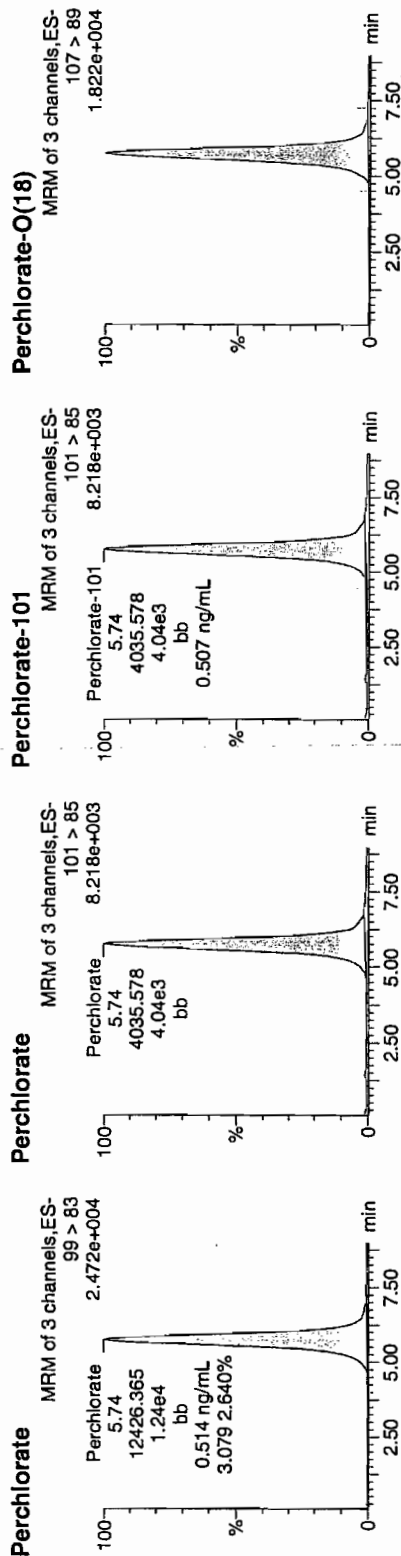
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322072a  
Date: 23-Mar-2010  
Time: 01:49:03  
ID: WCL100318-06CCV  
Vial: 1:2,A

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*ans*  
*03-23-10*



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100318-06CCV	Perchlorate	99 > 83	5.74	12426.365	12426.365	bb			0.5138	102.76	2.76	1822.7...	3.08
WCL100318-06CCV	Perchlorate-101	101 > 85	5.74	4035.578	4035.578	bb			0.5068	101.37	1.37	150.307	
WCL100318-06CCV	Perchlorate-O(18)	107 > 89	5.72	9219.264	9219.264	bb			0.5053	101.05	1.05	80.426	

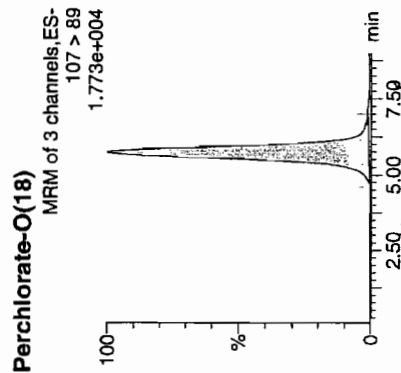
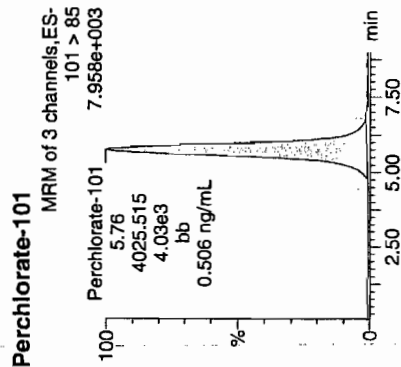
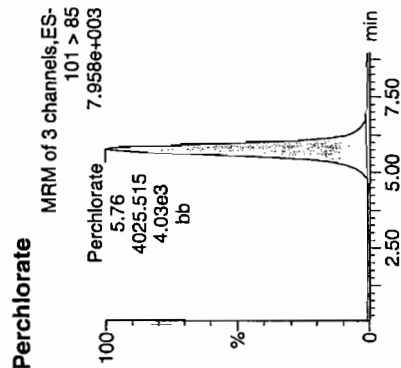
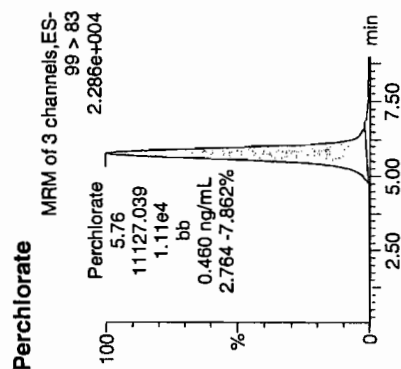
**Quantity Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322085a  
Date: 23-Mar-2010  
Time: 04:25:55  
ID: WCL100318-06CCV  
Vial: 1:2,A

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*ans*  
*03-23-10*



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100318-06CCV	Perchlorate	99 > 83	5.76	11127.039	11127.039	bb			0.4601	92.01	-7.99	2466.7...	2.76
WCL100318-06CCV	Perchlorate-101	101 > 85	5.76	4025.515	4025.515	bb			0.5056	101.12	1.12	722.058	
WCL100318-06CCV	Perchlorate-O(18)	107 > 89	5.73	8780.086	8780.086	bb			0.4812	96.24	-3.76	438.076	

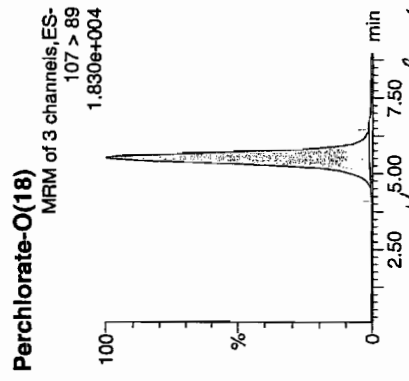
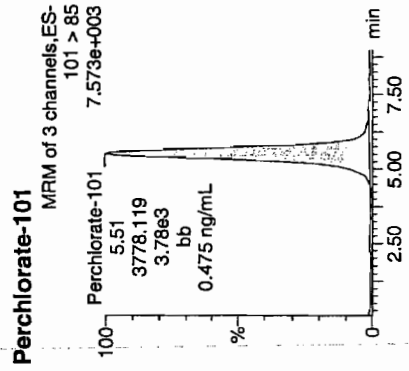
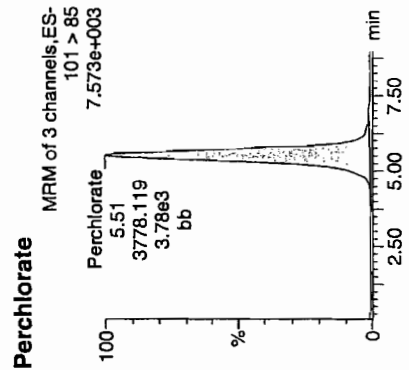
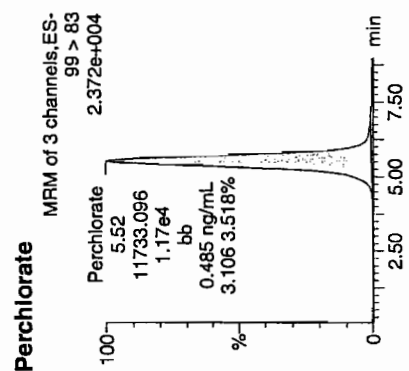
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322098a  
Date: 23-Mar-2010  
Time: 07:02:53  
ID: WCL100318-06CCV  
Vial: 1:2,A

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WCL  
03-23-10*



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN	Ion Ratio
WCL100318-06CCV	Perchlorate	99 > 83	5.52	11733.096	11733.096	bb			0.4851	97.02	-2.98	2479.9...	3.11
WCL100318-06CCV	Perchlorate-101	101 > 85	5.51	3778.119	3778.119	bb			0.4745	94.90	-5.10	154.599	
WCL100318-06CCV	Perchlorate-O(18)	107 > 89	5.51	8716.706	8716.706	bb			0.4777	95.54	-4.46	1333.6...	

*Area 03/24/10*

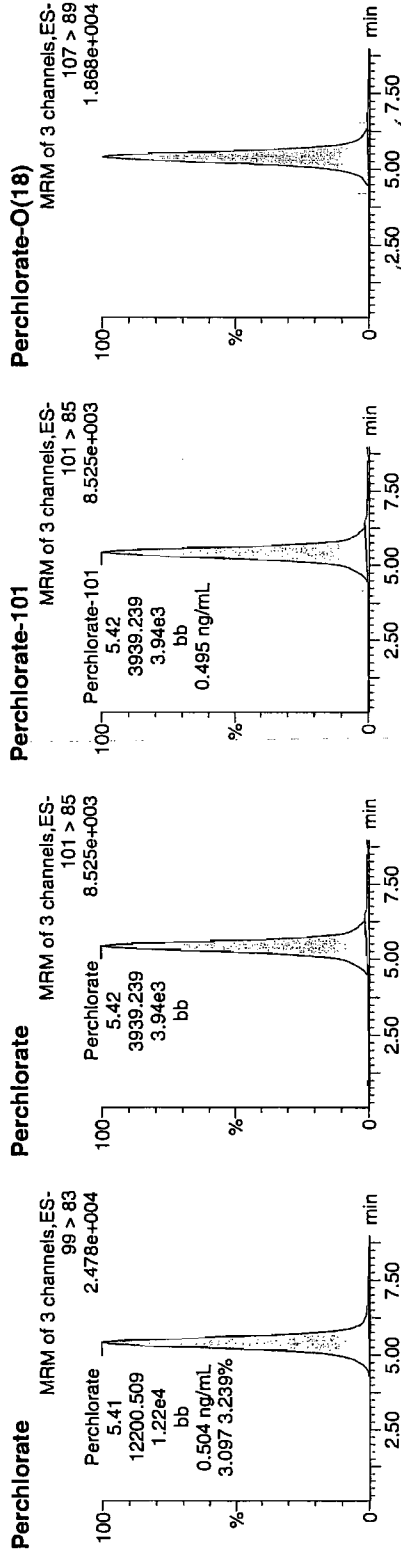
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322111a  
Date: 23-Mar-2010  
Time: 09:43:42  
ID: WCL100318-06CCV  
Vial: 1:2,A

*per*  
*0.495*  
*03-23-10*



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100318-06CCV	Perchlorate	99 > 83	5.41	12200.509	12200.509	bb			0.5044	100.89	0.89	670.332	3.10
WCL100318-06CCV	Perchlorate-101	101 > 85	5.42	3939.239	3939.239	bb			0.4947	98.95	-1.05	577.183	
WCL100318-06CCV	Perchlorate-O(18)	107 > 89	5.38	9063.763	9063.763	bb			0.4967	99.35	-0.65	1064.0...	

Perchlorate MDL Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-2197

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.05	.05	96.16	22-MAR-10 13:31	per0322011a
Perchlorate Isotope Ratio		2.76		22-MAR-10 13:31	per0322011a
Perchlorate-101	.05	.05	105.81	22-MAR-10 13:31	per0322011a
Perchlorate	.05	.04	89.47	22-MAR-10 16:09	per0322024a
Perchlorate Isotope Ratio		2.73		22-MAR-10 16:09	per0322024a
Perchlorate-101	.05	.05	99.55	22-MAR-10 16:09	per0322024a
Perchlorate	.05	.05	93.64	22-MAR-10 18:46	per0322037a
Perchlorate Isotope Ratio		2.96		22-MAR-10 18:46	per0322037a
Perchlorate-101	.05	.05	96.12	22-MAR-10 18:46	per0322037a
Perchlorate	.05	.05	101.99	22-MAR-10 21:23	per0322050a
Perchlorate Isotope Ratio		3.05		22-MAR-10 21:23	per0322050a

Perchlorate MDL Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-2197

Lab Code: GEL

Reporting Units: ug/kg

Perchlorate-101	.05	.05	101.59	22-MAR-10 21:23	per0322050a
Perchlorate	.05	.05	105.21	23-MAR-10 00:00	per0322063a
Perchlorate Isotope Ratio		3.84		23-MAR-10 00:00	per0322063a
Perchlorate-101	.05	.04	83.13	23-MAR-10 00:00	per0322063a
Perchlorate	.05	.05	95.72	23-MAR-10 02:13	per0322074a
Perchlorate Isotope Ratio		3.07		23-MAR-10 02:13	per0322074a
Perchlorate-101	.05	.05	94.79	23-MAR-10 02:13	per0322074a
Perchlorate	.05	.04	89.53	23-MAR-10 04:50	per0322087a
Perchlorate Isotope Ratio		2.72		23-MAR-10 04:50	per0322087a
Perchlorate-101	.05	.05	99.81	23-MAR-10 04:50	per0322087a
Perchlorate	.05	.05	93.84	23-MAR-10 07:30	per0322100a

Perchlorate MDL Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-2197

Lab Code: GEL

Reporting Units: ug/kg

Perchlorate Isotope Ratio		2.74		23-MAR-10 07:30	per0322100a
Perchlorate-101	.05	.05	104.14	23-MAR-10 07:30	per0322100a
Perchlorate	.05	.05	102.72	23-MAR-10 10:07	per0322113a
Perchlorate Isotope Ratio		3.28		23-MAR-10 10:07	per0322113a
Perchlorate-101	.05	.05	95.09	23-MAR-10 10:07	per0322113a

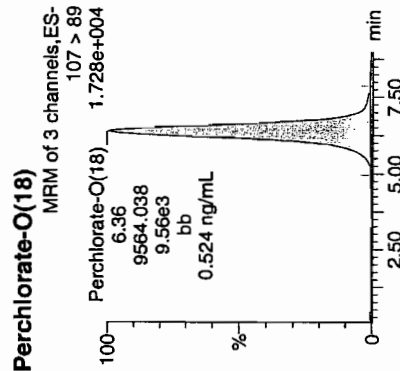
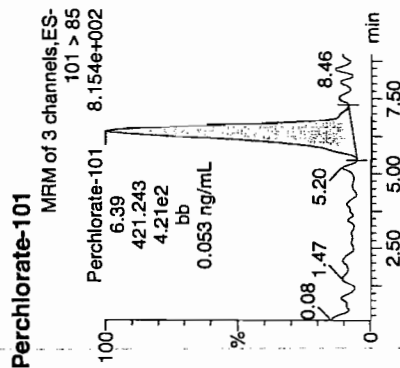
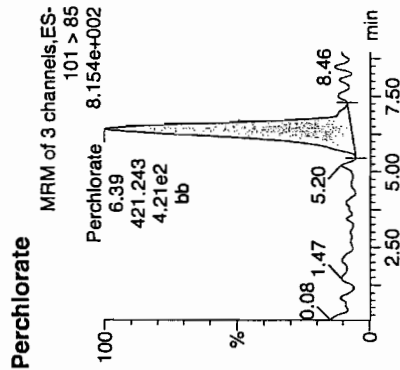
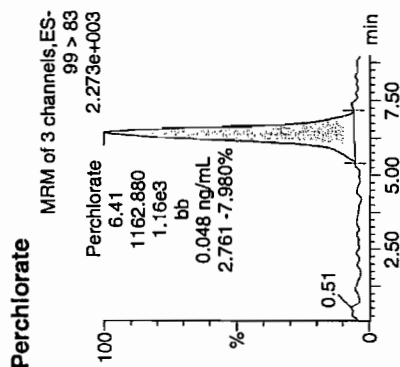
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charliers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322011a  
Date: 22-Mar-2010  
Time: 13:31:49  
ID: WCL100318-07CRI  
Vial: 1:2,B

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and  
03-23-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100318-07CRI	Perchlorate	99 > 83	6.41	1162.880	1162.880	bb			0.0481	96.16	-3.84	155.349	2.76
WCL100318-07CRI	Perchlorate-101	101 > 85	6.39	421.243	421.243	bb			0.0529	105.81	5.81	21.022	
WCL100318-07CRI	Perchlorate-O(18)	107 > 89	6.36	9564.038	9564.038	bb			0.5242	104.83	4.83	664.087	

4/26/03/2 yls



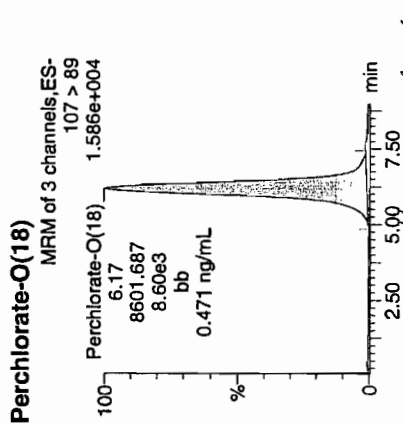
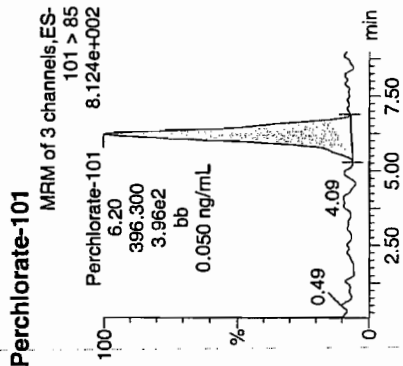
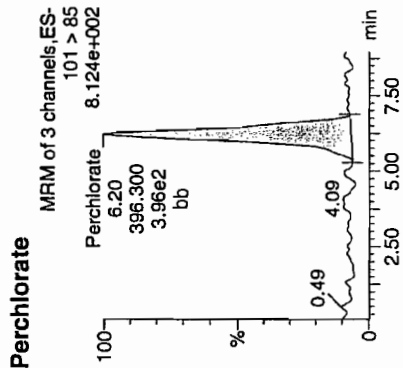
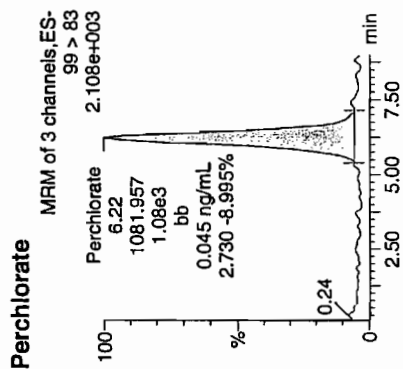
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charles W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322024a  
Date: 22-Mar-2010  
Time: 16:09:02  
ID: WCL100318-07CRI  
Vial: 1:2,B

*Pure and 03-23-10*



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100318-07CRI	Perchlorate	99 > 83	6.22	1081.957	1081.957	bb			0.0447	89.47	-10.53	22.200	2.73
WCL100318-07CRI	Perchlorate-101	101 > 85	6.20	396.300	396.300	bb			0.0498	99.55	-0.45	148.246	
WCL100318-07CRI	Perchlorate-O(18)	107 > 89	6.17	8601.687	8601.687	bb			0.4714	94.28	-5.72	847.250	

*June 03/24/10*

# Quantify Sample Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322037a

Date: 22-Mar-2010

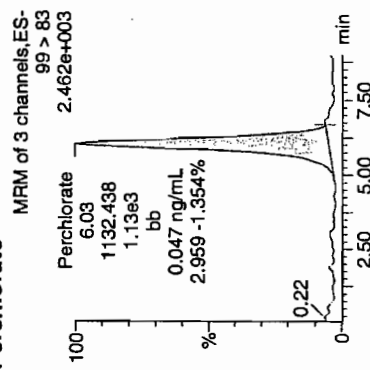
Time: 18:46:17

ID: WCL100318-07CRI

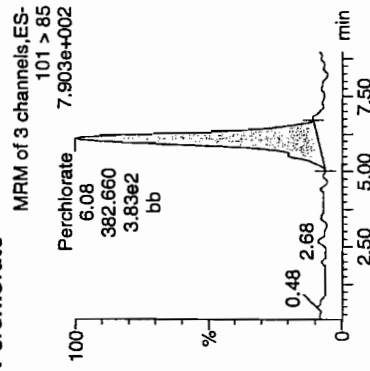
Vial: 1:2,B

Pure  
03-23-10

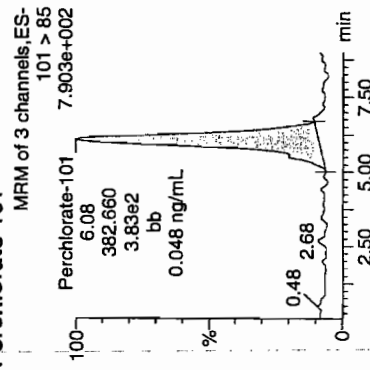
## Perchlorate



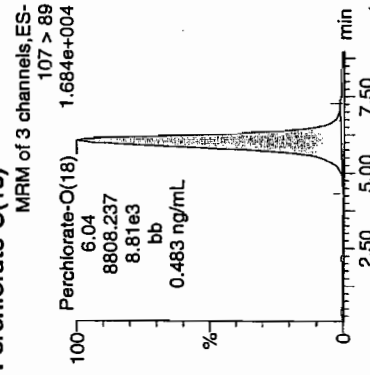
## Perchlorate



## Perchlorate-101



## Perchlorate-O(18)



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN	Ion Ratio
WCL100318-07CRI	Perchlorate	99 > 83	6.03	1132.438	1132.438	bb			0.0468	93.64	-6.36	134.965	2.96
WCL100318-07CRI	Perchlorate-101	101 > 85	6.08	382.660	382.660	bb			0.0481	96.12	-3.88	39.446	
WCL100318-07CRI	Perchlorate-O(18)	107 > 89	6.04	8808.237	8808.237	bb			0.4827	96.55	-3.45	1488.8...	

# Quantify Sample Report MassLynx 4.0 SP4

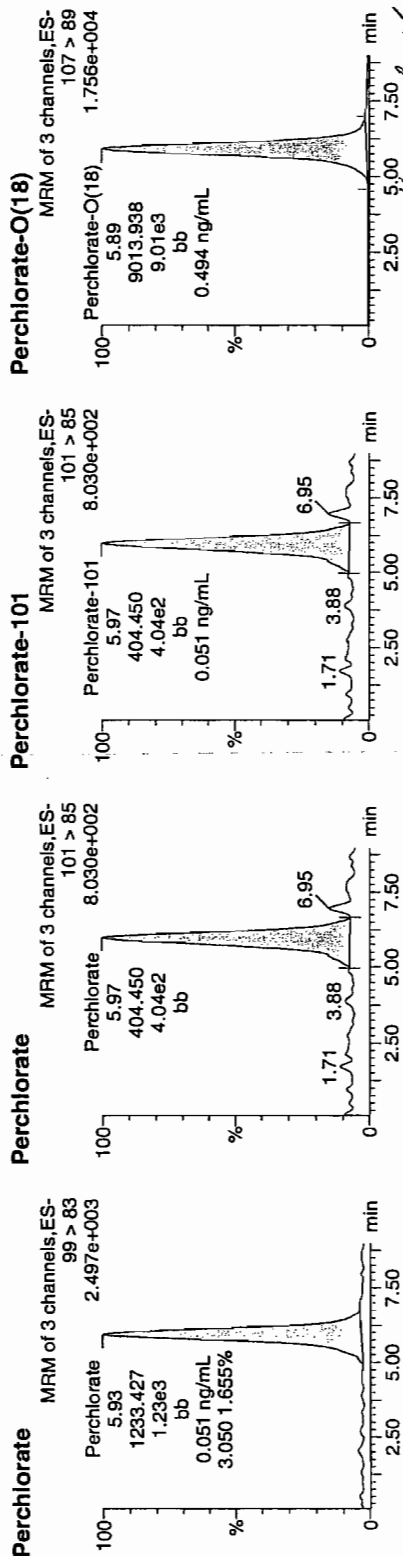
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
 Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322050a  
 Date: 22-Mar-2010  
 Time: 21:23:39  
 ID: WCL100318-07CRI  
 Vial: 1:2,B

*Pass*  
*0323-10*



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	IS/N	Ion Ratio
WCL100318-07CRI	Perchlorate	99 > 83	5.93	1233.427	1233.427	bb			0.0510	101.99	1.99	43.428	3.05
WCL100318-07CRI	Perchlorate-101	101 > 85	5.97	404.450	404.450	bb			0.0508	101.59	1.59	143.836	
WCL100318-07CRI	Perchlorate-O(18)	107 > 89	5.89	9013.938	9013.938	bb			0.4940	98.80	-1.20	1482.8...	

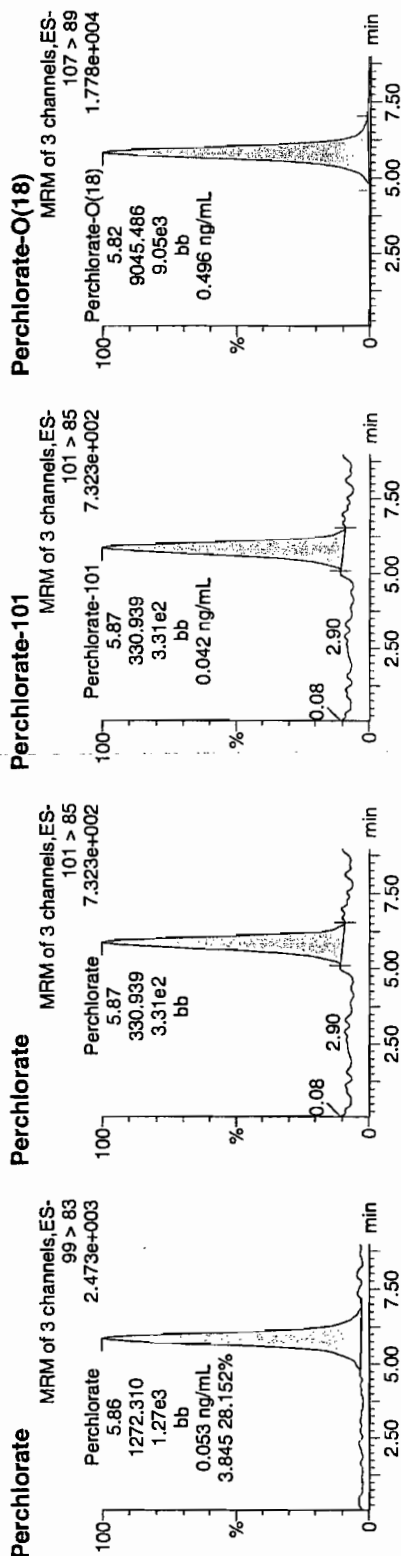
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charfers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322063a  
Date: 23-Mar-2010  
Time: 00:00:30  
ID: WCL100318-07CRI  
Vial: 1:2,B

*Perchlorate*  
03-23-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN	Ion.Ratio
WCL100318-07CRI	Perchlorate	99 > 83	5.86	1272.310	1272.310	bb			0.0526	105.21	5.21	262.204	3.84
WCL100318-07CRI	Perchlorate-101	101 > 85	5.87	330.939	330.939	bb			0.0416	83.13	-16.87	63.658	
WCL100318-07CRI	Perchlorate-O(18)	107 > 89	5.82	9045.486	9045.486	bb			0.4957	99.15	-0.85	2907.5...	

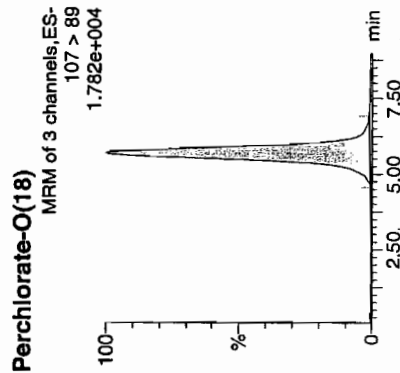
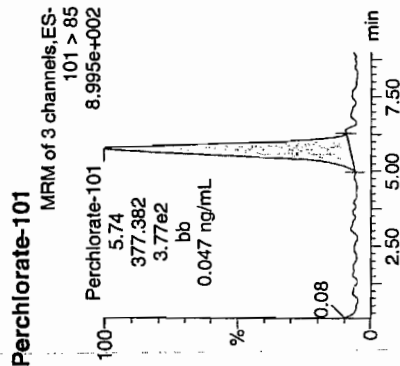
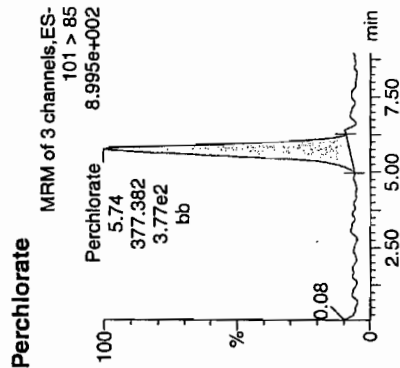
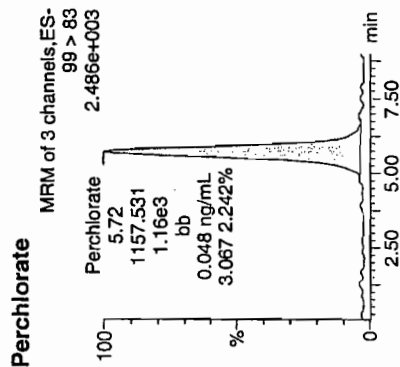
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322074a  
Date: 23-Mar-2010  
Time: 02:13:22  
ID: WCL100318-07CRI  
Vial: 1:2,B

*Perchlorate*  
*03-23-10*



ID	Name	Trace	RT	Area	Response	Flags	Mod	Date	Mod	Time	ng/mL	%Rec	%Dev	S/N	Ion	Ratio
WCL100318-07CRI	Perchlorate	99 > 83	5.72	1157.531	1157.531	bb					0.0479	95.72	-4.28	120.828	3.07	
WCL100318-07CRI	Perchlorate-101	101 > 85	5.74	377.382	377.382	bb					0.0474	94.79	-5.21	159.729		
WCL100318-07CRI	Perchlorate-O(18)	107 > 89	5.69	9021.444	9021.444	bb					0.4944	98.88	-1.12	1276.9...		

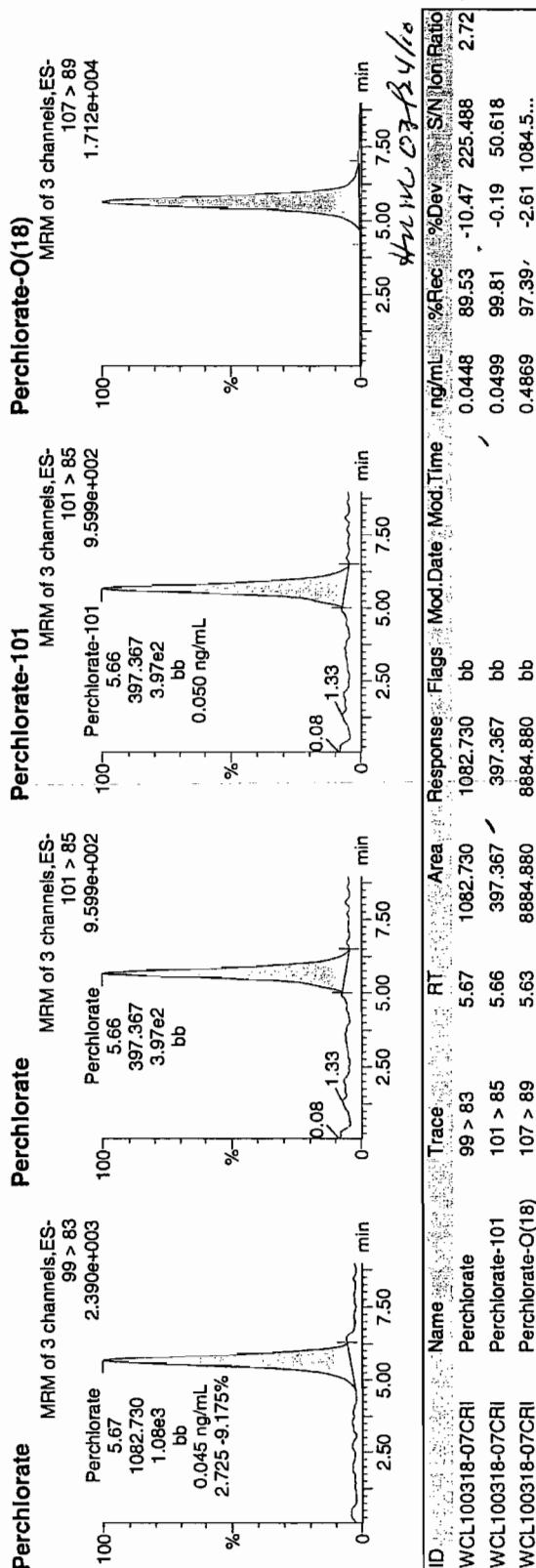
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322087a  
Date: 23-Mar-2010  
Time: 04:50:13  
ID: WCL100318-07CRI  
Vial: 1:2,B

*per0322087a*



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

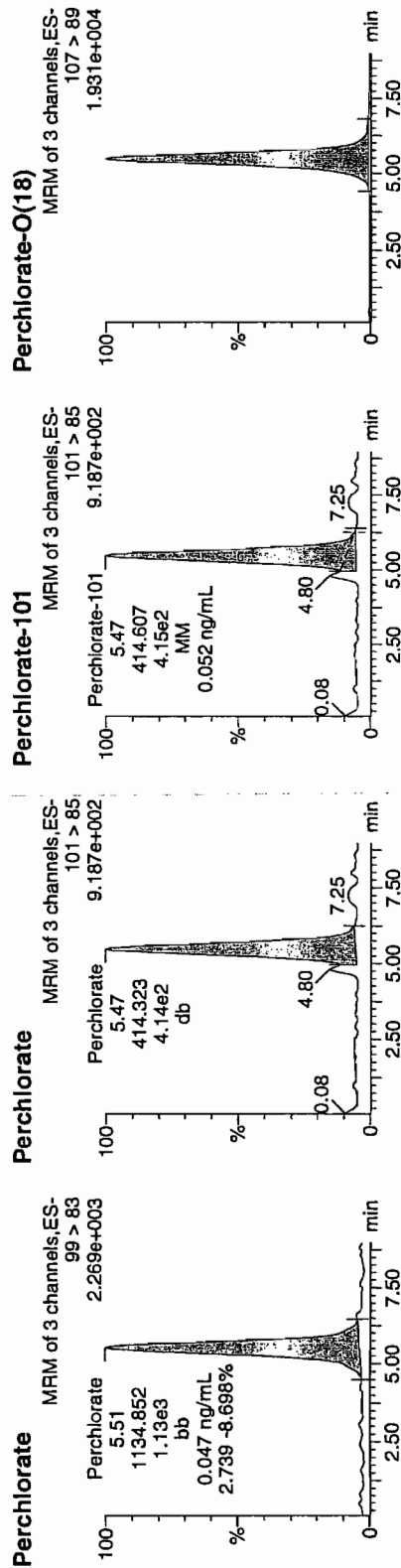
Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Thursday, March 25, 2010 8:00:40 AM Eastern Standard Time  
Printed: Thursday, March 25, 2010 8:02:25 AM Eastern Standard Time

Method: C:\MassLynx\Perchlorate.PRO\MethDB\per032210a.mdb 23 Mar 2010 10:24:18  
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per032210a.cdb 23 Mar 2010 10:24:34

Name: per0322100a  
Date: 23-Mar-2010  
Time: 07:30:48  
ID: WCL100318-07CRI  
Vial: 1:2,B

CW  
03-25-10



ID	Name	Trace	RT	Area	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	SN	Ion Ratio
WCL100318-07CRI	Perchlorate	99 > 83	5.51	1134.852	1134.852	bb	25-Mar-10	08:00:40	0.0469	93.84	-6.16	33.301	2.74
WCL100318-07CRI	Perchlorate-101	101 > 85	5.47	414.607	414.607	MM	25-Mar-10	08:00:40	0.0521	104.14	4.14	267.625	
WCL100318-07CRI	Perchlorate-O(18)	107 > 89	5.47	9333.718	9333.718	bb	25-Mar-10	08:00:40	0.5115	102.31	2.31	645.193	

WCL  
3/25/10

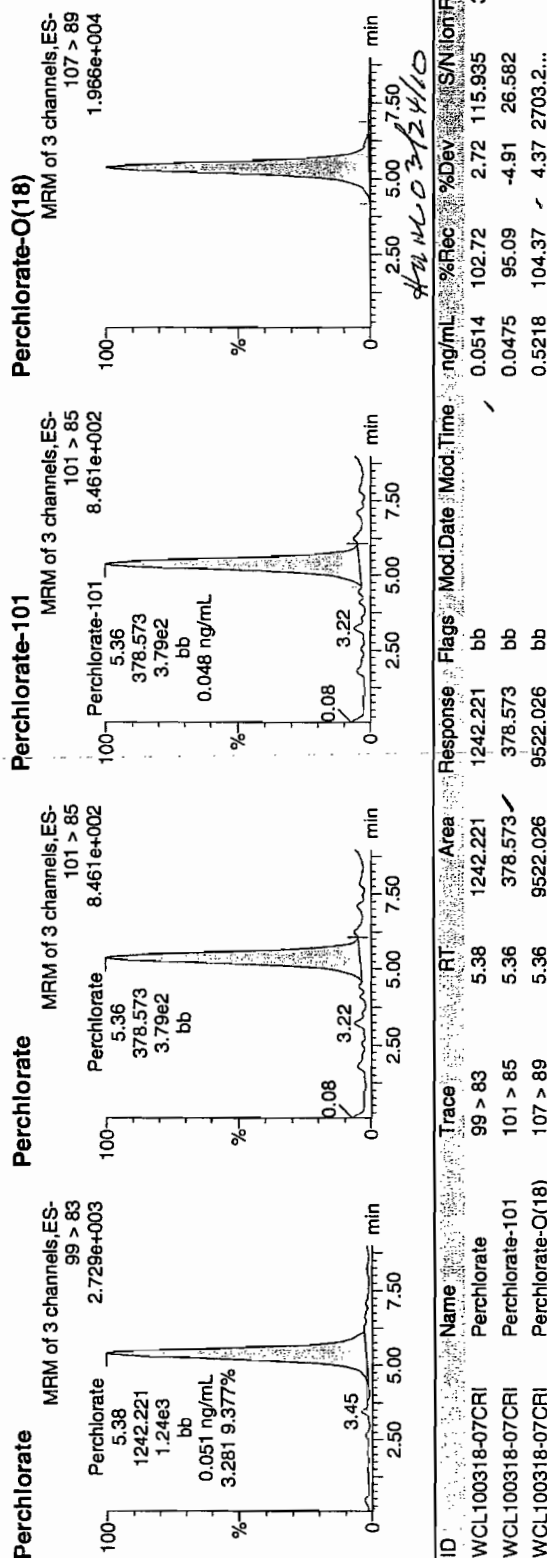
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charfers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322113a  
Date: 23-Mar-2010  
Time: 10:07:47  
ID: WCL100318-07CRI  
Vial: 1:2,B

Per  
WCL  
03-23-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100318-07CRI	Perchlorate	99 > 83	5.38	1242.221	1242.221	bb			0.0514	102.72	2.72	115.935	3.28
WCL100318-07CRI	Perchlorate-101	101 > 85	5.36	378.573	378.573	bb			0.0475	95.09	-4.91	26.582	
WCL100318-07CRI	Perchlorate-O(18)	107 > 89	5.36	9522.026	9522.026	bb			0.5218	104.37	4.37	2703.2...	

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



# 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: 26389Z

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.

MB

Date Received: 17-MAR-10

GEL Job No (SDG): 10-2197

GEL Sample ID: 1202067810

Date Filtered: 17-MAR-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	23-MAR-10 02:25	per0322075a
	Perchlorate Isotope Ratio						1	23-MAR-10 02:25	per0322075a
14797-73-0	Perchlorate-101	.5	2	0.500	ug/kg	U	1	23-MAR-10 02:25	per0322075a
	Perchlorate-O(18)			4.92	ug/kg		1	23-MAR-10 02:25	per0322075a

<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

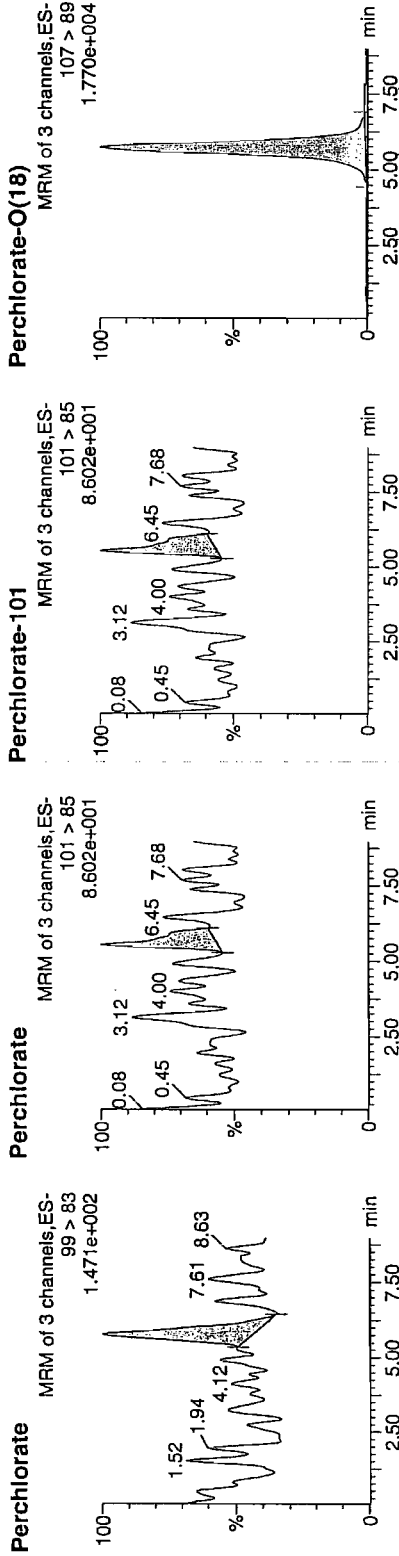
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson  
Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322075a  
Date: 23-Mar-2010  
Time: 02:25:26  
ID: 1202067810  
Vial: 3:1,A

0323-10

1202067810 | 903894 | 30520 | 11



ID	Name	Trace	RT	Area	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202067810	Perchlorate	99 > 83	5.77	36.794	36.794	bb			0.0015			15.039	2.66
1202067810	Perchlorate-101	101 > 85	5.53	13.844	13.844	bb			0.0017			18.435	
1202067810	Perchlorate-Q(18)	107 > 89	5.72	8975.383	8975.383	bb			0.4919	98.38	-1.62	747.834	

MM 03/24/10

Perchlorate Analysis Data Sheet

**Lab Name:** GEL Laboratories LLC  
**Lab Code:** GEL  
**Instrument:** LCMSMS  
**Method:** EPA 6850 Modified  
**Matrix:** SOIL  
**Extraction Batch ID:** 263897  
**Extraction Type:** Solid Prep  
**Sample Volume/Weight:** 2.00 g  
**Concentrated Extract Volume:** 20.0  
**Client Sample No.** LCS  
**Date Received:** 17-MAR-10  
**GEL Job No (SDG):** 10-2197  
**GEL Sample ID:** 1202067811  
**Date Filtered:** 17-MAR-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	1.98	ug/kg	J	1	23-MAR-10 02:37	per0322076a
	Perchlorate Isotope Ratio			3.27			1	23-MAR-10 02:37	per0322076a
14797-73-0	Perchlorate-101	.5	2	1.84	ug/kg	J	1	23-MAR-10 02:37	per0322076a
	Perchlorate-O(18)			4.93	ug/kg		1	23-MAR-10 02:37	per0322076a

<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

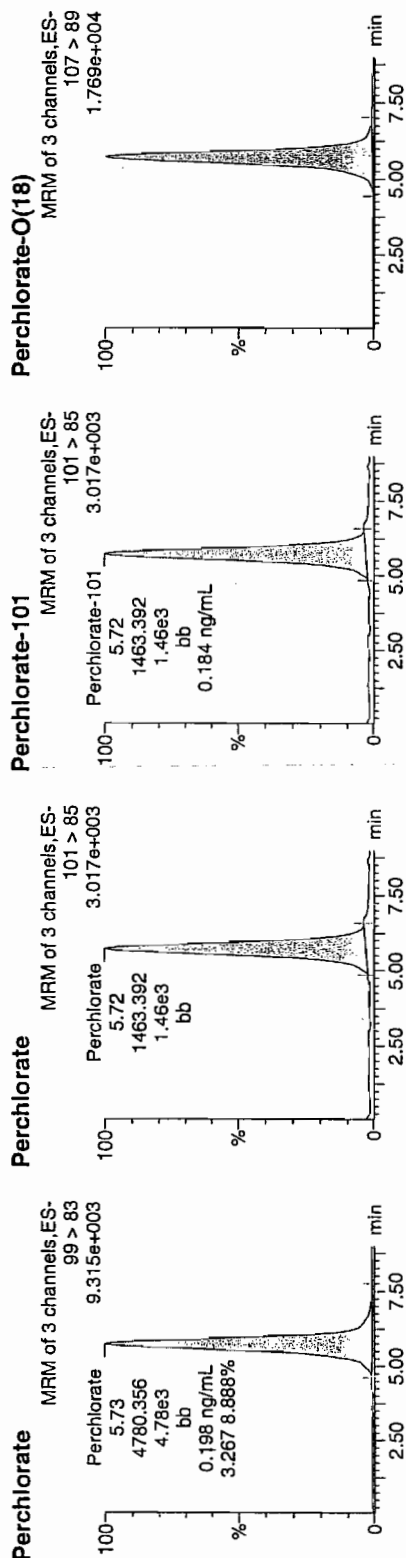
Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322076a  
Date: 23-Mar-2010  
Time: 02:37:41  
ID: 1202067811  
Vial: 3:1B

03-23-10

1202067811 | 3000 | 11



4780.356  
24186.2

-0.1976

4780.356  
24186.2

# MISCELLANEOUS DATA

## 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.

## 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: 963897 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)	Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:
1202067810 MB	17-MAR-2010 15:06:00	2	20	10							
1202067811 LCS	17-MAR-2010 15:06:00	2	20	10				UCL00311-01.1	4	mL	Desalting cartridges used: 100223-1-Ba & 100216-1-H
248374001	17-MAR-2010 15:06:00	2	20	10				UCL00311-01.1	4	mL	
248374002	17-MAR-2010 15:06:00	2	20	10				UCL00311-01.1	4	mL	
1202067812 MS (248374002)	17-MAR-2010 15:06:00	2	20	10				UCL00311-01.1	4	mL	
1202067813 MSD (248374002)	17-MAR-2010 15:06:00	2	20	10				UCL00311-01.1	4	mL	
248374003	17-MAR-2010 15:06:00	2	20	10							
248374004	17-MAR-2010 15:06:00	2	20	10							
248374005	17-MAR-2010 15:06:00	2	20	10							
248374006	17-MAR-2010 15:06:00	2	20	10							
248374007	17-MAR-2010 15:06:00	2	20	10							
248374008	17-MAR-2010 15:06:00	2	20	10							
248374009	17-MAR-2010 15:06:00	2	20	10							
248374010	17-MAR-2010 15:06:00	2	20	10							
248374011	17-MAR-2010 15:06:00	2	20	10							
248374012	17-MAR-2010 15:06:00	2	20	10							
248374013	17-MAR-2010 15:06:00	2	20	10							
248422001	17-MAR-2010 15:06:00	2	20	10							
248422002	17-MAR-2010 15:06:00	2	20	10							
248515001	17-MAR-2010 15:06:00	2	20	10							
248515002	17-MAR-2010 15:06:00	2	20	10							
248515003	17-MAR-2010 15:06:00	2	20	10							
248517001	17-MAR-2010 15:06:00	2	20	10							
1202067814 LCS	17-MAR-2010 15:06:00	2	20	10							



GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS#2

Reviewed BY: *hmc*  
Date: *3/24/10*  
SOP: GL-OA-E-067 Rev.6  
Alt Check Std. ID: WCL100318-06

Method: EPA 6850-Modified  
Int. Std.: UCL100210-01  
Mobile Phase Lot#: 1278668, 1284736  
Standard-Samp Reagent Lot#: 1271949

Date: 03/22/10  
Extr. Injection Volume: 20uL  
Sequence Number: per032210a  
Initial Calibration Date: 03/22/10

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC_Flag
per0322001a	IPB001	CWW	3/22/2010 11:30			1		USE	B
per0322002a	IPB001	CWW	3/22/2010 11:42			1		USE	B
per0322003a	WCLICAL-01	CWW	3/22/2010 11:55			1		USE	I
per0322004a	WCLICAL-02	CWW	3/22/2010 12:07			1		USE	I
per0322005a	WCLICAL-03	CWW	3/22/2010 12:19			1		USE	I
per0322006a	WCLICAL-04	CWW	3/22/2010 12:31			1		USE	I
per0322007a	WCLICAL-05	CWW	3/22/2010 12:43			1		USE	I
per0322008a	IPB002	CWW	3/22/2010 12:55			1		USE	B
per0322009a	WCLICV	CWW	3/22/2010 13:07			1		USE	C
per0322010a	IPB003	CWW	3/22/2010 13:19			1		USE	B
per0322011a	WCLCRI	CWW	3/22/2010 13:31			1		USE	C
per0322012a	1202056698	CWW	3/22/2010 13:44	959034	VARIOUS	1	LANL	USE	S
per0322013a	1202056699	CWW	3/22/2010 13:56	959034	VARIOUS	1	LANL	USE	S
per0322014a	1202056702	CWW	3/22/2010 14:08	959034	VARIOUS	1	LANL	DUSE-RA	S
per0322015a	248241001	CWW	3/22/2010 14:20	959034	10-2135	1	LANL	USE	S
per0322016a	248241002	CWW	3/22/2010 14:32	959034	10-2135	1	LANL	USE	S
per0322017a	1202056700	CWW	3/22/2010 14:44	959034	10-2135	1	LANL	USE	S
per0322018a	1202056701	CWW	3/22/2010 14:56	959034	10-2135	1	LANL	USE	S
per0322019a	248241003	CWW	3/22/2010 15:08	959034	10-2135	1	LANL	USE	S
per0322020a	248241004	CWW	3/22/2010 15:20	959034	10-2135	1	LANL	USE	S
per0322021a	248241005	CWW	3/22/2010 15:32	959034	10-2135	1	LANL	USE	S
per0322022a	WCLCCV	CWW	3/22/2010 15:44			1		USE	C
per0322023a	IPB004	CWW	3/22/2010 15:56			1		USE	B
per0322024a	WCLCRI	CWW	3/22/2010 16:09			1		USE	C
per0322025a	248241006	CWW	3/22/2010 16:21	959034	10-2135	1	LANL	USE	S
per0322026a	248241007	CWW	3/22/2010 16:33	959034	10-2135	1	LANL	USE	S
per0322027a	248241008	CWW	3/22/2010 16:45	959034	10-2135	1	LANL	USE	S
per0322028a	248241009	CWW	3/22/2010 16:57	959034	10-2135	1	LANL	USE	S
per0322029a	248241010	CWW	3/22/2010 17:09	959034	10-2135	1	LANL	USE	S

per0322030a	248256001	CWW	3/22/2010 17:21	959034	10-2146	1	LANL	USE	S
per0322031a	248256002	CWW	3/22/2010 17:33	959034	10-2146	1	LANL	USE	S
per0322032a	248256003	CWW	3/22/2010 17:45	959034	10-2146	1	LANL	USE	S
per0322033a	248256004	CWW	3/22/2010 17:57	959034	10-2146	1	LANL	USE	S
per0322034a	248256005	CWW	3/22/2010 18:09	959034	10-2146	1	LANL	USE	S
per0322035a	WCLCCV	CWW	3/22/2010 18:21			1		USE	C
per0322036a	IPB005	CWW	3/22/2010 18:34			1		USE	B
per0322037a	WCLCRI	CWW	3/22/2010 18:46			1		USE	C
per0322038a	248256006	CWW	3/22/2010 18:58	959034	10-2146	1	LANL	USE	S
per0322039a	248256007	CWW	3/22/2010 19:10	959034	10-2146	1	LANL	USE	S
per0322040a	IPB006	CWW	3/22/2010 19:22			1		USE	B
per0322041a	1202063742	CWW	3/22/2010 19:34	962127	10-2151	1	LANL	USE	S
per0322042a	1202063743	CWW	3/22/2010 19:47	962127	10-2151	1	LANL	USE	S
per0322043a	1202063746	CWW	3/22/2010 19:59	962127	10-2151	1	LANL	USE	S
per0322044a	248371001	CWW	3/22/2010 20:11	962127	10-2151	1	LANL	USE	S
per0322045a	1202063744	CWW	3/22/2010 20:23	962127	10-2151	1	LANL	USE	S
per0322046a	1202063745	CWW	3/22/2010 20:35	962127	10-2151	1	LANL	USE	S
per0322047a	248371002	CWW	3/22/2010 20:47	962127	10-2151	1	LANL	USE	S
per0322048a	WCLCCV	CWW	3/22/2010 20:59			1		DUSE-DL	S
per0322049a	IPB007	CWW	3/22/2010 21:11			1		USE	C
per0322050a	WCLCRI	CWW	3/22/2010 21:23			1		USE	B
per0322051a	248371003	CWW	3/22/2010 21:35	962127	10-2151	1	LANL	USE	C
per0322052a	248371004	CWW	3/22/2010 21:47	962127	10-2151	1	LANL	USE	S
per0322053a	248371005	CWW	3/22/2010 21:59	962127	10-2151	1	LANL	USE	S
per0322054a	248371006	CWW	3/22/2010 22:11	962127	10-2151	1	LANL	DUSE-DL	S
per0322055a	248371007	CWW	3/22/2010 22:23	962127	10-2151	1	LANL	DUSE-RA	S
per0322056a	248371008	CWW	3/22/2010 22:36	962127	10-2151	1	LANL	USE	S
per0322057a	248371009	CWW	3/22/2010 22:48	962127	10-2151	1	LANL	USE	S
per0322058a	248371010	CWW	3/22/2010 23:00	962127	10-2151	1	LANL	USE	S
per0322059a	248371011	CWW	3/22/2010 23:12	962127	10-2151	1	LANL	USE	S
per0322060a	248371012	CWW	3/22/2010 23:24	962127	10-2151	1	LANL	USE	S
per0322061a	WCLCCV	CWW	3/22/2010 23:36			1		USE	C
per0322062a	IPB008	CWW	3/22/2010 23:48			1		USE	B
per0322063a	WCLCRI	CWW	3/23/2010 0:00			1		USE	C
per0322064a	248371013	CWW	3/23/2010 0:12	962127	10-2151	1	LANL	USE	S
per0322065a	248371014	CWW	3/23/2010 0:24	962127	10-2151	1	LANL	USE	S
per0322066a	248371015	CWW	3/23/2010 0:36	962127	10-2151	1	LANL	USE	S

per0322067a	248371016	CWW	3/23/2010 0:48	962127	10-2151	1	LANL	USE	S
per0322068a	248371017	CWW	3/23/2010 1:00	962127	10-2151	1	LANL	USE	S
per0322069a	248371018	CWW	3/23/2010 1:12	962127	10-2151	1	LANL	USE	S
per0322070a	248371019	CWW	3/23/2010 1:24	962127	10-2151	1	LANL	USE	S
per0322071a	248371020	CWW	3/23/2010 1:36	962127	10-2151	1	LANL	USE	S
per0322072a	WCLCCV	CWW	3/23/2010 1:49			1		USE	C
per0322073a	IPB009	CWW	3/23/2010 2:01			1		USE	B
per0322074a	WCLCRI	CWW	3/23/2010 2:13			1		USE	C
per0322075a	1202067810	CWW	3/23/2010 2:25	963899	VARIOUS	1	LANL	USE	S
per0322076a	1202067811	CWW	3/23/2010 2:37	963899	VARIOUS	1	LANL	USE	S
per0322077a	1202067814	CWW	3/23/2010 2:49	963899	VARIOUS	1	LANL	USE	S
per0322078a	248374001	CWW	3/23/2010 3:01	963899	10-2155	1	LANL	USE	S
per0322079a	248374002	CWW	3/23/2010 3:13	963899	10-2155	1	LANL	USE	S
per0322080a	1202067812	CWW	3/23/2010 3:25	963899	10-2155	1	LANL	USE	S
per0322081a	1202067813	CWW	3/23/2010 3:37	963899	10-2155	1	LANL	USE	S
per0322082a	248374003	CWW	3/23/2010 3:49	963899	10-2155	1	LANL	USE	S
per0322083a	248374004	CWW	3/23/2010 4:01	963899	10-2155	1	LANL	USE	S
per0322084a	248374005	CWW	3/23/2010 4:13	963899	10-2155	1	LANL	USE	S
per0322085a	WCLCCV	CWW	3/23/2010 4:25			1		USE	C
per0322086a	IPB010	CWW	3/23/2010 4:38			1		USE	B
per0322087a	WCLCRI	CWW	3/23/2010 4:50			1		USE	C
per0322088a	248374006	CWW	3/23/2010 5:02	963899	10-2155	1	LANL	USE	S
per0322089a	248374007	CWW	3/23/2010 5:14	963899	10-2155	1	LANL	USE	S
per0322090a	248374008	CWW	3/23/2010 5:26	963899	10-2155	1	LANL	USE	S
per0322091a	248374009	CWW	3/23/2010 5:38	963899	10-2155	1	LANL	USE	S
per0322092a	248374010	CWW	3/23/2010 5:50	963899	10-2155	1	LANL	USE	S
per0322093a	248374011	CWW	3/23/2010 6:02	963899	10-2155	1	LANL	USE	S
per0322094a	248374012	CWW	3/23/2010 6:14	963899	10-2155	1	LANL	USE	S
per0322095a	248374013	CWW	3/23/2010 6:26	963899	10-2155	1	LANL	USE	S
per0322096a	248422001	CWW	3/23/2010 6:38	963899	10-2166	1	LANL	USE	S
per0322097a	248422002	CWW	3/23/2010 6:50	963899	10-2166	1	LANL	USE	S
per0322098a	WCLCCV	CWW	3/23/2010 7:02			1		USE	C
per0322099a	IPB011	CWW	3/23/2010 7:18			1		USE	B
per0322100a	WCLCRI	CWW	3/23/2010 7:30			1		USE	C
per0322101a	248515001	CWW	3/23/2010 7:42	963899	10-2197	1	LANL	USE	S
per0322102a	248515002	CWW	3/23/2010 7:55	963899	10-2197	1	LANL	USE	S
per0322103a	248515003	CWW	3/23/2010 8:07	963899	10-2197	1	LANL	USE	S

per0322104a	248517001	CWW	3/23/2010 8:19	963899	10-2198	1	LANL	USE	S
per0322105a	IPB012	CWW	3/23/2010 8:31			1		USE	B
per0322106a	1202056702	CWW	3/23/2010 8:43	959034	VARIOUS	1	LANL	USE	S
per0322107a	IPB013	CWW	3/23/2010 8:55			1		USE	B
per0322108a	248371002	CWW	3/23/2010 9:07	962127	10-2151	4	LANL	USE	S
per0322109a	248371005	CWW	3/23/2010 9:19	962127	10-2151	4	LANL	USE	S
per0322110a	248371006	CWW	3/23/2010 9:31	962127	10-2151	1	LANL	USE	S
per0322111a	WCLCCV	CWW	3/23/2010 9:43			1		USE	C
per0322112a	IPB014	CWW	3/23/2010 9:55			1		USE	B
per0322113a	WCLCRI	CWW	3/23/2010 10:07			1		USE	C

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

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322080a

Date: 23-Mar-2010

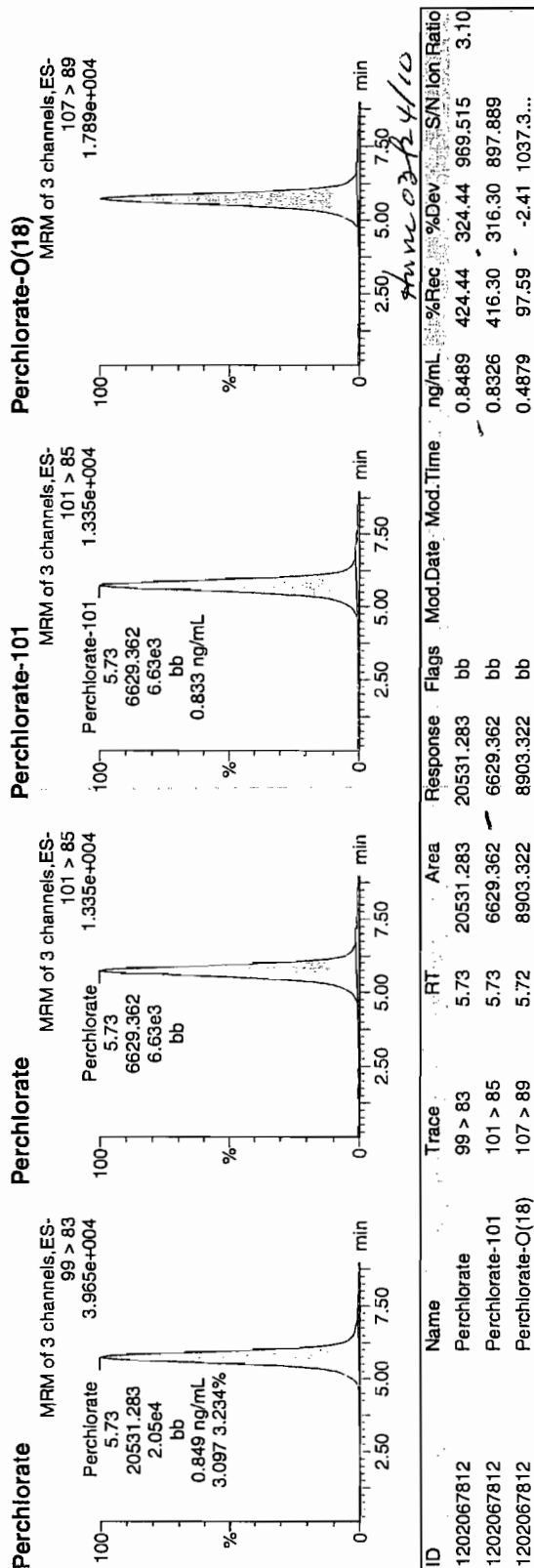
Time: 03:25:46

ID: 1202067812

Vial: 3:1,F

03-23-10

LAN-96399 | 2010 | MS | 11



Quantify Sample Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per032210a.qld

Last Altered: Tuesday, March 23, 2010 10:27:00 AM Eastern Standard Time  
Printed: Tuesday, March 23, 2010 10:37:35 AM Eastern Standard Time

Name: per0322081a

Date: 23-Mar-2010

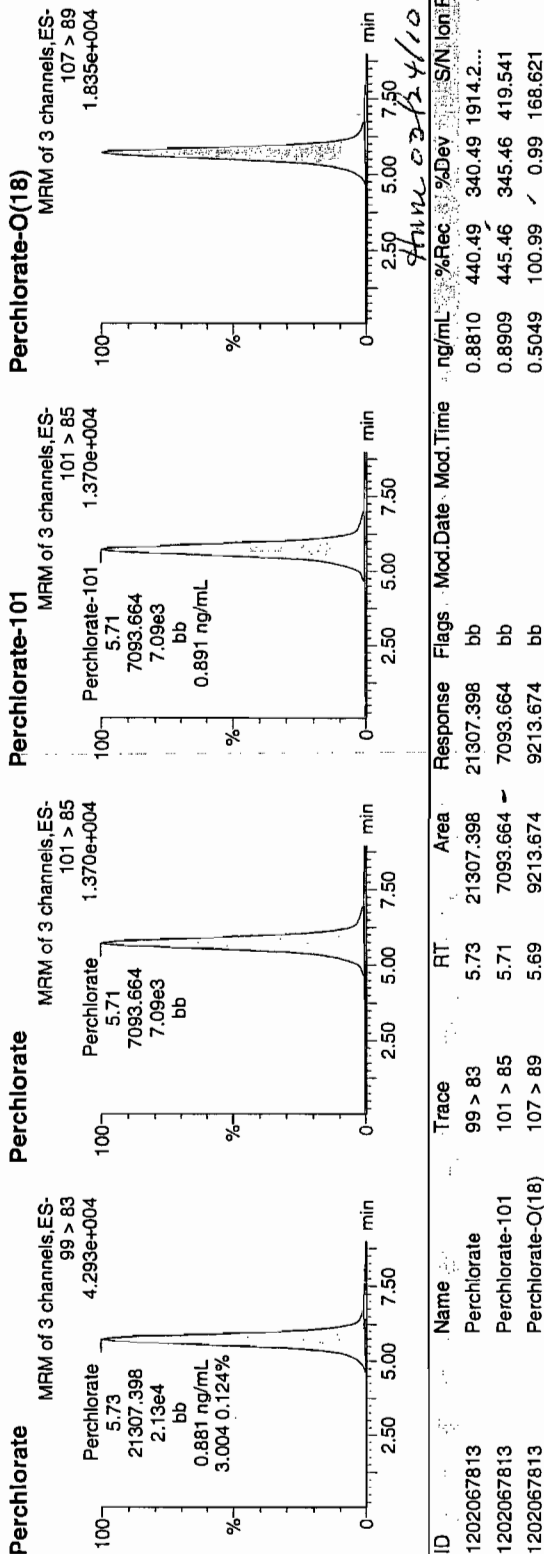
Time: 03:37:47

ID: 1202067813

Vial: 3:2,A

LANC | 963894 | 2010 | MSO | 11

6623  
0323-13



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202067813	Perchlorate	99 > 83	5.73	21307.398	21307.398	bb			0.8810	440.49	340.49	1914.2...	3.00
1202067813	Perchlorate-101	101 > 85	5.71	7093.664	7093.664	bb			0.8909	445.46	345.46	419.541	
1202067813	Perchlorate-O(18)	107 > 89	5.69	9213.674	9213.674	bb			0.5049	100.99	✓ 0.99	168.621	

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

GEL Laboratories LLC  
Form GEL-DER

DER Report No.: 808569  
Revision No.: 1

### DATA EXCEPTION REPORT

<b>Mo.Day Yr.</b> 23-MAR-10	<b>Division:</b> Industrial	<b>Quality Criteria:</b> Specifications	<b>Type:</b> Process
<b>Instrument Type:</b> LC-MS/MS	<b>Test / Method:</b> SW846 6850 Modified	<b>Matrix Type:</b> Solid	<b>Client Code:</b> LANL
<b>Batch ID:</b> 963899	<b>Sample Numbers:</b> See Below		
<b>Potentially affected work order(s)(SDG):</b> 248374(10-2155),248422(10-2166),248515(10-2197),248517(10-2198) <b>Application Issues:</b> Failed Recovery for MS/PS			
<b>Specification and Requirements</b>		<b>DER Disposition:</b>	
<b>Exception Description:</b>			
1. Low recovery for Perchlorate-101 was observed in 1202067812 (MS). The recovery was 71% and the acceptance range is 75-125%.		1. The low recovery may be the result of the background concentration present in the parent sample, 248374002, and the non-homogeneity of the sample matrix.	

**Originator's Name:**  
Charles Wilson      23-MAR-10

**Data Validator/Group Leader:**  
Herbert Maier      24-MAR-10

# LC/MS/MS PERCHLORATE ANALYSIS



**Perchlorate by LC/MSMS  
Los Alamos National Laboratory (LANL)  
SDG 10-2197-1**

**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: 962136

Prep Batch Number: 962135

**Sample Analysis**

<b>Sample ID</b>	<b>Client ID</b>
248516001	RE36-10-7537
248516002	RE36-10-7536
1202063761	Interference Check Sample (ICS)
1202063757	Method Blank (MB)
1202063758	Laboratory Control Sample (LCS)
1202063759	248407001(RE11-10-1721) Matrix Spike (MS)
1202063760	248407001(RE11-10-1721) 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.

**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.

10-2197-1-PERLCMS

#### **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 recovered Perchlorate at 164% and Perchlorate-101 at 166%. The acceptance range is 85-115%. The high recovery may be the result of a spiking error at the preparation step, but note that the recoveries for the ICS and matrix spikes were all acceptable for the batch. Since the detections observed in the associated samples were less than the MDL, samples do not need to be re-extracted. The data is unaffected and is reported. Please see data exception report 805539.

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

Client sample 248407001 (RE11-10-1721) from SDG 10-2188 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.

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**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 report 805539 was generated for this SDG.

The LCS recovered Perchlorate at 164% and Perchlorate-101 at 166%. The acceptance range is 85-115%. The high recovery may be the result of a spiking error at the preparation step, but note that the recoveries for the ICS and matrix spikes were all acceptable for the batch. Since the detections observed in the associated samples were less than the MDL, samples do not need to be re-extracted. The data is unaffected and is reported.

**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: Hebert M. Maurer Date: 03/26/10

# SAMPLE DATA SUMMARY

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC  
 Lab Code: GEL  
 Instrument: LCMSMS  
 Method: SW846 6850 Modified  
 Matrix: WATER  
 Extraction Batch ID: 962135  
 Extraction Type: Filter/DAI  
 Sample Volume/Weight: 10.0 mL  
 Concentrated Extract Volume: 10.0  
 Client Sample No. RE36-10-7537  
 Date Received: 03-MAR-10  
 GEL Job No (SDG): 10-2197-1  
 GEL Sample ID: 248516001  
 Date Filtered: 08-MAR-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	17-MAR-10 05:25	per0316101a
	Perchlorate Isotope Ratio						1	17-MAR-10 05:25	per0316101a
14797-73-0	Perchlorate-101	.05	.2	0.050	ug/L	U	1	17-MAR-10 05:25	per0316101a
	Perchlorate-O(18)			0.459	ug/L		1	17-MAR-10 05:25	per0316101a

<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

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC  
 Lab Code: GEL  
 Instrument: LCMSMS  
 Method: SW846 6850 Modified  
 Matrix: WATER  
 Extraction Batch ID: 962135  
 Extraction Type: Filter/DAI  
 Sample Volume/Weight: 10.0 mL  
 Concentrated Extract Volume: 10.0  
 Client Sample No. RE36-10-7536  
 Date Received: 03-MAR-10  
 GEL Job No (SDG): 10-2197-1  
 GEL Sample ID: 248516002  
 Date Filtered: 08-MAR-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	17-MAR-10 05:34	per0316102a
	Perchlorate Isotope Ratio						1	17-MAR-10 05:34	per0316102a
14797-73-0	Perchlorate-101	.05	.2	0.050	ug/L	U	1	17-MAR-10 05:34	per0316102a
	Perchlorate-O(18)			0.461	ug/L		1	17-MAR-10 05:34	per0316102a

<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

# QUALITY CONTROL SUMMARY



Perchlorate Laboratory Control Sample

Lab Name: General Engineering Laboratories

Lab Code: GEL GEL Job No. (SDG): 10-2197-1

Extract Batch Code: 962135

Date Filtered: 08-MAR-10

Matrix: WATER

Sample ID: 1202063758

Analyte^	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	0.200	.329	ug/L	164	*	85 - 115
Perchlorate Isotope Ratio		2.98				-
Perchlorate-101	0.200	.331	ug/L	166	*	85 - 115
Perchlorate-O(18)		.465	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):** 10-2197-1

**Extract Batch Code:** 962135

**Date Filtered:** 08-MAR-10

**Matrix:** WATER

**Sample ID:** 1202063761

Analyte <sup>^</sup>	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	0.200	.212	ug/L	106		70 - 130
Perchlorate Isotope Ratio		3.13				
Perchlorate-101	0.200	.203	ug/L	102		70 - 130
Perchlorate-O(18)		.505	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.

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

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 Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

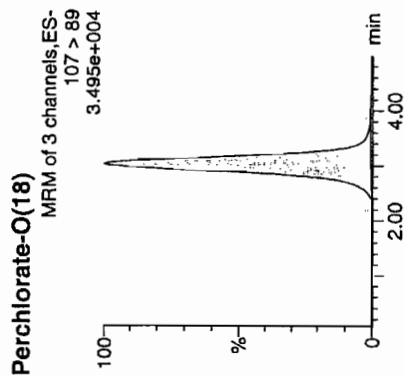
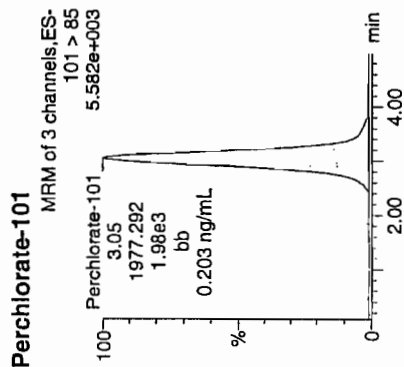
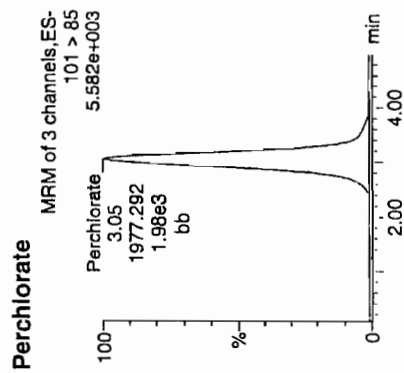
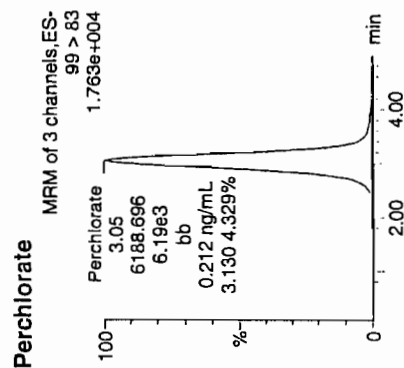
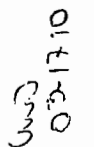
**Name: per0316090a**

Date: 17-Mar-2010

Time: 03:57:10

ID: 1202063761

Vial: 2:5,C



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N Ion Ratio
1202063761	Perchlorate	99 > 83	3.05	6188.696	6188.696	bb			0.2119	105.93	5.93	34.417
1202063761	Perchlorate-101	101 > 85	3.05	1977.292 ✓	1977.292	bb			0.2034	101.68	1.68	395.237
1202063761	Perchlorate-O(18)	107 > 89	3.04	12059.898	12059.898	bb			0.5047	100.94	0.94	4365.4...

$$\begin{array}{r} 5188.675 \\ \hline 1977.292 \\ \hline 3.1299 \end{array}$$

3/16/00  
MST

Perchlorate Spike/Spike Duplicate Summary

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No (SDG): 10-2197-1

Extract Batch Code: 962135

Date Extracted: 08-MAR-10

GEL MS/PS ID: 1202063759

Client ID: RE11-10-1721

GEL MSD/PSD ID: 1202063760

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	0.00108	ug/L	0.198	98.5		.197	97.9		.596		30	75 - 125
Perchlorate Isotope Ratio	0	0.00		3.12			2.86			0			-
Perchlorate-101	0.200	0.00	ug/L	0.190	95.2		.207	103		8.19		30	75 - 125
Perchlorate-O(18)	0	0.454	ug/L	0.462			.455			1.64			-

<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): 10-2197-1

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	16-MAR--10	per0316001a	IPB001
Perchlorate-101	0.00	0	NA	16-MAR--10	per0316001a	IPB001
Perchlorate	0.00	0	NA	16-MAR--10	per0316002a	IPB001
Perchlorate-101	0.00	0	NA	16-MAR--10	per0316002a	IPB001

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

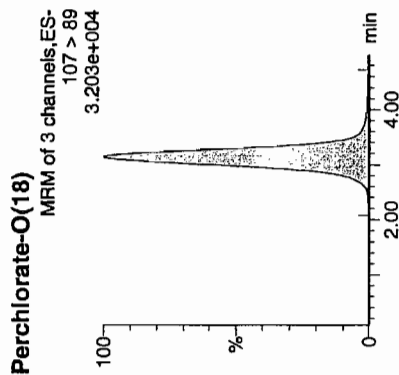
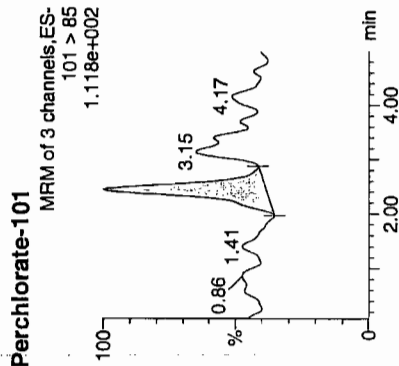
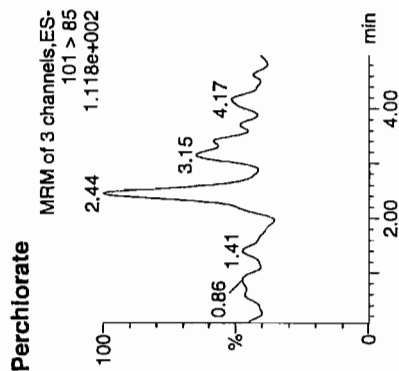
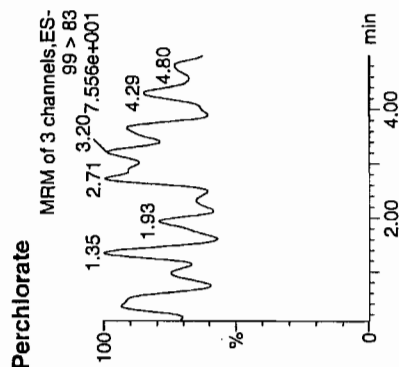
Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Method: C:\MassLynx\Perchlorate.PRO\MethDB\per031610a.mdb 17 Mar 2010 09:00:50  
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per031610a.cdb 17 Mar 2010 09:01:07

Name: per0316001a  
Date: 16-Mar-2010  
Time: 16:00:32  
ID: IPB001  
Vial: 1:1,A

03-17-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB001	Perchlorate	99 > 83											
IPB001	Perchlorate-101	101 > 85	2.44	20.167	20.167	bb			0.0021			25.880	
IPB001	Perchlorate-O(18)	107 > 89	3.14	11814.019	11814.019	bb			0.4944	98.89	-1.11	1410.2...	

Net  
3/18/10

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

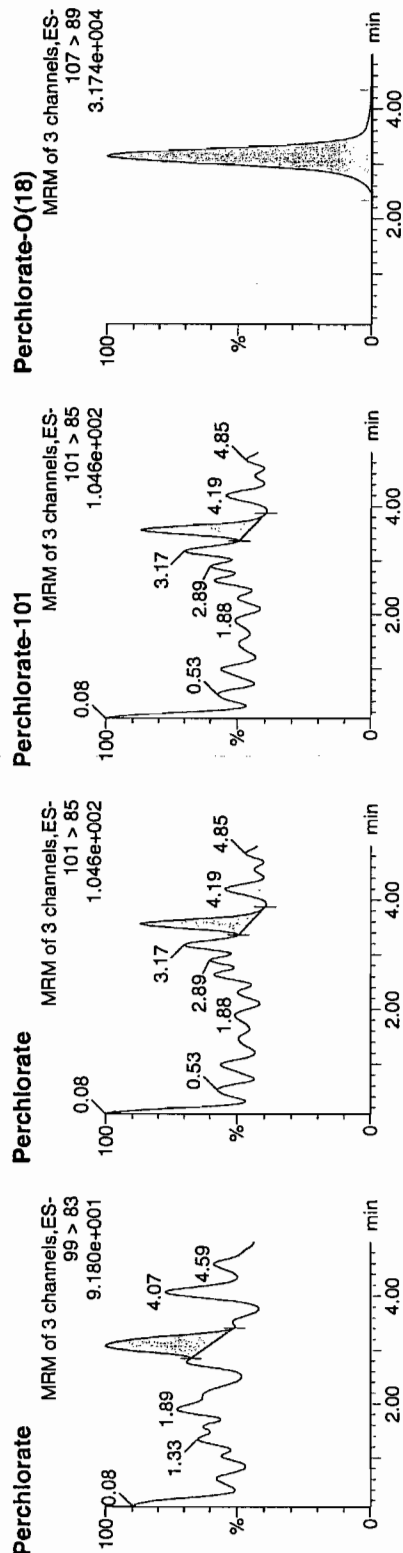
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316002a  
Date: 16-Mar-2010  
Time: 16:08:34  
ID: IPB001  
Vial: 1:1,A

03-17-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB001	Perchlorate	99 > 83	3.07	11.152	11.152	bb			0.0004			4.095	1.32
IPB001	Perchlorate-101	101 > 85	3.56	8.474	8.474	bb			0.0009			17.995	
IPB001	Perchlorate-O(18)	107 > 89	3.14	11719.820	11719.820	bb			0.4905	98.10	-1.90	1197.1...	

0.004  
20.2560  
1077  
3/18/10

Perchlorate Continuing Calibration Blank

GEL Job No.(SDG): 10-2197-1

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	16-MAR-10	per0316008a	IPB002
Perchlorate-101	0.00	0	NA	16-MAR-10	per0316008a	IPB002
Perchlorate	0.00	0	NA	16-MAR-10	per0316010a	IPB003
Perchlorate-101	0.00	0	NA	16-MAR-10	per0316010a	IPB003
Perchlorate	0.00	0	NA	16-MAR-10	per0316015a	IPB004
Perchlorate-101	0.00	0	NA	16-MAR-10	per0316015a	IPB004
Perchlorate	0.00	0	NA	16-MAR-10	per0316023a	IPB005
Perchlorate-101	0.00	0	NA	16-MAR-10	per0316023a	IPB005
Perchlorate	0.00	0	NA	16-MAR-10	per0316027a	IPB006
Perchlorate-101	0.00	0	NA	16-MAR-10	per0316027a	IPB006
Perchlorate	0.00	0	NA	16-MAR-10	per0316036a	IPB007
Perchlorate-101	0.00	0	NA	16-MAR-10	per0316036a	IPB007
Perchlorate	0.00	0	NA	16-MAR-10	per0316049a	IPB008



Perchlorate Continuing Calibration Blank

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-2197-1

Lab Code: GEL

Reporting Units: ug/L

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id	GEL Sample ID
Perchlorate-101	0.00	0	NA	16-MAR-10	per0316049a	IPB008
Perchlorate	0.00	0	NA	16-MAR-10	per0316060a	IPB009
Perchlorate-101	0.00	0	NA	16-MAR-10	per0316060a	IPB009
Perchlorate	0.00	0	NA	17-MAR-10	per0316073a	IPB010
Perchlorate-101	0.00	0	NA	17-MAR-10	per0316073a	IPB010
Perchlorate	0.00	0	NA	17-MAR-10	per0316086a	IPB011
Perchlorate-101	0.00	0	NA	17-MAR-10	per0316086a	IPB011
Perchlorate	0.00	0	NA	17-MAR-10	per0316099a	IPB012
Perchlorate-101	0.00	0	NA	17-MAR-10	per0316099a	IPB012
Perchlorate	0.00	0	NA	17-MAR-10	per0316112a	IPB013
Perchlorate-101	0.00	0	NA	17-MAR-10	per0316112a	IPB013

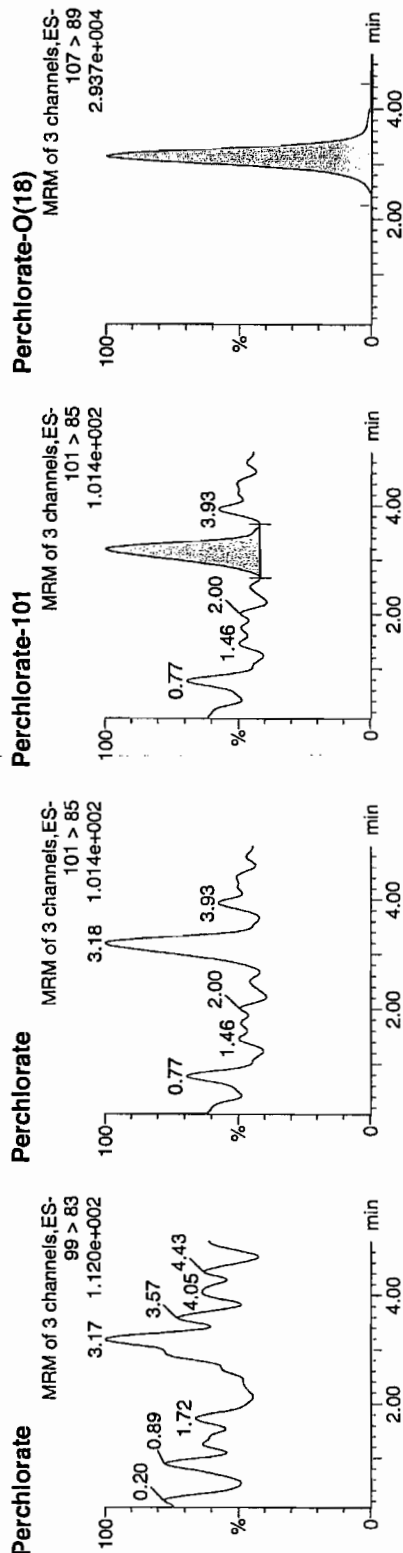
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316008a  
Date: 16-Mar-2010  
Time: 16:56:40  
ID: IPB002  
Vial: 1:1,A

03-17-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB002	Perchlorate	99 > 83	3.18	21.675	21.675	bb			0.0022	90.84	-9.16	8.964	0.00
IPB002	Perchlorate-101	101 > 85	3.14	10852.298	10852.298	bb			0.4542			2345.6...	
IPB002	Perchlorate-O(18)	107 > 89											

14077  
3/18/10

# Quantify Sample Report MassLynx 4.0 SP4

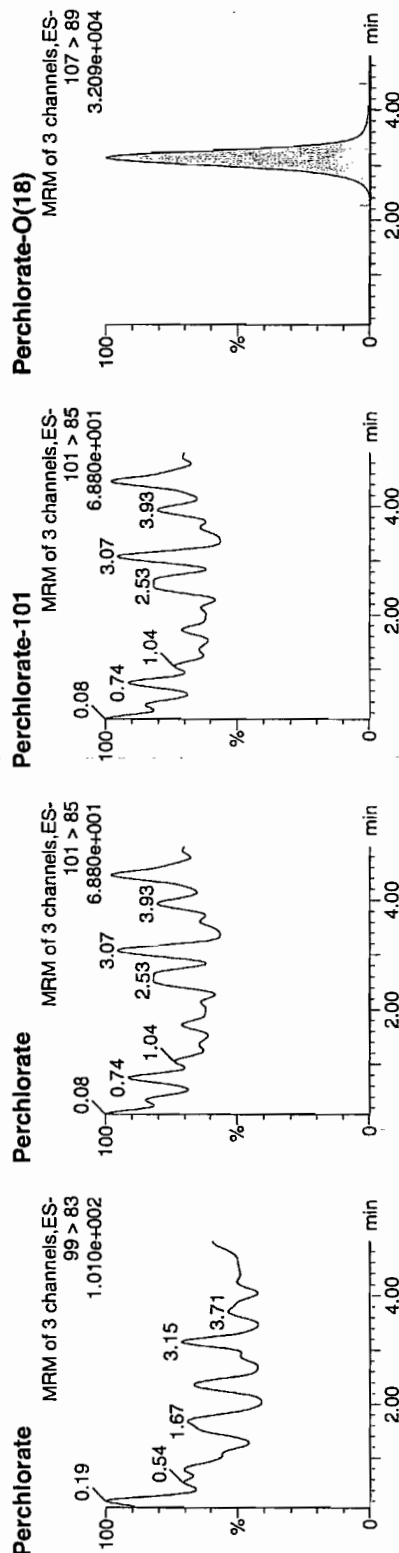
The GEL Group, LLC Analyst: Charles W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
 Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316010a  
 Date: 16-Mar-2010  
 Time: 17:12:44  
 ID: IPB003  
 Vial: 1:1,A

03-17-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB003	Perchlorate	99 > 83											0.00
IPB003	Perchlorate-101	101 > 85	3.12	11719.064	11719.064	bb			0.4905	98.09	-1.91	360.980	
IPB003	Perchlorate-O(18)	107 > 89											

3/18/10

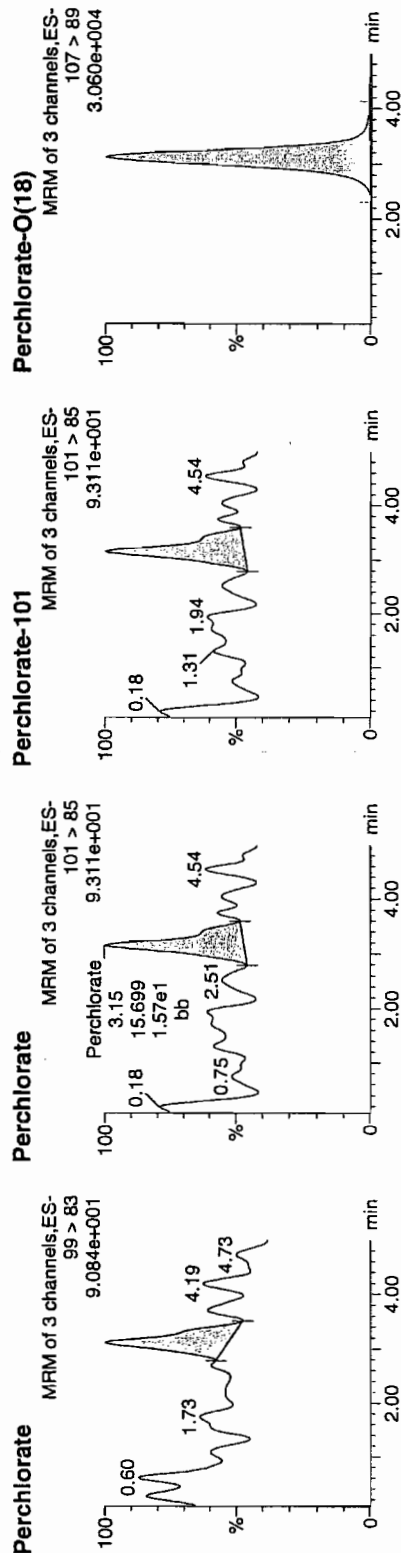
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316015a  
Date: 16-Mar-2010  
Time: 17:52:55  
ID: IPB004  
Vial: 1:1,A

03-17-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB004	Perchlorate	99 > 83	3.10	14.013	14.013	bb			0.0005			14.637	0.89
IPB004	Perchlorate-101	101 > 85	3.15	15.699	15.699	bb			0.0016			11.849	
IPB004	Perchlorate-O(18)	107 > 89	3.11	10917.076	10917.076	bb			0.4569	91.38	-8.62	4536.1...	

0.0005  
0.0016  
0.4569  
14.637  
11.849  
4536.1...

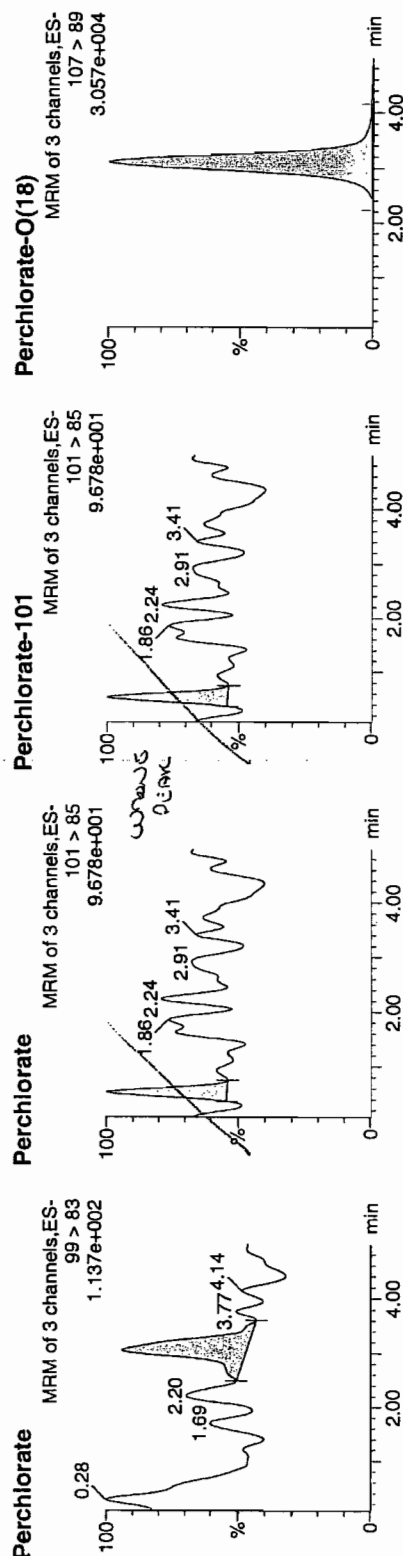
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316023a  
Date: 16-Mar-2010  
Time: 18:57:12  
ID: IPB005  
Vial: 1:1,A

0.007  
3/17/10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN	Ion Ratio
IPB005	Perchlorate	99 > 83	3.05	20.337	20.337	bb			0.0007	2.0	0.0000	38.968	2.53
IPB005	Perchlorate-101	101 > 85	0.53	8.036	8.036	bb			0.0008			12.160	
IPB005	Perchlorate-O(18)	107 > 89	3.10	10865.716	10865.716	bb			0.4547	90.95	-9.05	902.999	

0.007  
3/17/10

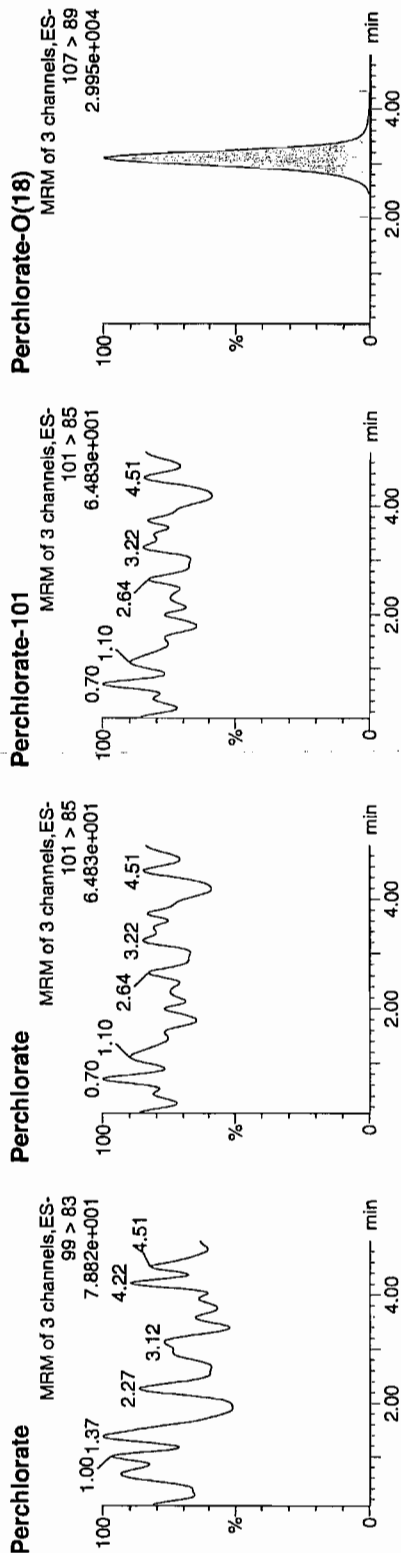
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316027a  
Date: 16-Mar-2010  
Time: 19:29:22  
ID: IPB006  
Vial: 1:1,A

03-17-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB006	Perchlorate	99 > 83											0.00
IPB006	Perchlorate-101	101 > 85											
IPB006	Perchlorate-O(18)	107 > 89	3.09	10701.523	10701.523	bb			0.4479	89.57	-10.43	2319.4...	

3/18/10

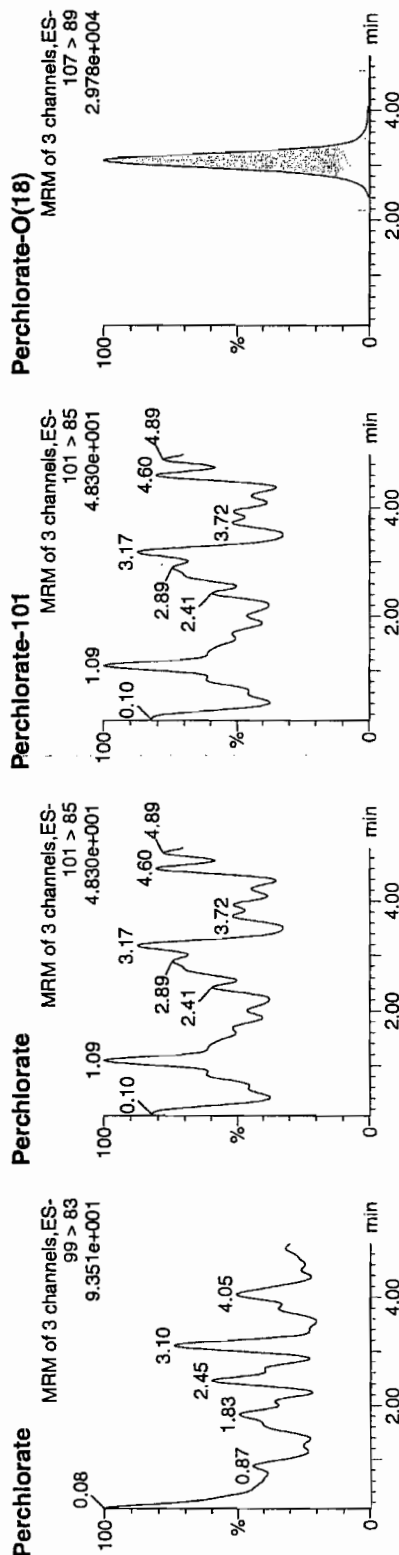
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316036a  
Date: 16-Mar-2010  
Time: 20:41:46  
ID: IPB007  
Vial: 1:1,A

03-17-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB007	Perchlorate	99 > 83											0.00
IPB007	Perchlorate-101	101 > 85	3.09	10877.410	10877.410	bb			0.4552	91.05	-8.95	933.419	
IPB007	Perchlorate-O(18)	107 > 89											

Aut  
3/18/10

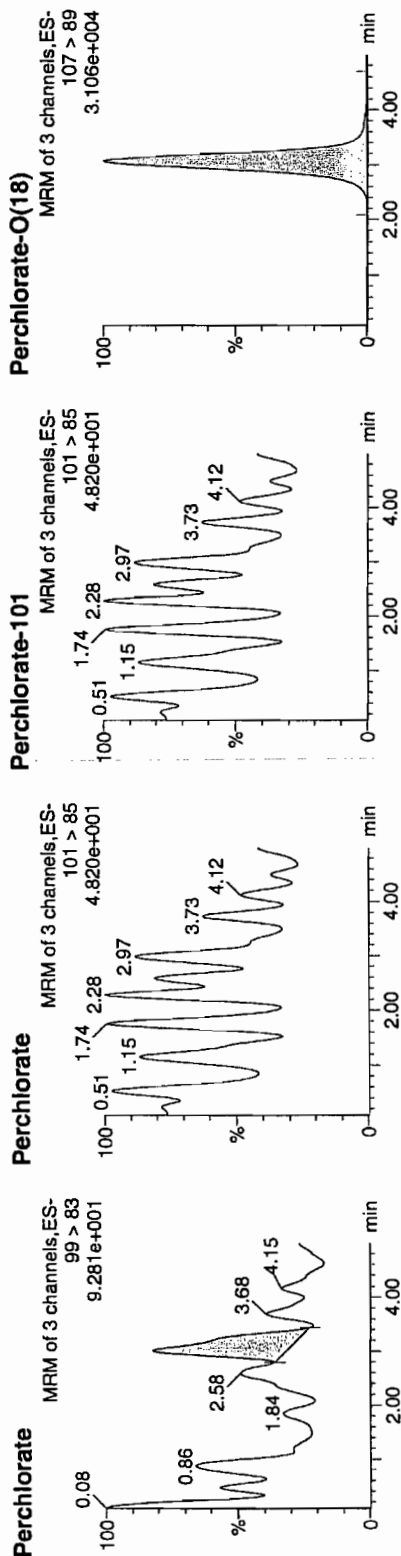
**Quantify Sample Report: MassLynx 4.0 SP4**  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316049a  
Date: 16-Mar-2010  
Time: 22:26:24  
ID: IPB008  
Vial: 1:1,A

03-17-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB008	Perchlorate	99 > 83	3.01	16,420	16,420	bb			0.0006			7,784	0.00
IPB008	Perchlorate-101	101 > 85											
IPB008	Perchlorate-O(18)	107 > 89	3.06	11192.282	11192.282	bb			0.4684	93.68	-6.32	3454.6...	

107  
3/18/10



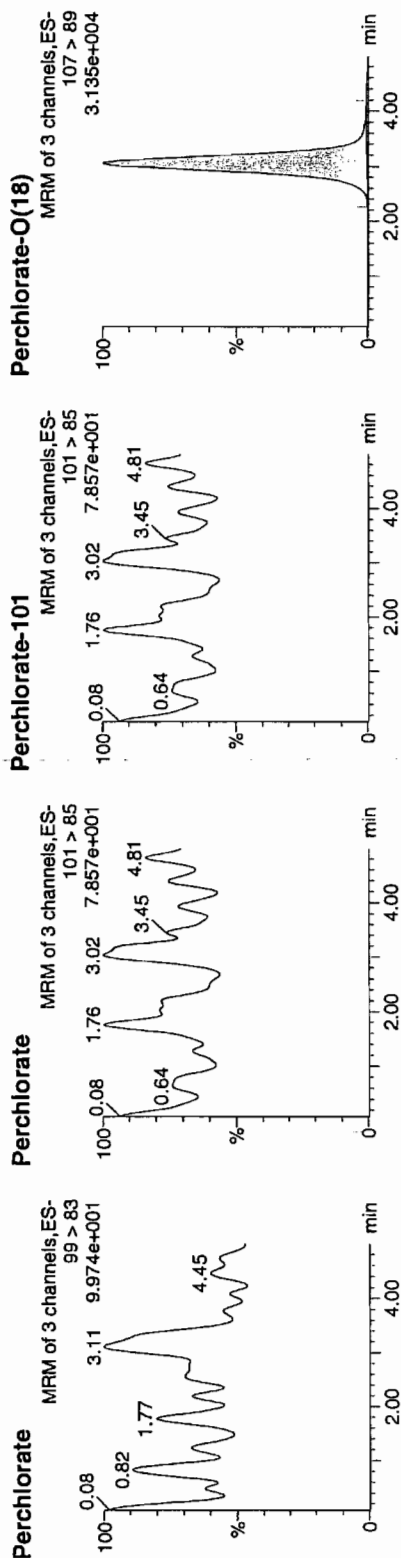
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charliers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316060a  
Date: 16-Mar-2010  
Time: 23:55:02  
ID: IPB009  
Vial: 1:1,A

03-17-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N Ion Ratio
IPB009	Perchlorate	99 > 83										0.00
IPB009	Perchlorate-101	101 > 85										
IPB009	Perchlorate-O(18)	107 > 89	3.05	11205.789	11205.789	bb			0.4690	93.79	-6.21	3795.6...

4477  
3/18/10

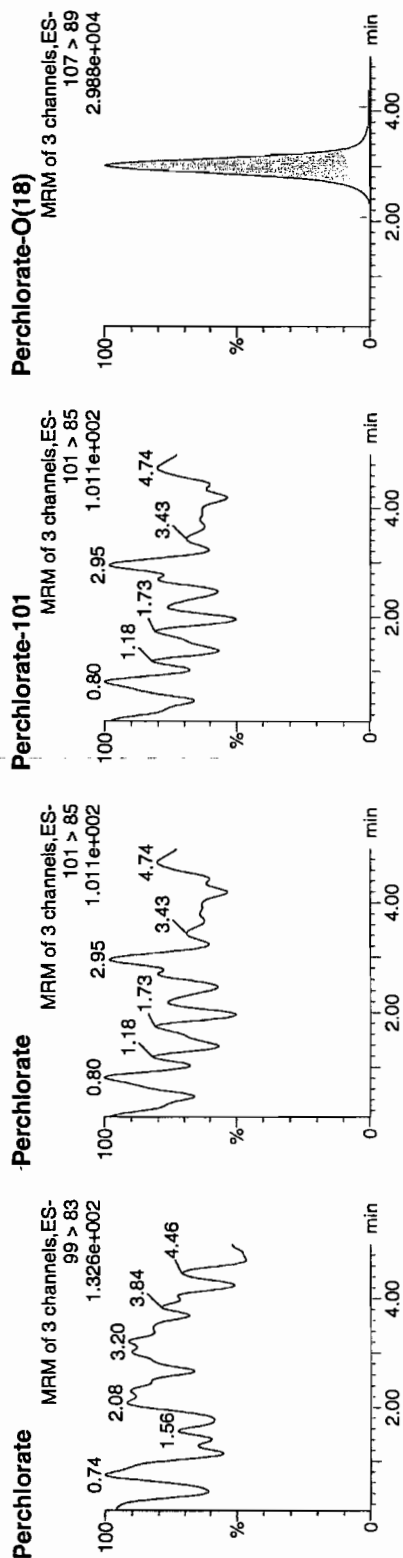
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316073a  
Date: 17-Mar-2010  
Time: 01:39:53  
ID: IPB010  
Vial: 1:1,A

00-1710



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB010	Perchlorate	99 > 83											0.00
IPB010	Perchlorate-101	101 > 85											
IPB010	Perchlorate-O(18)	107 > 89	3.01	10866.314	10866.314	bb			0.4548	90.95	-9.05	794.125	

μm77  
3/17/10

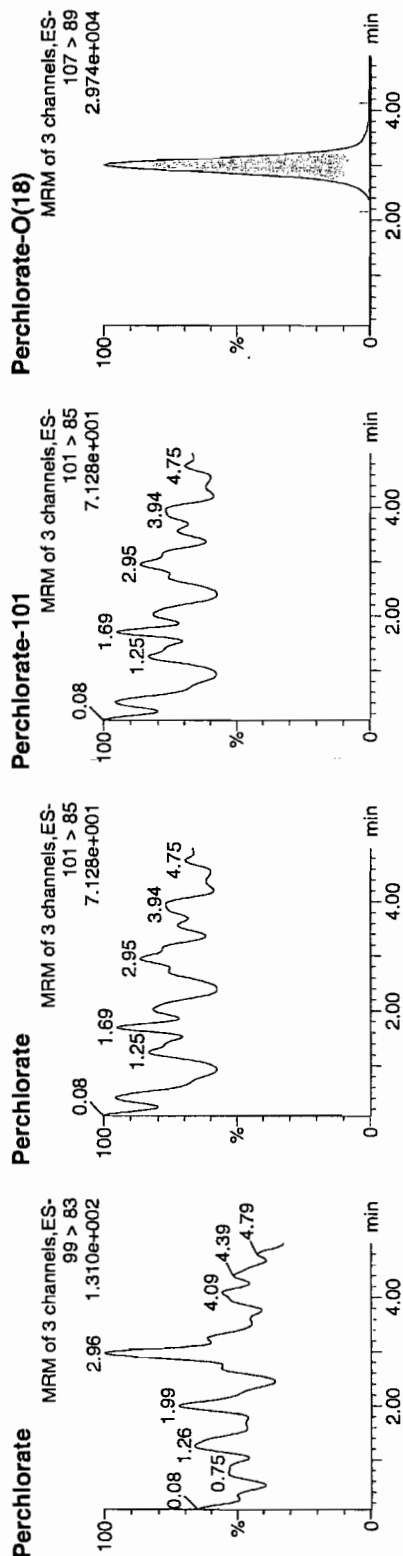
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316086a  
Date: 17-Mar-2010  
Time: 03:24:46  
ID: IPB011  
Vial: 1:1,A

03-17-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB011	Perchlorate	99 > 83											0.00
IPB011	Perchlorate-101	101 > 85											
IPB011	Perchlorate-O(18)	107 > 89	3.00	10489.233	10489.233	bb			0.4390	87.80	-12.20	1245.2...	

107  
3/16/10

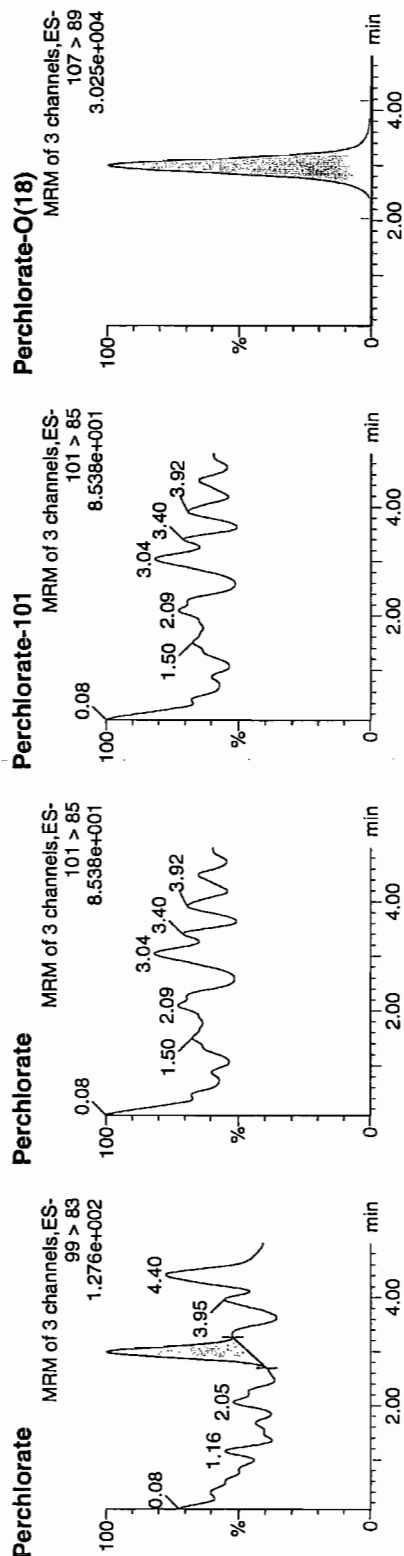
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316099a  
Date: 17-Mar-2010  
Time: 05:09:51  
ID: IPB012  
Vial: 1:1,A

03-17-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB012	Perchlorate	99 > 83	2.99	16.577	16.577	bb			0.0006			18.954	0.00
IPB012	Perchlorate-101	101 > 85											
IPB012	Perchlorate-O(18)	107 > 89	2.99	10736.125	10736.125	bb			0.4493	89.86	-10.14	3921.4...	

1477  
3/18/10

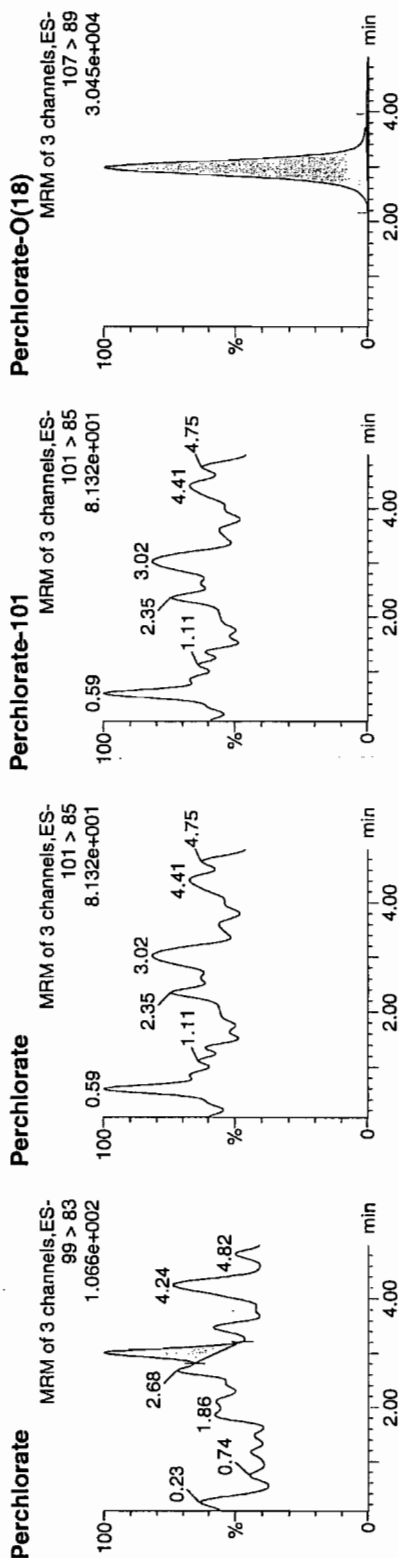
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charfers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316112a  
Date: 17-Mar-2010  
Time: 06:55:47  
ID: IPB013  
Vial: 1:1,A

03-17-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB013	Perchlorate	99 > 83	3.00	8.798	8.798	bb			0.0003			14.108	0.00
IPB013	Perchlorate-101	101 > 85											
IPB013	Perchlorate-O(18)	107 > 89	2.97	10634.489	10634.489	bb			0.4451	89.01	-10.99	1459.7...	

14.108  
3/18/10

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.cal

Calibration Report - MS1 Static

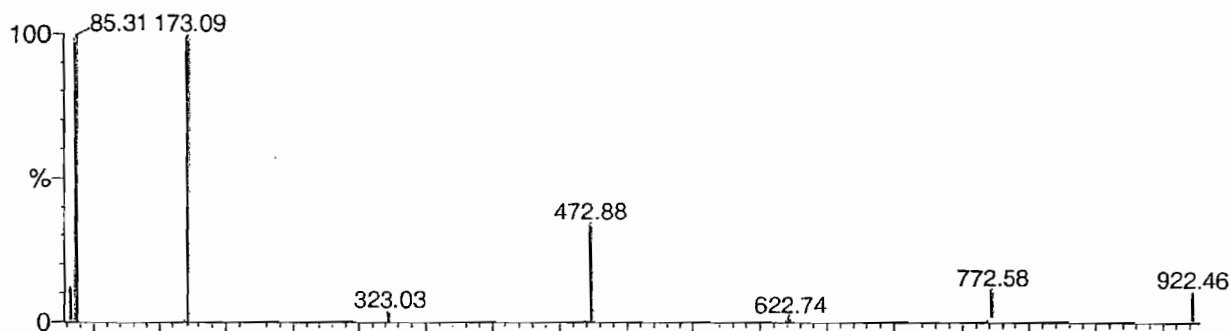
Page 1 of 1

Printed: Tue Jan 08 12:19:12 2008

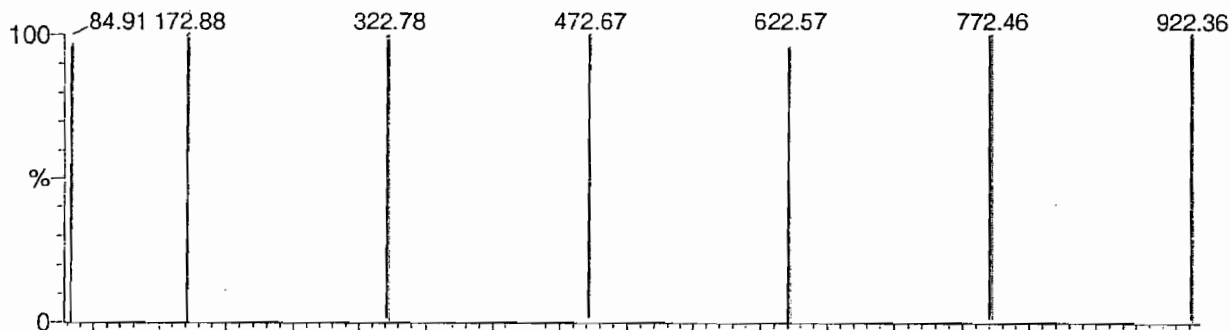
POINTS HIGHLIGHTED BY CURV 01-08-08

Data file: STATMS1 - Uncalibrated

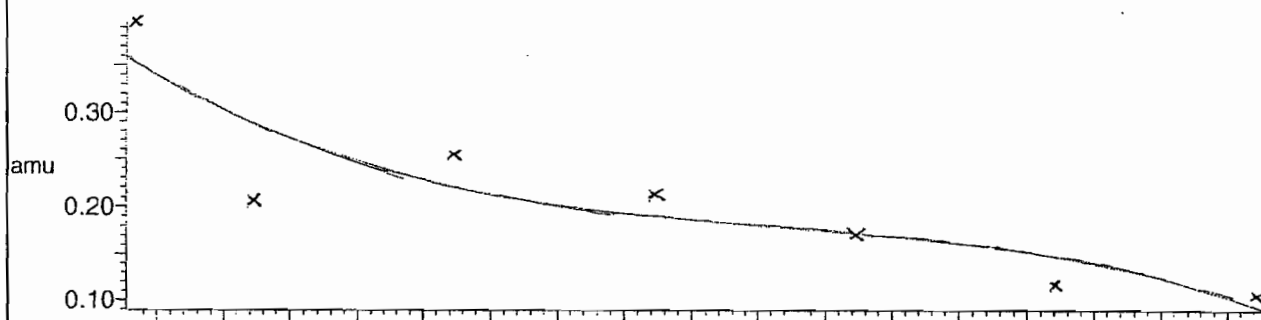
7 matches of 7 tested references



Reference file: Nairb

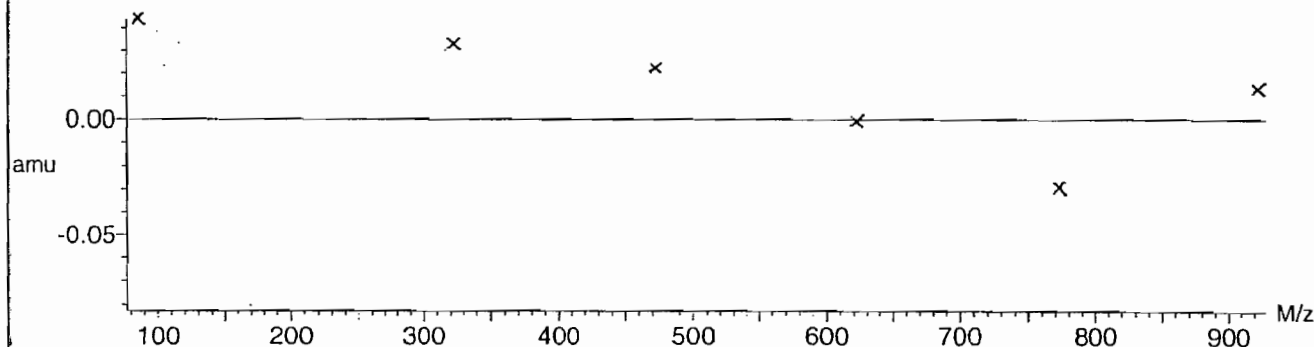


Mass difference (Raw - Ref mass)



Residuals

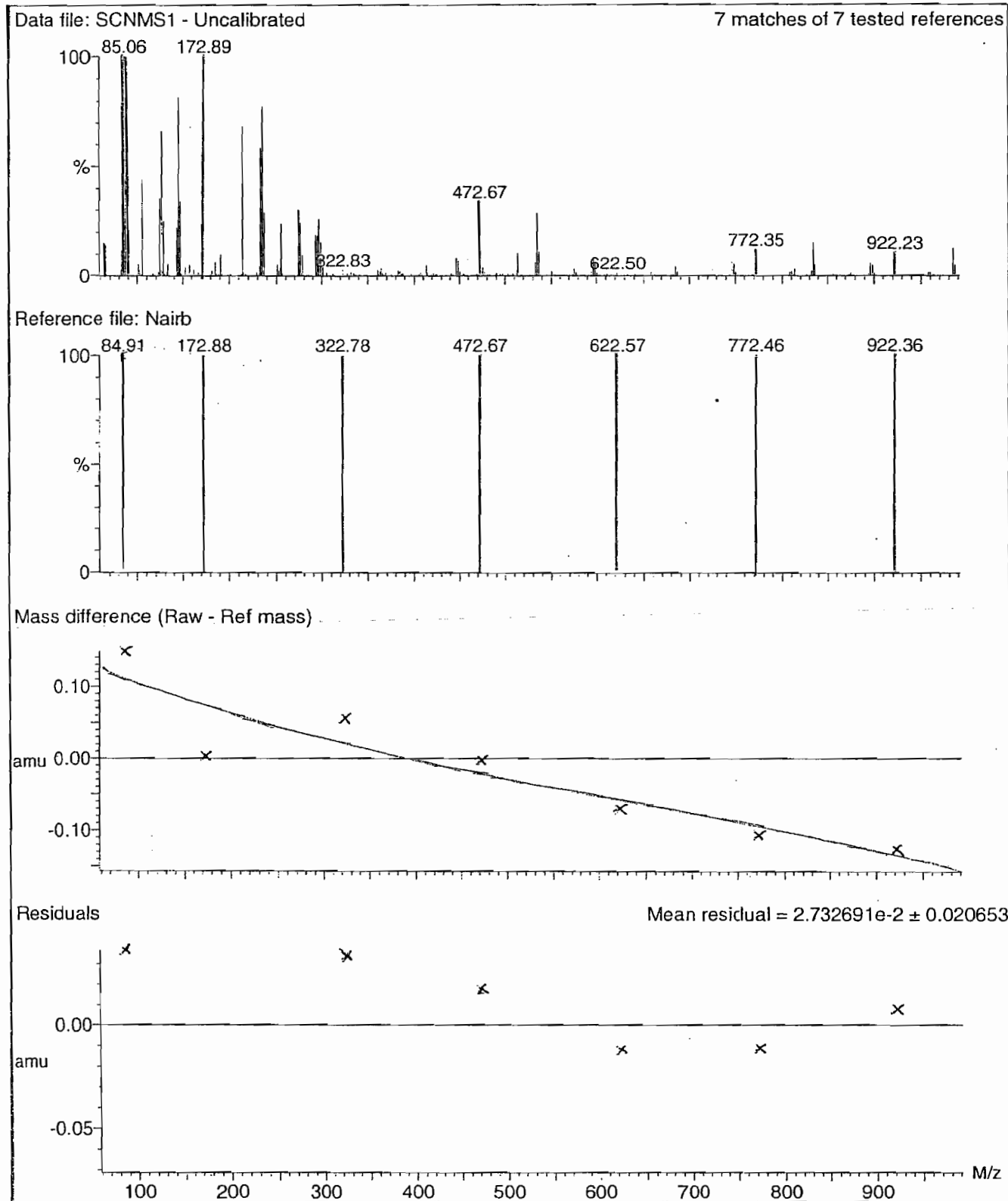
Mean residual =  $3.212012 \times 10^{-2} \pm 0.024108$



Calibration Report - MS1 Scanning

Page 1 of 1

Printed: Tue Jan 08 12:20:09 2008





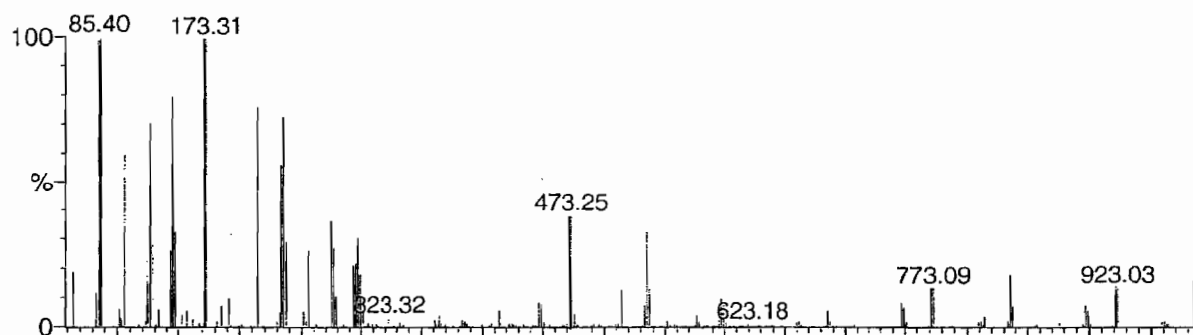
Calibration Report - MS1 Scan Speed Compensation

Page 1 of 1

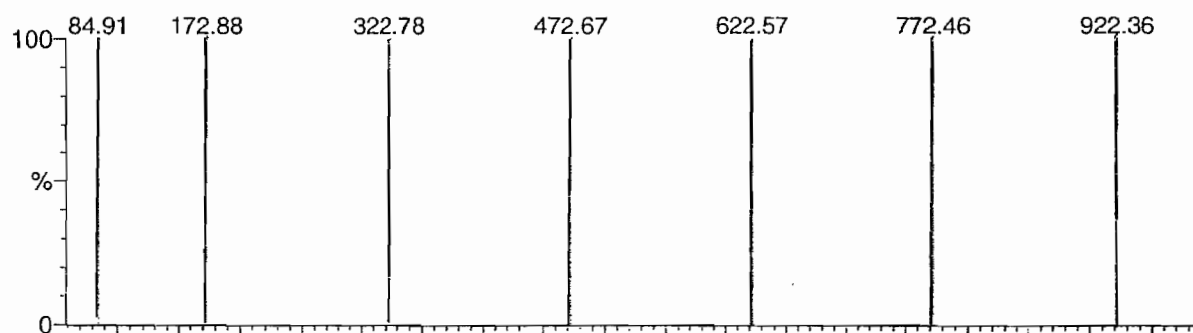
Printed: Tue Jan 08 12:21:04 2008

Data file: FASTMS1 - Uncalibrated

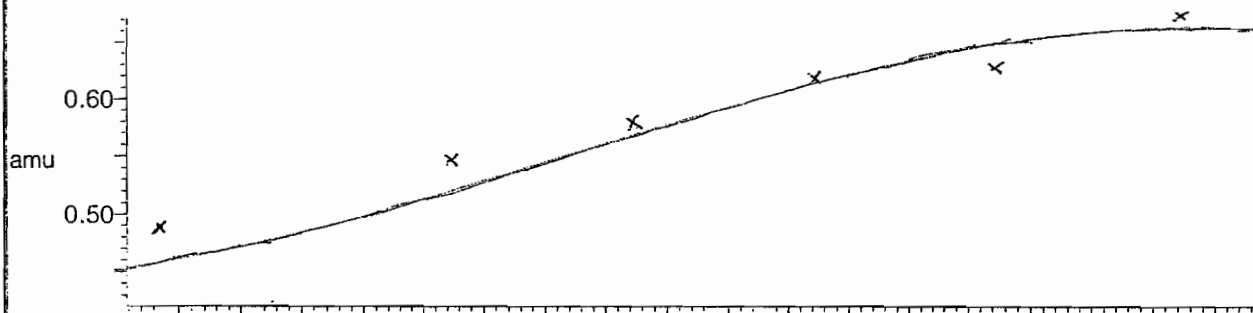
7 matches of 7 tested references



Reference file: Nairb

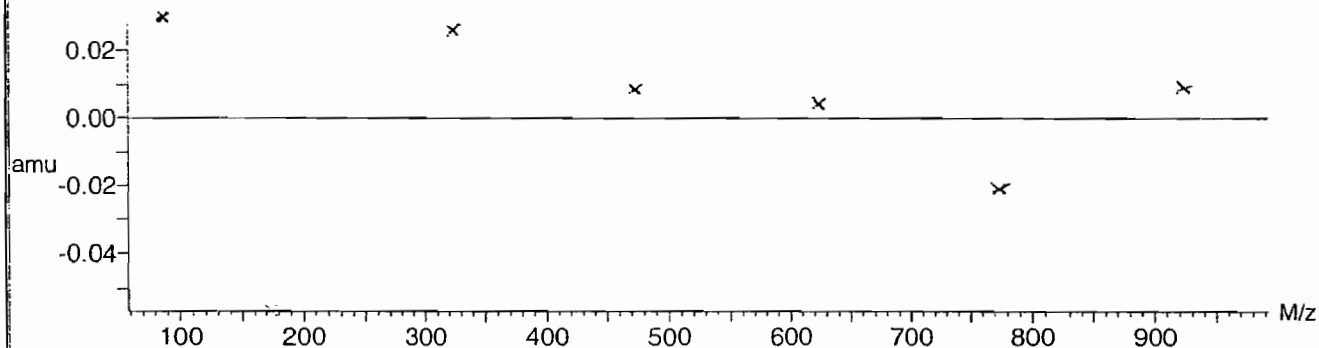


Mass difference (Raw - Ref mass)



Residuals

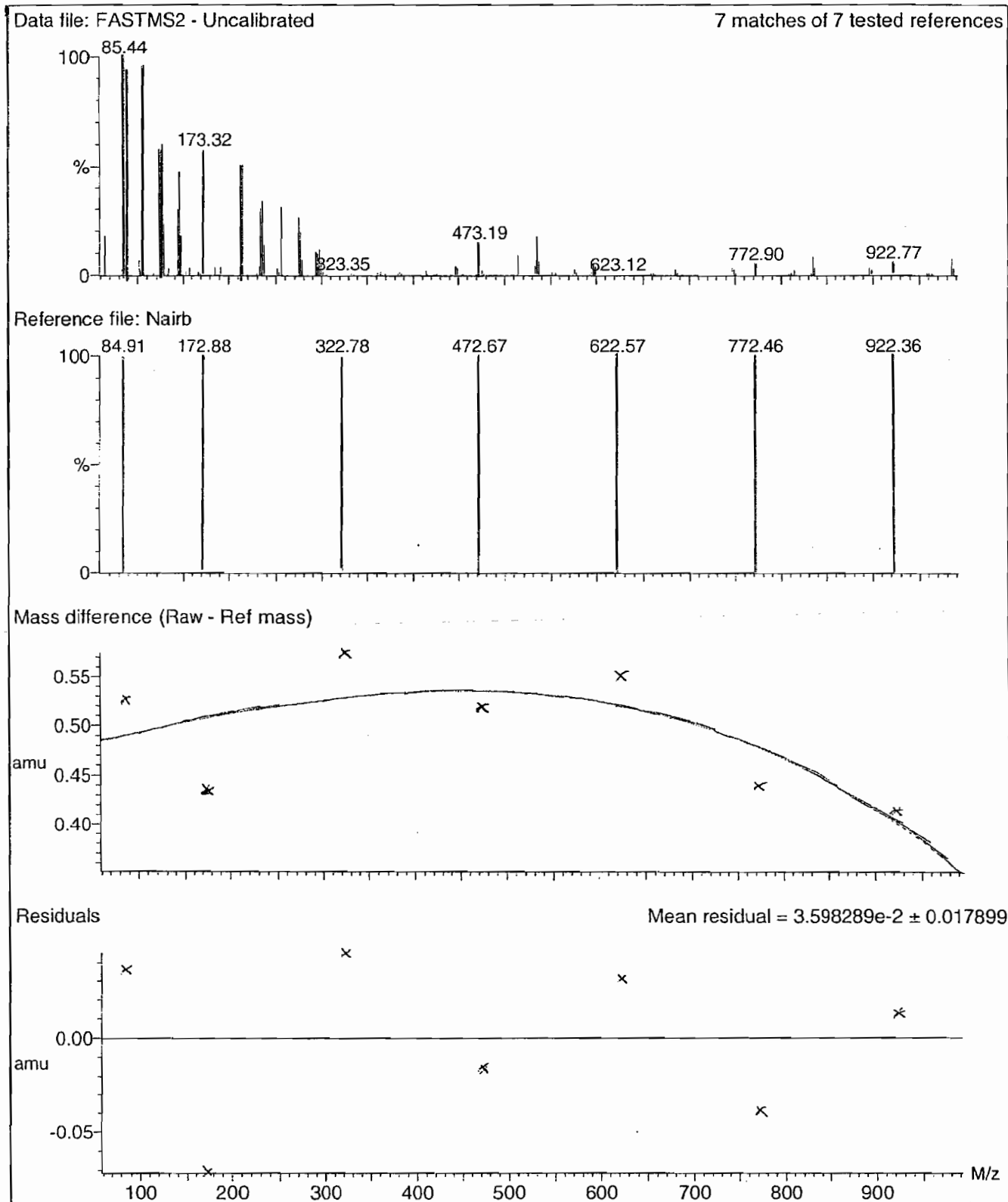
Mean residual =  $2.224580 \times 10^{-2} \pm 0.016544$



Calibration Report - MS2 Scan Speed Compensation

Page 1 of 1

Printed: Tue Jan 08 12:23:51 2008



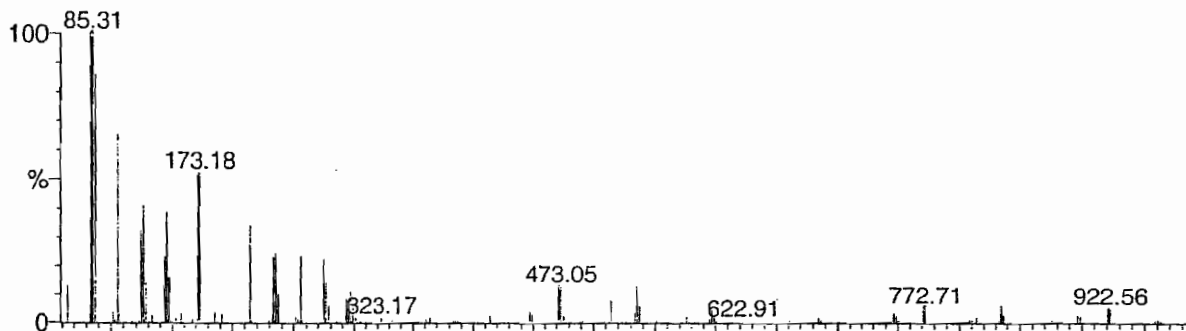
Calibration Report - MS2 Scanning

Page 1 of 1

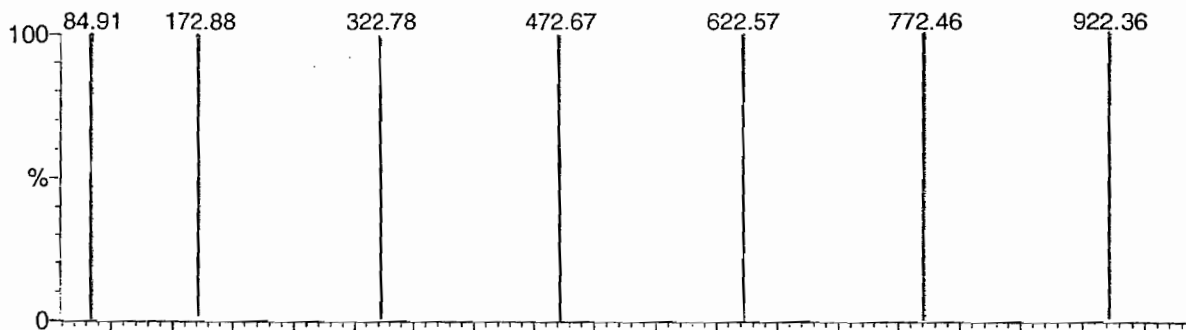
Printed: Tue Jan 08 12:22:56 2008

Data file: SCNMS2 - Uncalibrated

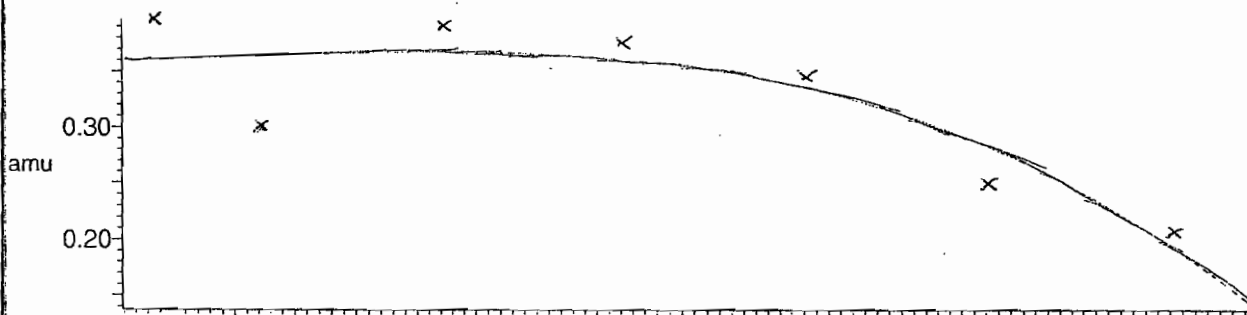
7 matches of 7 tested references



Reference file: Nairb

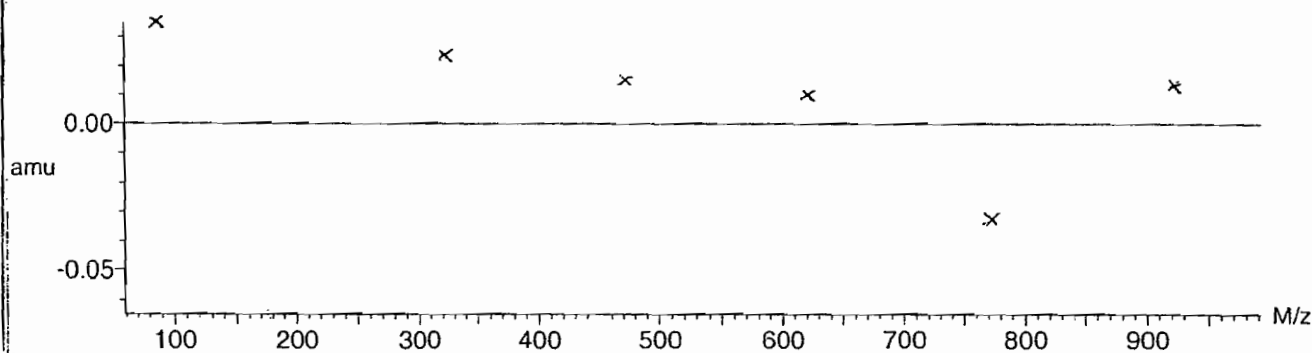


Mass difference (Raw - Ref mass)



Residuals

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

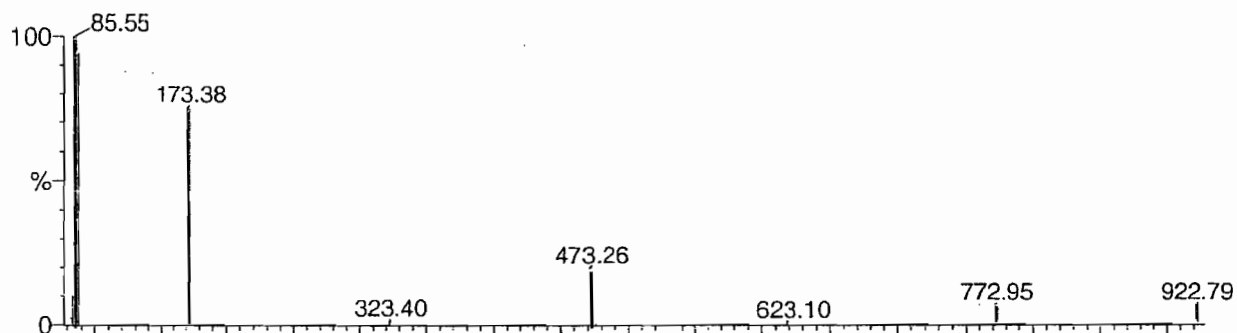


Calibration Report - MS2 Static

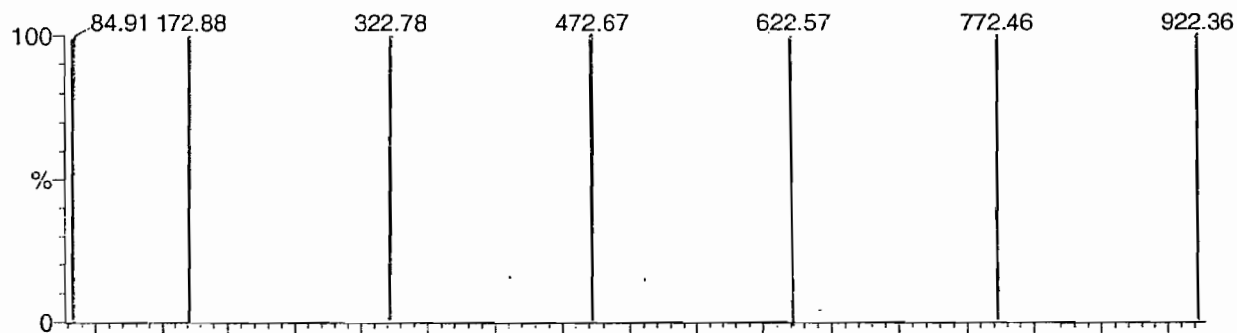
Page 1 of 1

Printed: Tue Jan 08 12:21:59 2008

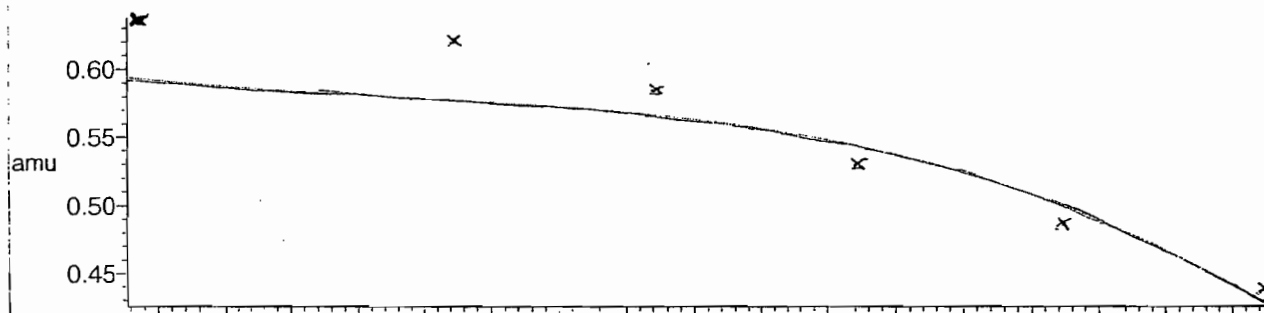
Data file: STATMS2 - Uncalibrated 7 matches of 7 tested references



Reference file: Nairb

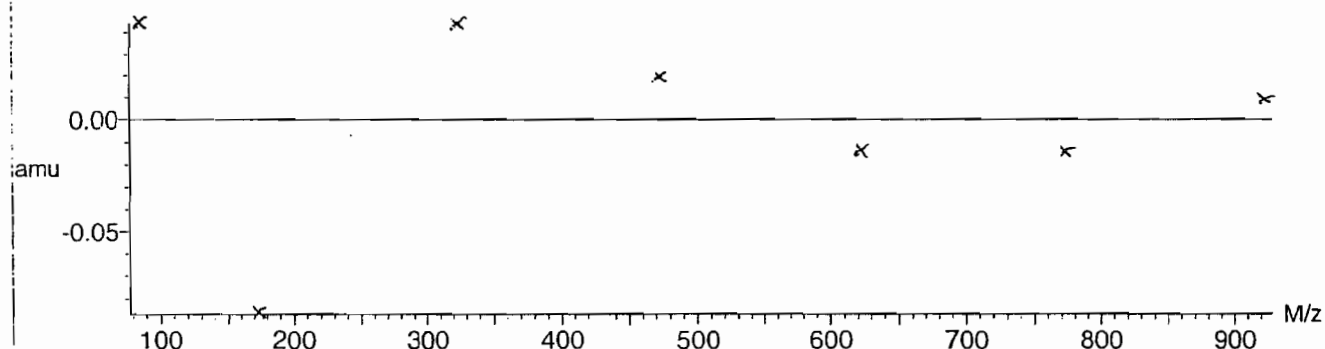


Mass difference (Raw - Ref mass)



Residuals

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



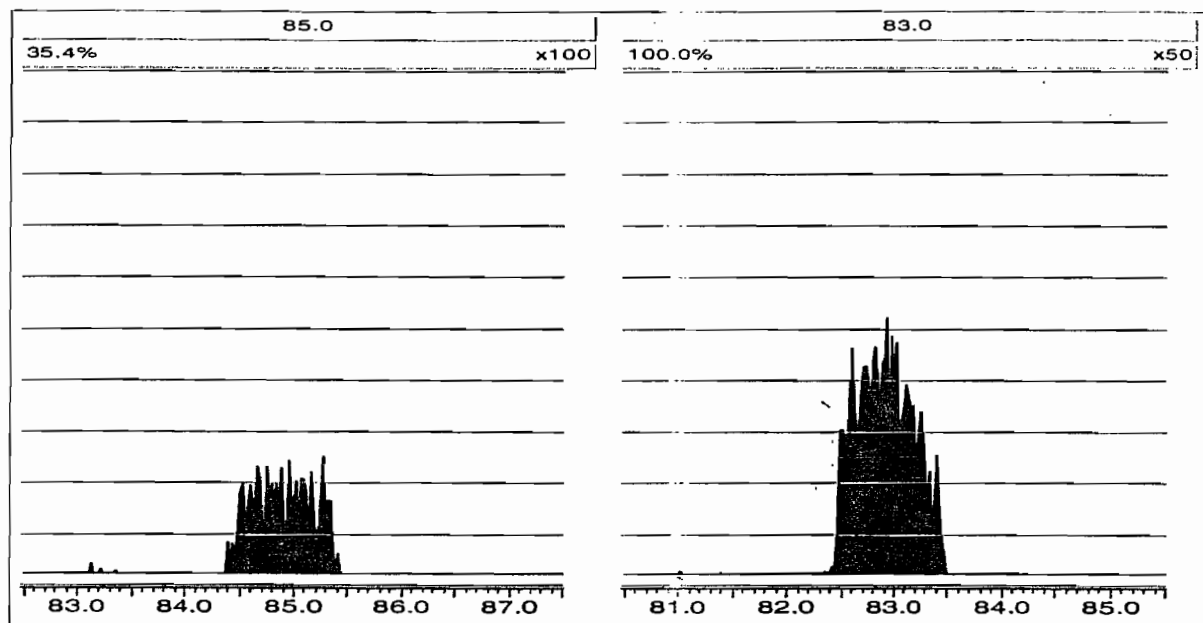
Tune Parameters

MassLynx 4.0 SP4

Page 1 of 1

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

Printed: Tuesday, March 16, 2010 14:13:45 Eastern Standard Time



Perchlorate RT And Area Summary

GEL Job No.(SDG): 10-2197-1

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	per0316006a	16-MAR-10	11562.3				
Lower Area Limit			5781.15				
Upper Area Limit			23124.6				
1202063757	per0316088a	17-MAR-10 03:40	11417.9	3			
1202063758	per0316089a	17-MAR-10 03:49	11116.2	3	3.01077	1.004	
1202063761	per0316090a	17-MAR-10 03:57	12059.9	3.04	3.048	1.003	
248516001	per0316101a	17-MAR-10 05:25	10969	2.99	2.99828	1.003	
248516002	per0316102a	17-MAR-10 05:34	11019.5	2.99			

# SAMPLE DATA

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC  
 Lab Code: GEL  
 Instrument: LCMSMS  
 Method: SW846 6850 Modified  
 Matrix: WATER  
 Extraction Batch ID: 962135  
 Extraction Type: Filter/DAI  
 Client Sample No. RE36-10-7537  
 Date Received: 03-MAR-10  
 GEL Job No (SDG): 10-2197-1  
 GEL Sample ID: 248516001  
 Date Filtered: 08-MAR-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	0.050	ug/L	U	1	17-MAR-10 05:25	per0316101a
	Perchlorate Isotope Ratio						1	17-MAR-10 05:25	per0316101a
14797-73-0	Perchlorate-101	.05	.2	0.050	ug/L	U	1	17-MAR-10 05:25	per0316101a
	Perchlorate-O(18)			0.459	ug/L		1	17-MAR-10 05:25	per0316101a

<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

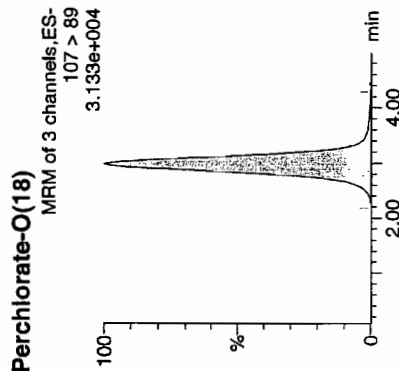
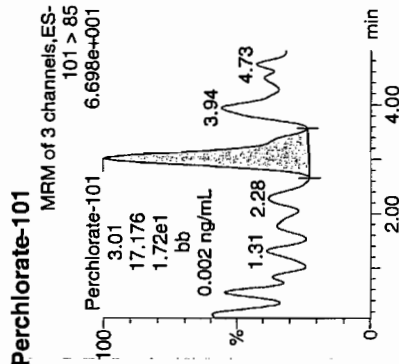
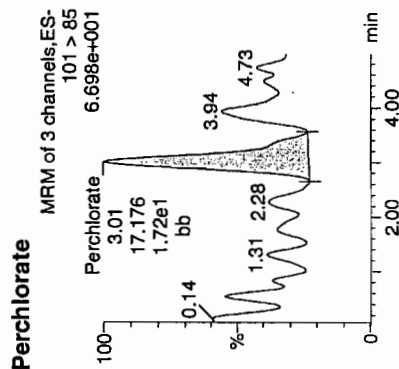
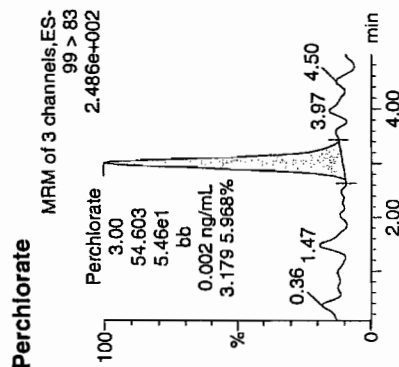
Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316101a  
Date: 17-Mar-2010  
Time: 05:25:55  
ID: 248516001  
Vial: 2:6,E

WVW | 962136 | L102 | 11

WVW  
03-17-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
248516001	Perchlorate	99 > 83	3.00	54.603	54.603	bb			0.0019			92.158	3.18
248516001	Perchlorate-101	101 > 85	3.01	17.176	17.176	bb			0.0018			16.805	
248516001	Perchlorate-O(18)	107 > 89	2.99	10968.950	10968.950	bb			0.4591	91.81	-8.19	3176.3...	

WVW  
3/18/10

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: WATER

Extraction Batch ID: 962135

Extraction Type: Filter/DAI

Sample Volume/Weight: 10.0 mL

Concentrated Extract Volume: 10.0

Client Sample No.

RE36-10-7536

Date Received: 03-MAR-10

GEL Job No (SDG): 10-2197-1

GEL Sample ID: 248516002

Date Filtered: 08-MAR-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	17-MAR-10 05:34	per0316102a
	Perchlorate Isotope Ratio						1	17-MAR-10 05:34	per0316102a
14797-73-0	Perchlorate-101	.05	.2	0.050	ug/L	U	1	17-MAR-10 05:34	per0316102a
	Perchlorate-O(18)			0.461	ug/L		1	17-MAR-10 05:34	per0316102a

<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

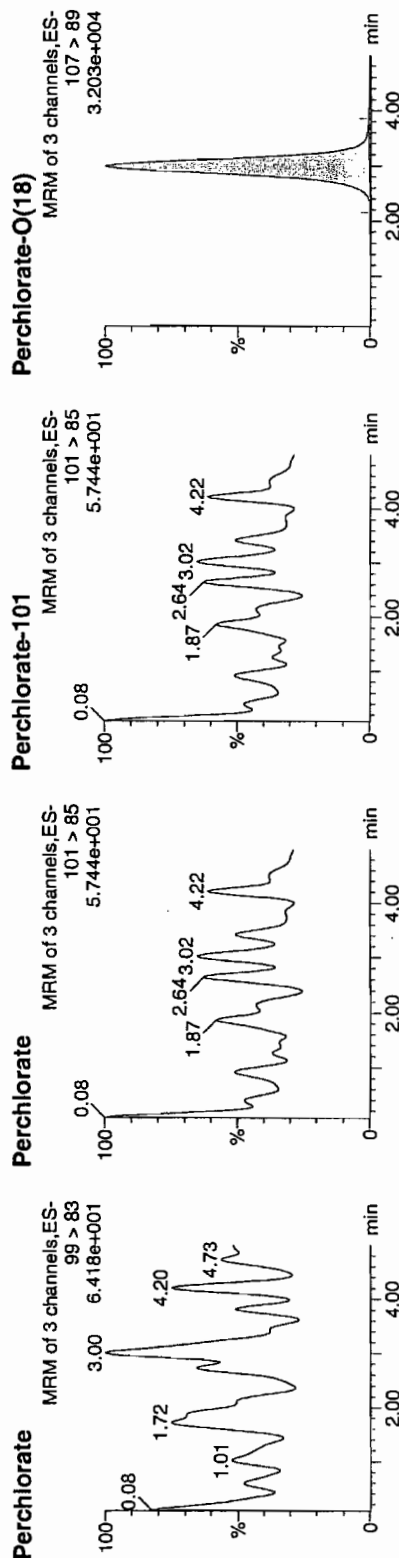
Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316102a  
Date: 17-Mar-2010  
Time: 05:34:09  
ID: 248516002  
Vial: 2:6,F

03-17-10

1722 | 11 | 1722 | 11 |



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
248516002	Perchlorate	99 > 83											0.00
248516002	Perchlorate-101	101 > 85	2.99	11019.548	11019.548	bb			0.4612	92.24	-7.76	579.945	
248516002	Perchlorate-O(18)	107 > 89											

1722  
3/18/10

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

# STANDARDS DATA

Perchlorate Initial Calibration

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

Lab Name: General Engineering Laboratories GEL Job No.(SDG): 10-2197-1

Lab Code: GEL

Instrument ID: LCMSMS Date Analyzed: 16-MAR-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: 29209.88

Response Type: External Standard

Curve Type: RF

Perchlorate Initial Calibration

GEL Job No.(SDG): 10-2197-1

Lab Name: General Engineering Laboratories

Lab Code: GEL

Instrument ID: LCMSMS Date Analyzed: 16-MAR-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: 9722.924

Response Type: External Standard

Curve Type: RF

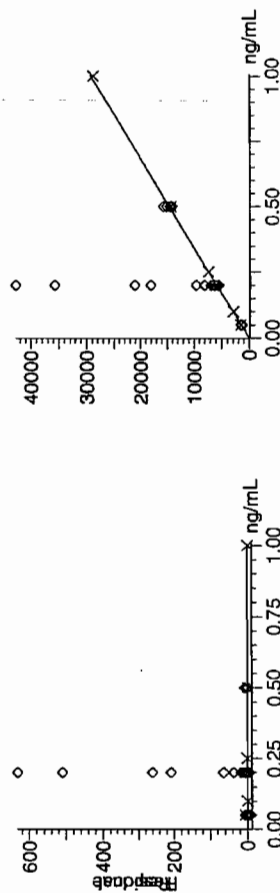
Quantify Calibration Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

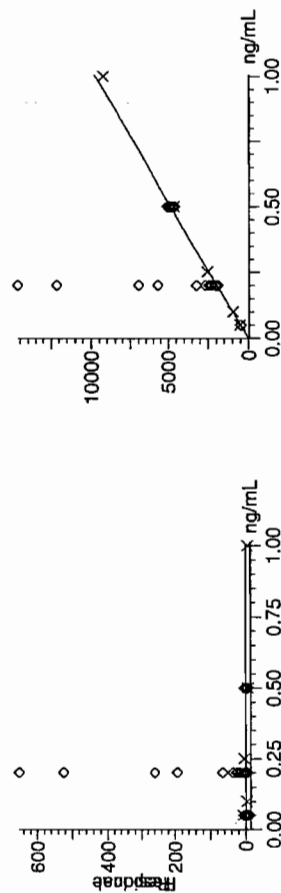
Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Method: C:\MassLynx\Perchlorate.PRO\MethDB\per031610a.mdb 17 Mar 2010 09:00:50  
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per031610a.cdb 17 Mar 2010 09:01:07

Compound name: Perchlorate ✓  
Response Factor: 29209.9  
RRF SD: 864.153, % Relative SD: 2.95843 -  
Response type: External Std, Area  
Curve type: RF



Compound name: Perchlorate-101 ✓  
Response Factor: 9722.93  
RRF SD: 575.815, % Relative SD: 5.92224 -  
Response type: External Std, Area  
Curve type: RF

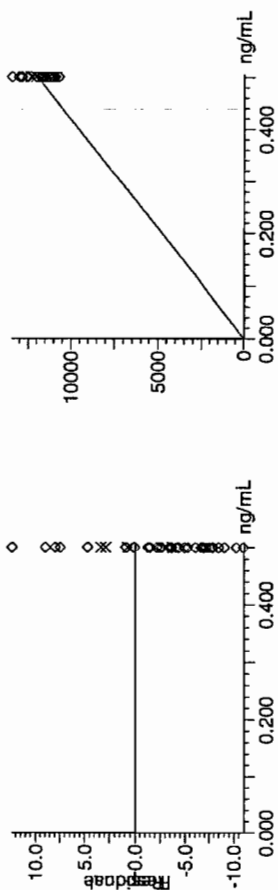


Quantify Calibration Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Compound name: Perchlorate-O(18)  
Response Factor: 23894.4  
RRF SD: 799.2, % Relative SD: 3.34471  
Response type: External Std, Area  
Curve type: RF



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



Perchlorate Initial Calibration Verification

GEL Job No.(SDG): 10-2197-1

Lab Name: General Engineering Laboratories

Lab Code: GEL

Reporting Units: ug/L

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.52	103.03	16-MAR-10 17:04	per0316009a
Perchlorate Isotope Ratio		2.95		16-MAR-10 17:04	per0316009a
Perchlorate-101	.5	.52	104.81	16-MAR-10 17:04	per0316009a

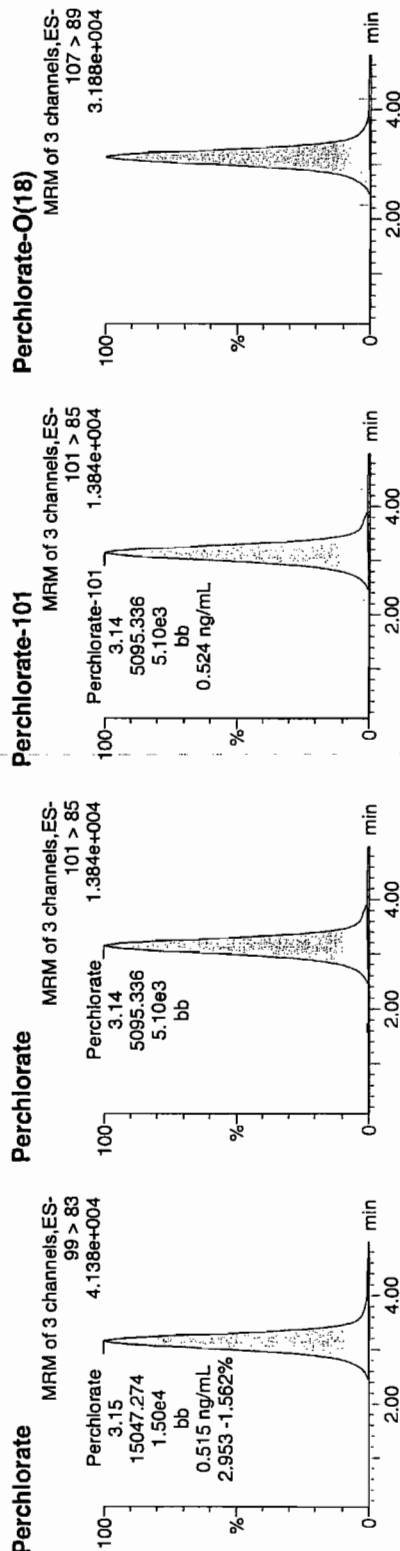
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charliers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316009a  
Date: 16-Mar-2010  
Time: 17:04:42  
ID: WCL100309-06ICV  
Vial: 1:2,A

Pure  
3/17/10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100309-06ICV	Perchlorate	99 > 83	3.15	15047.274	15047.274	bb			0.5151	103.03	3.03	765.774	2.95
WCL100309-06ICV	Perchlorate-101	101 > 85	3.14	5095.336	5095.336	bb			0.5241	104.81	4.81	6062.4...	
WCL100309-06ICV	Perchlorate-O(18)	107 > 89	3.12	11358.490	11358.490	bb			0.4754	95.07	-4.93	1508.7...	

$$\frac{15047.274}{29259.9} = 0.5151$$

3/15/10

Perchlorate Continuing Calibration Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-2197-1

Lab Code: GEL

Reporting Units: ug/L

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.49	97.88	16-MAR-10 18:49	per0316022a
Perchlorate Isotope Ratio		3.15		16-MAR-10 18:49	per0316022a
Perchlorate-101	.5	.47	93.5	16-MAR-10 18:49	per0316022a
Perchlorate	.5	.49	97.54	16-MAR-10 20:33	per0316035a
Perchlorate Isotope Ratio		3.03		16-MAR-10 20:33	per0316035a
Perchlorate-101	.5	.48	96.86	16-MAR-10 20:33	per0316035a
Perchlorate	.5	.52	103.41	16-MAR-10 22:18	per0316048a
Perchlorate Isotope Ratio		3.07		16-MAR-10 22:18	per0316048a
Perchlorate-101	.5	.51	101.33	16-MAR-10 22:18	per0316048a
Perchlorate	.5	.54	107.21	16-MAR-10 23:47	per0316059a
Perchlorate Isotope Ratio		3.14		16-MAR-10 23:47	per0316059a
Perchlorate-101	.5	.51	102.51	16-MAR-10 23:47	per0316059a
Perchlorate	.5	.5	99.22	17-MAR-10 01:31	per0316072a

Perchlorate Continuing Calibration Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-2197-1

Lab Code: GEL

Reporting Units: ug/L

Perchlorate Isotope Ratio		3.01			17-MAR-10 01:31	per0316072a
Perchlorate-101	.5	.5		99.19	17-MAR-10 01:31	per0316072a
Perchlorate	.5	.49		97.46	17-MAR-10 03:16	per0316085a
Perchlorate Isotope Ratio		2.95			17-MAR-10 03:16	per0316085a
Perchlorate-101	.5	.5		99.35	17-MAR-10 03:16	per0316085a
Perchlorate	.5	.5		99.24	17-MAR-10 05:01	per0316098a
Perchlorate Isotope Ratio		3.19			17-MAR-10 05:01	per0316098a
Perchlorate-101	.5	.47		93.57	17-MAR-10 05:01	per0316098a
Perchlorate	.5	.49		97.9	17-MAR-10 06:47	per0316111a
Perchlorate Isotope Ratio		3.04			17-MAR-10 06:47	per0316111a
Perchlorate-101	.5	.48		96.75	17-MAR-10 06:47	per0316111a

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

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316022a

Date: 16-Mar-2010

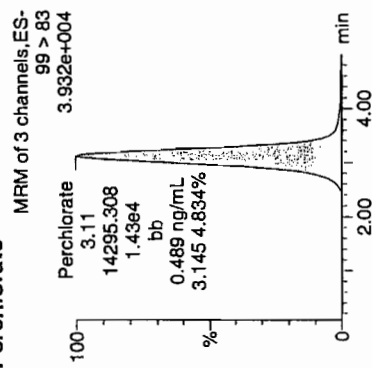
Time: 18:49:10

ID: WCL100309-06CCV

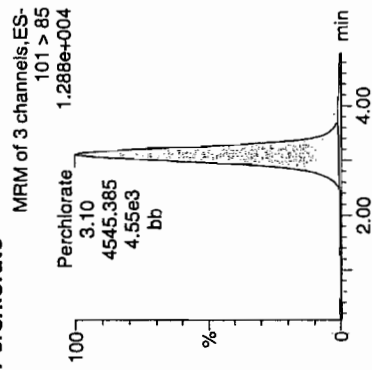
Vial: 1:2,A

Run  
and  
03-17-10

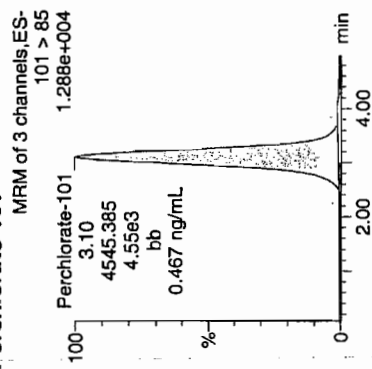
### Perchlorate



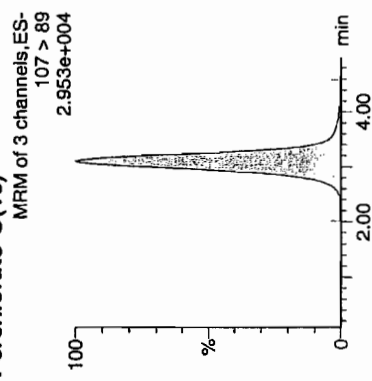
### Perchlorate



### Perchlorate-101



### Perchlorate-O(18)



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100309-06CCV	Perchlorate	99 > 83	3.11	14295.308	14295.308	bb			0.4894	97.88	-2.12	15740...	3.15
WCL100309-06CCV	Perchlorate-101	101 > 85	3.10	4545.385	4545.385	bb			0.4675	93.50	-6.50	503.156	
WCL100309-06CCV	Perchlorate-O(18)	107 > 89	3.10	10724.596	10724.596	bb			0.4488	89.77	-10.23	985.181	

3/18/10

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

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316035a

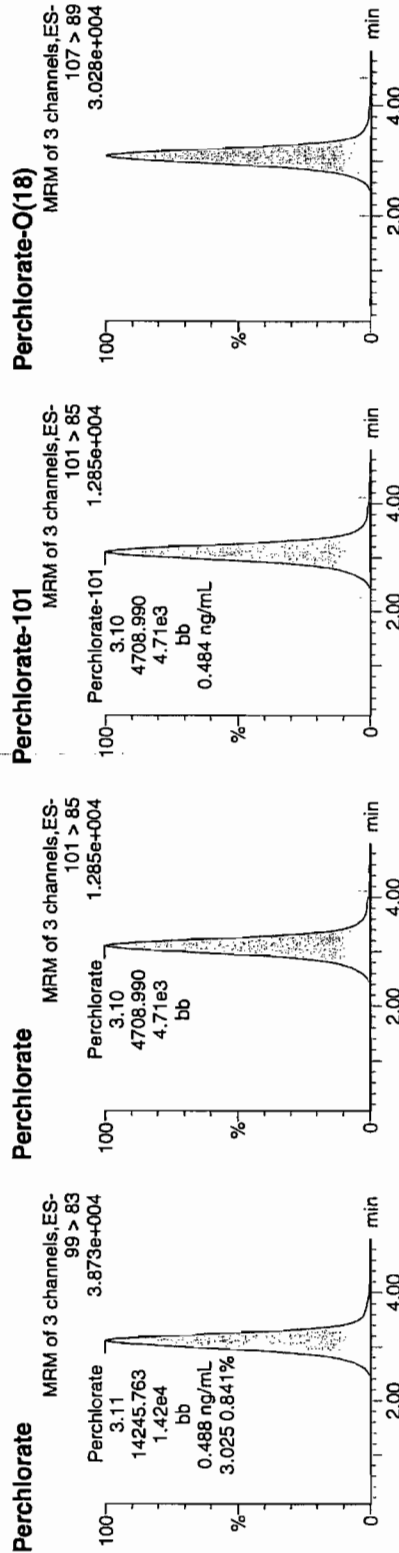
Date: 16-Mar-2010

Time: 20:33:44

ID: WCL100309-06CCV

Vial: 1:2,A

*Perchlorate*  
*WCL*  
*03-17-10*



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion.Ratio
WCL100309-06CCV	Perchlorate	99 > 83	3.11	14245.763	14245.763	bb			0.4877	97.54	-2.46	532.304	3.03
WCL100309-06CCV	Perchlorate-101	101 > 85	3.10	4708.990	4708.990	bb			0.4843	96.86	-3.14	2992.1...	
WCL100309-06CCV	Perchlorate-O(18)	107 > 89	3.09	11023.469	11023.469	bb			0.4613	92.27	-7.73	1891.5...	

*WCL*  
*3/17/10*

# Quantify Sample Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time

Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316048a

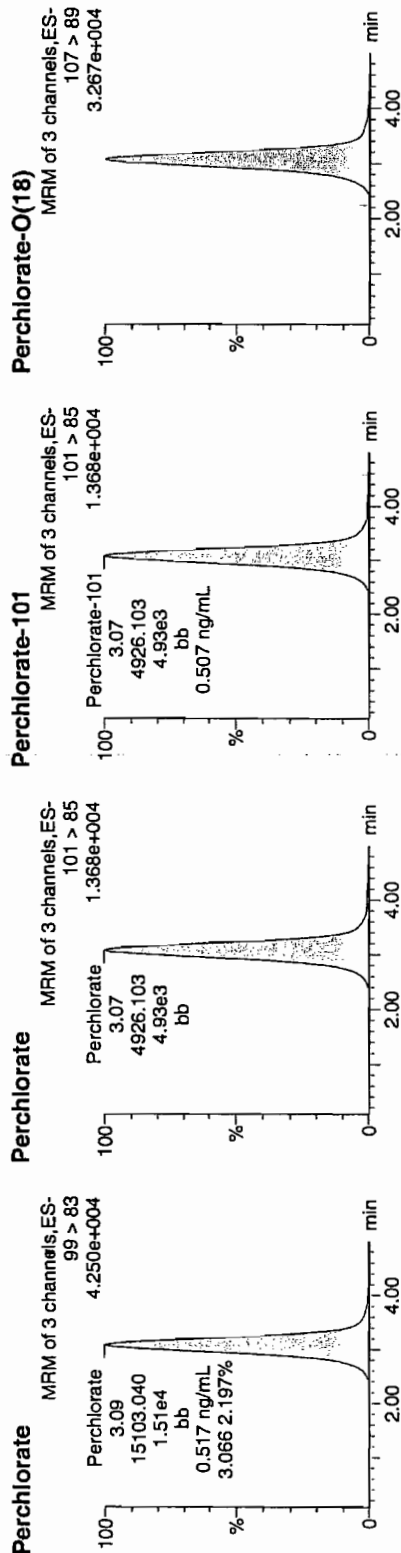
Date: 16-Mar-2010

Time: 22:18:22

ID: WCL100309-06CCV

Vial: 1:2,A

*Per*  
*WCL*  
03-17-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100309-06CCV	Perchlorate	99 > 83	3.09	15103.040	15103.040	bb			0.5171	103.41	3.41	3240.2...	3.07
WCL100309-06CCV	Perchlorate-101	101 > 85	3.07	4926.103	4926.103	bb			0.5066	101.33	1.33	257.517	
WCL100309-06CCV	Perchlorate-O(18)	107 > 89	3.06	11624.273	11624.273	bb			0.4865	97.30	-2.70	2205.1...	

*not*  
3/18/10

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

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316059a

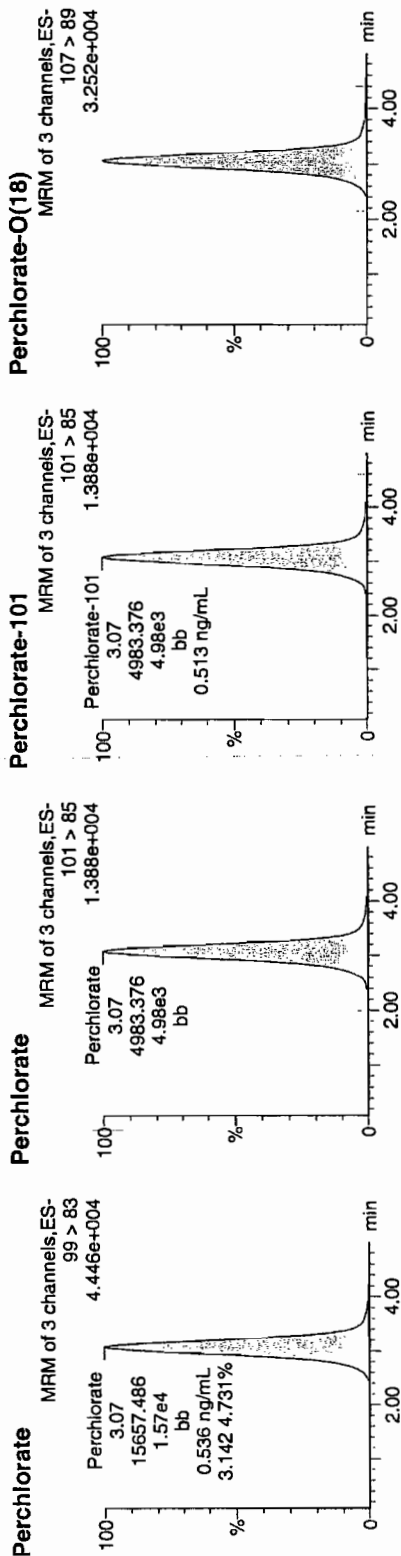
Date: 16-Mar-2010

Time: 23:47:00

ID: WCL100309-06CCCV

Vial: 1:2,A

33-17-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100309-06CCCV	Perchlorate	99 > 83	3.07	15657.486	15657.486	bb			0.5360	107.21	7.21	3252.8...	3.14
WCL100309-06CCCV	Perchlorate-101	101 > 85	3.07	4983.376	4983.376	bb			0.5125	102.51	2.51	3152.8...	
WCL100309-06CCCV	Perchlorate-O(18)	107 > 89	3.05	11688.516	11688.516	bb			0.4892	97.83	-2.17	3018.0...	

not  
3/15/10



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

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316072a

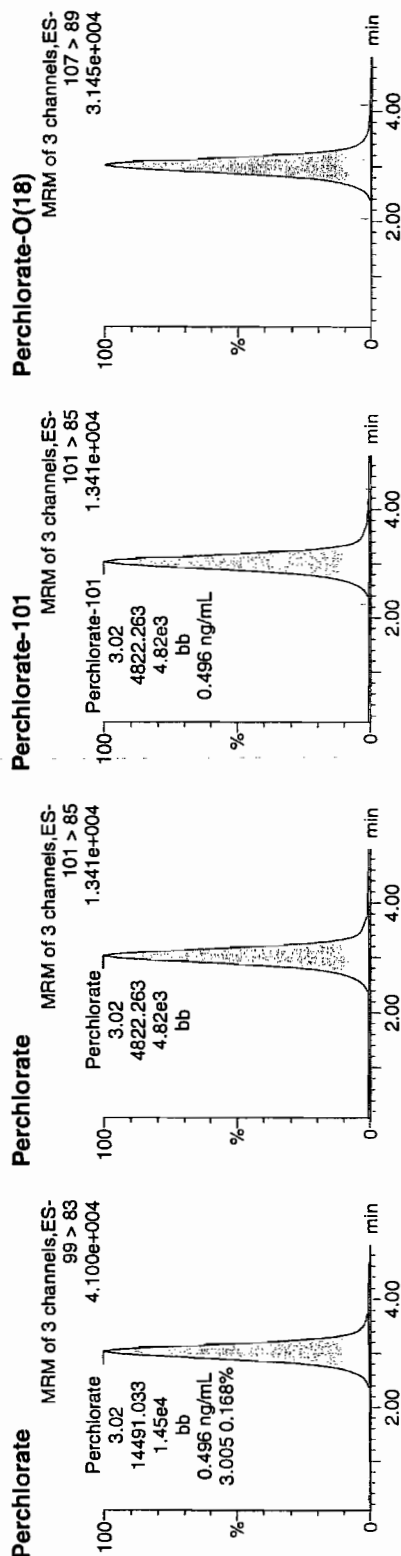
Date: 17-Mar-2010

Time: 01:31:35

ID: WCL100309-06CCV

Vial: 1:2,A

Per  
03-17-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100309-06CCV	Perchlorate	99 > 83	3.02	14491.033	14491.033	bb			0.4961	99.22	-0.78	2217.4...	3.01
WCL100309-06CCV	Perchlorate-101	101 > 85	3.02	4822.263	4822.263	bb			0.4960	99.19	-0.81	897.727	
WCL100309-06CCV	Perchlorate-O(18)	107 > 89	3.01	11153.669	11153.669	bb			0.4668	93.36	-6.64	707.033	

Per  
3/18/10

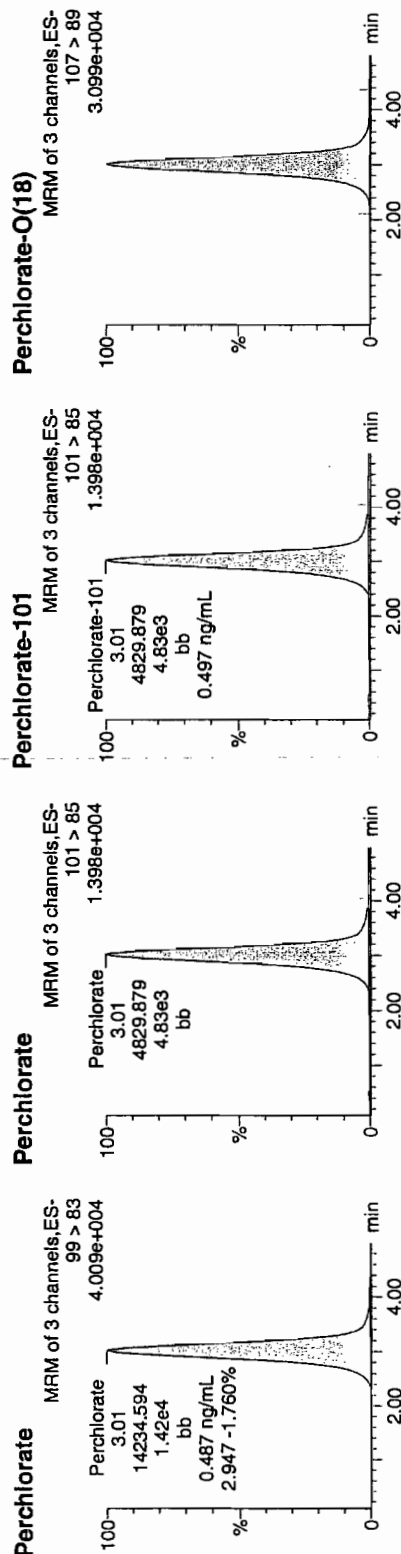
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316085a  
Date: 17-Mar-2010  
Time: 03:16:29  
ID: WCL100309-06CCV  
Vial: 1:2,A

Pure  
and  
03-17-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100309-06CCV	Perchlorate	99 > 83	3.01	14234.594	14234.594	bb			0.4873	97.46	-2.54	1070.3...	2.95
WCL100309-06CCV	Perchlorate-101	101 > 85	3.01	4829.879	4829.879	bb			0.4968	99.35	-0.65	3350.8...	
WCL100309-06CCV	Perchlorate-O(18)	107 > 89	3.00	11000.735	11000.735	bb			0.4604	92.08	-7.92	3039.7...	

3/15/10

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

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

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316098a

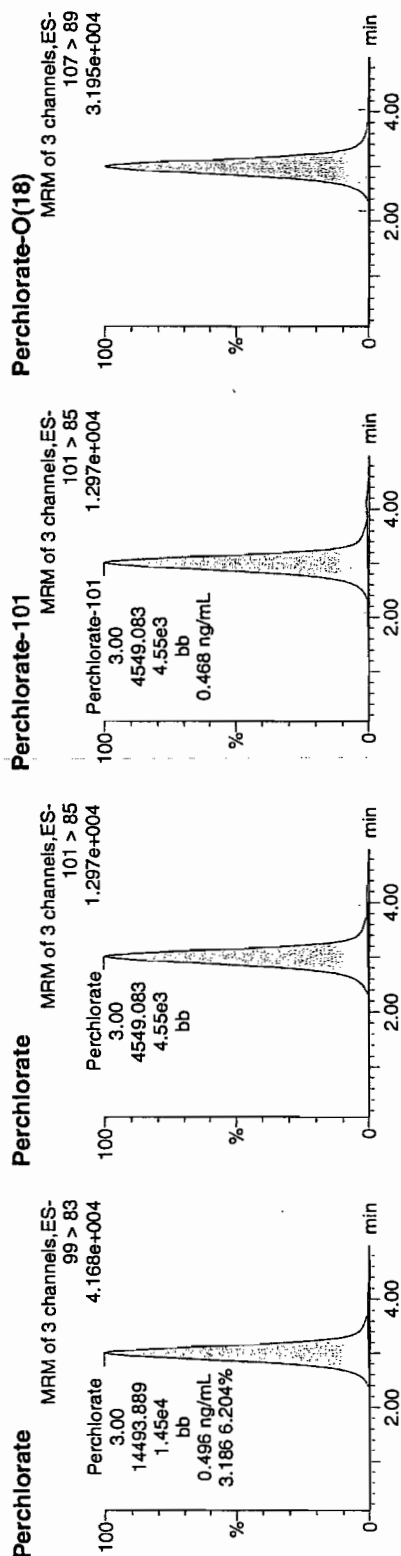
Date: 17-Mar-2010

Time: 05:01:34

ID: WCL100309-06CCV

Vial: 1:2A

*Per*  
*and*  
*3-17-10*



ID	Name	Trace	RT	Area	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100309-06CCV	Perchlorate	99 > 83	3.00	14493.889	14493.889	bb			0.4962	99.24	-0.76	1776.4...	3.19
WCL100309-06CCV	Perchlorate-101	101 > 85	3.00	4549.083	4549.083	bb			0.4679	93.57	-6.43	751.536	
WCL100309-06CCV	Perchlorate-O(18)	107 > 89	2.99	11228.830	11228.830	bb			0.4699	93.99	-6.01	1405.5...	

*14477*  
*3/18/10*

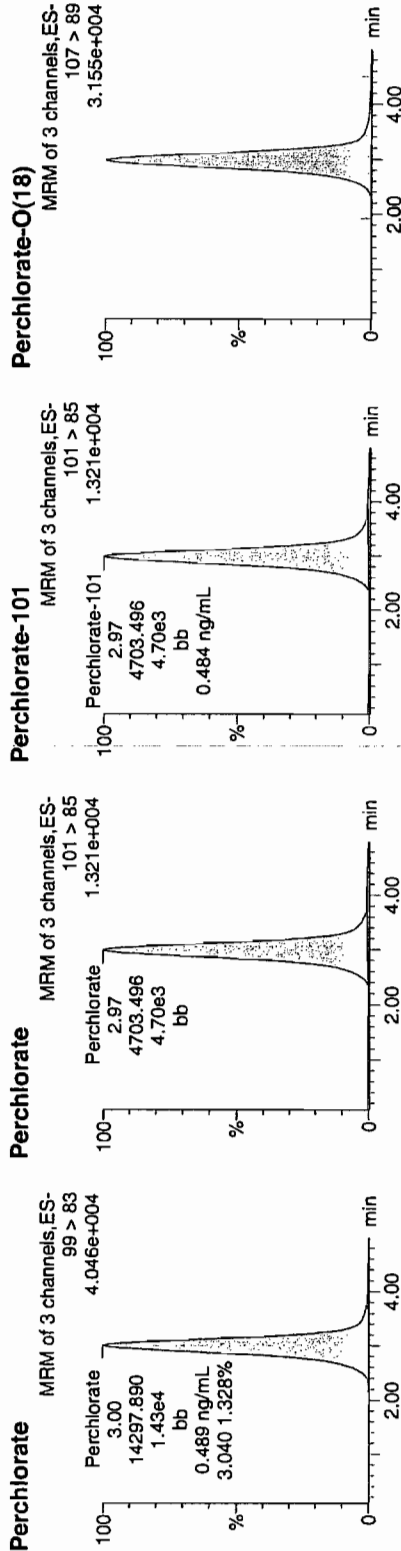
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charliers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316111a  
Date: 17-Mar-2010  
Time: 06:47:30  
ID: WCL100309-06CCV  
Vial: 1:2,A

*Per*  
*03-17-10*



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100309-06CCV	Perchlorate	99 > 83	3.00	14297.890	14297.890	bb			0.4895	97.90	-2.10	4374.1...	3.04
WCL100309-06CCV	Perchlorate-101	101 > 85	2.97	4703.496	4703.496	bb			0.4838	96.75	-3.25	1768.6...	
WCL100309-06CCV	Perchlorate-O(18)	107 > 89	2.97	11321.011	11321.011	bb			0.4738	94.76	-5.24	4026.8...	

*447*  
*3/18/10*

Perchlorate MDL Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-2197-1

Lab Code: GEL

Reporting Units: ug/L

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.05	.05	98.61	16-MAR-10 17:20	per0316011a
Perchlorate Isotope Ratio		2.87		16-MAR-10 17:20	per0316011a
Perchlorate-101	.05	.05	103.28	16-MAR-10 17:20	per0316011a
Perchlorate	.05	.05	93.33	16-MAR-10 19:05	per0316024a
Perchlorate Isotope Ratio		2.62		16-MAR-10 19:05	per0316024a
Perchlorate-101	.05	.05	106.93	16-MAR-10 19:05	per0316024a
Perchlorate	.05	.05	95.82	16-MAR-10 20:49	per0316037a
Perchlorate Isotope Ratio		2.91		16-MAR-10 20:49	per0316037a
Perchlorate-101	.05	.05	98.91	16-MAR-10 20:49	per0316037a
Perchlorate	.05	.05	94.44	16-MAR-10 22:34	per0316050a
Perchlorate Isotope Ratio		2.96		16-MAR-10 22:34	per0316050a

Perchlorate MDL Verification

GEL Job No.(SDG): 10-2197-1

Lab Name: General Engineering Laboratories

Lab Code: GEL

Reporting Units: µg/L

Perchlorate-101	.05	.05	95.81	16-MAR-10 22:34	per0316050a
Perchlorate	.05	.05	106.19	17-MAR-10 00:03	per0316061a
Perchlorate Isotope Ratio		3.06		17-MAR-10 00:03	per0316061a
Perchlorate-101	.05	.05	104.38	17-MAR-10 00:03	per0316061a
Perchlorate	.05	.05	102.48	17-MAR-10 01:47	per0316074a
Perchlorate Isotope Ratio		3.21		17-MAR-10 01:47	per0316074a
Perchlorate-101	.05	.05	96.05	17-MAR-10 01:47	per0316074a
Perchlorate	.05	.05	96.19	17-MAR-10 03:32	per0316087a
Perchlorate Isotope Ratio		3.26		17-MAR-10 03:32	per0316087a
Perchlorate-101	.05	.04	88.55	17-MAR-10 03:32	per0316087a
Perchlorate	.05	.04	89.36	17-MAR-10 05:17	per0316100a

Perchlorate MDL Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-2197-1

Lab Code: GEL

Reporting Units: ug/L

Perchlorate Isotope Ratio		2.89		17-MAR-10 05:17	per0316100a
Perchlorate-101	.05	.05	92.99	17-MAR-10 05:17	per0316100a
Perchlorate	.05	.05	100.47	17-MAR-10 07:03	per0316113a
Perchlorate Isotope Ratio		2.92		17-MAR-10 07:03	per0316113a
Perchlorate-101	.05	.05	103.48	17-MAR-10 07:03	per0316113a

# Quantify Sample Report MassLynx 4.0 SP4

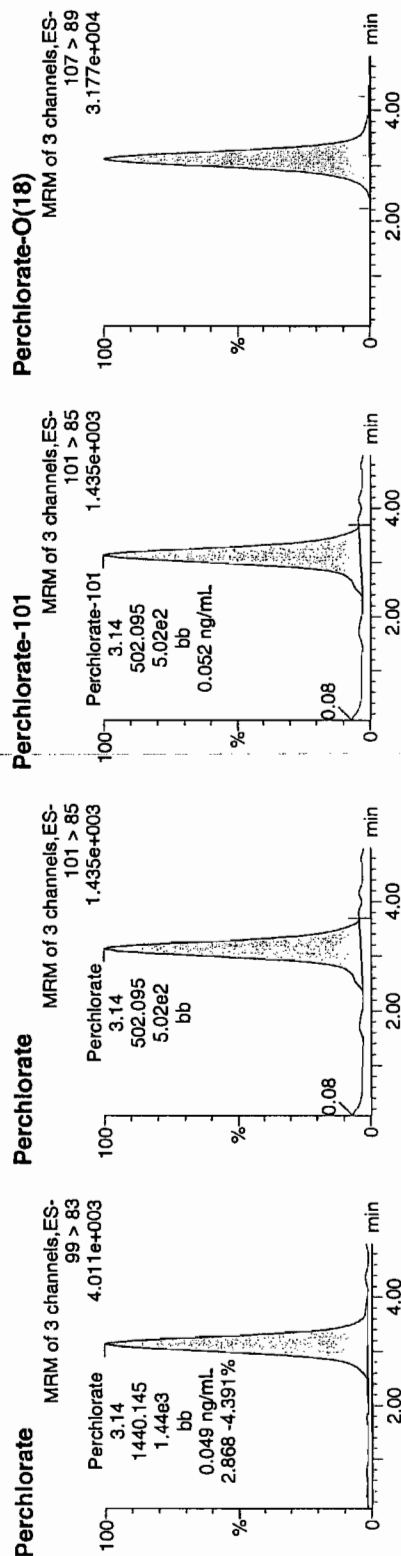
The GEL Group, LLC Analyst: Charfers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
 Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316011a  
 Date: 16-Mar-2010  
 Time: 17:20:47  
 ID: WCL100309-07CRI  
 Vial: 1;2,B

*Pass*  
*WCL*  
*03-17-10*



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100309-07CRI	Perchlorate	99 > 83	3.14	1440.145	1440.145	bb			0.0493	98.51	-1.39	486.148	2.87
WCL100309-07CRI	Perchlorate-101	101 > 85	3.14	✓ 502.095	502.095	bb			0.0516	103.28	3.28	106.450	
WCL100309-07CRI	Perchlorate-O(18)	107 > 89	3.11	11655.735	11655.735	bb			0.4878	97.56	-2.44	2271.4...	

$$\frac{1440.145}{2920.9} = 0.0493$$

*WCL*  
*3/18/10*



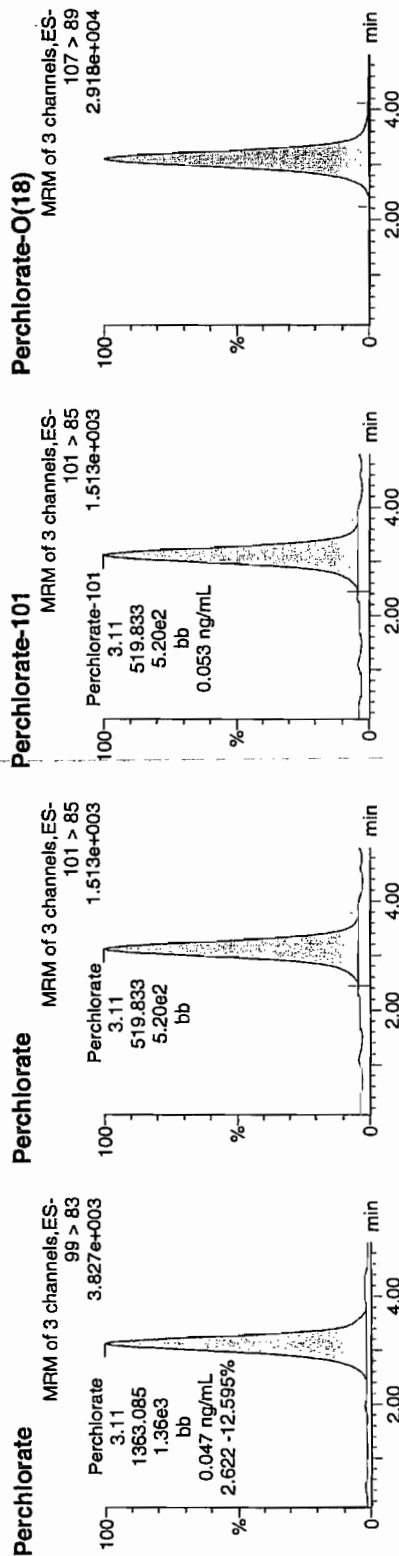
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316024a  
Date: 16-Mar-2010  
Time: 19:05:15  
ID: WCL100309-07CRI  
Vial: 1;2,B

Per  
03-17-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100309-07CRI	Perchlorate	99 > 83	3.11	1363.085	1363.085	bb			-0.0467	93.33	-6.67	332.530	2.62
WCL100309-07CRI	Perchlorate-101	101 > 85	3.11	519.833	519.833	bb			0.0535	106.93	6.93	214.332	
WCL100309-07CRI	Perchlorate-O(18)	107 > 89	3.10	10637.331	10637.331	bb			0.4452	89.04	-10.96	2115.3...	

WAT  
3/18/10

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

# Quantify Sample Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time

Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316037a

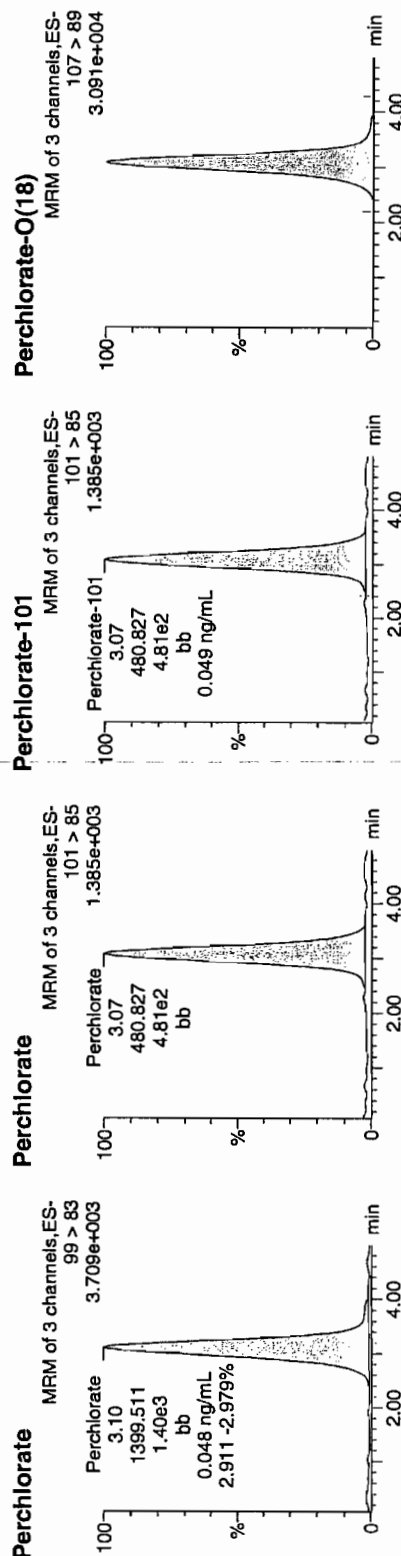
Date: 16-Mar-2010

Time: 20:49:48

ID: WCL100309-07CRI

Vial: 1:2,B

*pure and 03-17-10*



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100309-07CRI	Perchlorate	99 > 83	3.10	1399.511	1399.511	bb			0.0479	95.82	-4.18	130.048	2.91
WCL100309-07CRI	Perchlorate-101	101 > 85	3.07	480.827	480.827	bb			0.0495	98.91	-1.09	127.669	
WCL100309-07CRI	Perchlorate-O(18)	107 > 89	3.07	11129.948	11129.948	bb			0.4658	93.16	-6.84	1249.9...	

*3/18/10*

Quantify Sample Report MassLynx 4.0 SP4

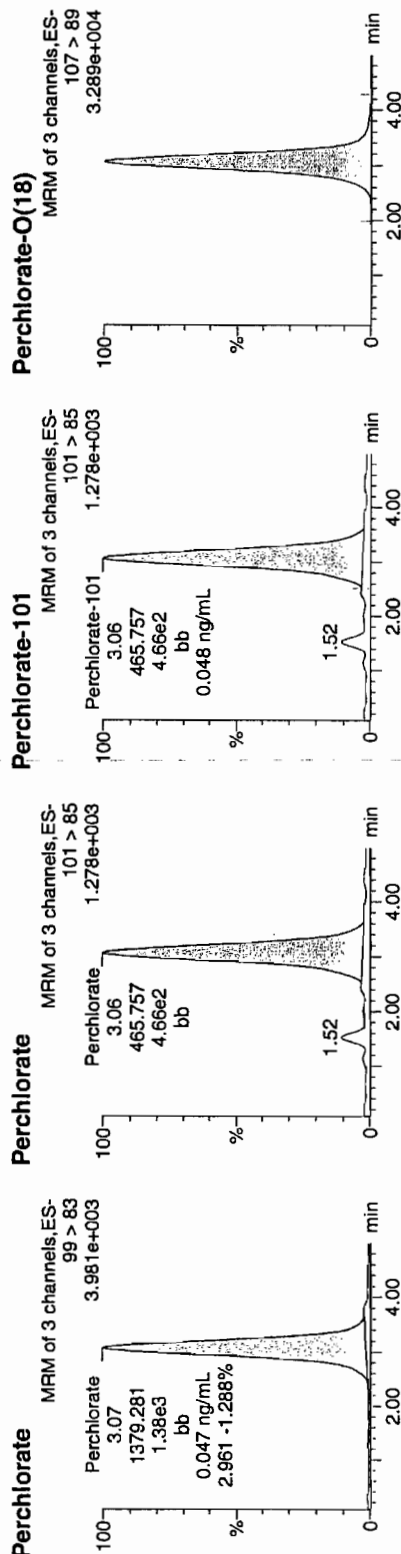
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316050a  
Date: 16-Mar-2010  
Time: 22:34:27  
ID: WCL100309-07CRI  
Vial: 1:2,B

Pure  
and  
03-17-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100309-07CRI	Perchlorate	99 > 83	3.07	1379.281	1379.281	bb			0.0472	94.44	-5.56	338.835	2.96
WCL100309-07CRI	Perchlorate-101	101 > 85	3.06	465.757	465.757	bb			0.0479	95.81	-4.19	84.114	
WCL100309-07CRI	Perchlorate-O(18)	107 > 89	3.06	11766.454	11766.454	bb			0.4924	98.49	-1.51	940.442	

✓  
5/18/10

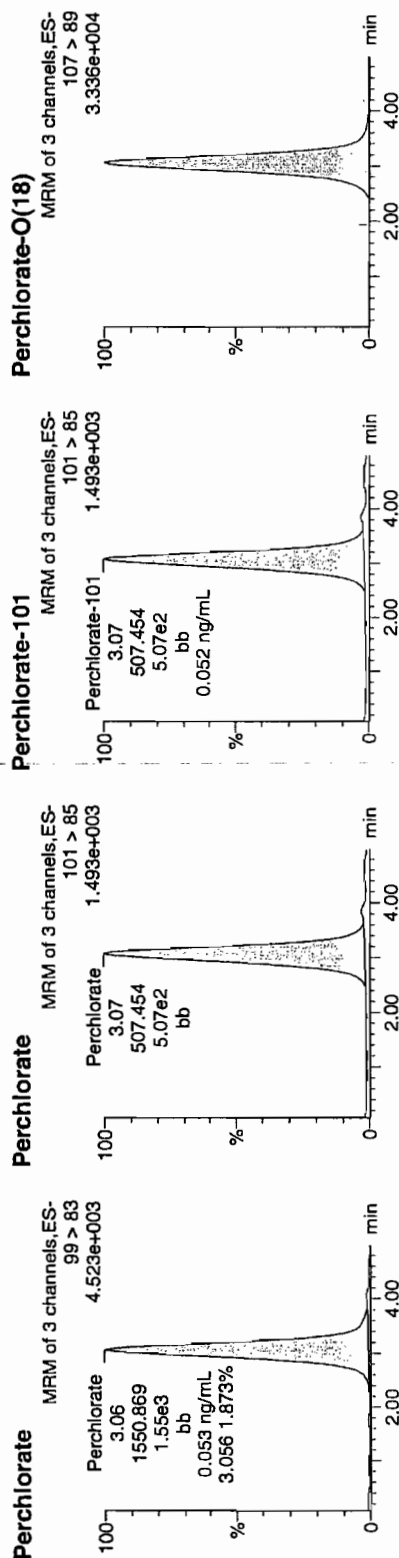
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316061a  
Date: 17-Mar-2010  
Time: 00:03:05  
ID: WCL100309-07CRI  
Vial: 1:2,B

*Perchlorate*  
*03.17.10*



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100309-07CRI	Perchlorate	99 > 83	3.06	1550.869	1550.869	bb			0.0531	106.19	6.19	242.285	3.06
WCL100309-07CRI	Perchlorate-101	101 > 85	3.07	507.454	507.454	bb			0.0522	104.38	4.38	54.514	
WCL100309-07CRI	Perchlorate-O(18)	107 > 89	3.05	11953.760	11953.760	bb			0.5003	100.05	0.05	738.699	

*not*  
*3/18/10*

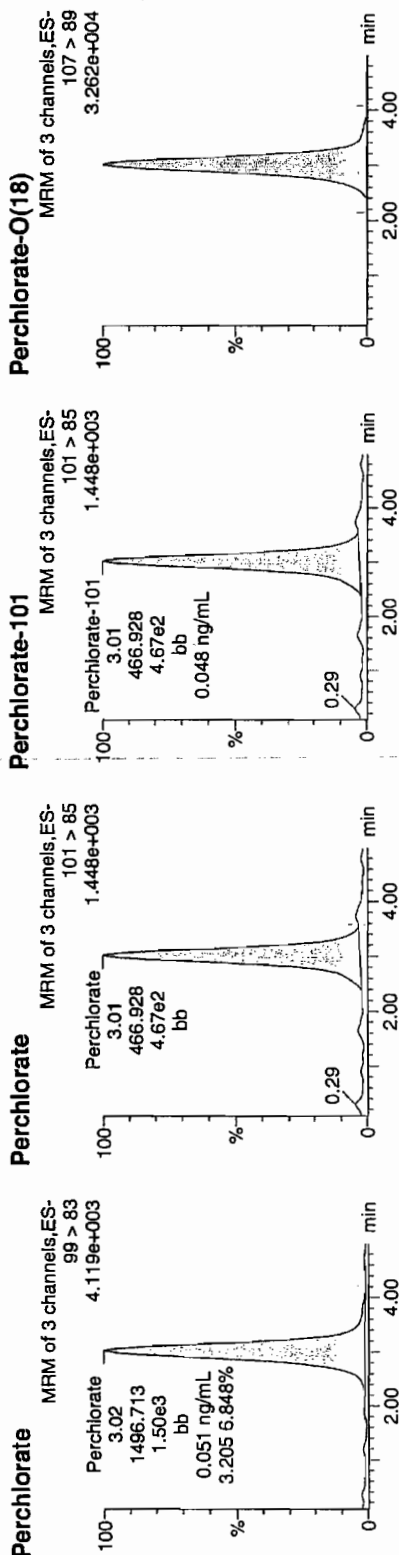
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316074a  
Date: 17-Mar-2010  
Time: 01:47:55  
ID: WCL100309-07CRI  
Vial: 1;2,B

*per*  
*WCL*  
*03-17-10*



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100309-07CRI	Perchlorate	99 > 83	3.02	1496.713	1496.713	bb			0.0512	102.48	2.48	601.276	3.21
WCL100309-07CRI	Perchlorate-101	101 > 85	3.01	466.928	466.928	bb			0.0480	96.05	-3.95	134.539	
WCL100309-07CRI	Perchlorate-O(18)	107 > 89	3.01	11511.645	11511.645	bb			0.4818	96.35	-3.65	2957.1...	

*per*  
*WCL*  
*03-17-10*

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

Dataset: C:\MassLynx\P perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316087a

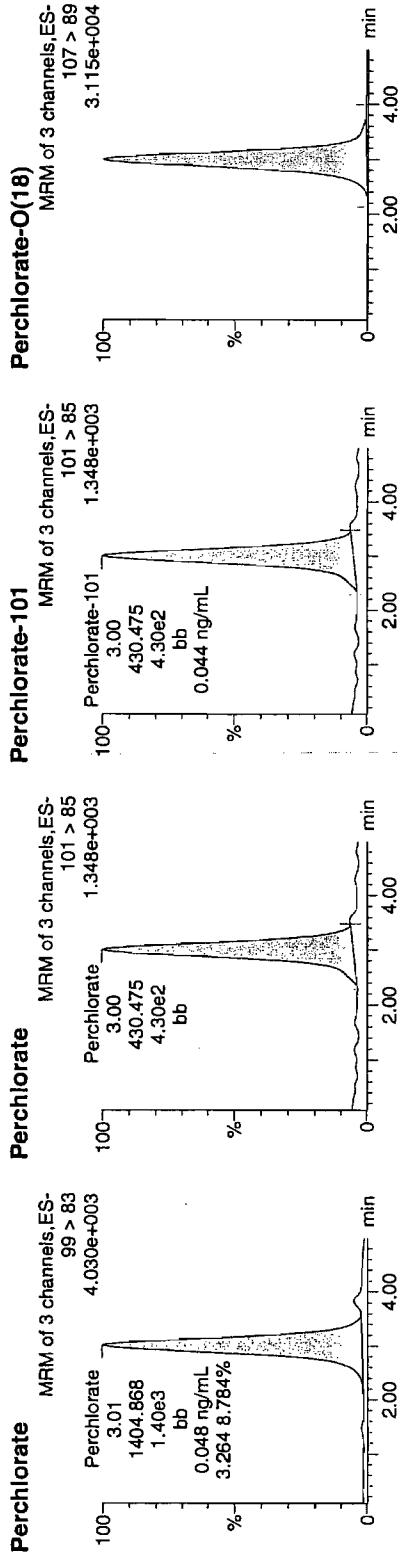
Date: 17-Mar-2010

Time: 03:32:49

ID: WCL100309-07CRI

Vial: 1:2, B

*Per*  
*03-17-10*



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100309-07CRI	Perchlorate	99 > 83	3.01	1404.868	1404.868	bb			0.0481	96.19	-3.81	960.501	3.26
WCL100309-07CRI	Perchlorate-101	101 > 85	3.00	430.475	430.475	bb			0.0443	88.55	-11.45	188.319	
WCL100309-07CRI	Perchlorate-O(18)	107 > 89	3.00	10936.855	10936.855	bb			0.4577	91.54	-8.46	1135.0...	

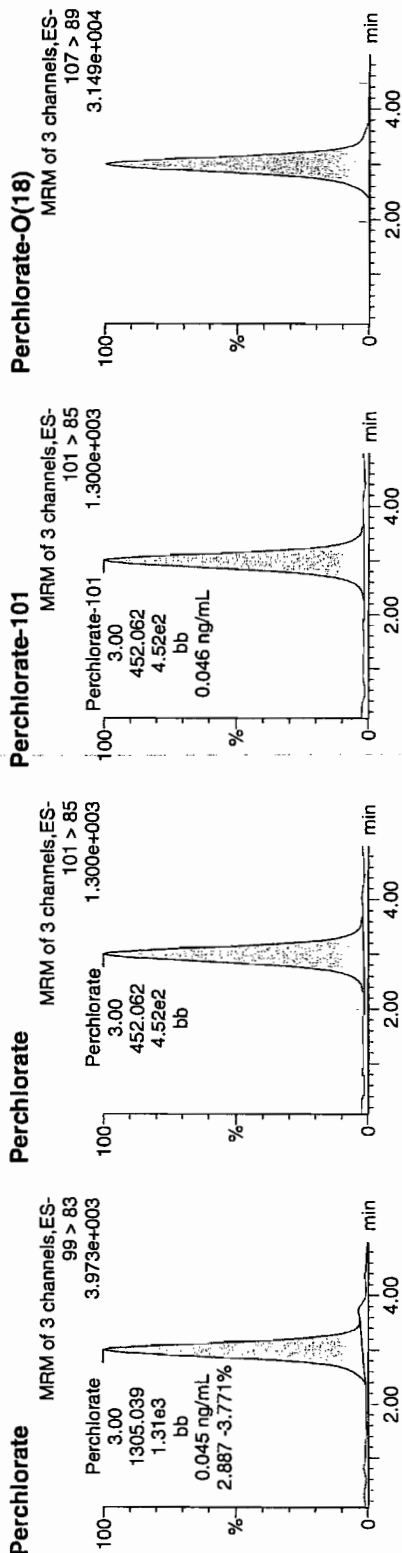
*1404*  
*3/15/10*

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

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld  
Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316100a  
Date: 17-Mar-2010  
Time: 05:17:53  
ID: WCL100309-07CRI  
Vial: 1:2,B

Perchlorate  
3/17/10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100309-07CRI	Perchlorate	99 > 83	3.00	1305.039	1305.039	bb			0.0447	89.36	-10.64	331.453	2.89
WCL100309-07CRI	Perchlorate-101	101 > 85	3.00	✓452.062	452.062	bb			0.0465	92.99	-7.01	190.837	
WCL100309-07CRI	Perchlorate-O(18)	107 > 89	2.99	11128.553	11128.553	bb			0.4657	93.15	-6.85	6365.0...	

3/18/10

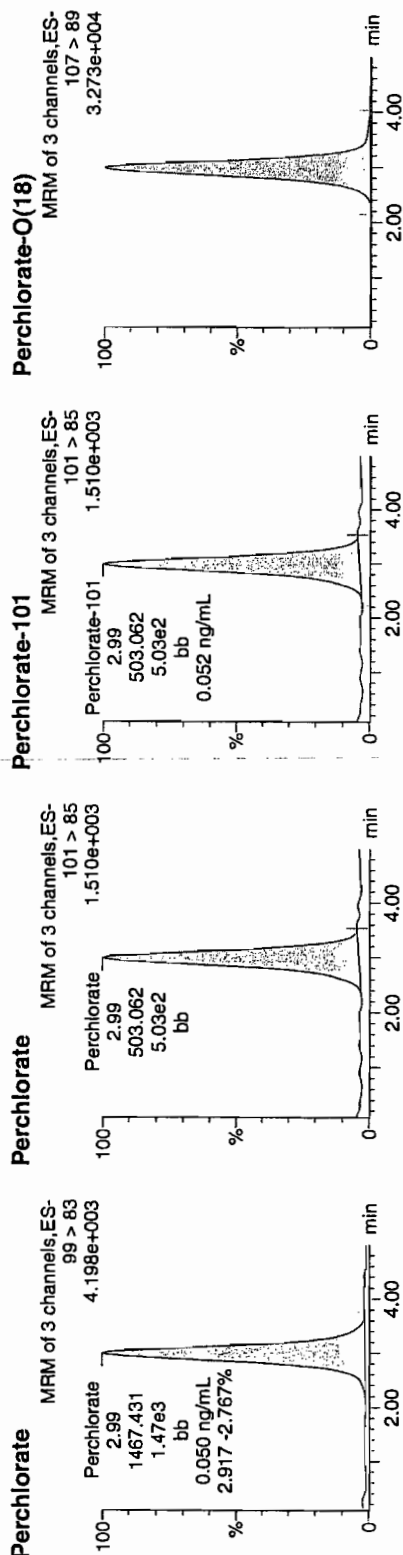
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charles W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316113a  
Date: 17-Mar-2010  
Time: 07:03:49  
ID: WCL100309-07CRI  
Vial: 1:2,B

Pure  
WCL  
03-17-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100309-07CRI	Perchlorate	99 > 83	2.99	1467.431	1467.431	bb			0.0502	100.47	0.47	231.106	2.92
WCL100309-07CRI	Perchlorate-101	101 > 85	2.99	503.062	503.062	bb			0.0517	103.48	3.48	236.042	
WCL100309-07CRI	Perchlorate-O(18)	107 > 89	2.97	11421.953	11421.953	bb			0.4780	95.60	-4.40	5243.2...	

WCL  
7/10/10



# 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: 962135

Extraction Type: Filter/DAI

Sample Volume/Weight: 10.0 mL

Concentrated Extract Volume: 10.0

Client Sample No.

MB

Date Received: 08-MAR-10

GEL Job No (SDG): 10-2197-1

GEL Sample ID: 1202063757

Date Filtered: 08-MAR-10

Injection Volume (uL): 20

%Solids:

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.050	ug/L	U	1	17-MAR-10 03:40	per0316088a
	Perchlorate Isotope Ratio						1	17-MAR-10 03:40	per0316088a
14797-73-0	Perchlorate-101	.05	.2	0.050	ug/L	U	1	17-MAR-10 03:40	per0316088a
	Perchlorate-O(18)			0.478	ug/L		1	17-MAR-10 03:40	per0316088a

^ 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: Charlers W. Wilson

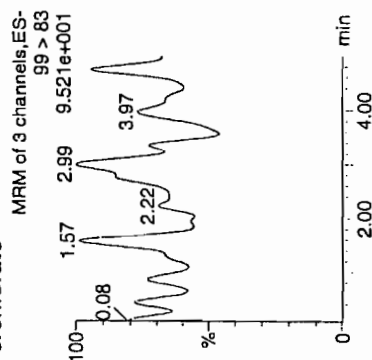
Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

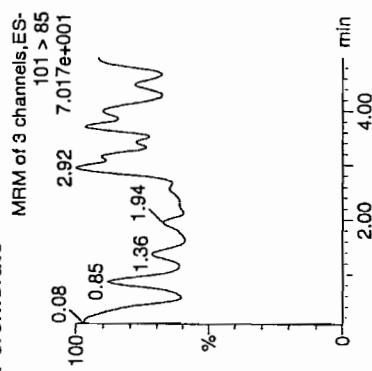
Name: per0316088a  
Date: 17-Mar-2010  
Time: 03:40:53  
ID: 1202063757  
Vial: 2:5,A

1202063757 | 902134 | 1202063757 | 11  
00-1710

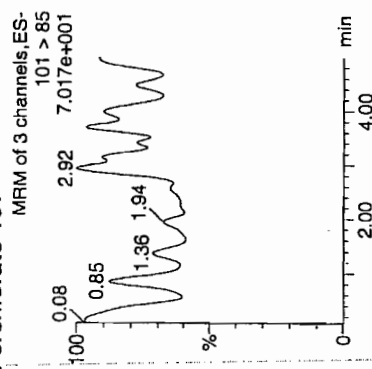
**Perchlorate**



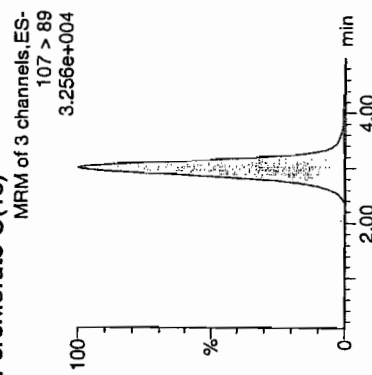
**Perchlorate**



**Perchlorate-101**



**Perchlorate-O(18)**



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion.Ratio
1202063757	Perchlorate	99 > 83											0.00
1202063757	Perchlorate-101	101 > 85											
1202063757	Perchlorate-O(18)	107 > 89	3.00	11417.856	11417.856	bb			0.4778	95.57	-4.43	1583.4...	

11/17  
3/13/0

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: EPA 6850 Modified

Matrix: WATER

Extraction Batch ID: 962135

Extraction Type: Filter/DAI

Sample Volume/Weight: 10.0 mL

Concentrated Extract Volume: 10.0

Client Sample No.

LCS

Date Received: 08-MAR-10

GEL Job No (SDG): 10-2197-1

GEL Sample ID: 1202063758

Date Filtered: 08-MAR-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	0.329	ug/L		1	17-MAR-10 03:49	per0316089a
	Perchlorate Isotope Ratio			2.98			1	17-MAR-10 03:49	per0316089a
14797-73-0	Perchlorate-101	.05	.2	0.331	ug/L		1	17-MAR-10 03:49	per0316089a
	Perchlorate-O(18)			0.465	ug/L		1	17-MAR-10 03:49	per0316089a

<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

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

Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

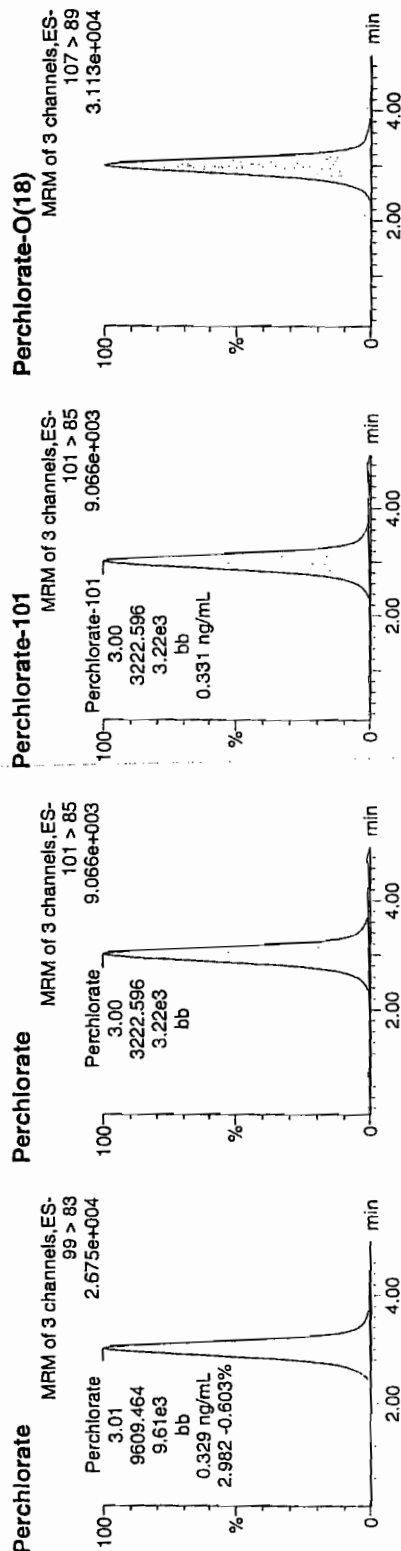
Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316089a  
Date: 17-Mar-2010  
Time: 03:49:07  
ID: 1202063758  
Vial: 2:5,B

NAME DEL: HIGH LVS BUT ONLY  
SMALL HETS IN SAMPLES  
2 MOL.

03-17-10

LOW | 962136 | 672 | LVS | 1 |



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202063758	Perchlorate	99 > 83	3.01	9609.464	9609.464	bb			0.3290	164.49	64.49	600.875	2.98
1202063758	Perchlorate-101	101 > 85	3.00	3222.596	3222.596	bb			0.3314	165.72	65.72	674.917	
1202063758	Perchlorate-O(18)	107 > 89	3.00	11116.203	11116.203	bb			0.4652	93.04	-6.96	4993.7...	

$$\frac{9609.464}{3222.596} = 0.3290$$

NOT  
3/15/10

# 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: 962135 Verified by: Lab SOP: GL-OA-E-067 REV# 6  
 Analyst: Jareth Shirley Instrument: MicroMass Quattro Ultima  
 Method: SW846 6850 Modified

Sample ID	Run Date	Initial Volume (mL)	Final Volume (mL)	Prepped Factor (mL/mL)
1202063757 MB	08-MAR-2010 14:28:00	10	10	1
1202063758 LCS	08-MAR-2010 14:28:00	10	10	1
248375001	08-MAR-2010 14:28:00	10	10	1
248375002	08-MAR-2010 14:28:00	10	10	1
248407001	08-MAR-2010 14:28:00	10	10	1
1202063759 MS (248407001)	08-MAR-2010 14:28:00	10	10	1
1202063760 MSD (248407001)	08-MAR-2010 14:28:00	10	10	1
248419001	08-MAR-2010 14:28:00	10	10	1
248419002	08-MAR-2010 14:28:00	10	10	1
248516001	08-MAR-2010 14:28:00	10	10	1
248516002	08-MAR-2010 14:28:00	10	10	1
248518001	08-MAR-2010 14:28:00	10	10	1
248523001	08-MAR-2010 14:28:00	10	10	1
248533001	08-MAR-2010 14:28:00	10	10	1
248533002	08-MAR-2010 14:28:00	10	10	1
248551001	08-MAR-2010 14:28:00	10	10	1
248551002	08-MAR-2010 14:28:00	10	10	1
248638001	08-MAR-2010 14:28:00	10	10	1
248649001	08-MAR-2010 14:28:00	10	10	1
248649002	08-MAR-2010 14:28:00	10	10	1
248685001	08-MAR-2010 14:28:00	10	10	1
248685002	08-MAR-2010 14:28:00	10	10	1
1202063761 LCS	08-MAR-2010 14:28:00	10	10	1

Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:
ICS	1202063761	10 ug/L ICV/CCV Second Source	UCL100226-01.1	2	mL	Desilting cartridges used: 100217-1-H & 100224-1-Ba
ICS	1202063758	10 ug/L ICV/CCV Second Source	UCL100226-01.1	2	mL	
MS	1202063759	10 ug/L ICV/CCV Second Source	UCL100226-01.1	2	mL	
MSD	1202063760	10 ug/L ICV/CCV Second Source	UCL100226-01.1	2	mL	
RGNT	All	500 ppm Carbonate, Bicarbonate, Chloride, Sulfate	1262643	10	mL	
RGNT	All	O2SI HPLC Grade Water	1271949	10	mL	

GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS#2

Date: 03/16/10  
 Extr. Injection Volume: 20uL  
 Sequence Number: per031610a  
 Initial Calibration Date: 03/16/10

Method: EPA 6850-Modified  
 Int. Std.: UCL100210-01  
 Mobile Phase Lot#: 1278668, 1271949  
 Standard-Samp Reagent Lot#: 1271949

Reviewed BY: unf  
 Date: 3/18/10  
 SOP: GL-OA-E-067 Rev.6  
 Alt Check Std. ID: WCL100309-06

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC_Flag
per0316001a	IPB001	CWW	3/16/2010 16:00			1		USE	B
per0316002a	IPB001	CWW	3/16/2010 16:08			1		USE	B
per0316003a	WCLICAL-01	CWW	3/16/2010 16:16			1		USE	I
per0316004a	WCLICAL-02	CWW	3/16/2010 16:24			1		USE	I
per0316005a	WCLICAL-03	CWW	3/16/2010 16:32			1		USE	I
per0316006a	WCLICAL-04	CWW	3/16/2010 16:40			1		USE	I
per0316007a	WCLICAL-05	CWW	3/16/2010 16:48			1		USE	I
per0316008a	IPB002	CWW	3/16/2010 16:56			1		USE	B
per0316009a	WCLICV	CWW	3/16/2010 17:04			1		USE	C
per0316010a	IPB003	CWW	3/16/2010 17:12			1		USE	B
per0316011a	WCLCRI	CWW	3/16/2010 17:20			1		USE	C
per0316012a	248633001	CWW	3/16/2010 17:28	962119	LPTP10-S1	5000	PTQA	USE	S
per0316013a	1202063730	CWW	3/16/2010 17:36	962119	LPTP10-S2	5000	PTQA	USE	S
per0316014a	248065008	CWW	3/16/2010 17:44	958968	10-2086	1		USE	S
per0316015a	IPB004	CWW	3/16/2010 17:52			1		USE	B
per0316016a	1202054236	CWW	3/16/2010 18:00	957953	10-1976-1	1	LANL	USE	S
per0316017a	1202054237	CWW	3/16/2010 18:09	957953	10-1976-1	1	LANL	USE	S
per0316018a	1202054240	CWW	3/16/2010 18:17	957953	10-1976-1	1	LANL	USE	S
per0316019a	247781001	CWW	3/16/2010 18:25	957953	10-1976-1	1	LANL	USE	S
per0316020a	1202054238	CWW	3/16/2010 18:33	957953	10-1976-1	1	LANL	USE	S
per0316021a	1202054239	CWW	3/16/2010 18:41	957953	10-1976-1	1	LANL	USE	S
per0316022a	WCLCCV	CWW	3/16/2010 18:49			1		USE	C
per0316023a	IPB005	CWW	3/16/2010 18:57			1		USE	B
per0316024a	WCLCRI	CWW	3/16/2010 19:05			1		USE	C
per0316025a	247781002	CWW	3/16/2010 19:13	957953	10-1976-1	1	LANL	USE	S
per0316026a	247781003	CWW	3/16/2010 19:21	957953	10-1976-1	1	LANL	USE	S
per0316027a	IPB006	CWW	3/16/2010 19:29			1		USE	B
per0316028a	1202063732	CWW	3/16/2010 19:37	962121	10-2256	1	LANL	USE	S
per0316029a	1202063733	CWW	3/16/2010 19:45	962121	10-2256	1	LANL	USE	S



per0316030a	1202063736	CWW	3/16/2010 19:53	962121	10-2256	1	LANL	USE	S
per0316031a	248666001	CWW	3/16/2010 20:01	962121	10-2256	1	LANL	USE	S
per0316032a	1202063734	CWW	3/16/2010 20:09	962121	10-2256	1	LANL	USE	S
per0316033a	1202063735	CWW	3/16/2010 20:17	962121	10-2256	1	LANL	USE	S
per0316034a	248666002	CWW	3/16/2010 20:25	962121	10-2256	1	LANL	USE	S
per0316035a	WCLCCV	CWW	3/16/2010 20:33			1		USE	C
per0316036a	IPB007	CWW	3/16/2010 20:41			1		USE	B
per0316037a	WCLCRI	CWW	3/16/2010 20:49			1		USE	C
per0316038a	248666003	CWW	3/16/2010 20:57	962121	10-2256	1	LANL	USE	S
per0316039a	248666004	CWW	3/16/2010 21:05	962121	10-2256	1	LANL	USE	S
per0316040a	248666005	CWW	3/16/2010 21:13	962121	10-2256	1	LANL	USE	S
per0316041a	248666006	CWW	3/16/2010 21:22	962121	10-2256	1	LANL	USE	S
per0316042a	248666007	CWW	3/16/2010 21:30	962121	10-2256	1	LANL	USE	S
per0316043a	248666008	CWW	3/16/2010 21:38	962121	10-2256	1	LANL	USE	S
per0316044a	248666009	CWW	3/16/2010 21:46	962121	10-2256	1	LANL	USE	S
per0316045a	248666010	CWW	3/16/2010 21:54	962121	10-2256	1	LANL	USE	S
per0316046a	248666011	CWW	3/16/2010 22:02	962121	10-2256	1	LANL	USE	S
per0316047a	248666012	CWW	3/16/2010 22:10	962121	10-2256	1	LANL	USE	S
per0316048a	WCLCCV	CWW	3/16/2010 22:18			1		USE	C
per0316049a	IPB008	CWW	3/16/2010 22:26			1		USE	B
per0316050a	WCLCRI	CWW	3/16/2010 22:34			1		USE	C
per0316051a	248666013	CWW	3/16/2010 22:42	962121	10-2256	1	LANL	USE	S
per0316052a	248666014	CWW	3/16/2010 22:50	962121	10-2256	1	LANL	USE	S
per0316053a	248666015	CWW	3/16/2010 22:58	962121	10-2256	1	LANL	USE	S
per0316054a	248666016	CWW	3/16/2010 23:06	962121	10-2256	1	LANL	USE	S
per0316055a	248666017	CWW	3/16/2010 23:14	962121	10-2256	1	LANL	USE	S
per0316056a	248666018	CWW	3/16/2010 23:22	962121	10-2256	1	LANL	USE	S
per0316057a	248666019	CWW	3/16/2010 23:30	962121	10-2256	1	LANL	USE	S
per0316058a	248666020	CWW	3/16/2010 23:38	962121	10-2256	1	LANL	USE	S
per0316059a	WCLCCV	CWW	3/16/2010 23:47			1		USE	C
per0316060a	IPB009	CWW	3/16/2010 23:55			1		USE	B
per0316061a	WCLCRI	CWW	3/17/2010 0:03			1		USE	C
per0316062a	1202063737	CWW	3/17/2010 0:11	962124	VARIOUS	1	LANL	USE	S
per0316063a	1202063738	CWW	3/17/2010 0:19	962124	VARIOUS	1	LANL	USE	S
per0316064a	1202063741	CWW	3/17/2010 0:27	962124	VARIOUS	1	LANL	USE	S
per0316065a	248250001	CWW	3/17/2010 0:35	962124	10-2141	1	LANL	USE	S
per0316066a	248250002	CWW	3/17/2010 0:43	962124	10-2141	1	LANL	DUSE-DL	S

per0316067a	1202063739	CWW	3/17/2010 0:51	962124	10-2141	1	LANL	DUSE-DL	S
per0316068a	1202063740	CWW	3/17/2010 0:59	962124	10-2141	1	LANL	DUSE-DL	S
per0316069a	248250003	CWW	3/17/2010 1:07	962124	10-2141	1	LANL	DUSE-DL	S
per0316070a	248250004	CWW	3/17/2010 1:15	962124	10-2141	1	LANL	DUSE-DL	S
per0316071a	248386003	CWW	3/17/2010 1:23	962124	10-2164	1	LANL	DUSE-RA	S
per0316072a	WCLCCV	CWW	3/17/2010 1:31			1		USE	C
per0316073a	IPB010	CWW	3/17/2010 1:39			1		USE	B
per0316074a	WCLCRI	CWW	3/17/2010 1:47			1		USE	C
per0316075a	248386004	CWW	3/17/2010 1:55	962124	10-2164	1	LANL	USE	S
per0316076a	248549001	CWW	3/17/2010 2:04	962124	10-2214	1	LANL	USE	S
per0316077a	248549002	CWW	3/17/2010 2:12	962124	10-2214	1	LANL	USE	S
per0316078a	248549003	CWW	3/17/2010 2:20	962124	10-2214	1	LANL	USE	S
per0316079a	248549004	CWW	3/17/2010 2:28	962124	10-2214	1	LANL	USE	S
per0316080a	248549005	CWW	3/17/2010 2:36	962124	10-2214	1	LANL	USE	S
per0316081a	248549006	CWW	3/17/2010 2:44	962124	10-2214	1	LANL	USE	S
per0316082a	248682001	CWW	3/17/2010 2:52	962124	10-2259	1	LANL	USE	S
per0316083a	248682002	CWW	3/17/2010 3:00	962124	10-2259	1	LANL	USE	S
per0316084a	248682003	CWW	3/17/2010 3:08	962124	10-2259	1	LANL	USE	S
per0316085a	WCLCCV	CWW	3/17/2010 3:16			1		USE	C
per0316086a	IPB011	CWW	3/17/2010 3:24			1		USE	B
per0316087a	WCLCRI	CWW	3/17/2010 3:32			1		USE	C
per0316088a	1202063757	CWW	3/17/2010 3:40	962136	VARIOUS	1	LANL	USE	S
per0316089a	1202063758	CWW	3/17/2010 3:49	962136	VARIOUS	1	LANL	USE	S
per0316090a	1202063761	CWW	3/17/2010 3:57	962136	VARIOUS	1	LANL	USE	S
per0316091a	248375001	CWW	3/17/2010 4:05	962136	10-2155-1	1	LANL	USE	S
per0316092a	248375002	CWW	3/17/2010 4:13	962136	10-2155-1	1	LANL	USE	S
per0316093a	248407001	CWW	3/17/2010 4:21	962136	10-2188	1	LANL	USE	S
per0316094a	1202063759	CWW	3/17/2010 4:29	962136	10-2188	1	LANL	USE	S
per0316095a	1202063760	CWW	3/17/2010 4:37	962136	10-2188	1	LANL	USE	S
per0316096a	248419001	CWW	3/17/2010 4:45	962136	10-2191-1	1	LANL	USE	S
per0316097a	248419002	CWW	3/17/2010 4:53	962136	10-2191-1	1	LANL	USE	S
per0316098a	WCLCCV	CWW	3/17/2010 5:01			1		USE	C
per0316099a	IPB012	CWW	3/17/2010 5:09			1		USE	B
per0316100a	WCLCRI	CWW	3/17/2010 5:17			1		USE	C
per0316101a	248516001	CWW	3/17/2010 5:25	962136	10-2197-1	1	LANL	USE	S
per0316102a	248516002	CWW	3/17/2010 5:34	962136	10-2197-1	1	LANL	USE	S
per0316103a	248518001	CWW	3/17/2010 5:42	962136	10-2198-1	1	LANL	USE	S

per0316104a	248523001	CWW	3/17/2010 5:50	962136	10-2203	1	LANL	USE	S
per0316105a	248533001	CWW	3/17/2010 5:58	962136	10-2211-1	1	LANL	USE	S
per0316106a	248535001	CWW	3/17/2010 6:07	962136	10-2208-1	1	LANL	USE	S
per0316107a	248535002	CWW	3/17/2010 6:15	962136	10-2208-1	1	LANL	USE	S
per0316108a	248551001	CWW	3/17/2010 6:23	962136	10-2214-1	1	LANL	USE	S
per0316109a	248551002	CWW	3/17/2010 6:31	962136	10-2214-1	1	LANL	USE	S
per0316110a	248638001	CWW	3/17/2010 6:39	962136	10-2234-1	1	LANL	USE	S
per0316111a	WCLCCV	CWW	3/17/2010 6:47			1		USE	C
per0316112a	IPB013	CWW	3/17/2010 6:55			1		USE	B
per0316113a	WCLCRI	CWW	3/17/2010 7:03			1		USE	C
per0316114a	248649001	CWW	3/17/2010 7:11	962136	10-2240-1	1	LANL	USE	S
per0316115a	248649002	CWW	3/17/2010 7:20	962136	10-2240-1	1	LANL	USE	S
per0316116a	248685001	CWW	3/17/2010 7:28	962136	10-2259-1	1	LANL	USE	S
per0316117a	248685002	CWW	3/17/2010 7:36	962136	10-2259-1	1	LANL	USE	S
per0316118a	248250002	CWW	3/17/2010 7:44	962124	10-2141	2	LANL	USE	S
per0316119a	1202063739	CWW	3/17/2010 7:52	962124	10-2141	2	LANL	USE	S
per0316120a	1202063740	CWW	3/17/2010 8:00	962124	10-2141	2	LANL	USE	S
per0316121a	248250003	CWW	3/17/2010 8:08	962124	10-2141	100	LANL	USE	S
per0316122a	248250004	CWW	3/17/2010 8:16	962124	10-2141	50	LANL	USE	S
per0316123a	248386003	CWW	3/17/2010 8:24	962124	10-2164	1	LANL	USE	S
per0316124a	WCLCCV	CWW	3/17/2010 8:32			1		USE	C
per0316125a	IPB014	CWW	3/17/2010 8:40			1		USE	B
per0316126a	WCLCRI	CWW	3/17/2010 8:48			1		USE	C

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

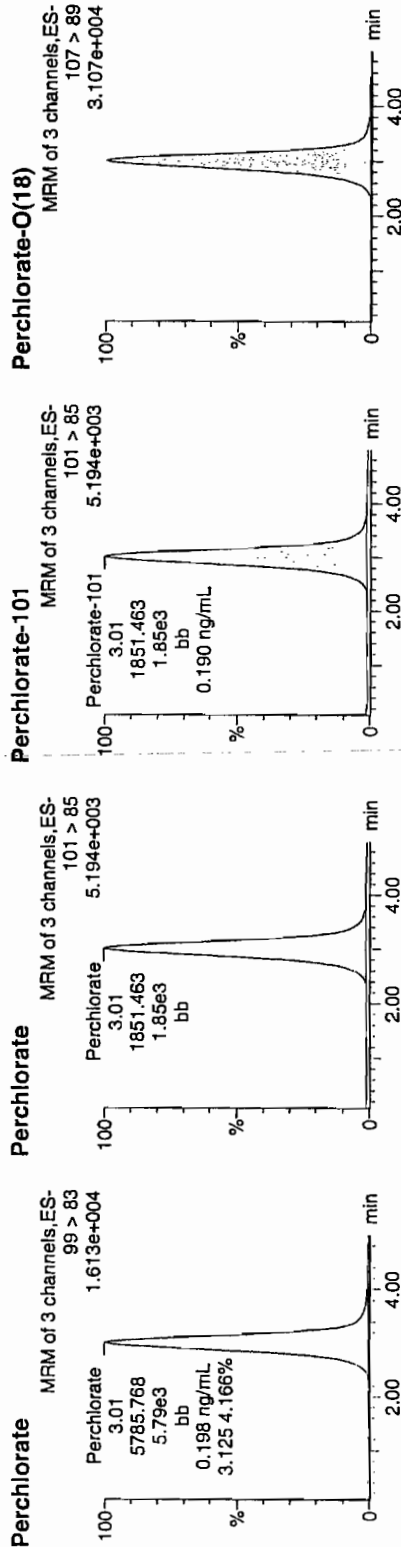
Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316094a  
Date: 17-Mar-2010  
Time: 04:29:20  
ID: 1202063759  
Vial: 2:6,A

03-17-10

1202063759 | 1202063759 | 1202063759



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202063759	Perchlorate	99 > 83	3.01	5785.768	5785.768	bb			0.1981	99.04	-0.96	551.000	3.12
1202063759	Perchlorate-101	101 > 85	3.01	1851.463	1851.463	bb			0.1904	95.21	-4.79	926.372	
1202063759	Perchlorate-O(18)	107 > 89	3.00	11049.848	11049.848	bb			0.4524	92.49	-7.51	2110.9...	

$$\frac{5785.768}{29204.4} = 0.1981$$

11/17  
3/13/10

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

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

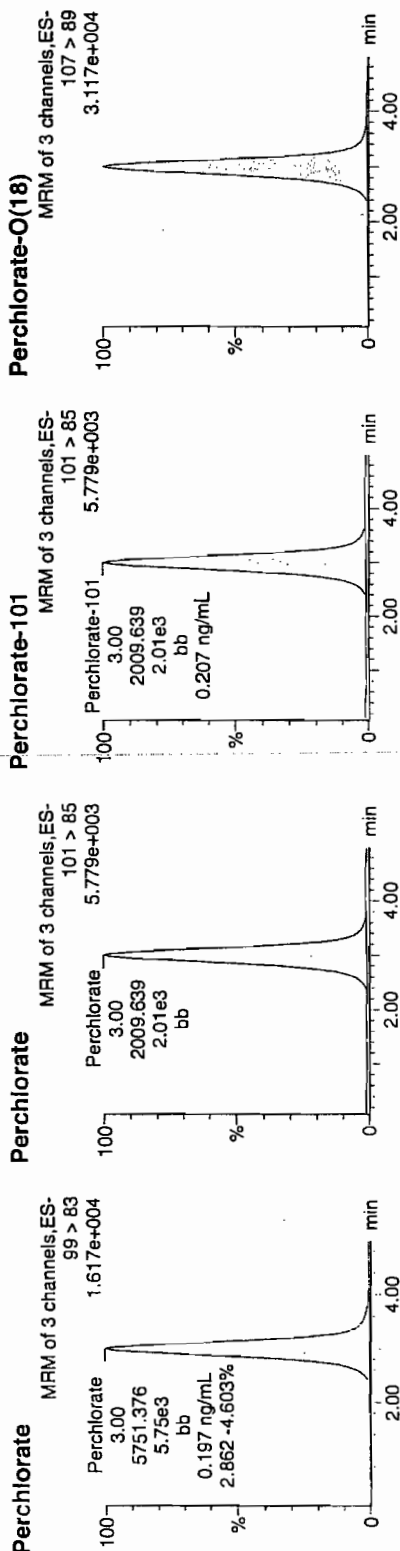
Dataset: C:\MassLynx\Perchlorate.PRO\per031610a.qld

Last Altered: Wednesday, March 17, 2010 9:01:09 AM Eastern Standard Time  
Printed: Wednesday, March 17, 2010 9:41:10 AM Eastern Standard Time

Name: per0316095a  
Date: 17-Mar-2010  
Time: 04:37:24  
ID: 1202063760  
Vial: 2:6,B

03-17-10

1202063760 | 1202063760 | 1202063760



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202063760	Perchlorate	99 > 83	3.00	5751.376	5751.376	bb			0.1969	98.45	-1.55	125.154	2.86
1202063760	Perchlorate-101	101 > 85	3.00	2009.639	2009.639	bb			0.2067	103.35	3.35	743.184	
1202063760	Perchlorate-O(18)	107 > 89	2.99	10870.262	10870.262	bb			0.4549	90.99	-9.01	3201.8...	

5751.376  
2009.639  
= 2.8619

3/18/10

GEL Laboratories LLC  
Form GEL-DER

DER Report No.: 805539

Revision No.: 1

### DATA EXCEPTION REPORT

<b>Mo. Day Yr.</b> 17-MAR-10	<b>Division:</b> Industrial	<b>Quality Criteria:</b> Specifications	<b>Type:</b> Process
<b>Instrument Type:</b> LC-MS/MS	<b>Test / Method:</b> SW846 6850 Modified	<b>Matrix Type:</b> Liquid	<b>Client Code:</b> LANL
<b>Batch ID:</b> 962136	<b>Sample Numbers:</b> See Below		
<b>Potentially affected work order(s) (SDG):</b> 248375(10-2155-1), 248407(10-2188), 248419(10-2191-1), 248516(10-2197-1), 248518(10-2198-1), 248523(10-2203), 248533(10-2211-1), 248535(10-2208-1), 248551(10-2214-1), 248638(10-2234-1), 248649(10-2240-1), 248685(10-2259-1)			
<b>Application Issues:</b>			
Failed Recovery for LCS/LCSD			
<b>Specification and Requirements</b>		<b>DER Disposition:</b>	
<b>Exception Description:</b>			
1. High recoveries were observed for Perchlorate and Perchlorate-101 in 1202063758 (LCS). The recoveries were 164% and 166%, respectively. The acceptance range is 85-115%.		1. The high recovery may be the result of a spiking error at the preparation step. Note the recoveries for the ICS and matrix spikes were all acceptable. Since the detections observed in the associated samples were less than the MDL, samples do not need to be re-extracted. Data will be reported.	

**Originator's Name:**

Charles Wilson

17-MAR-10

**Data Validator/Group Leader:**

Michael Penny

18-MAR-10

## 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.

# **Metals Analysis**



# Case Narrative

**Metals Fractional Narrative  
Los Alamos National Laboratory (LANL)  
SDG 10-2197**

**Sample Analysis**

<b>Sample ID</b>	<b>Client ID</b>
248515001	RE36-10-7501
248515002	RE36-10-7524
248515003	RE36-10-7525
1202065045	Method Blank (MB) <b>ICP</b>
1202065046	Laboratory Control Sample (LCS)
1202065049	248526001(RE36-10-8466L) Serial Dilution (SD)
1202065047	248526001(RE36-10-8466D) Sample Duplicate (DUP)
1202065048	248526001(RE36-10-8466S) Matrix Spike (MS)
1202065050	248526001(RE36-10-8466SD) Matrix Spike Duplicate (MSD)
1202065014	Method Blank (MB) <b>ICP-MS</b>
1202065015	Laboratory Control Sample (LCS)
1202065018	248526001(RE36-10-8466L) Serial Dilution (SD)
1202065016	248526001(RE36-10-8466D) Sample Duplicate (DUP)
1202065017	248526001(RE36-10-8466S) Matrix Spike (MS)
1202065024	248526001(RE36-10-8466SD) Matrix Spike Duplicate (MSD)
1202069763	Method Blank (MB) <b>CVAA</b>
1202069764	Laboratory Control Sample (LCS)
1202069767	248418001(RE11-10-1862L) Serial Dilution (SD)
1202069765	248418001(RE11-10-1862D) Sample Duplicate (DUP)
1202069766	248418001(RE11-10-1862S) Matrix Spike (MS)
1202069768	248418001(RE11-10-1862SD) Matrix Spike Duplicate (MSD)

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

#### **Method/Analysis Information**

**Analytical Batch:** 962575, 962569 and 964741  
**Prep Batch :** 962573, 962563 and 964740  
**Standard Operating Procedures:** GL-MA-E-013 REV# 20, GL-MA-E-009 REV# 19, GL-MA-E-014 REV# 21 and GL-MA-E-010 REV# 23  
**Analytical Method:** SW846 3050B/6010B, SW846 3050B/6020 and SW846 7471A  
**Prep Method :** SW846 3050B and SW846 7471A Prep

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

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

#### **System Configuration**

The Metals analysis-ICP was performed on a P E 7300 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 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 standards met the advisory control limits with the exceptions of beryllium and uranium, 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 MBs analyzed with this SDG met the acceptance criteria.

**Laboratory Control Sample (LCS) Recovery**

The laboratory control sample (LCS) met the recommended acceptance criteria for percent recovery (%R) for all elements of interest, with the exception of antimony. Silver and/or antimony did not meet the recovery acceptance criteria for the LCS. Per the DOE-AL statement of work, page forty, silver and antimony are exempt from the re-digestion requirement for LCS failures.

**Quality Control (QC) Sample Statement**

The following samples were selected as the quality control (QC) samples for this SDG: 248526001 (RE36-10-8466) and 248418001 (RE11-10-1862).

**Matrix Spike (MS) Recovery Statement**

The percent recoveries (%R) obtained from the MS analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The MS met the recommended quality control acceptance criteria for percent recoveries for all applicable analytes with the exceptions of barium, calcium, lead, magnesium, potassium, sodium and zinc, as indicated by the "N" qualifiers.

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

The percent recovery (%R) obtained from the MSD analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The MSD met the recommended quality control acceptance criteria for percent recoveries for all applicable analytes with the exceptions of aluminum 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% with the exceptions of aluminum, barium, calcium, chromium, iron, lead, magnesium, manganese, potassium and zinc, as indicated by the “\*” qualifiers.

**Duplicate Relative Percent Difference (RPD) Statement**

The relative percent difference (RPD) obtained from the designated sample duplicate (DUP) is evaluated based on acceptance criteria of 20% when the sample is 5X the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the contract required detection limit (RL), a control of +/-RL is used to evaluate the DUP results. All applicable analytes met these requirements with the exceptions of calcium and chromium, as indicated by the “\*” qualifiers.

**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: 814413. 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 Fanson Date: 4/15/10

# Sample Data Summary

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

SDG No: 10-2197

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 248515001

BASIS: Dry Weight

DATE COLLECTED 25-FEB-10

CLIENT ID: RE36-10-7501

LEVEL: Low

DATE RECEIVED 03-MAR-10

MATRIX: SOIL

%SOLIDS: 76

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	3620000	ug/Kg		8250	24300	24300	1	P	HSC	03/30/10 22:00	033010B-1	962575
7440-36-0	Antimony	1210	ug/Kg	U	401	1210	1210	1	P	HSC	03/30/10 22:00	033010B-1	962575
7440-38-2	Arsenic	1.46	mg/kg		0.251	1.25	1.25	2	MS	SKJ	04/14/10 00:48	100413-2	962569
7440-39-3	Barium	41200	ug/Kg		121	607	607	1	P	HSC	03/30/10 22:00	033010B-1	962575
7440-41-7	Beryllium	0.536	mg/kg		0.0251	0.125	0.125	2	MS	SKJ	04/14/10 00:48	100413-2	962569
7440-43-9	Cadmium	607	ug/Kg	U	121	607	607	1	P	HSC	03/30/10 22:00	033010B-1	962575
7440-70-2	Calcium	1820000	ug/Kg		9710	30300	30300	1	P	HSC	03/30/10 22:00	033010B-1	962575
7440-47-3	Chromium	9010	ug/Kg		182	607	607	1	P	HSC	03/30/10 22:00	033010B-1	962575
7440-48-4	Cobalt	1820	ug/Kg		182	607	607	1	P	HSC	03/30/10 22:00	033010B-1	962575
7440-50-8	Copper	3020	ug/Kg		364	1210	1210	1	P	HSC	03/30/10 22:00	033010B-1	962575
7439-89-6	Iron	7810000	ug/Kg		9710	30300	30300	1	P	HSC	03/30/10 22:00	033010B-1	962575
7439-92-1	Lead	5970	ug/Kg		303	1210	1210	1	P	HSC	03/30/10 22:00	033010B-1	962575
7439-95-4	Magnesium	900000	ug/Kg		10300	36400	36400	1	P	HSC	03/30/10 22:00	033010B-1	962575
7439-96-5	Manganese	132000	ug/Kg		243	1210	1210	1	P	HSC	03/30/10 22:00	033010B-1	962575
7439-97-6	Mercury	16.3	ug/kg		5.03	14.8	14.8	1	AV	JXL1	03/16/10 14:02	031610S1-3	964741
7440-02-0	Nickel	3.86	mg/kg		0.125	0.501	0.501	2	MS	SKJ	04/14/10 00:48	100413-2	962569
7440-09-7	Potassium	809000	ug/Kg		7770	30300	30300	1	P	HSC	03/30/10 22:00	033010B-1	962575
7782-49-2	Selenium	1.25	mg/kg	U	0.627	1.25	1.25	2	MS	SKJ	04/14/10 00:48	100413-2	962569
7440-22-4	Silver	607	ug/Kg	U	121	607	607	1	P	HSC	03/30/10 22:00	033010B-1	962575
7440-23-5	Sodium	100000	ug/Kg		8500	30300	30300	1	P	HSC	03/30/10 22:00	033010B-1	962575
7440-28-0	Thallium	0.0829	mg/kg	J	0.0752	0.251	0.251	2	MS	SKJ	04/14/10 00:48	100413-2	962569
7440-61-1	Uranium	0.503	mg/kg		0.0165	0.0501	0.0501	2	MS	SKJ	04/14/10 00:48	100413-2	962569
7440-62-2	Vanadium	11000	ug/Kg		121	607	607	1	P	HSC	03/30/10 22:00	033010B-1	962575
7440-66-6	Zinc	32400	ug/Kg		401	1210	1210	1	P	HSC	03/30/10 22:00	033010B-1	962575

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
962569	962563	SW846 3050B	0.525	g	50	mL	03/16/10	AXG2
962575	962573	SW846 3050B	0.542	g	50	mL	03/16/10	AXG2
964741	964740	SW846 7471A Prep	0.534	g	30	mL	03/15/10	TXB3



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

SDG No: 10-2197

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 248515002

BASIS: Dry Weight

DATE COLLECTED 25-FEB-10

CLIENT ID: RE36-10-7524

LEVEL: Low

DATE RECEIVED 03-MAR-10

MATRIX: SOIL

%SOLIDS: 84

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	4930000	ug/Kg		7890	23200	23200	1	P	HSC	03/30/10 22:02	033010B-1	962575
7440-36-0	Antimony	1160	ug/Kg	U	383	1160	1160	1	P	HSC	03/30/10 22:02	033010B-1	962575
7440-38-2	Arsenic	0.766	mg/kg	J	0.23	1.15	1.15	2	MS	SKJ	04/14/10 00:53	100413-2	962569
7440-39-3	Barium	79000	ug/Kg		116	580	580	1	P	HSC	03/30/10 22:02	033010B-1	962575
7440-41-7	Beryllium	0.297	mg/kg		0.023	0.115	0.115	2	MS	SKJ	04/14/10 00:53	100413-2	962569
7440-43-9	Cadmium	580	ug/Kg	U	116	580	580	1	P	HSC	03/30/10 22:02	033010B-1	962575
7440-70-2	Calcium	4940000	ug/Kg		9280	29000	29000	1	P	HSC	03/30/10 22:02	033010B-1	962575
7440-47-3	Chromium	6170	ug/Kg		174	580	580	1	P	HSC	03/30/10 22:02	033010B-1	962575
7440-48-4	Cobalt	2200	ug/Kg		174	580	580	1	P	HSC	03/30/10 22:02	033010B-1	962575
7440-50-8	Copper	6570	ug/Kg		348	1160	1160	1	P	HSC	03/30/10 22:02	033010B-1	962575
7439-89-6	Iron	8430000	ug/Kg		9280	29000	29000	1	P	HSC	03/30/10 22:02	033010B-1	962575
7439-92-1	Lead	12300	ug/Kg		290	1160	1160	1	P	HSC	03/30/10 22:02	033010B-1	962575
7439-95-4	Magnesium	1360000	ug/Kg		9870	34800	34800	1	P	HSC	03/30/10 22:02	033010B-1	962575
7439-96-5	Manganese	750000	ug/Kg		232	1160	1160	1	P	HSC	03/30/10 22:02	033010B-1	962575
7439-97-6	Mercury	121	ug/kg		4.86	14.3	14.3	1	AV	JXL1	03/16/10 14:04	031610S1-3	964741
7440-02-0	Nickel	2.17	mg/kg		0.115	0.46	0.46	2	MS	SKJ	04/14/10 00:53	100413-2	962569
7440-09-7	Potassium	1210000	ug/Kg		7430	29000	29000	1	P	HSC	03/30/10 22:02	033010B-1	962575
7782-49-2	Selenium	1.15	mg/kg	U	0.575	1.15	1.15	2	MS	SKJ	04/14/10 00:53	100413-2	962569
7440-22-4	Silver	580	ug/Kg	U	116	580	580	1	P	HSC	03/30/10 22:02	033010B-1	962575
7440-23-5	Sodium	64500	ug/Kg		8120	29000	29000	1	P	HSC	03/30/10 22:02	033010B-1	962575
7440-28-0	Thallium	0.230	mg/kg	U	0.069	0.23	0.23	2	MS	SKJ	04/14/10 00:53	100413-2	962569
7440-61-1	Uranium	0.883	mg/kg		0.0152	0.046	0.046	2	MS	SKJ	04/14/10 00:53	100413-2	962569
7440-62-2	Vanadium	9520	ug/Kg		116	580	580	1	P	HSC	03/30/10 22:02	033010B-1	962575
7440-66-6	Zinc	41900	ug/Kg		383	1160	1160	1	P	HSC	03/30/10 22:02	033010B-1	962575

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
962569	962563	SW846 3050B	0.518	g	50	mL	03/16/10	AXG2
962575	962573	SW846 3050B	0.513	g	50	mL	03/16/10	AXG2
964741	964740	SW846 7471A Prep	0.5	g	30	mL	03/15/10	TXB3

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

SDG No: 10-2197

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 248515003

BASIS: Dry Weight

DATE COLLECTED 25-FEB-10

CLIENT ID: RE36-10-7525

LEVEL: Low

DATE RECEIVED 03-MAR-10

MATRIX: SOIL

%SOLIDS: 80

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	6080000	ug/Kg		8520	25000	25000	1	P	HSC	03/30/10 22:04	033010B-1	962575
7440-36-0	Antimony	1250	ug/Kg	U	413	1250	1250	1	P	HSC	03/30/10 22:04	033010B-1	962575
7440-38-2	Arsenic	1.48	mg/kg		0.241	1.2	1.2	2	MS	SKJ	04/14/10 00:57	100413-2	962569
7440-39-3	Barium	81200	ug/Kg		125	626	626	1	P	HSC	03/30/10 22:04	033010B-1	962575
7440-41-7	Beryllium	0.467	mg/kg		0.0241	0.12	0.12	2	MS	SKJ	04/14/10 00:57	100413-2	962569
7440-43-9	Cadmium	626	ug/Kg	U	125	626	626	1	P	HSC	03/30/10 22:04	033010B-1	962575
7440-70-2	Calcium	4000000	ug/Kg		10000	31300	31300	1	P	HSC	03/30/10 22:04	033010B-1	962575
7440-47-3	Chromium	6810	ug/Kg		188	626	626	1	P	HSC	03/30/10 22:04	033010B-1	962575
7440-48-4	Cobalt	3300	ug/Kg		188	626	626	1	P	HSC	03/30/10 22:04	033010B-1	962575
7440-50-8	Copper	6170	ug/Kg		376	1250	1250	1	P	HSC	03/30/10 22:04	033010B-1	962575
7439-89-6	Iron	10500000	ug/Kg		10000	31300	31300	1	P	HSC	03/30/10 22:04	033010B-1	962575
7439-92-1	Lead	10200	ug/Kg		313	1250	1250	1	P	HSC	03/30/10 22:04	033010B-1	962575
7439-95-4	Magnesium	1600000	ug/Kg		10600	37600	37600	1	P	HSC	03/30/10 22:04	033010B-1	962575
7439-96-5	Manganese	320000	ug/Kg		250	1250	1250	1	P	HSC	03/30/10 22:04	033010B-1	962575
7439-97-6	Mercury	35.9	ug/kg		4.9	14.4	14.4	1	AV	JXL1	03/16/10 14:05	031610S1-3	964741
7440-02-0	Nickel	3.99	mg/kg		0.12	0.482	0.482	2	MS	SKJ	04/14/10 00:57	100413-2	962569
7440-09-7	Potassium	1450000	ug/Kg		8020	31300	31300	1	P	HSC	03/30/10 22:04	033010B-1	962575
7782-49-2	Selenium	1.2	mg/kg	U	0.602	1.2	1.2	2	MS	SKJ	04/14/10 00:57	100413-2	962569
7440-22-4	Silver	626	ug/Kg	U	125	626	626	1	P	HSC	03/30/10 22:04	033010B-1	962575
7440-23-5	Sodium	68100	ug/Kg		8770	31300	31300	1	P	HSC	03/30/10 22:04	033010B-1	962575
7440-28-0	Thallium	0.241	mg/kg	U	0.0723	0.241	0.241	2	MS	SKJ	04/14/10 00:57	100413-2	962569
7440-61-1	Uranium	1.36	mg/kg		0.0159	0.0482	0.0482	2	MS	SKJ	04/14/10 00:57	100413-2	962569
7440-62-2	Vanadium	18700	ug/Kg		125	626	626	1	P	HSC	03/30/10 22:04	033010B-1	962575
7440-66-6	Zinc	35000	ug/Kg		413	1250	1250	1	P	HSC	03/30/10 22:04	033010B-1	962575

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
962569	962563	SW846 3050B	0.52	g	50	mL	03/16/10	AXG2
962575	962573	SW846 3050B	0.5	g	50	mL	03/16/10	AXG2
964741	964740	SW846 7471A Prep	0.521	g	30	mL	03/15/10	TXB3

# **Quality Control Summary**

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-2197

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA4

<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	5.24	ug/L	5	ug/L	104.8	90.0 – 110.0	AV	16-MAR-10 09:48	031610S1-3
	Aluminum	5280	ug/L	5000	ug/L	105.7	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Antimony	512	ug/L	500	ug/L	102.4	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Barium	520	ug/L	500	ug/L	104	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Cadmium	509	ug/L	500	ug/L	101.8	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Calcium	5160	ug/L	5000	ug/L	103.2	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Chromium	499	ug/L	500	ug/L	99.8	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Cobalt	521	ug/L	500	ug/L	104.3	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Copper	523	ug/L	500	ug/L	104.6	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Iron	5180	ug/L	5000	ug/L	103.5	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Lead	517	ug/L	500	ug/L	103.4	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Magnesium	5450	ug/L	5000	ug/L	109	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Manganese	527	ug/L	500	ug/L	105.5	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Potassium	2600	ug/L	2500	ug/L	104.1	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Silver	267	ug/L	250	ug/L	106.8	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Sodium	2600	ug/L	2500	ug/L	104	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Vanadium	524	ug/L	500	ug/L	104.8	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Zinc	519	ug/L	500	ug/L	103.8	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Arsenic	50.6	ug/L	50	ug/L	101.2	90.0 – 110.0	MS	13-APR-10 19:08	100413-2
	Beryllium	50.5	ug/L	50	ug/L	101	90.0 – 110.0	MS	13-APR-10 19:08	100413-2
	Nickel	51.4	ug/L	50	ug/L	102.9	90.0 – 110.0	MS	13-APR-10 19:08	100413-2
	Selenium	50.4	ug/L	50	ug/L	100.7	90.0 – 110.0	MS	13-APR-10 19:08	100413-2
	Thallium	50.7	ug/L	50	ug/L	101.4	90.0 – 110.0	MS	13-APR-10 19:08	100413-2
	Uranium	49.8	ug/L	50	ug/L	99.5	90.0 – 110.0	MS	13-APR-10 19:08	100413-2
CCV01										
	Mercury	5.18	ug/L	5	ug/L	103.6	80.0 – 120.0	AV	16-MAR-10 09:53	031610S1-3
	Aluminum	5060	ug/L	5000	ug/L	101.1	90.0 – 110.0	P	30-MAR-10 15:38	033010B-1
	Antimony	508	ug/L	500	ug/L	101.5	90.0 – 110.0	P	30-MAR-10 15:38	033010B-1
	Barium	505	ug/L	500	ug/L	101.1	90.0 – 110.0	P	30-MAR-10 15:38	033010B-1
	Cadmium	507	ug/L	500	ug/L	101.5	90.0 – 110.0	P	30-MAR-10 15:38	033010B-1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-2197

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA4

<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	5070	ug/L	5000	ug/L	101.5	90.0 – 110.0	P	30-MAR-10 15:38	033010B-1
	Chromium	503	ug/L	500	ug/L	100.7	90.0 – 110.0	P	30-MAR-10 15:38	033010B-1
	Cobalt	509	ug/L	500	ug/L	101.7	90.0 – 110.0	P	30-MAR-10 15:38	033010B-1
	Copper	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	30-MAR-10 15:38	033010B-1
	Iron	5040	ug/L	5000	ug/L	100.8	90.0 – 110.0	P	30-MAR-10 15:38	033010B-1
	Lead	513	ug/L	500	ug/L	102.5	90.0 – 110.0	P	30-MAR-10 15:38	033010B-1
	Magnesium	5180	ug/L	5000	ug/L	103.5	90.0 – 110.0	P	30-MAR-10 15:38	033010B-1
	Manganese	506	ug/L	500	ug/L	101.2	90.0 – 110.0	P	30-MAR-10 15:38	033010B-1
	Potassium	5130	ug/L	5000	ug/L	102.6	90.0 – 110.0	P	30-MAR-10 15:38	033010B-1
	Silver	506	ug/L	500	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 15:38	033010B-1
	Sodium	10100	ug/L	10000	ug/L	100.9	90.0 – 110.0	P	30-MAR-10 15:38	033010B-1
	Vanadium	508	ug/L	500	ug/L	101.6	90.0 – 110.0	P	30-MAR-10 15:38	033010B-1
	Zinc	504	ug/L	500	ug/L	100.9	90.0 – 110.0	P	30-MAR-10 15:38	033010B-1
	Arsenic	50.7	ug/L	50	ug/L	101.4	90.0 – 110.0	MS	13-APR-10 19:28	100413-2
	Beryllium	52.3	ug/L	50	ug/L	104.6	90.0 – 110.0	MS	13-APR-10 19:28	100413-2
	Nickel	50.1	ug/L	50	ug/L	100.2	90.0 – 110.0	MS	13-APR-10 19:28	100413-2
	Selenium	51.8	ug/L	50	ug/L	103.5	90.0 – 110.0	MS	13-APR-10 19:28	100413-2
	Thallium	49.4	ug/L	50	ug/L	98.7	90.0 – 110.0	MS	13-APR-10 19:28	100413-2
	Uranium	50	ug/L	50	ug/L	100	90.0 – 110.0	MS	13-APR-10 19:28	100413-2
CCV02	Mercury	5.12	ug/L	5	ug/L	102.3	80.0 – 120.0	AV	16-MAR-10 10:09	031610S1-3
	Aluminum	5110	ug/L	5000	ug/L	102.2	90.0 – 110.0	P	30-MAR-10 15:54	033010B-1
	Antimony	510	ug/L	500	ug/L	102.1	90.0 – 110.0	P	30-MAR-10 15:54	033010B-1
	Barium	507	ug/L	500	ug/L	101.4	90.0 – 110.0	P	30-MAR-10 15:54	033010B-1
	Cadmium	510	ug/L	500	ug/L	101.9	90.0 – 110.0	P	30-MAR-10 15:54	033010B-1
	Calcium	5150	ug/L	5000	ug/L	103.1	90.0 – 110.0	P	30-MAR-10 15:54	033010B-1
	Chromium	506	ug/L	500	ug/L	101.1	90.0 – 110.0	P	30-MAR-10 15:54	033010B-1
	Cobalt	512	ug/L	500	ug/L	102.4	90.0 – 110.0	P	30-MAR-10 15:54	033010B-1
	Copper	506	ug/L	500	ug/L	101.2	90.0 – 110.0	P	30-MAR-10 15:54	033010B-1
	Iron	5120	ug/L	5000	ug/L	102.4	90.0 – 110.0	P	30-MAR-10 15:54	033010B-1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-2197

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA4

<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	513	ug/L	500	ug/L	102.6	90.0 – 110.0	P	30-MAR-10 15:54	033010B-1
	Magnesium	5250	ug/L	5000	ug/L	105.1	90.0 – 110.0	P	30-MAR-10 15:54	033010B-1
	Manganese	509	ug/L	500	ug/L	101.7	90.0 – 110.0	P	30-MAR-10 15:54	033010B-1
	Potassium	5160	ug/L	5000	ug/L	103.2	90.0 – 110.0	P	30-MAR-10 15:54	033010B-1
	Silver	509	ug/L	500	ug/L	101.8	90.0 – 110.0	P	30-MAR-10 15:54	033010B-1
	Sodium	10200	ug/L	10000	ug/L	101.5	90.0 – 110.0	P	30-MAR-10 15:54	033010B-1
	Vanadium	510	ug/L	500	ug/L	102	90.0 – 110.0	P	30-MAR-10 15:54	033010B-1
	Zinc	507	ug/L	500	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 15:54	033010B-1
	Arsenic	51.7	ug/L	50	ug/L	103.3	90.0 – 110.0	MS	13-APR-10 20:09	100413-2
	Beryllium	55.7	ug/L	50	ug/L	111.4	90.0 – 110.0	MS	13-APR-10 20:09	100413-2
	Nickel	49.9	ug/L	50	ug/L	99.7	90.0 – 110.0	MS	13-APR-10 20:09	100413-2
	Selenium	51	ug/L	50	ug/L	102	90.0 – 110.0	MS	13-APR-10 20:09	100413-2
	Thallium	50.1	ug/L	50	ug/L	100.2	90.0 – 110.0	MS	13-APR-10 20:09	100413-2
	Uranium	50.7	ug/L	50	ug/L	101.3	90.0 – 110.0	MS	13-APR-10 20:09	100413-2
CCV03										
	Mercury	5.29	ug/L	5	ug/L	105.9	80.0 – 120.0	AV	16-MAR-10 10:29	031610S1-3
	Aluminum	5160	ug/L	5000	ug/L	103.1	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Antimony	507	ug/L	500	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Barium	507	ug/L	500	ug/L	101.4	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Cadmium	505	ug/L	500	ug/L	101	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Calcium	5100	ug/L	5000	ug/L	102	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Chromium	505	ug/L	500	ug/L	101.1	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Cobalt	510	ug/L	500	ug/L	101.9	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Copper	507	ug/L	500	ug/L	101.4	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Iron	5080	ug/L	5000	ug/L	101.5	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Lead	509	ug/L	500	ug/L	101.8	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Magnesium	5180	ug/L	5000	ug/L	103.6	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Manganese	508	ug/L	500	ug/L	101.6	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Potassium	5160	ug/L	5000	ug/L	103.2	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Silver	510	ug/L	500	ug/L	102	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-2197

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA4

<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	101.2	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Vanadium	511	ug/L	500	ug/L	102.2	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Zinc	503	ug/L	500	ug/L	100.6	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Arsenic	51.3	ug/L	50	ug/L	102.5	90.0 – 110.0	MS	13-APR-10 20:42	100413-2
	Beryllium	54.8	ug/L	50	ug/L	109.5	90.0 – 110.0	MS	13-APR-10 20:42	100413-2
	Nickel	48.6	ug/L	50	ug/L	97.3	90.0 – 110.0	MS	13-APR-10 20:42	100413-2
	Selenium	53.3	ug/L	50	ug/L	106.6	90.0 – 110.0	MS	13-APR-10 20:42	100413-2
	Thallium	49.6	ug/L	50	ug/L	99.3	90.0 – 110.0	MS	13-APR-10 20:42	100413-2
	Uranium	50.5	ug/L	50	ug/L	101	90.0 – 110.0	MS	13-APR-10 20:42	100413-2
CCV04										
	Mercury	5.06	ug/L	5	ug/L	101.1	80.0 – 120.0	AV	16-MAR-10 10:50	031610S1-3
	Aluminum	5110	ug/L	5000	ug/L	102.3	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Antimony	508	ug/L	500	ug/L	101.6	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Barium	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Cadmium	502	ug/L	500	ug/L	100.5	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Calcium	5080	ug/L	5000	ug/L	101.6	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Chromium	502	ug/L	500	ug/L	100.4	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Cobalt	506	ug/L	500	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Copper	503	ug/L	500	ug/L	100.6	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Iron	5050	ug/L	5000	ug/L	101.1	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Lead	512	ug/L	500	ug/L	102.5	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Magnesium	5160	ug/L	5000	ug/L	103.1	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Manganese	504	ug/L	500	ug/L	100.9	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Potassium	5160	ug/L	5000	ug/L	103.2	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Silver	507	ug/L	500	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Sodium	10100	ug/L	10000	ug/L	101	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Vanadium	507	ug/L	500	ug/L	101.4	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Zinc	500	ug/L	500	ug/L	100.1	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Arsenic	50.5	ug/L	50	ug/L	100.9	90.0 – 110.0	MS	13-APR-10 21:19	100413-2
	Beryllium	54.4	ug/L	50	ug/L	108.7	90.0 – 110.0	MS	13-APR-10 21:19	100413-2

## METALS

-2a-

## Initial and Continuing Calibration Verification

SDG No: 10-2197

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA4

<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>
CCV05	Nickel	48.7	ug/L	50	ug/L	97.3	90.0 – 110.0	MS	13-APR-10 21:19	100413-2
	Selenium	51.1	ug/L	50	ug/L	102.2	90.0 – 110.0	MS	13-APR-10 21:19	100413-2
	Thallium	50.5	ug/L	50	ug/L	100.9	90.0 – 110.0	MS	13-APR-10 21:19	100413-2
	Uranium	51	ug/L	50	ug/L	102.1	90.0 – 110.0	MS	13-APR-10 21:19	100413-2
CCV05	Mercury	5.13	ug/L	5	ug/L	102.5	80.0 – 120.0	AV	16-MAR-10 11:10	031610S1-3
	Aluminum	5110	ug/L	5000	ug/L	102.2	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Antimony	511	ug/L	500	ug/L	102.2	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Barium	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Cadmium	505	ug/L	500	ug/L	101	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Calcium	5090	ug/L	5000	ug/L	101.9	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Chromium	502	ug/L	500	ug/L	100.4	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Cobalt	507	ug/L	500	ug/L	101.4	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Copper	503	ug/L	500	ug/L	100.5	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Iron	5060	ug/L	5000	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Lead	516	ug/L	500	ug/L	103.3	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Magnesium	5210	ug/L	5000	ug/L	104.1	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Manganese	505	ug/L	500	ug/L	101	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Potassium	5080	ug/L	5000	ug/L	101.5	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Silver	506	ug/L	500	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Sodium	10100	ug/L	10000	ug/L	100.9	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Vanadium	507	ug/L	500	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Zinc	501	ug/L	500	ug/L	100.3	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Arsenic	49.9	ug/L	50	ug/L	99.8	90.0 – 110.0	MS	13-APR-10 22:00	100413-2
	Beryllium	54.4	ug/L	50	ug/L	108.8	90.0 – 110.0	MS	13-APR-10 22:00	100413-2
	Nickel	49.1	ug/L	50	ug/L	98.3	90.0 – 110.0	MS	13-APR-10 22:00	100413-2
	Selenium	50.4	ug/L	50	ug/L	100.8	90.0 – 110.0	MS	13-APR-10 22:00	100413-2
	Thallium	50.4	ug/L	50	ug/L	100.7	90.0 – 110.0	MS	13-APR-10 22:00	100413-2
	Uranium	50.9	ug/L	50	ug/L	101.9	90.0 – 110.0	MS	13-APR-10 22:00	100413-2



## METALS

-2a-

## Initial and Continuing Calibration Verification

SDG No: 10-2197

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA4

<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>
CCV06										
	Mercury	5.4	ug/L	5	ug/L	108	80.0 – 120.0	AV	16-MAR-10 11:30	031610S1-3
	Aluminum	5120	ug/L	5000	ug/L	102.3	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Antimony	510	ug/L	500	ug/L	102	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Barium	505	ug/L	500	ug/L	101	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Cadmium	506	ug/L	500	ug/L	101.2	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Calcium	5100	ug/L	5000	ug/L	102	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Chromium	503	ug/L	500	ug/L	100.7	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Cobalt	509	ug/L	500	ug/L	101.8	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Copper	505	ug/L	500	ug/L	101	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Iron	5060	ug/L	5000	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Lead	515	ug/L	500	ug/L	103	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Magnesium	5190	ug/L	5000	ug/L	103.8	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Manganese	506	ug/L	500	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Potassium	5090	ug/L	5000	ug/L	101.8	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Silver	508	ug/L	500	ug/L	101.6	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Sodium	10100	ug/L	10000	ug/L	100.6	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Vanadium	510	ug/L	500	ug/L	101.9	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Zinc	503	ug/L	500	ug/L	100.7	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Arsenic	51.1	ug/L	50	ug/L	102.3	90.0 – 110.0	MS	13-APR-10 22:33	100413-2
	Beryllium	53	ug/L	50	ug/L	106	90.0 – 110.0	MS	13-APR-10 22:33	100413-2
	Nickel	48.3	ug/L	50	ug/L	96.6	90.0 – 110.0	MS	13-APR-10 22:33	100413-2
	Selenium	50.4	ug/L	50	ug/L	100.8	90.0 – 110.0	MS	13-APR-10 22:33	100413-2
	Thallium	49.9	ug/L	50	ug/L	99.8	90.0 – 110.0	MS	13-APR-10 22:33	100413-2
	Uranium	51	ug/L	50	ug/L	102	90.0 – 110.0	MS	13-APR-10 22:33	100413-2
CCV07										
	Mercury	5.1	ug/L	5	ug/L	102	80.0 – 120.0	AV	16-MAR-10 11:50	031610S1-3
	Aluminum	5090	ug/L	5000	ug/L	101.8	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Antimony	510	ug/L	500	ug/L	102	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Barium	505	ug/L	500	ug/L	101.1	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Cadmium	507	ug/L	500	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1

SW846

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-2197

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA4

<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	5110	ug/L	5000	ug/L	102.3	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Chromium	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Cobalt	509	ug/L	500	ug/L	101.8	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Copper	505	ug/L	500	ug/L	101	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Iron	5070	ug/L	5000	ug/L	101.5	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Lead	513	ug/L	500	ug/L	102.7	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Magnesium	5220	ug/L	5000	ug/L	104.4	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Manganese	507	ug/L	500	ug/L	101.4	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Potassium	5130	ug/L	5000	ug/L	102.6	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Silver	508	ug/L	500	ug/L	101.7	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Sodium	10100	ug/L	10000	ug/L	100.5	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Vanadium	508	ug/L	500	ug/L	101.7	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Zinc	505	ug/L	500	ug/L	100.9	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Arsenic	50.8	ug/L	50	ug/L	101.7	90.0 – 110.0	MS	13-APR-10 23:01	100413-2
	Beryllium	54.1	ug/L	50	ug/L	108.2	90.0 – 110.0	MS	13-APR-10 23:01	100413-2
	Nickel	48.4	ug/L	50	ug/L	96.8	90.0 – 110.0	MS	13-APR-10 23:01	100413-2
	Selenium	50.5	ug/L	50	ug/L	101.1	90.0 – 110.0	MS	13-APR-10 23:01	100413-2
	Thallium	49.7	ug/L	50	ug/L	99.3	90.0 – 110.0	MS	13-APR-10 23:01	100413-2
	Uranium	50.9	ug/L	50	ug/L	101.8	90.0 – 110.0	MS	13-APR-10 23:01	100413-2
CCV08	Mercury	5.05	ug/L	5	ug/L	100.9	80.0 – 120.0	AV	16-MAR-10 12:10	031610S1-3
	Aluminum	5110	ug/L	5000	ug/L	102.2	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Antimony	506	ug/L	500	ug/L	101.2	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Barium	503	ug/L	500	ug/L	100.6	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Cadmium	502	ug/L	500	ug/L	100.3	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Calcium	5090	ug/L	5000	ug/L	101.8	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Chromium	501	ug/L	500	ug/L	100.1	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Cobalt	506	ug/L	500	ug/L	101.2	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Copper	502	ug/L	500	ug/L	100.4	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Iron	5060	ug/L	5000	ug/L	101.2	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-2197

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA4

<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	508	ug/L	500	ug/L	101.6	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Magnesium	5160	ug/L	5000	ug/L	103.3	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Manganese	504	ug/L	500	ug/L	100.7	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Potassium	5110	ug/L	5000	ug/L	102.2	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Silver	506	ug/L	500	ug/L	101.2	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Sodium	10100	ug/L	10000	ug/L	100.7	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Vanadium	506	ug/L	500	ug/L	101.2	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Zinc	500	ug/L	500	ug/L	100	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Arsenic	50.7	ug/L	50	ug/L	101.3	90.0 – 110.0	MS	13-APR-10 23:47	100413-2
	Beryllium	54	ug/L	50	ug/L	108	90.0 – 110.0	MS	13-APR-10 23:47	100413-2
	Nickel	48.4	ug/L	50	ug/L	96.8	90.0 – 110.0	MS	13-APR-10 23:47	100413-2
	Selenium	49.5	ug/L	50	ug/L	98.9	90.0 – 110.0	MS	13-APR-10 23:47	100413-2
	Thallium	50.4	ug/L	50	ug/L	100.9	90.0 – 110.0	MS	13-APR-10 23:47	100413-2
	Uranium	51.2	ug/L	50	ug/L	102.5	90.0 – 110.0	MS	13-APR-10 23:47	100413-2
CCV09										
	Mercury	5.08	ug/L	5	ug/L	101.7	80.0 – 120.0	AV	16-MAR-10 12:30	031610S1-3
	Aluminum	5090	ug/L	5000	ug/L	101.9	90.0 – 110.0	P	30-MAR-10 18:22	033010B-1
	Antimony	503	ug/L	500	ug/L	100.5	90.0 – 110.0	P	30-MAR-10 18:22	033010B-1
	Barium	502	ug/L	500	ug/L	100.4	90.0 – 110.0	P	30-MAR-10 18:22	033010B-1
	Cadmium	503	ug/L	500	ug/L	100.7	90.0 – 110.0	P	30-MAR-10 18:22	033010B-1
	Calcium	5090	ug/L	5000	ug/L	101.8	90.0 – 110.0	P	30-MAR-10 18:22	033010B-1
	Chromium	500	ug/L	500	ug/L	100.1	90.0 – 110.0	P	30-MAR-10 18:22	033010B-1
	Cobalt	505	ug/L	500	ug/L	101.1	90.0 – 110.0	P	30-MAR-10 18:22	033010B-1
	Copper	501	ug/L	500	ug/L	100.2	90.0 – 110.0	P	30-MAR-10 18:22	033010B-1
	Iron	5060	ug/L	5000	ug/L	101.1	90.0 – 110.0	P	30-MAR-10 18:22	033010B-1
	Lead	506	ug/L	500	ug/L	101.2	90.0 – 110.0	P	30-MAR-10 18:22	033010B-1
	Magnesium	5180	ug/L	5000	ug/L	103.7	90.0 – 110.0	P	30-MAR-10 18:22	033010B-1
	Manganese	503	ug/L	500	ug/L	100.7	90.0 – 110.0	P	30-MAR-10 18:22	033010B-1
	Potassium	5080	ug/L	5000	ug/L	101.7	90.0 – 110.0	P	30-MAR-10 18:22	033010B-1
	Silver	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	30-MAR-10 18:22	033010B-1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-2197

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA4

<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	100.8	90.0 – 110.0	P	30-MAR-10 18:22	033010B-1
	Vanadium	504	ug/L	500	ug/L	100.9	90.0 – 110.0	P	30-MAR-10 18:22	033010B-1
	Zinc	500	ug/L	500	ug/L	100	90.0 – 110.0	P	30-MAR-10 18:22	033010B-1
	Arsenic	50.8	ug/L	50	ug/L	101.6	90.0 – 110.0	MS	14-APR-10 00:32	100413-2
	Beryllium	53.8	ug/L	50	ug/L	107.7	90.0 – 110.0	MS	14-APR-10 00:32	100413-2
	Nickel	48.5	ug/L	50	ug/L	97	90.0 – 110.0	MS	14-APR-10 00:32	100413-2
	Selenium	50	ug/L	50	ug/L	99.9	90.0 – 110.0	MS	14-APR-10 00:32	100413-2
	Thallium	49.6	ug/L	50	ug/L	99.2	90.0 – 110.0	MS	14-APR-10 00:32	100413-2
	Uranium	50.4	ug/L	50	ug/L	100.9	90.0 – 110.0	MS	14-APR-10 00:32	100413-2
CCV10										
	Mercury	5.07	ug/L	5	ug/L	101.4	80.0 – 120.0	AV	16-MAR-10 12:51	031610S1-3
	Aluminum	5120	ug/L	5000	ug/L	102.4	90.0 – 110.0	P	30-MAR-10 18:44	033010B-1
	Antimony	502	ug/L	500	ug/L	100.5	90.0 – 110.0	P	30-MAR-10 18:44	033010B-1
	Barium	503	ug/L	500	ug/L	100.6	90.0 – 110.0	P	30-MAR-10 18:44	033010B-1
	Cadmium	504	ug/L	500	ug/L	100.7	90.0 – 110.0	P	30-MAR-10 18:44	033010B-1
	Calcium	5110	ug/L	5000	ug/L	102.1	90.0 – 110.0	P	30-MAR-10 18:44	033010B-1
	Chromium	500	ug/L	500	ug/L	100.1	90.0 – 110.0	P	30-MAR-10 18:44	033010B-1
	Cobalt	506	ug/L	500	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 18:44	033010B-1
	Copper	502	ug/L	500	ug/L	100.5	90.0 – 110.0	P	30-MAR-10 18:44	033010B-1
	Iron	5060	ug/L	5000	ug/L	101.2	90.0 – 110.0	P	30-MAR-10 18:44	033010B-1
	Lead	507	ug/L	500	ug/L	101.4	90.0 – 110.0	P	30-MAR-10 18:44	033010B-1
	Magnesium	5210	ug/L	5000	ug/L	104.2	90.0 – 110.0	P	30-MAR-10 18:44	033010B-1
	Manganese	504	ug/L	500	ug/L	100.9	90.0 – 110.0	P	30-MAR-10 18:44	033010B-1
	Potassium	5150	ug/L	5000	ug/L	103	90.0 – 110.0	P	30-MAR-10 18:44	033010B-1
	Silver	505	ug/L	500	ug/L	100.9	90.0 – 110.0	P	30-MAR-10 18:44	033010B-1
	Sodium	10100	ug/L	10000	ug/L	100.9	90.0 – 110.0	P	30-MAR-10 18:44	033010B-1
	Vanadium	506	ug/L	500	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 18:44	033010B-1
	Zinc	500	ug/L	500	ug/L	100.1	90.0 – 110.0	P	30-MAR-10 18:44	033010B-1
	Arsenic	50.7	ug/L	50	ug/L	101.4	90.0 – 110.0	MS	14-APR-10 01:17	100413-2
	Beryllium	54.2	ug/L	50	ug/L	108.4	90.0 – 110.0	MS	14-APR-10 01:17	100413-2

## METALS

-2a-

## Initial and Continuing Calibration Verification

SDG No: 10-2197

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA4

<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	Nickel	47.7	ug/L	50	ug/L	95.4	90.0 - 110.0	MS	14-APR-10 01:17	100413-2
	Selenium	50.4	ug/L	50	ug/L	100.8	90.0 - 110.0	MS	14-APR-10 01:17	100413-2
	Thallium	49.2	ug/L	50	ug/L	98.3	90.0 - 110.0	MS	14-APR-10 01:17	100413-2
	Uranium	50.1	ug/L	50	ug/L	100.1	90.0 - 110.0	MS	14-APR-10 01:17	100413-2
CCV11	Mercury	5.07	ug/L	5	ug/L	101.3	80.0 - 120.0	AV	16-MAR-10 13:11	031610S1-3
	Aluminum	5120	ug/L	5000	ug/L	102.3	90.0 - 110.0	P	30-MAR-10 19:02	033010B-1
	Antimony	511	ug/L	500	ug/L	102.1	90.0 - 110.0	P	30-MAR-10 19:02	033010B-1
	Barium	507	ug/L	500	ug/L	101.3	90.0 - 110.0	P	30-MAR-10 19:02	033010B-1
	Cadmium	509	ug/L	500	ug/L	101.8	90.0 - 110.0	P	30-MAR-10 19:02	033010B-1
	Calcium	5090	ug/L	5000	ug/L	101.9	90.0 - 110.0	P	30-MAR-10 19:02	033010B-1
	Chromium	505	ug/L	500	ug/L	101	90.0 - 110.0	P	30-MAR-10 19:02	033010B-1
	Cobalt	511	ug/L	500	ug/L	102.2	90.0 - 110.0	P	30-MAR-10 19:02	033010B-1
	Copper	505	ug/L	500	ug/L	101.1	90.0 - 110.0	P	30-MAR-10 19:02	033010B-1
	Iron	5060	ug/L	5000	ug/L	101.3	90.0 - 110.0	P	30-MAR-10 19:02	033010B-1
	Lead	514	ug/L	500	ug/L	102.9	90.0 - 110.0	P	30-MAR-10 19:02	033010B-1
	Magnesium	5190	ug/L	5000	ug/L	103.8	90.0 - 110.0	P	30-MAR-10 19:02	033010B-1
	Manganese	508	ug/L	500	ug/L	101.6	90.0 - 110.0	P	30-MAR-10 19:02	033010B-1
	Potassium	5160	ug/L	5000	ug/L	103.1	90.0 - 110.0	P	30-MAR-10 19:02	033010B-1
	Silver	508	ug/L	500	ug/L	101.5	90.0 - 110.0	P	30-MAR-10 19:02	033010B-1
	Sodium	10100	ug/L	10000	ug/L	100.6	90.0 - 110.0	P	30-MAR-10 19:02	033010B-1
	Vanadium	510	ug/L	500	ug/L	101.9	90.0 - 110.0	P	30-MAR-10 19:02	033010B-1
	Zinc	506	ug/L	500	ug/L	101.2	90.0 - 110.0	P	30-MAR-10 19:02	033010B-1
	Arsenic	49.6	ug/L	50	ug/L	99.2	90.0 - 110.0	MS	14-APR-10 01:54	100413-2
	Beryllium	53.5	ug/L	50	ug/L	107	90.0 - 110.0	MS	14-APR-10 01:54	100413-2
	Nickel	47.9	ug/L	50	ug/L	95.7	90.0 - 110.0	MS	14-APR-10 01:54	100413-2
	Selenium	49.6	ug/L	50	ug/L	99.2	90.0 - 110.0	MS	14-APR-10 01:54	100413-2
	Thallium	50.3	ug/L	50	ug/L	100.6	90.0 - 110.0	MS	14-APR-10 01:54	100413-2
	Uranium	50.9	ug/L	50	ug/L	101.7	90.0 - 110.0	MS	14-APR-10 01:54	100413-2

## METALS

-2a-

## Initial and Continuing Calibration Verification

SDG No: 10-2197

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA4

<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>
CCV12										
	Mercury	5.13	ug/L	5	ug/L	102.6	80.0 – 120.0	AV	16-MAR-10 13:31	031610S1-3
	Aluminum	5130	ug/L	5000	ug/L	102.6	90.0 – 110.0	P	30-MAR-10 19:19	033010B-1
	Antimony	503	ug/L	500	ug/L	100.7	90.0 – 110.0	P	30-MAR-10 19:19	033010B-1
	Barium	501	ug/L	500	ug/L	100.1	90.0 – 110.0	P	30-MAR-10 19:19	033010B-1
	Cadmium	502	ug/L	500	ug/L	100.4	90.0 – 110.0	P	30-MAR-10 19:19	033010B-1
	Calcium	5080	ug/L	5000	ug/L	101.7	90.0 – 110.0	P	30-MAR-10 19:19	033010B-1
	Chromium	498	ug/L	500	ug/L	99.7	90.0 – 110.0	P	30-MAR-10 19:19	033010B-1
	Cobalt	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	30-MAR-10 19:19	033010B-1
	Copper	499	ug/L	500	ug/L	99.9	90.0 – 110.0	P	30-MAR-10 19:19	033010B-1
	Iron	5060	ug/L	5000	ug/L	101.1	90.0 – 110.0	P	30-MAR-10 19:19	033010B-1
	Lead	508	ug/L	500	ug/L	101.5	90.0 – 110.0	P	30-MAR-10 19:19	033010B-1
	Magnesium	5200	ug/L	5000	ug/L	104	90.0 – 110.0	P	30-MAR-10 19:19	033010B-1
	Manganese	501	ug/L	500	ug/L	100.3	90.0 – 110.0	P	30-MAR-10 19:19	033010B-1
	Potassium	5160	ug/L	5000	ug/L	103.2	90.0 – 110.0	P	30-MAR-10 19:19	033010B-1
	Silver	502	ug/L	500	ug/L	100.4	90.0 – 110.0	P	30-MAR-10 19:19	033010B-1
	Sodium	10000	ug/L	10000	ug/L	100.5	90.0 – 110.0	P	30-MAR-10 19:19	033010B-1
	Vanadium	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	30-MAR-10 19:19	033010B-1
	Zinc	499	ug/L	500	ug/L	99.8	90.0 – 110.0	P	30-MAR-10 19:19	033010B-1
	Arsenic	51.1	ug/L	50	ug/L	102.2	90.0 – 110.0	MS	14-APR-10 02:27	100413-2
	Beryllium	53	ug/L	50	ug/L	105.9	90.0 – 110.0	MS	14-APR-10 02:27	100413-2
	Nickel	47.9	ug/L	50	ug/L	95.8	90.0 – 110.0	MS	14-APR-10 02:27	100413-2
	Selenium	51.3	ug/L	50	ug/L	102.6	90.0 – 110.0	MS	14-APR-10 02:27	100413-2
	Thallium	49.6	ug/L	50	ug/L	99.1	90.0 – 110.0	MS	14-APR-10 02:27	100413-2
	Uranium	50.3	ug/L	50	ug/L	100.6	90.0 – 110.0	MS	14-APR-10 02:27	100413-2
CCV13										
	Mercury	5.34	ug/L	5	ug/L	106.7	80.0 – 120.0	AV	16-MAR-10 13:52	031610S1-3
	Aluminum	5120	ug/L	5000	ug/L	102.4	90.0 – 110.0	P	30-MAR-10 19:43	033010B-1
	Antimony	503	ug/L	500	ug/L	100.7	90.0 – 110.0	P	30-MAR-10 19:43	033010B-1
	Barium	500	ug/L	500	ug/L	99.9	90.0 – 110.0	P	30-MAR-10 19:43	033010B-1
	Cadmium	498	ug/L	500	ug/L	99.5	90.0 – 110.0	P	30-MAR-10 19:43	033010B-1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-2197

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA4

<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	5040	ug/L	5000	ug/L	100.7	90.0 - 110.0	P	30-MAR-10 19:43	033010B-1
	Chromium	498	ug/L	500	ug/L	99.5	90.0 - 110.0	P	30-MAR-10 19:43	033010B-1
	Cobalt	500	ug/L	500	ug/L	100.1	90.0 - 110.0	P	30-MAR-10 19:43	033010B-1
	Copper	499	ug/L	500	ug/L	99.8	90.0 - 110.0	P	30-MAR-10 19:43	033010B-1
	Iron	5010	ug/L	5000	ug/L	100.2	90.0 - 110.0	P	30-MAR-10 19:43	033010B-1
	Lead	505	ug/L	500	ug/L	101.1	90.0 - 110.0	P	30-MAR-10 19:43	033010B-1
	Magnesium	5140	ug/L	5000	ug/L	102.7	90.0 - 110.0	P	30-MAR-10 19:43	033010B-1
	Manganese	501	ug/L	500	ug/L	100.1	90.0 - 110.0	P	30-MAR-10 19:43	033010B-1
	Potassium	5110	ug/L	5000	ug/L	102.2	90.0 - 110.0	P	30-MAR-10 19:43	033010B-1
	Silver	502	ug/L	500	ug/L	100.4	90.0 - 110.0	P	30-MAR-10 19:43	033010B-1
	Sodium	10000	ug/L	10000	ug/L	100.2	90.0 - 110.0	P	30-MAR-10 19:43	033010B-1
	Vanadium	503	ug/L	500	ug/L	100.5	90.0 - 110.0	P	30-MAR-10 19:43	033010B-1
	Zinc	496	ug/L	500	ug/L	99.3	90.0 - 110.0	P	30-MAR-10 19:43	033010B-1
CCV14	Mercury	5.33	ug/L	5	ug/L	106.7	80.0 - 120.0	AV	16-MAR-10 14:12	031610S1-3
	Aluminum	5140	ug/L	5000	ug/L	102.8	90.0 - 110.0	P	30-MAR-10 20:08	033010B-1
	Antimony	504	ug/L	500	ug/L	100.8	90.0 - 110.0	P	30-MAR-10 20:08	033010B-1
	Barium	502	ug/L	500	ug/L	100.5	90.0 - 110.0	P	30-MAR-10 20:08	033010B-1
	Cadmium	503	ug/L	500	ug/L	100.6	90.0 - 110.0	P	30-MAR-10 20:08	033010B-1
	Calcium	5090	ug/L	5000	ug/L	101.8	90.0 - 110.0	P	30-MAR-10 20:08	033010B-1
	Chromium	500	ug/L	500	ug/L	100	90.0 - 110.0	P	30-MAR-10 20:08	033010B-1
	Cobalt	507	ug/L	500	ug/L	101.3	90.0 - 110.0	P	30-MAR-10 20:08	033010B-1
	Copper	501	ug/L	500	ug/L	100.2	90.0 - 110.0	P	30-MAR-10 20:08	033010B-1
	Iron	5080	ug/L	5000	ug/L	101.5	90.0 - 110.0	P	30-MAR-10 20:08	033010B-1
	Lead	508	ug/L	500	ug/L	101.6	90.0 - 110.0	P	30-MAR-10 20:08	033010B-1
	Magnesium	5230	ug/L	5000	ug/L	104.6	90.0 - 110.0	P	30-MAR-10 20:08	033010B-1
	Manganese	504	ug/L	500	ug/L	100.7	90.0 - 110.0	P	30-MAR-10 20:08	033010B-1
	Potassium	5210	ug/L	5000	ug/L	104.2	90.0 - 110.0	P	30-MAR-10 20:08	033010B-1
	Silver	504	ug/L	500	ug/L	100.7	90.0 - 110.0	P	30-MAR-10 20:08	033010B-1
	Sodium	10100	ug/L	10000	ug/L	100.9	90.0 - 110.0	P	30-MAR-10 20:08	033010B-1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-2197

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA4

<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>
CCV15	Vanadium	505	ug/L	500	ug/L	101.1	90.0 – 110.0	P	30-MAR-10 20:08	033010B-1
	Zinc	501	ug/L	500	ug/L	100.2	90.0 – 110.0	P	30-MAR-10 20:08	033010B-1
	Aluminum	5150	ug/L	5000	ug/L	103	90.0 – 110.0	P	30-MAR-10 20:27	033010B-1
	Antimony	507	ug/L	500	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 20:27	033010B-1
	Barium	503	ug/L	500	ug/L	100.6	90.0 – 110.0	P	30-MAR-10 20:27	033010B-1
	Cadmium	506	ug/L	500	ug/L	101.1	90.0 – 110.0	P	30-MAR-10 20:27	033010B-1
	Calcium	5100	ug/L	5000	ug/L	102	90.0 – 110.0	P	30-MAR-10 20:27	033010B-1
	Chromium	500	ug/L	500	ug/L	99.9	90.0 – 110.0	P	30-MAR-10 20:27	033010B-1
	Cobalt	508	ug/L	500	ug/L	101.6	90.0 – 110.0	P	30-MAR-10 20:27	033010B-1
	Copper	501	ug/L	500	ug/L	100.1	90.0 – 110.0	P	30-MAR-10 20:27	033010B-1
	Iron	5080	ug/L	5000	ug/L	101.6	90.0 – 110.0	P	30-MAR-10 20:27	033010B-1
	Lead	510	ug/L	500	ug/L	102.1	90.0 – 110.0	P	30-MAR-10 20:27	033010B-1
	Magnesium	5210	ug/L	5000	ug/L	104.3	90.0 – 110.0	P	30-MAR-10 20:27	033010B-1
	Manganese	505	ug/L	500	ug/L	101	90.0 – 110.0	P	30-MAR-10 20:27	033010B-1
	Potassium	5150	ug/L	5000	ug/L	103.1	90.0 – 110.0	P	30-MAR-10 20:27	033010B-1
	Silver	505	ug/L	500	ug/L	100.9	90.0 – 110.0	P	30-MAR-10 20:27	033010B-1
	Sodium	10100	ug/L	10000	ug/L	101	90.0 – 110.0	P	30-MAR-10 20:27	033010B-1
	Vanadium	506	ug/L	500	ug/L	101.2	90.0 – 110.0	P	30-MAR-10 20:27	033010B-1
	Zinc	503	ug/L	500	ug/L	100.6	90.0 – 110.0	P	30-MAR-10 20:27	033010B-1
CCV16	Aluminum	5190	ug/L	5000	ug/L	103.8	90.0 – 110.0	P	30-MAR-10 20:44	033010B-1
	Antimony	507	ug/L	500	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 20:44	033010B-1
	Barium	502	ug/L	500	ug/L	100.4	90.0 – 110.0	P	30-MAR-10 20:44	033010B-1
	Cadmium	501	ug/L	500	ug/L	100.1	90.0 – 110.0	P	30-MAR-10 20:44	033010B-1
	Calcium	5090	ug/L	5000	ug/L	101.7	90.0 – 110.0	P	30-MAR-10 20:44	033010B-1
	Chromium	498	ug/L	500	ug/L	99.6	90.0 – 110.0	P	30-MAR-10 20:44	033010B-1
	Cobalt	505	ug/L	500	ug/L	100.9	90.0 – 110.0	P	30-MAR-10 20:44	033010B-1
	Copper	501	ug/L	500	ug/L	100.3	90.0 – 110.0	P	30-MAR-10 20:44	033010B-1
	Iron	5080	ug/L	5000	ug/L	101.6	90.0 – 110.0	P	30-MAR-10 20:44	033010B-1



**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-2197

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA4

<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	509	ug/L	500	ug/L	101.9	90.0 – 110.0	P	30-MAR-10 20:44	033010B-1
	Magnesium	5180	ug/L	5000	ug/L	103.7	90.0 – 110.0	P	30-MAR-10 20:44	033010B-1
	Manganese	503	ug/L	500	ug/L	100.6	90.0 – 110.0	P	30-MAR-10 20:44	033010B-1
	Potassium	5130	ug/L	5000	ug/L	102.7	90.0 – 110.0	P	30-MAR-10 20:44	033010B-1
	Silver	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	30-MAR-10 20:44	033010B-1
	Sodium	10100	ug/L	10000	ug/L	101.2	90.0 – 110.0	P	30-MAR-10 20:44	033010B-1
	Vanadium	505	ug/L	500	ug/L	101	90.0 – 110.0	P	30-MAR-10 20:44	033010B-1
	Zinc	499	ug/L	500	ug/L	99.9	90.0 – 110.0	P	30-MAR-10 20:44	033010B-1
CCV17	Aluminum	5150	ug/L	5000	ug/L	103	90.0 – 110.0	P	30-MAR-10 21:04	033010B-1
	Antimony	502	ug/L	500	ug/L	100.5	90.0 – 110.0	P	30-MAR-10 21:04	033010B-1
	Barium	503	ug/L	500	ug/L	100.5	90.0 – 110.0	P	30-MAR-10 21:04	033010B-1
	Cadmium	502	ug/L	500	ug/L	100.5	90.0 – 110.0	P	30-MAR-10 21:04	033010B-1
	Calcium	5070	ug/L	5000	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 21:04	033010B-1
	Chromium	499	ug/L	500	ug/L	99.8	90.0 – 110.0	P	30-MAR-10 21:04	033010B-1
	Cobalt	505	ug/L	500	ug/L	101	90.0 – 110.0	P	30-MAR-10 21:04	033010B-1
	Copper	501	ug/L	500	ug/L	100.2	90.0 – 110.0	P	30-MAR-10 21:04	033010B-1
	Iron	5050	ug/L	5000	ug/L	101.1	90.0 – 110.0	P	30-MAR-10 21:04	033010B-1
	Lead	505	ug/L	500	ug/L	101	90.0 – 110.0	P	30-MAR-10 21:04	033010B-1
	Magnesium	5210	ug/L	5000	ug/L	104.1	90.0 – 110.0	P	30-MAR-10 21:04	033010B-1
	Manganese	503	ug/L	500	ug/L	100.6	90.0 – 110.0	P	30-MAR-10 21:04	033010B-1
	Potassium	5130	ug/L	5000	ug/L	102.6	90.0 – 110.0	P	30-MAR-10 21:04	033010B-1
	Silver	504	ug/L	500	ug/L	100.7	90.0 – 110.0	P	30-MAR-10 21:04	033010B-1
	Sodium	10100	ug/L	10000	ug/L	101	90.0 – 110.0	P	30-MAR-10 21:04	033010B-1
	Vanadium	505	ug/L	500	ug/L	101.1	90.0 – 110.0	P	30-MAR-10 21:04	033010B-1
	Zinc	500	ug/L	500	ug/L	99.9	90.0 – 110.0	P	30-MAR-10 21:04	033010B-1
CCV18	Aluminum	5190	ug/L	5000	ug/L	103.8	90.0 – 110.0	P	30-MAR-10 21:18	033010B-1
	Antimony	502	ug/L	500	ug/L	100.4	90.0 – 110.0	P	30-MAR-10 21:18	033010B-1
	Barium	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	30-MAR-10 21:18	033010B-1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-2197

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA4

<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	505	ug/L	500	ug/L	100.9	90.0 – 110.0	P	30-MAR-10 21:18	033010B-1
	Calcium	5080	ug/L	5000	ug/L	101.6	90.0 – 110.0	P	30-MAR-10 21:18	033010B-1
	Chromium	500	ug/L	500	ug/L	100	90.0 – 110.0	P	30-MAR-10 21:18	033010B-1
	Cobalt	507	ug/L	500	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 21:18	033010B-1
	Copper	502	ug/L	500	ug/L	100.3	90.0 – 110.0	P	30-MAR-10 21:18	033010B-1
	Iron	5070	ug/L	5000	ug/L	101.5	90.0 – 110.0	P	30-MAR-10 21:18	033010B-1
	Lead	507	ug/L	500	ug/L	101.4	90.0 – 110.0	P	30-MAR-10 21:18	033010B-1
	Magnesium	5210	ug/L	5000	ug/L	104.3	90.0 – 110.0	P	30-MAR-10 21:18	033010B-1
	Manganese	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	30-MAR-10 21:18	033010B-1
	Potassium	5160	ug/L	5000	ug/L	103.3	90.0 – 110.0	P	30-MAR-10 21:18	033010B-1
	Silver	504	ug/L	500	ug/L	100.9	90.0 – 110.0	P	30-MAR-10 21:18	033010B-1
	Sodium	10100	ug/L	10000	ug/L	101	90.0 – 110.0	P	30-MAR-10 21:18	033010B-1
	Vanadium	506	ug/L	500	ug/L	101.2	90.0 – 110.0	P	30-MAR-10 21:18	033010B-1
	Zinc	501	ug/L	500	ug/L	100.3	90.0 – 110.0	P	30-MAR-10 21:18	033010B-1
CCV19	Aluminum	5180	ug/L	5000	ug/L	103.7	90.0 – 110.0	P	30-MAR-10 21:37	033010B-1
	Antimony	512	ug/L	500	ug/L	102.4	90.0 – 110.0	P	30-MAR-10 21:37	033010B-1
	Barium	508	ug/L	500	ug/L	101.5	90.0 – 110.0	P	30-MAR-10 21:37	033010B-1
	Cadmium	507	ug/L	500	ug/L	101.4	90.0 – 110.0	P	30-MAR-10 21:37	033010B-1
	Calcium	5090	ug/L	5000	ug/L	101.8	90.0 – 110.0	P	30-MAR-10 21:37	033010B-1
	Chromium	503	ug/L	500	ug/L	100.6	90.0 – 110.0	P	30-MAR-10 21:37	033010B-1
	Cobalt	511	ug/L	500	ug/L	102.1	90.0 – 110.0	P	30-MAR-10 21:37	033010B-1
	Copper	505	ug/L	500	ug/L	100.9	90.0 – 110.0	P	30-MAR-10 21:37	033010B-1
	Iron	5080	ug/L	5000	ug/L	101.6	90.0 – 110.0	P	30-MAR-10 21:37	033010B-1
	Lead	514	ug/L	500	ug/L	102.9	90.0 – 110.0	P	30-MAR-10 21:37	033010B-1
	Magnesium	5240	ug/L	5000	ug/L	104.8	90.0 – 110.0	P	30-MAR-10 21:37	033010B-1
	Manganese	507	ug/L	500	ug/L	101.4	90.0 – 110.0	P	30-MAR-10 21:37	033010B-1
	Potassium	5130	ug/L	5000	ug/L	102.5	90.0 – 110.0	P	30-MAR-10 21:37	033010B-1
	Silver	507	ug/L	500	ug/L	101.4	90.0 – 110.0	P	30-MAR-10 21:37	033010B-1
	Sodium	10100	ug/L	10000	ug/L	100.8	90.0 – 110.0	P	30-MAR-10 21:37	033010B-1

## METALS

-2a-

## Initial and Continuing Calibration Verification

SDG No: 10-2197

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA4

<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>
CCV20	Vanadium	509	ug/L	500	ug/L	101.8	90.0 – 110.0	P	30-MAR-10 21:37	033010B-1
	Zinc	505	ug/L	500	ug/L	101	90.0 – 110.0	P	30-MAR-10 21:37	033010B-1
	Aluminum	5240	ug/L	5000	ug/L	104.9	90.0 – 110.0	P	30-MAR-10 21:55	033010B-1
	Antimony	512	ug/L	500	ug/L	102.4	90.0 – 110.0	P	30-MAR-10 21:55	033010B-1
	Barium	509	ug/L	500	ug/L	101.8	90.0 – 110.0	P	30-MAR-10 21:55	033010B-1
	Cadmium	510	ug/L	500	ug/L	101.9	90.0 – 110.0	P	30-MAR-10 21:55	033010B-1
	Calcium	5160	ug/L	5000	ug/L	103.2	90.0 – 110.0	P	30-MAR-10 21:55	033010B-1
	Chromium	505	ug/L	500	ug/L	101	90.0 – 110.0	P	30-MAR-10 21:55	033010B-1
	Cobalt	511	ug/L	500	ug/L	102.3	90.0 – 110.0	P	30-MAR-10 21:55	033010B-1
	Copper	507	ug/L	500	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 21:55	033010B-1
	Iron	5150	ug/L	5000	ug/L	103.1	90.0 – 110.0	P	30-MAR-10 21:55	033010B-1
	Lead	515	ug/L	500	ug/L	103.1	90.0 – 110.0	P	30-MAR-10 21:55	033010B-1
	Magnesium	5310	ug/L	5000	ug/L	106.2	90.0 – 110.0	P	30-MAR-10 21:55	033010B-1
	Manganese	509	ug/L	500	ug/L	101.7	90.0 – 110.0	P	30-MAR-10 21:55	033010B-1
	Potassium	5290	ug/L	5000	ug/L	105.8	90.0 – 110.0	P	30-MAR-10 21:55	033010B-1
	Silver	508	ug/L	500	ug/L	101.5	90.0 – 110.0	P	30-MAR-10 21:55	033010B-1
	Sodium	10200	ug/L	10000	ug/L	102.2	90.0 – 110.0	P	30-MAR-10 21:55	033010B-1
	Vanadium	511	ug/L	500	ug/L	102.2	90.0 – 110.0	P	30-MAR-10 21:55	033010B-1
	Zinc	507	ug/L	500	ug/L	101.4	90.0 – 110.0	P	30-MAR-10 21:55	033010B-1
CCV21	Aluminum	5220	ug/L	5000	ug/L	104.4	90.0 – 110.0	P	30-MAR-10 22:16	033010B-1
	Antimony	508	ug/L	500	ug/L	101.6	90.0 – 110.0	P	30-MAR-10 22:16	033010B-1
	Barium	505	ug/L	500	ug/L	101	90.0 – 110.0	P	30-MAR-10 22:16	033010B-1
	Cadmium	501	ug/L	500	ug/L	100.3	90.0 – 110.0	P	30-MAR-10 22:16	033010B-1
	Calcium	5070	ug/L	5000	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 22:16	033010B-1
	Chromium	500	ug/L	500	ug/L	99.9	90.0 – 110.0	P	30-MAR-10 22:16	033010B-1
	Cobalt	506	ug/L	500	ug/L	101.2	90.0 – 110.0	P	30-MAR-10 22:16	033010B-1
	Copper	503	ug/L	500	ug/L	100.5	90.0 – 110.0	P	30-MAR-10 22:16	033010B-1
	Iron	5050	ug/L	5000	ug/L	101	90.0 – 110.0	P	30-MAR-10 22:16	033010B-1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-2197

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA4

<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	511	ug/L	500	ug/L	102.1	90.0 – 110.0	P	30-MAR-10 22:16	033010B-1
	Magnesium	5180	ug/L	5000	ug/L	103.7	90.0 – 110.0	P	30-MAR-10 22:16	033010B-1
	Manganese	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	30-MAR-10 22:16	033010B-1
	Potassium	5210	ug/L	5000	ug/L	104.1	90.0 – 110.0	P	30-MAR-10 22:16	033010B-1
	Silver	505	ug/L	500	ug/L	101.1	90.0 – 110.0	P	30-MAR-10 22:16	033010B-1
	Sodium	10100	ug/L	10000	ug/L	101.2	90.0 – 110.0	P	30-MAR-10 22:16	033010B-1
	Vanadium	508	ug/L	500	ug/L	101.6	90.0 – 110.0	P	30-MAR-10 22:16	033010B-1
	Zinc	500	ug/L	500	ug/L	100.1	90.0 – 110.0	P	30-MAR-10 22:16	033010B-1

**METALS**  
**-2b-**  
**CRDL Standard for AA & ICP**

SDG No: 10-2197

Contract: LANL01004

Lab Code: GEL

AA CRDL Standard Source: SPEX

ICP CRDL Standard Source Solutions Plus

Instrument ID: HG3,ICPMS5,OPTIMA4

<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	.165	ug/L	.2	ug/L	82.5	70.0 – 130.0	AV	16-MAR-10 09:51	031610S1-3
	Uranium	.292	ug/L	.2	ug/L	146	70.0 – 130.0	MS	13-APR-10 19:16	100413-2
	Nickel	2.28	ug/L	2	ug/L	114.1	70.0 – 130.0	MS	13-APR-10 19:16	100413-2
	Beryllium	.662	ug/L	.5	ug/L	132.4	70.0 – 130.0	MS	13-APR-10 19:16	100413-2
	Selenium	5.77	ug/L	5	ug/L	115.4	70.0 – 130.0	MS	13-APR-10 19:16	100413-2
	Arsenic	6.05	ug/L	5	ug/L	121	70.0 – 130.0	MS	13-APR-10 19:16	100413-2
	Thallium	1.22	ug/L	1	ug/L	121.8	70.0 – 130.0	MS	13-APR-10 19:16	100413-2
PQL01										
	Aluminum	218	ug/L	200	ug/L	108.8	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Iron	103	ug/L	100	ug/L	102.5	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Lead	9.3	ug/L	10	ug/L	93	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Magnesium	315	ug/L	300	ug/L	104.9	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Manganese	10.6	ug/L	10	ug/L	105.7	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Potassium	189	ug/L	150	ug/L	126.2	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Silver	6.06	ug/L	5	ug/L	121.1	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Sodium	294	ug/L	300	ug/L	98.1	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Antimony	10.4	ug/L	10	ug/L	103.9	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Barium	5.22	ug/L	5	ug/L	104.5	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Cadmium	5.03	ug/L	5	ug/L	100.6	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Chromium	4.93	ug/L	5	ug/L	98.6	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Cobalt	5.18	ug/L	5	ug/L	103.7	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Copper	10.4	ug/L	10	ug/L	104.4	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Vanadium	5.56	ug/L	5	ug/L	111.3	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Zinc	10.2	ug/L	10	ug/L	101.8	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Calcium	201	ug/L	200	ug/L	100.8	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-2197

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	0.068	+/-2	U	0.068	0.2	SOL	AV	16-MAR-10 09:50	031610S1-3
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	30-MAR-10 15:18	033010B-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 15:18	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 15:18	033010B-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 15:18	033010B-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 15:18	033010B-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 15:18	033010B-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 15:18	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	30-MAR-10 15:18	033010B-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 15:18	033010B-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	30-MAR-10 15:18	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	30-MAR-10 15:18	033010B-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	30-MAR-10 15:18	033010B-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	30-MAR-10 15:18	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 15:18	033010B-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	30-MAR-10 15:18	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 15:18	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 15:18	033010B-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	13-APR-10 19:12	100413-2
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	13-APR-10 19:12	100413-2
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	13-APR-10 19:12	100413-2
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	13-APR-10 19:12	100413-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	13-APR-10 19:12	100413-2
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	13-APR-10 19:12	100413-2
<b>CCB01</b>										
	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	16-MAR-10 09:55	031610S1-3
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	30-MAR-10 15:40	033010B-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 15:40	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 15:40	033010B-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 15:40	033010B-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 15:40	033010B-1

SW846

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-2197

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	30-MAR-10 15:40	033010B-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 15:40	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	30-MAR-10 15:40	033010B-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 15:40	033010B-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	30-MAR-10 15:40	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	30-MAR-10 15:40	033010B-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	30-MAR-10 15:40	033010B-1
	Potassium	103.4	+/-250	J	64.0	250	SOL	P	30-MAR-10 15:40	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 15:40	033010B-1
	Sodium	98.8	+/-250	J	70.0	250	SOL	P	30-MAR-10 15:40	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 15:40	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 15:40	033010B-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	13-APR-10 19:32	100413-2
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	13-APR-10 19:32	100413-2
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	13-APR-10 19:32	100413-2
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	13-APR-10 19:32	100413-2
	Thallium	0.324	+/-1	J	0.3	1.0	SOL	MS	13-APR-10 19:32	100413-2
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	13-APR-10 19:32	100413-2
<b>CCB02</b>	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	16-MAR-10 10:11	031610S1-3
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	30-MAR-10 15:56	033010B-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 15:56	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 15:56	033010B-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 15:56	033010B-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 15:56	033010B-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 15:56	033010B-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 15:56	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	30-MAR-10 15:56	033010B-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 15:56	033010B-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	30-MAR-10 15:56	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	30-MAR-10 15:56	033010B-1

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-2197

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	30-MAR-10 15:56	033010B-1
	Potassium	68.02	+/-250	J	64.0	250	SOL	P	30-MAR-10 15:56	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 15:56	033010B-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	30-MAR-10 15:56	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 15:56	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 15:56	033010B-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	13-APR-10 20:13	100413-2
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	13-APR-10 20:13	100413-2
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	13-APR-10 20:13	100413-2
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	13-APR-10 20:13	100413-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	13-APR-10 20:13	100413-2
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	13-APR-10 20:13	100413-2
<b>CCB03</b>	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	16-MAR-10 10:31	031610S1-3
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	30-MAR-10 16:16	033010B-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 16:16	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 16:16	033010B-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 16:16	033010B-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 16:16	033010B-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 16:16	033010B-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 16:16	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	30-MAR-10 16:16	033010B-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 16:16	033010B-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	30-MAR-10 16:16	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	30-MAR-10 16:16	033010B-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	30-MAR-10 16:16	033010B-1
	Potassium	96.01	+/-250	J	64.0	250	SOL	P	30-MAR-10 16:16	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 16:16	033010B-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	30-MAR-10 16:16	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 16:16	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 16:16	033010B-1



**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-2197

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	13-APR-10 20:46	100413-2
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	13-APR-10 20:46	100413-2
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	13-APR-10 20:46	100413-2
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	13-APR-10 20:46	100413-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	13-APR-10 20:46	100413-2
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	13-APR-10 20:46	100413-2
<b>CCB04</b>										
	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	16-MAR-10 10:51	031610S1-3
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	30-MAR-10 16:35	033010B-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 16:35	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 16:35	033010B-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 16:35	033010B-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 16:35	033010B-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 16:35	033010B-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 16:35	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	30-MAR-10 16:35	033010B-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 16:35	033010B-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	30-MAR-10 16:35	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	30-MAR-10 16:35	033010B-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	30-MAR-10 16:35	033010B-1
	Potassium	67.52	+/-250	J	64.0	250	SOL	P	30-MAR-10 16:35	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 16:35	033010B-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	30-MAR-10 16:35	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 16:35	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 16:35	033010B-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	13-APR-10 21:23	100413-2
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	13-APR-10 21:23	100413-2
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	13-APR-10 21:23	100413-2
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	13-APR-10 21:23	100413-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	13-APR-10 21:23	100413-2
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	13-APR-10 21:23	100413-2

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-2197

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>CCB05</b>										
	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	16-MAR-10 11:11	031610S1-3
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	30-MAR-10 16:59	033010B-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 16:59	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 16:59	033010B-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 16:59	033010B-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 16:59	033010B-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 16:59	033010B-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 16:59	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	30-MAR-10 16:59	033010B-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 16:59	033010B-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	30-MAR-10 16:59	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	30-MAR-10 16:59	033010B-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	30-MAR-10 16:59	033010B-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	30-MAR-10 16:59	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 16:59	033010B-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	30-MAR-10 16:59	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 16:59	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 16:59	033010B-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	13-APR-10 22:04	100413-2
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	13-APR-10 22:04	100413-2
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	13-APR-10 22:04	100413-2
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	13-APR-10 22:04	100413-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	13-APR-10 22:04	100413-2
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	13-APR-10 22:04	100413-2
<b>CCB06</b>										
	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	16-MAR-10 11:31	031610S1-3
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	30-MAR-10 17:21	033010B-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 17:21	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 17:21	033010B-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 17:21	033010B-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 17:21	033010B-1

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**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-2197

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	30-MAR-10 17:21	033010B-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 17:21	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	30-MAR-10 17:21	033010B-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 17:21	033010B-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	30-MAR-10 17:21	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	30-MAR-10 17:21	033010B-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	30-MAR-10 17:21	033010B-1
	Potassium	64.34	+/-250	J	64.0	250	SOL	P	30-MAR-10 17:21	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 17:21	033010B-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	30-MAR-10 17:21	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 17:21	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 17:21	033010B-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	13-APR-10 22:37	100413-2
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	13-APR-10 22:37	100413-2
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	13-APR-10 22:37	100413-2
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	13-APR-10 22:37	100413-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	13-APR-10 22:37	100413-2
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	13-APR-10 22:37	100413-2
<b>CCB07</b>	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	16-MAR-10 11:52	031610S1-3
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	30-MAR-10 17:42	033010B-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 17:42	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 17:42	033010B-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 17:42	033010B-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 17:42	033010B-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 17:42	033010B-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 17:42	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	30-MAR-10 17:42	033010B-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 17:42	033010B-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	30-MAR-10 17:42	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	30-MAR-10 17:42	033010B-1

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**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-2197

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	30-MAR-10 17:42	033010B-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	30-MAR-10 17:42	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 17:42	033010B-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	30-MAR-10 17:42	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 17:42	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 17:42	033010B-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	13-APR-10 23:05	100413-2
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	13-APR-10 23:05	100413-2
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	13-APR-10 23:05	100413-2
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	13-APR-10 23:05	100413-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	13-APR-10 23:05	100413-2
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	13-APR-10 23:05	100413-2
<b>CCB08</b>	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	16-MAR-10 12:12	031610S1-3
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	30-MAR-10 18:02	033010B-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 18:02	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 18:02	033010B-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 18:02	033010B-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 18:02	033010B-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 18:02	033010B-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 18:02	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	30-MAR-10 18:02	033010B-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 18:02	033010B-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	30-MAR-10 18:02	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	30-MAR-10 18:02	033010B-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	30-MAR-10 18:02	033010B-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	30-MAR-10 18:02	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 18:02	033010B-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	30-MAR-10 18:02	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 18:02	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 18:02	033010B-1

SW846

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-2197

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	13-APR-10 23:51	100413-2
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	13-APR-10 23:51	100413-2
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	13-APR-10 23:51	100413-2
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	13-APR-10 23:51	100413-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	13-APR-10 23:51	100413-2
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	13-APR-10 23:51	100413-2
<b>CCB09</b>	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	16-MAR-10 12:32	031610S1-3
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	30-MAR-10 18:24	033010B-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 18:24	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 18:24	033010B-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 18:24	033010B-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 18:24	033010B-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 18:24	033010B-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 18:24	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	30-MAR-10 18:24	033010B-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 18:24	033010B-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	30-MAR-10 18:24	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	30-MAR-10 18:24	033010B-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	30-MAR-10 18:24	033010B-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	30-MAR-10 18:24	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 18:24	033010B-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	30-MAR-10 18:24	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 18:24	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 18:24	033010B-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	14-APR-10 00:36	100413-2
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	14-APR-10 00:36	100413-2
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	14-APR-10 00:36	100413-2
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	14-APR-10 00:36	100413-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	14-APR-10 00:36	100413-2
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	14-APR-10 00:36	100413-2

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**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-2197

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>CCB10</b>										
	Mercury	0.068	+/- .2	U	0.068	0.2	SOL	AV	16-MAR-10 12:52	031610S1-3
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	30-MAR-10 18:46	033010B-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 18:46	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 18:46	033010B-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 18:46	033010B-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 18:46	033010B-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 18:46	033010B-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 18:46	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	30-MAR-10 18:46	033010B-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 18:46	033010B-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	30-MAR-10 18:46	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	30-MAR-10 18:46	033010B-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	30-MAR-10 18:46	033010B-1
	Potassium	81.43	+/-250	J	64.0	250	SOL	P	30-MAR-10 18:46	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 18:46	033010B-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	30-MAR-10 18:46	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 18:46	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 18:46	033010B-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	14-APR-10 01:21	100413-2
	Beryllium	0.1	+/- .5	U	0.1	0.5	SOL	MS	14-APR-10 01:21	100413-2
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	14-APR-10 01:21	100413-2
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	14-APR-10 01:21	100413-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	14-APR-10 01:21	100413-2
	Uranium	0.066	+/- .2	U	0.066	0.2	SOL	MS	14-APR-10 01:21	100413-2
<b>CCB11</b>										
	Mercury	0.068	+/- .2	U	0.068	0.2	SOL	AV	16-MAR-10 13:13	031610S1-3
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	30-MAR-10 19:04	033010B-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 19:04	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 19:04	033010B-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 19:04	033010B-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 19:04	033010B-1

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-2197

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>
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 19:04	033010B-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 19:04	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	30-MAR-10 19:04	033010B-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 19:04	033010B-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	30-MAR-10 19:04	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	30-MAR-10 19:04	033010B-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	30-MAR-10 19:04	033010B-1
	Potassium	83.35	+/-250	J	64.0	250	SOL	P	30-MAR-10 19:04	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 19:04	033010B-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	30-MAR-10 19:04	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 19:04	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 19:04	033010B-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	14-APR-10 01:58	100413-2
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	14-APR-10 01:58	100413-2
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	14-APR-10 01:58	100413-2
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	14-APR-10 01:58	100413-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	14-APR-10 01:58	100413-2
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	14-APR-10 01:58	100413-2
<b>CCB12</b>	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	16-MAR-10 13:33	031610S1-3
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	30-MAR-10 19:21	033010B-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 19:21	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 19:21	033010B-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 19:21	033010B-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 19:21	033010B-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 19:21	033010B-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 19:21	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	30-MAR-10 19:21	033010B-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 19:21	033010B-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	30-MAR-10 19:21	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	30-MAR-10 19:21	033010B-1

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-2197

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	30-MAR-10 19:21	033010B-1
	Potassium	120.74	+/-250	J	64.0	250	SOL	P	30-MAR-10 19:21	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 19:21	033010B-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	30-MAR-10 19:21	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 19:21	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 19:21	033010B-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	14-APR-10 02:31	100413-2
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	14-APR-10 02:31	100413-2
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	14-APR-10 02:31	100413-2
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	14-APR-10 02:31	100413-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	14-APR-10 02:31	100413-2
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	14-APR-10 02:31	100413-2
<b>CCB13</b>	Mercury	-0.068	+/-2	J	0.068	0.2	SOL	AV	16-MAR-10 13:53	031610S1-3
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	30-MAR-10 19:45	033010B-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 19:45	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 19:45	033010B-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 19:45	033010B-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 19:45	033010B-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 19:45	033010B-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 19:45	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	30-MAR-10 19:45	033010B-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 19:45	033010B-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	30-MAR-10 19:45	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	30-MAR-10 19:45	033010B-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	30-MAR-10 19:45	033010B-1
	Potassium	114.92	+/-250	J	64.0	250	SOL	P	30-MAR-10 19:45	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 19:45	033010B-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	30-MAR-10 19:45	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 19:45	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 19:45	033010B-1



**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-2197

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>CCB14</b>										
	Mercury	-0.069	+/-2	J	0.068	0.2	SOL	AV	16-MAR-10 14:14	031610S1-3
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	30-MAR-10 20:10	033010B-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 20:10	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 20:10	033010B-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 20:10	033010B-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 20:10	033010B-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 20:10	033010B-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 20:10	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	30-MAR-10 20:10	033010B-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 20:10	033010B-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	30-MAR-10 20:10	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	30-MAR-10 20:10	033010B-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	30-MAR-10 20:10	033010B-1
	Potassium	111.16	+/-250	J	64.0	250	SOL	P	30-MAR-10 20:10	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 20:10	033010B-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	30-MAR-10 20:10	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 20:10	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 20:10	033010B-1
<b>CCB15</b>										
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	30-MAR-10 20:29	033010B-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 20:29	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 20:29	033010B-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 20:29	033010B-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 20:29	033010B-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 20:29	033010B-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 20:29	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	30-MAR-10 20:29	033010B-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 20:29	033010B-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	30-MAR-10 20:29	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	30-MAR-10 20:29	033010B-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	30-MAR-10 20:29	033010B-1

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**Metals**  
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**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-2197

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>
CCB16	Potassium	98.84	+/-250	J	64.0	250	SOL	P	30-MAR-10 20:29	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 20:29	033010B-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	30-MAR-10 20:29	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 20:29	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 20:29	033010B-1
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	30-MAR-10 20:46	033010B-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 20:46	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 20:46	033010B-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 20:46	033010B-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 20:46	033010B-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 20:46	033010B-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 20:46	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	30-MAR-10 20:46	033010B-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 20:46	033010B-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	30-MAR-10 20:46	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	30-MAR-10 20:46	033010B-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	30-MAR-10 20:46	033010B-1
	Potassium	73.8	+/-250	J	64.0	250	SOL	P	30-MAR-10 20:46	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 20:46	033010B-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	30-MAR-10 20:46	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 20:46	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 20:46	033010B-1
CCB17	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	30-MAR-10 21:06	033010B-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 21:06	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 21:06	033010B-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 21:06	033010B-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 21:06	033010B-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 21:06	033010B-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 21:06	033010B-1

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-2197

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>
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	30-MAR-10 21:06	033010B-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 21:06	033010B-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	30-MAR-10 21:06	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	30-MAR-10 21:06	033010B-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	30-MAR-10 21:06	033010B-1
	Potassium	105.87	+/-250	J	64.0	250	SOL	P	30-MAR-10 21:06	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 21:06	033010B-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	30-MAR-10 21:06	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 21:06	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 21:06	033010B-1
CCB18	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	30-MAR-10 21:20	033010B-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 21:20	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 21:20	033010B-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 21:20	033010B-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 21:20	033010B-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 21:20	033010B-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 21:20	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	30-MAR-10 21:20	033010B-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 21:20	033010B-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	30-MAR-10 21:20	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	30-MAR-10 21:20	033010B-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	30-MAR-10 21:20	033010B-1
	Potassium	80.35	+/-250	J	64.0	250	SOL	P	30-MAR-10 21:20	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 21:20	033010B-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	30-MAR-10 21:20	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 21:20	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 21:20	033010B-1
CCB19	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	30-MAR-10 21:39	033010B-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 21:39	033010B-1

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-2197

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>
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 21:39	033010B-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 21:39	033010B-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 21:39	033010B-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 21:39	033010B-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 21:39	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	30-MAR-10 21:39	033010B-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 21:39	033010B-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	30-MAR-10 21:39	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	30-MAR-10 21:39	033010B-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	30-MAR-10 21:39	033010B-1
	Potassium	95.72	+/-250	J	64.0	250	SOL	P	30-MAR-10 21:39	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 21:39	033010B-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	30-MAR-10 21:39	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 21:39	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 21:39	033010B-1
<b>CCB20</b>	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	30-MAR-10 21:57	033010B-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 21:57	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 21:57	033010B-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 21:57	033010B-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 21:57	033010B-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 21:57	033010B-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 21:57	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	30-MAR-10 21:57	033010B-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 21:57	033010B-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	30-MAR-10 21:57	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	30-MAR-10 21:57	033010B-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	30-MAR-10 21:57	033010B-1
	Potassium	160.19	+/-250	J	64.0	250	SOL	P	30-MAR-10 21:57	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 21:57	033010B-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	30-MAR-10 21:57	033010B-1

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-2197

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>
CCB21	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 21:57	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 21:57	033010B-1
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	30-MAR-10 22:18	033010B-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 22:18	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 22:18	033010B-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 22:18	033010B-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 22:18	033010B-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 22:18	033010B-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	30-MAR-10 22:18	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	30-MAR-10 22:18	033010B-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	30-MAR-10 22:18	033010B-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	30-MAR-10 22:18	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	30-MAR-10 22:18	033010B-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	30-MAR-10 22:18	033010B-1
	Potassium	132.82	+/-250	J	64.0	250	SOL	P	30-MAR-10 22:18	033010B-1
	Silver	1.23	+/-5	J	1.0	5.0	SOL	P	30-MAR-10 22:18	033010B-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	30-MAR-10 22:18	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	30-MAR-10 22:18	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	30-MAR-10 22:18	033010B-1

**METALS**  
**-3b-**  
**PREPARATION BLANK SUMMARY**

**SDG NO.** 10-2197  
**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>
1202065014	Arsenic	0.199	mg/kg	+/-0.996	U	MS	0.199	0.996
	Beryllium	0.0199	mg/kg	+/-0.0996	U	MS	0.0199	0.0996
	Nickel	0.0996	mg/kg	+/-0.398	U	MS	0.0996	0.398
	Selenium	0.498	mg/kg	+/-0.996	U	MS	0.498	0.996
	Thallium	0.0598	mg/kg	+/-0.199	U	MS	0.0598	0.199
	Uranium	0.0132	mg/kg	+/-0.0398	U	MS	0.0132	0.0398
1202065045	Aluminum	6680	ug/Kg	+/-19600	U	P	6680	19600
	Antimony	324	ug/Kg	+/-982	U	P	324	982
	Barium	98.2	ug/Kg	+/-491	U	P	98.2	491
	Cadmium	98.2	ug/Kg	+/-491	U	P	98.2	491
	Copper	295	ug/Kg	+/-982	U	P	295	982
	Iron	7860	ug/Kg	+/-24600	U	P	7860	24600
	Lead	246	ug/Kg	+/-982	U	P	246	982
	Magnesium	8350	ug/Kg	+/-29500	U	P	8350	29500
	Manganese	196	ug/Kg	+/-982	U	P	196	982
	Potassium	12400	ug/Kg	+/-24600	J	P	6290	24600
	Silver	98.2	ug/Kg	+/-491	U	P	98.2	491
	Cobalt	147	ug/Kg	+/-491	U	P	147	491
	Chromium	147	ug/Kg	+/-491	U	P	147	491
	Calcium	7860	ug/Kg	+/-24600	U	P	7860	24600
	Sodium	6880	ug/Kg	+/-24600	U	P	6880	24600
	Vanadium	98.2	ug/Kg	+/-491	U	P	98.2	491
	Zinc	324	ug/Kg	+/-982	U	P	324	982
1202069763	Mercury	-4.08	ug/kg	+/-11.3	J	AV	3.86	11.3

## METALS

-4-

## Interference Check Sample

SDG No: 10-2197

Contract: LANL01004

Lab Code: GEL

ICS: O2Si

Instrument: OPTIMA4

<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	512000	ug/L	500000	ug/L	102	80.0 – 120.0	30-MAR-10 15:23	033010B-1
	Antimony	1.77	ug/L					30-MAR-10 15:23	033010B-1
	Barium	0.369	ug/L					30-MAR-10 15:23	033010B-1
	Cadmium	-1.71	ug/L					30-MAR-10 15:23	033010B-1
	Calcium	489000	ug/L	500000	ug/L	97.7	80.0 – 120.0	30-MAR-10 15:23	033010B-1
	Chromium	1.08	ug/L					30-MAR-10 15:23	033010B-1
	Cobalt	-6.45	ug/L					30-MAR-10 15:23	033010B-1
	Copper	3.23	ug/L					30-MAR-10 15:23	033010B-1
	Iron	193000	ug/L	200000	ug/L	96.6	80.0 – 120.0	30-MAR-10 15:23	033010B-1
	Lead	-4.72	ug/L					30-MAR-10 15:23	033010B-1
	Magnesium	491000	ug/L	500000	ug/L	98.1	80.0 – 120.0	30-MAR-10 15:23	033010B-1
	Manganese	3.1	ug/L					30-MAR-10 15:23	033010B-1
	Potassium	-113.0	ug/L					30-MAR-10 15:23	033010B-1
	Silver	0.19	ug/L					30-MAR-10 15:23	033010B-1
	Sodium	52.7	ug/L					30-MAR-10 15:23	033010B-1
	Vanadium	2.75	ug/L					30-MAR-10 15:23	033010B-1
	Zinc	8.7	ug/L					30-MAR-10 15:23	033010B-1
<b>ICSAB01</b>									
	Aluminum	511000	ug/L	500000	ug/L	102	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Antimony	509	ug/L	500	ug/L	102	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Barium	505	ug/L	500	ug/L	101	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Cadmium	480	ug/L	500	ug/L	96	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Calcium	487000	ug/L	500000	ug/L	97.4	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Chromium	493	ug/L	500	ug/L	98.6	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Cobalt	451	ug/L	500	ug/L	90.2	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Copper	547	ug/L	500	ug/L	109	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Iron	193000	ug/L	200000	ug/L	96.4	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Lead	472	ug/L	500	ug/L	94.5	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Magnesium	494000	ug/L	500000	ug/L	98.8	80.0 – 120.0	30-MAR-10 15:25	033010B-1

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**METALS**  
**-4-**  
**Interference Check Sample**

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SDG No: 10-2197

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	488	ug/L	500	ug/L	97.6	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Potassium	5610	ug/L	5000	ug/L	112	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Silver	271	ug/L	250	ug/L	108	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Sodium	5450	ug/L	5000	ug/L	109	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Vanadium	523	ug/L	500	ug/L	105	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Zinc	499	ug/L	500	ug/L	99.7	80.0 – 120.0	30-MAR-10 15:25	033010B-1

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## METALS

-4-

## Interference Check Sample

SDG No: 10-2197

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									
	Arsenic	-0.361	ug/L					13-APR-10 19:20	100413-2
	Beryllium	0.103	ug/L					13-APR-10 19:20	100413-2
	Nickel	2.78	ug/L					13-APR-10 19:20	100413-2
	Selenium	-1.05	ug/L					13-APR-10 19:20	100413-2
	Thallium	-0.004	ug/L					13-APR-10 19:20	100413-2
	Uranium	-0.012	ug/L					13-APR-10 19:20	100413-2
ICSAB01									
	Arsenic	20.6	ug/L	20	ug/L	103	80.0 - 120.0	13-APR-10 19:24	100413-2
	Beryllium	22.1	ug/L	20	ug/L	110	80.0 - 120.0	13-APR-10 19:24	100413-2
	Nickel	21.7	ug/L	23.31	ug/L	93	80.0 - 120.0	13-APR-10 19:24	100413-2
	Selenium	20.9	ug/L	20	ug/L	104	80.0 - 120.0	13-APR-10 19:24	100413-2
	Thallium	19.3	ug/L	20	ug/L	96.7	80.0 - 120.0	13-APR-10 19:24	100413-2
	Uranium	21.4	ug/L	20	ug/L	107	80.0 - 120.0	13-APR-10 19:24	100413-2

## METALS

-5a-

## Matrix Spike Summary

SDG NO. 10-2197

Client ID: RE36-10-8466S

Contract: LANL01004

Level: Low

Matrix: SOIL

% Solids: 88

Sample ID: 248526001

Spike ID: 1202065017

<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>
Arsenic	mg/kg	75-125	9.62		0.855	J	8.97	97.7		MS
Beryllium	mg/kg	75-125	5.95		0.46		5.61	98		MS
Nickel	mg/kg	75-125	9.59		3.22		5.61	114		MS
Selenium	mg/kg	75-125	2		0.567	U	2.24	89		MS
Thallium	mg/kg	75-125	9.3		0.0681	U	11.2	82.8		MS
Uranium	mg/kg	75-125	5.92		0.579		5.61	95.3		MS

## METALS

-5a-

## Matrix Spike Duplicate Summary

SDG NO. 10-2197 Client ID RE36-10-8466SD

Contract: LANL01004 Level: Low

Matrix: SOIL % Solids: 88

Sample ID: 248526001 Spike ID: 1202065024

<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>
Arsenic	mg/kg	75-125	8.1		0.855	J	8.2	88.4		MS
Beryllium	mg/kg	75-125	4.98		0.46		5.12	88.3		MS
Nickel	mg/kg	75-125	9.18		3.22		5.12	116		MS
Selenium	mg/kg	75-125	1.65		0.567	U	2.05	80.5		MS
Thallium	mg/kg	75-125	8.91		0.0681	U	10.2	86.8		MS
Uranium	mg/kg	75-125	5.4		0.579		5.12	94.2		MS

## METALS

-5a-

## Matrix Spike Summary

SDG NO. 10-2197 Client ID RE36-10-8466S

Contract: LANL01004 Level: Low

Matrix: SOIL % Solids: 88

Sample ID: 248526001 Spike ID: 1202065048

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Antimony	ug/Kg	75-125	47500		357	U	53300	89.1		P
Barium	ug/Kg	75-125	148000		37400		53300	207	N	P
Cadmium	ug/Kg	75-125	52000		108	U	53300	97.5		P
Calcium	ug/Kg	75-125	1220000		320000		533000	169	N	P
Chromium	ug/Kg	75-125	60800		17300		53300	81.5		P
Cobalt	ug/Kg	75-125	54900		1720		53300	99.8		P
Copper	ug/Kg	75-125	58800		3160		53300	104		P
Iron	ug/Kg		13000000		7510000		533000	1040	N/A	P
Lead	ug/Kg	75-125	91300		4740		53300	162	N	P
Magnesium	ug/Kg	75-125	4080000		378000		533000	695	N	P
Manganese	ug/Kg		605000		296000		53300	580	N/A	P
Potassium	ug/Kg	75-125	4080000		1030000		533000	572	N	P
Aluminum	ug/Kg		9390000		2210000		533000	1350	N/A	P
Silver	ug/Kg	75-125	51200		108	U	53300	95.9		P
Sodium	ug/Kg	75-125	2040000		1720000		533000	59.9	N	P
Vanadium	ug/Kg	75-125	72000		7270		53300	121		P
Zinc	ug/Kg	75-125	294000		37700		53300	480	N	P

## METALS

-5a-

## Matrix Spike Duplicate Summary

SDG NO. 10-2197 Client ID RE36-10-8466SD

Contract: LANL01004 Level: Low

Matrix: SOIL % Solids: 88

Sample ID: 248526001 Spike ID: 1202065050

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Copper	ug/Kg	75-125	61300		3160		55600	104		P
Iron	ug/Kg		8300000		7510000		556000	141	N/A	P
Lead	ug/Kg	75-125	60100		4740		55600	99.5		P
Magnesium	ug/Kg	75-125	1050000		378000		556000	122		P
Manganese	ug/Kg		319000		296000		55600	42.6	N/A	P
Potassium	ug/Kg	75-125	1760000		1030000		556000	131	N	P
Silver	ug/Kg	75-125	54100		108	U	55600	97.3		P
Sodium	ug/Kg	75-125	2320000		1720000		556000	106		P
Vanadium	ug/Kg	75-125	62400		7270		55600	99		P
Zinc	ug/Kg	75-125	92600		37700		55600	98.7		P
Aluminum	ug/Kg	75-125	4110000		2210000		556000	342	N	P
Antimony	ug/Kg	75-125	51200		357	U	55600	92.1		P
Barium	ug/Kg	75-125	86900		37400		55600	88.9		P
Cadmium	ug/Kg	75-125	55700		108	U	55600	100		P
Calcium	ug/Kg	75-125	888000		320000		556000	102		P
Chromium	ug/Kg	75-125	75300		17300		55600	104		P
Cobalt	ug/Kg	75-125	56200		1720		55600	97.9		P

## METALS

-5a-

## Matrix Spike Summary

SDG NO. 10-2197 Client ID RE11-10-1862S

Contract: LANL01004 Level: Low

Matrix: SOIL % Solids: 88

Sample ID: 248418001 Spike ID: 1202069766

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/kg	75-125	168		14.5		134	115		AV

## METALS

-5a-

## Matrix Spike Duplicate Summary

SDG NO. 10-2197 Client ID RE11-10-1862SD

Contract: LANL01004 Level: Low

Matrix: SOIL % Solids: 88

Sample ID: 248418001 Spike ID: 1202069768

<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	75-125	158		14.5		125	115		AV

**Metals**  
**-6-**  
**Duplicate Sample Summary**

SDG No.: 10-2197

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE36-10-8466D

Sample ID: 248526001

Duplicate ID: 1202065016

Percent Solids for Dup: 88

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	mg/kg	+/-1.07	0.855 J		0.953 J		10.9		MS
Beryllium	mg/kg	+/- .107	0.46		0.473		2.85		MS
Nickel	mg/kg	+/-20%	3.22		3.89		18.7		MS
Selenium	mg/kg		0.567 U		0.535 U				MS
Thallium	mg/kg		0.0681 U		0.0642 U				MS
Uranium	mg/kg	+/-20%	0.579		0.514		11.9		MS



**Metals**  
**-6-**  
**Duplicate Sample Summary**

SDG No.: 10-2197

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE36-10-8466SD

Sample ID: 1202065017

Duplicate ID: 1202065024

Percent Solids for Dup: 88

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	mg/kg	+/-20	9.62		8.1		17.2		MS
Beryllium	mg/kg	+/-20	5.95		4.98		17.8		MS
Nickel	mg/kg	+/-20	9.59		9.18		4.39		MS
Selenium	mg/kg	+/-20	2		1.65		19		MS
Thallium	mg/kg	+/-20	9.3		8.91		4.27		MS
Uranium	mg/kg	+/-20	5.92		5.4		9.15		MS

**Metals**  
**-6-**  
**Duplicate Sample Summary**

SDG No.: 10-2197

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE36-10-8466D

Sample ID: 248526001

Duplicate ID: 1202065047

Percent Solids for Dup: 88

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/Kg	+/-20%	2210000		2590000		15.7		P
Antimony	ug/Kg		357 U		357 U				P
Barium	ug/Kg	+/-20%	37400		33100		12.1		P
Cadmium	ug/Kg		108 U		108 U				P
Calcium	ug/Kg	+/-20%	320000		476000		39.2	*	P
Chromium	ug/Kg	+/-20%	17300		13500		24.4	*	P
Cobalt	ug/Kg	+/-540	1720		1820		5.47		P
Copper	ug/Kg	+/-1080	3160		3660		14.8		P
Iron	ug/Kg	+/-20%	7510000		8350000		10.6		P
Lead	ug/Kg	+/-1080	4740		5050		6.28		P
Magnesium	ug/Kg	+/-20%	378000		426000		12.2		P
Manganese	ug/Kg	+/-20%	296000		275000		7.13		P
Potassium	ug/Kg	+/-20%	1030000		1110000		7.7		P
Silver	ug/Kg		108 U		108 U				P
Sodium	ug/Kg	+/-20%	1720000		1820000		5.45		P
Vanadium	ug/Kg	+/-20%	7270		8660		17.5		P
Zinc	ug/Kg	+/-20%	37700		40300		6.66		P

**Metals**  
**-6-**  
**Duplicate Sample Summary**

SDG No.: 10-2197

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE36-10-8466SD

Sample ID: 1202065048

Duplicate ID: 1202065050

Percent Solids for Dup: 88

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/Kg	+/-20	9390000		4110000		78.2	*	P
Antimony	ug/Kg	+/-20	47500		51200		7.51		P
Barium	ug/Kg	+/-20	148000		86900		52.1	*	P
Cadmium	ug/Kg	+/-20	52000		55700		6.74		P
Calcium	ug/Kg	+/-20	1220000		888000		31.6	*	P
Chromium	ug/Kg	+/-20	60800		75300		21.4	*	P
Cobalt	ug/Kg	+/-20	54900		56200		2.28		P
Copper	ug/Kg	+/-20	58800		61300		4.1		P
Iron	ug/Kg	+/-20	13000000		8300000		44.4	*	P
Lead	ug/Kg	+/-20	91300		60100		41.2	*	P
Magnesium	ug/Kg	+/-20	4080000		1050000		118	*	P
Manganese	ug/Kg	+/-20	605000		319000		61.8	*	P
Potassium	ug/Kg	+/-20	4080000		1760000		79.5	*	P
Silver	ug/Kg	+/-20	51200		54100		5.58		P
Sodium	ug/Kg	+/-20	2040000		2320000		12.5		P
Vanadium	ug/Kg	+/-20	72000		62400		14.4		P
Zinc	ug/Kg	+/-20	294000		92600		104	*	P

---

**Metals**  
**-6-**  
**Duplicate Sample Summary**

**SDG No.:** 10-2197

**Contract:** LANL01004

**Lab Code:** GEL

**Matrix:** SOLID

**Level:** Low

**Client ID:** RE11-10-1862D

**Sample ID:** 248418001

**Duplicate ID:** 1202069765

**Percent Solids for Dup:** 88

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Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/kg	+/-12.1	14.5		15.5		6.97		AV

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### Duplicate Sample Summary

**Lab Code:** GEL

**Client ID:** RE11-10-1862SD

**Percent Solids for Dup: 88**

**METALS**  
-7-  
**Laboratory Control Sample Summary**

SDG NO. 10-2197

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>
1202065015								
	Arsenic	mg/kg	104	114		110	78-123	MS
	Beryllium	mg/kg	77.6	90		116	84-116	MS
	Nickel	mg/kg	134	148		110	78-123	MS
	Selenium	mg/kg	286	321		112	77-123	MS
	Thallium	mg/kg	121	141		116	78-122	MS
	Uranium	mg/kg	2.13	2.13		99.9	73-127	MS

## METALS

-7-

## Laboratory Control Sample Summary

SDG NO. 10-2197

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>
1202065046								
	Aluminum	ug/Kg	10500000	8890000		84.7	56-144	P
	Antimony	ug/Kg	173000	111000		64.1	71-130	P
	Barium	ug/Kg	198000	202000		102	80-120	P
	Cadmium	ug/Kg	60700	57300		94.4	81-120	P
	Calcium	ug/Kg	9870000	9740000		98.7	83-117	P
	Chromium	ug/Kg	236000	223000		94.5	80-120	P
	Cobalt	ug/Kg	91200	88700		97.3	81-120	P
	Copper	ug/Kg	174000	178000		102	81-118	P
	Iron	ug/Kg	18000000	18500000		103	51-149	P
	Lead	ug/Kg	86000	83400		96.9	79-121	P
	Magnesium	ug/Kg	4000000	3750000		93.6	79-122	P
	Manganese	ug/Kg	558000	530000		95	81-119	P
	Potassium	ug/Kg	4300000	4040000		94	74-127	P
	Silver	ug/Kg	30100	29900		99.5	66-134	P
	Sodium	ug/Kg	1020000	986000		96.7	74-127	P
	Vanadium	ug/Kg	115000	119000		103	79-121	P
	Zinc	ug/Kg	594000	563000		94.8	80-121	P

## METALS

-7-

## Laboratory Control Sample Summary

SDG NO. 10-2197

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>
1202069764	Mercury	ug/kg	5150	5440		106	71.6-128.3	AV

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## METALS

-9-

## Serial Dilution Sample Summary

SDG NO. 10-2197 Client ID RE36-10-8466L

Contract: LANL01004

Matrix: SOLID Level: Low

Sample ID: 248526001 Serial Dilution ID: 1202065018

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>
Arsenic	3.77	J	5	U	100			MS
Beryllium	2.03		1.92	J	5.67			MS
Nickel	14.2		15.6		9.51			MS
Selenium	2.5	U	12.5	U				MS
Thallium	.3	U	1.5	U				MS
Uranium	2.55		2.78		8.82			MS

## METALS

-9-

## Serial Dilution Sample Summary

SDG NO. 10-2197 Client ID RE36-10-8466L

Contract: LANL01004

Matrix: SOLID Level: Low

Sample ID: 248526001 Serial Dilution ID: 1202065049

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M
Aluminum	20400		20900		2.21		10	P
Antimony	3.3	U	16.5	U				P
Barium	345		351		1.74		10	P
Cadmium	1	U	5	U				P
Calcium	2960		2980		.676			P
Chromium	160		159		.625		10	P
Cobalt	15.9		15.8	J	.943			P
Copper	29.2		30.2	J	3.42			P
Iron	69400		70000		.865		10	P
Lead	43.8		37.8	J	13.7			P
Magnesium	3490		3560		1.86			P
Manganese	2730		2770		1.47		10	P
Potassium	9520		10200		6.62		10	P
Silver	1	U	5	U				P
Sodium	15900		16300		2.2		10	P
Vanadium	67.1		66		1.64		10	P
Zinc	348		349		.144		10	P

## METALS

-9-

## Serial Dilution Sample Summary

SDG NO. 10-2197 Client ID: RE11-10-1862L

Contract: LANL01004

Matrix: SOLID Level: Low

Sample ID: 248418001 Serial Dilution ID: 1202069767

<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	.232		.34	U	100			AV

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**METALS**  
**-13-**  
**SAMPLE PREPARATION SUMMARY**

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SDG No: 10-2197

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	962573						
1202065045	MB for batch 962573	MB	S	16-MAR-10	.509g	50mL	
1202065046	LCS for batch 962573	LCS	S	16-MAR-10	.517g	50mL	
1202065048	RE36-10-8466S	MS	S	16-MAR-10	.535g	50mL	
1202065050	RE36-10-8466SD	MSD	S	16-MAR-10	.513g	50mL	
1202065047	RE36-10-8466D	DUP	S	16-MAR-10	.528g	50mL	
248515001	RE36-10-7501	SAMPLE	S	16-MAR-10	.542g	50mL	
248515002	RE36-10-7524	SAMPLE	S	16-MAR-10	.513g	50mL	
248515003	RE36-10-7525	SAMPLE	S	16-MAR-10	.5g	50mL	

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SW846

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**METALS**  
**-13-**  
**SAMPLE PREPARATION SUMMARY**

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SDG No: 10-2197

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>
Batch Number	962563						
1202065014	MB for batch 962563	MB	S	16-MAR-10	.502g	50mL	
1202065015	LCS for batch 962563	LCS	S	16-MAR-10	.515g	50mL	
1202065017	RE36-10-8466S	MS	S	16-MAR-10	.509g	50mL	
1202065024	RE36-10-8466SD	MSD	S	16-MAR-10	.557g	50mL	
1202065016	RE36-10-8466D	DUP	S	16-MAR-10	.533g	50mL	
248515001	RE36-10-7501	SAMPLE	S	16-MAR-10	.525g	50mL	
248515002	RE36-10-7524	SAMPLE	S	16-MAR-10	.518g	50mL	
248515003	RE36-10-7525	SAMPLE	S	16-MAR-10	.52g	50mL	

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SW846

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**METALS**  
**-13-**  
**SAMPLE PREPARATION SUMMARY**

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SDG No: 10-2197

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>
<b>Batch Number</b> 964740							
1202069763	MB for batch 964740	MB	S	15-MAR-10	.529g	30mL	
1202069764	LCS for batch 964740	LCS	S	15-MAR-10	.206g	30mL	
1202069766	RE11-10-1862S	MS	S	15-MAR-10	.513g	30mL	
1202069768	RE11-10-1862SD	MSD	S	15-MAR-10	.547g	30mL	
1202069765	RE11-10-1862D	DUP	S	15-MAR-10	.565g	30mL	
248515001	RE36-10-7501	SAMPLE	S	15-MAR-10	.534g	30mL	
248515002	RE36-10-7524	SAMPLE	S	15-MAR-10	.5g	30mL	
248515003	RE36-10-7525	SAMPLE	S	15-MAR-10	.521g	30mL	

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SW846

**Metals**  
**-14-**  
**Analysis Run Log**

Contract: LANL01004

Lab Code: GEL

Inst Name: ICPMS5

Start Date: 13-APR-10

End Date: 14-APR-10

Client Sdg: 10-2197

Method MS

Data File: 100413-2

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	18:56:00			X		X											X	X				X	X		
S10	1	19:00:00			X		X											X	X				X	X		
S100	1	19:04:00			X		X											X	X				X	X		
ICV01	1	19:08:00			X		X											X	X				X	X		
ICB01	1	19:12:00			X		X											X	X				X	X		
CRDL01	1	19:16:00			X		X											X	X				X	X		
ICSA01	1	19:20:00			X		X											X	X				X	X		
ICSAB01	1	19:24:00			X		X											X	X				X	X		
CCV01	1	19:28:00			X		X											X	X				X	X		
CCB01	1	19:32:00			X		X											X	X				X	X		
ZZZZZZ	2	19:37:00																								
ZZZZZZ	40	19:41:00																								
ZZZZZZ	2	19:45:00																								
ZZZZZZ	2	19:49:00																								
ZZZZZZ	2	19:53:00																								
ZZZZZZ	2	19:57:00																								
ZZZZZZ	10	20:01:00																								
ZZZZZZ	2	20:05:00																								
CCV02	1	20:09:00			X		X											X	X				X	X		
CCB02	1	20:13:00			X		X											X	X				X	X		
ZZZZZZ	2	20:17:00																								
ZZZZZZ	2	20:21:00																								
ZZZZZZ	2	20:26:00																								
ZZZZZZ	2	20:30:00																								
ZZZZZZ	2	20:34:00																								
ZZZZZZ	2	20:38:00																								
CCV03	1	20:42:00			X		X											X	X				X	X		
CCB03	1	20:46:00			X		X											X	X				X	X		
ZZZZZZ	2	20:50:00																								
ZZZZZZ	2	20:54:00																								
ZZZZZZ	2	20:58:00																								
ZZZZZZ	2	21:02:00																								
ZZZZZZ	2	21:06:00																								
ZZZZZZ	2	21:11:00																								
ZZZZZZ	2	21:15:00																								
CCV04	1	21:19:00			X		X											X	X				X	X		
CCB04	1	21:23:00			X		X											X	X				X	X		
ZZZZZZ	2	21:27:00																								
ZZZZZZ	40	21:31:00																								
ZZZZZZ	2	21:35:00																								

**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	2	00:24:00																								
ZZZZZZ	2	00:28:00																								
CCV09	1	00:32:00			X		X											X	X				X	X		
CCB09	1	00:36:00			X		X											X	X				X	X		
1202065014	2	00:40:00			X		X											X	X				X	X		
1202065015	40	00:44:00			X		X											X	X				X	X		
248515001	2	00:48:00			X		X											X	X				X	X		
248515002	2	00:53:00			X		X											X	X				X	X		
248515003	2	00:57:00			X		X											X	X				X	X		
ZZZZZZ	2	01:01:00																								
ZZZZZZ	2	01:05:00																								
ZZZZZZ	2	01:09:00																								
ZZZZZZ	2	01:13:00																								
CCV10	1	01:17:00			X		X											X	X				X	X		
CCB10	1	01:21:00			X		X											X	X				X	X		
ZZZZZZ	2	01:25:00																								
ZZZZZZ	2	01:29:00																								
ZZZZZZ	2	01:33:00																								
ZZZZZZ	2	01:38:00																								
ZZZZZZ	2	01:42:00																								
ZZZZZZ	2	01:46:00																								
ZZZZZZ	2	01:50:00																								
CCV11	1	01:54:00			X		X											X	X				X	X		
CCB11	1	01:58:00			X		X											X	X				X	X		
ZZZZZZ	2	02:02:00																								
ZZZZZZ	2	02:06:00																								
1202065016	2	02:10:00			X		X											X	X				X	X		
1202065017	2	02:14:00			X		X											X	X				X	X		
1202065024	2	02:18:00			X		X											X	X				X	X		
1202065018	10	02:23:00			X		X											X	X				X	X		
CCV12	1	02:27:00			X		X											X	X				X	X		
CCB12	1	02:31:00			X		X											X	X				X	X		

**Metals**  
**-14-**  
**Analysis Run Log**

**Contract:** LANL01004**Lab Code:** GEL**Inst Name:** HG3**Start Date:** 16-MAR-10**Client Sdg:** 10-2197**Method:** AV**Data File:** 031610S1-3**End Date:** 16-MAR-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	09:38:00															X									
S0.2	1	09:40:00															X									
S0.5	1	09:41:00															X									
S2.0	1	09:43:00															X									
S5.0	1	09:45:00															X									
S10.0	1	09:46:00															X									
ICV01	1	09:48:00															X									
ICB01	1	09:50:00															X									
CRDL01	1	09:51:00															X									
CCV01	1	09:53:00															X									
CCB01	1	09:55:00															X									
ZZZZZZ	1	09:56:00																								
ZZZZZZ	10	09:58:00																								
ZZZZZZ	1	10:00:00																								
ZZZZZZ	1	10:01:00																								
ZZZZZZ	1	10:03:00																								
ZZZZZZ	1	10:05:00																								
CCV02	1	10:09:00															X									
CCB02	1	10:11:00															X									
ZZZZZZ	1	10:13:00																								
ZZZZZZ	1	10:14:00																								
ZZZZZZ	1	10:16:00																								
ZZZZZZ	1	10:18:00																								
ZZZZZZ	10	10:19:00																								
ZZZZZZ	1	10:21:00																								
ZZZZZZ	1	10:23:00																								
ZZZZZZ	1	10:24:00																								
ZZZZZZ	1	10:26:00																								
ZZZZZZ	5	10:28:00																								
CCV03	1	10:29:00															X									
CCB03	1	10:31:00															X									
ZZZZZZ	1	10:33:00																								
ZZZZZZ	1	10:34:00																								
ZZZZZZ	1	10:36:00																								
ZZZZZZ	1	10:38:00																								
ZZZZZZ	1	10:40:00																								
ZZZZZZ	1	10:41:00																								
ZZZZZZ	1	10:43:00																								
ZZZZZZ	1	10:45:00																								
ZZZZZZ	1	10:46:00																								

**Metals**  
**-14-**  
**Analysis Run Log**

Samp No.	D/F	Run Time
ZZZZZZ	1	10:48:00
CCV04	1	10:50:00
CCB04	1	10:51:00
ZZZZZZ	1	10:53:00
ZZZZZZ	1	10:55:00
ZZZZZZ	1	10:56:00
ZZZZZZ	1	10:58:00
ZZZZZZ	1	11:00:00
ZZZZZZ	1	11:01:00
ZZZZZZ	1	11:03:00
ZZZZZZ	1	11:05:00
ZZZZZZ	1	11:06:00
ZZZZZZ	1	11:08:00
CCV05	1	11:10:00
CCB05	1	11:11:00
ZZZZZZ	10	11:13:00
ZZZZZZ	1	11:15:00
ZZZZZZ	1	11:16:00
ZZZZZZ	1	11:18:00
ZZZZZZ	1	11:20:00
ZZZZZZ	1	11:21:00
ZZZZZZ	1	11:23:00
ZZZZZZ	1	11:25:00
ZZZZZZ	1	11:26:00
ZZZZZZ	1	11:28:00
CCV06	1	11:30:00
CCB06	1	11:31:00
ZZZZZZ	1	11:33:00
ZZZZZZ	1	11:35:00
ZZZZZZ	5	11:36:00
ZZZZZZ	1	11:38:00
ZZZZZZ	1	11:40:00
ZZZZZZ	1	11:42:00
ZZZZZZ	1	11:43:00
ZZZZZZ	1	11:45:00
ZZZZZZ	1	11:47:00
ZZZZZZ	1	11:48:00
CCV07	1	11:50:00
CCB07	1	11:52:00
ZZZZZZ	1	11:53:00

**Metals**  
**-14-**  
**Analysis Run Log**

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
ZZZZZZ	1	11:55:00																								
ZZZZZZ	1	11:57:00																								
ZZZZZZ	10	11:58:00																								
ZZZZZZ	1	12:00:00																								
ZZZZZZ	1	12:02:00																								
ZZZZZZ	1	12:03:00																								
ZZZZZZ	1	12:05:00																								
ZZZZZZ	1	12:07:00																								
ZZZZZZ	1	12:08:00																								
CCV08	1	12:10:00															X									
CCB08	1	12:12:00															X									
ZZZZZZ	1	12:13:00																								
ZZZZZZ	1	12:15:00																								
ZZZZZZ	1	12:17:00																								
ZZZZZZ	1	12:19:00																								
ZZZZZZ	1	12:20:00																								
ZZZZZZ	1	12:22:00																								
ZZZZZZ	1	12:24:00																								
ZZZZZZ	1	12:25:00																								
ZZZZZZ	1	12:27:00																								
ZZZZZZ	1	12:29:00																								
CCV09	1	12:30:00															X									
CCB09	1	12:32:00															X									
ZZZZZZ	1	12:34:00																								
ZZZZZZ	1	12:35:00																								
ZZZZZZ	1	12:37:00																								
ZZZZZZ	1	12:39:00																								
ZZZZZZ	1	12:40:00																								
ZZZZZZ	1	12:42:00																								
ZZZZZZ	10	12:44:00																								
ZZZZZZ	1	12:46:00																								
ZZZZZZ	1	12:47:00																								
ZZZZZZ	1	12:49:00																								
CCV10	1	12:51:00															X									
CCB10	1	12:52:00															X									
ZZZZZZ	1	12:54:00																								
ZZZZZZ	5	12:56:00																								
ZZZZZZ	1	12:57:00																								
ZZZZZZ	1	12:59:00																								
ZZZZZZ	1	13:01:00																								

**Metals**  
**-14-**  
**Analysis Run Log**

Samp No.	D/F	Run Time
ZZZZZZ	1	13:02:00
ZZZZZZ	1	13:04:00
ZZZZZZ	1	13:06:00
ZZZZZZ	1	13:08:00
ZZZZZZ	1	13:09:00
CCV11	1	13:11:00
CCB11	1	13:13:00
ZZZZZZ	1	13:14:00
ZZZZZZ	1	13:16:00
ZZZZZZ	1	13:18:00
ZZZZZZ	1	13:19:00
ZZZZZZ	1	13:21:00
ZZZZZZ	1	13:23:00
ZZZZZZ	1	13:24:00
ZZZZZZ	1	13:26:00
ZZZZZZ	1	13:28:00
I202069763	1	13:30:00
CCV12	1	13:31:00
CCB12	1	13:33:00
I202069764	10	13:35:00
ZZZZZZ	1	13:36:00
I202069765	1	13:38:00
I202069766	1	13:40:00
I202069768	1	13:41:00
I202069767	5	13:43:00
ZZZZZZ	1	13:45:00
ZZZZZZ	1	13:47:00
ZZZZZZ	1	13:48:00
ZZZZZZ	1	13:50:00
CCV13	1	13:52:00
CCB13	1	13:53:00
ZZZZZZ	1	13:55:00
ZZZZZZ	1	13:57:00
ZZZZZZ	1	13:58:00
ZZZZZZ	1	14:00:00
248515001	1	14:02:00
248515002	1	14:04:00
248515003	1	14:05:00
ZZZZZZ	1	14:07:00
ZZZZZZ	1	14:09:00

**Metals**  
**-14-**  
**Analysis Run Log**

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
ZZZZZZ	1	14:10:00																								
CCV14	1	14:12:00																X								
CCB14	1	14:14:00																X								

**Metals**  
**-14-**  
**Analysis Run Log**

Contract: LANL01004

Lab Code: GEL

Inst Name: OPTIMA4

Start Date: 30-MAR-10

End Date: 30-MAR-10

Client Sdg: 10-2197

Method P

Data File: 033010B-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	15:06:00	X	X		X		X	X	X	X	X	X	X	X	X			X	X	X				X	X
S0.1	1	15:09:00		X		X		X	X	X	X		X		X				X	X					X	X
S0.5	1	15:11:00	X	X		X		X	X	X	X	X		X	X	X			X	X					X	X
SCAL	1	15:13:00	X	X		X		X	X	X	X	X	X	X	X	X			X	X	X				X	X
S10	1	15:15:00	X						X				X		X							X				
ICV01	1	15:16:00	X	X		X		X	X	X	X	X	X	X	X	X			X	X	X				X	X
ICB01	1	15:18:00	X	X		X		X	X	X	X	X	X	X	X	X			X	X	X				X	X
PQL01	1	15:21:00	X	X		X		X	X	X	X	X	X	X	X	X			X	X	X				X	X
ICSA01	1	15:23:00	X	X		X		X	X	X	X	X	X	X	X	X			X	X	X				X	X
ICSAB01	1	15:25:00	X	X		X		X	X	X	X	X	X	X	X	X			X	X	X				X	X
LR01	1	15:27:00	X	X		X		X	X	X	X	X	X	X	X	X			X	X	X				X	X
LR02	1	15:29:00	X	X		X		X	X	X	X	X	X	X	X	X			X	X	X				X	X
ZZZZZZ	1	15:30:00																								
ZZZZZZ	1	15:32:00																								
CCV01	1	15:38:00	X	X		X		X	X	X	X	X	X	X	X	X			X	X	X				X	X
CCB01	1	15:40:00	X	X		X		X	X	X	X	X	X	X	X	X			X	X	X				X	X
ZZZZZZ	5	15:43:00																								
ZZZZZZ	10	15:45:00																								
ZZZZZZ	10	15:47:00																								
ZZZZZZ	10	15:49:00																								
ZZZZZZ	10	15:51:00																								
CCV02	1	15:54:00	X	X		X		X	X	X	X	X	X	X	X	X			X	X	X				X	X
CCB02	1	15:56:00	X	X		X		X	X	X	X	X	X	X	X	X			X	X	X				X	X
ZZZZZZ	1	15:59:00																								
ZZZZZZ	1	16:02:00																								
ZZZZZZ	1	16:03:00																								
ZZZZZZ	1	16:05:00																								
ZZZZZZ	1	16:07:00																								
ZZZZZZ	1	16:09:00																								
ZZZZZZ	5	16:10:00																								
ZZZZZZ	1	16:12:00																								
CCV03	1	16:14:00	X	X		X		X	X	X	X	X	X	X	X	X			X	X	X				X	X
CCB03	1	16:16:00	X	X		X		X	X	X	X	X	X	X	X	X			X	X	X				X	X
ZZZZZZ	1	16:19:00																								
ZZZZZZ	1	16:22:00																								
ZZZZZZ	1	16:24:00																								
ZZZZZZ	1	16:26:00																								
ZZZZZZ	1	16:28:00																								
ZZZZZZ	1	16:29:00																								
ZZZZZZ	5	16:30:00																								

Metals  
-14-  
Analysis Run Log

Samp No.	D/F	Run Time																								
CCV04	1	16:33:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB04	1	16:35:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV05	1	16:57:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB05	1	16:59:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	17:02:00																								
ZZZZZZ	1	17:05:00																								
ZZZZZZ	1	17:07:00																								
ZZZZZZ	1	17:10:00																								
ZZZZZZ	1	17:13:00																								
ZZZZZZ	5	17:15:00																								
CCV06	1	17:18:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB06	1	17:21:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	17:23:00																								
ZZZZZZ	1	17:27:00																								
ZZZZZZ	1	17:29:00																								
ZZZZZZ	1	17:32:00																								
ZZZZZZ	1	17:35:00																								
ZZZZZZ	5	17:37:00																								
CCV07	1	17:40:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB07	1	17:42:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	17:45:00																								
ZZZZZZ	1	17:48:00																								
ZZZZZZ	1	17:51:00																								
ZZZZZZ	1	17:54:00																								
ZZZZZZ	1	17:57:00																								
CCV08	1	18:00:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB08	1	18:02:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	18:05:00																								
ZZZZZZ	1	18:08:00																								
ZZZZZZ	1	18:10:00																								
ZZZZZZ	1	18:13:00																								
ZZZZZZ	1	18:16:00																								
ZZZZZZ	5	18:18:00																								
CCV09	1	18:22:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB09	1	18:24:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	18:27:00																								
ZZZZZZ	1	18:30:00																								
ZZZZZZ	1	18:33:00																								
ZZZZZZ	1	18:35:00																								
ZZZZZZ	1	18:38:00																								



**Metals**  
**-14-**  
**Analysis Run Log**

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
ZZZZZZ	1	18:41:00																								
CCV10	1	18:44:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB10	1	18:46:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	18:49:00																								
ZZZZZZ	1	18:52:00																								
ZZZZZZ	1	18:53:00																								
ZZZZZZ	1	18:55:00																								
ZZZZZZ	1	18:57:00																								
ZZZZZZ	1	18:58:00																								
ZZZZZZ	5	19:00:00																								
CCV11	1	19:02:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB11	1	19:04:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	19:07:00																								
ZZZZZZ	1	19:10:00																								
ZZZZZZ	1	19:11:00																								
ZZZZZZ	1	19:13:00																								
ZZZZZZ	1	19:15:00																								
ZZZZZZ	1	19:16:00																								
ZZZZZZ	5	19:17:00																								
CCV12	1	19:19:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB12	1	19:21:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	19:24:00																								
ZZZZZZ	1	19:28:00																								
ZZZZZZ	1	19:29:00																								
ZZZZZZ	1	19:31:00																								
ZZZZZZ	1	19:33:00																								
ZZZZZZ	1	19:34:00																								
ZZZZZZ	5	19:35:00																								
ZZZZZZ	1	19:37:00																								
ZZZZZZ	1	19:39:00																								
ZZZZZZ	1	19:41:00																								
CCV13	1	19:43:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB13	1	19:45:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	19:49:00																								
ZZZZZZ	1	19:52:00																								
ZZZZZZ	1	19:53:00																								
ZZZZZZ	1	19:55:00																								
ZZZZZZ	1	19:57:00																								
ZZZZZZ	1	19:58:00																								
ZZZZZZ	5	19:59:00																								

**Metals**  
**-14-**  
**Analysis Run Log**

Samp No.	D/F	Run Time																								
ZZZZZZ	1	20:02:00																								
ZZZZZZ	1	20:04:00																								
ZZZZZZ	1	20:06:00																								
CCV14	1	20:08:00	X	X		X		X	X	X	X	X	X	X	X	X		X		X	X		X	X		
CCB14	1	20:10:00	X	X		X		X	X	X	X	X	X	X	X	X		X		X	X		X	X		
ZZZZZZ	1	20:13:00																								
ZZZZZZ	1	20:17:00																								
ZZZZZZ	1	20:18:00																								
ZZZZZZ	1	20:20:00																								
ZZZZZZ	1	20:22:00																								
ZZZZZZ	1	20:23:00																								
ZZZZZZ	5	20:25:00																								
CCV15	1	20:27:00	X	X		X		X	X	X	X	X	X	X	X	X		X		X	X		X	X		
CCB15	1	20:29:00	X	X		X		X	X	X	X	X	X	X	X	X		X		X	X		X	X		
ZZZZZZ	1	20:32:00																								
ZZZZZZ	1	20:34:00																								
ZZZZZZ	1	20:36:00																								
ZZZZZZ	1	20:38:00																								
ZZZZZZ	1	20:40:00																								
ZZZZZZ	1	20:42:00																								
CCV16	1	20:44:00	X	X		X		X	X	X	X	X	X	X	X	X		X		X	X		X	X		
CCB16	1	20:46:00	X	X		X		X	X	X	X	X	X	X	X	X		X		X	X		X	X		
ZZZZZZ	1	20:49:00																								
ZZZZZZ	1	20:52:00																								
ZZZZZZ	1	20:54:00																								
ZZZZZZ	1	20:56:00																								
ZZZZZZ	1	20:58:00																								
ZZZZZZ	1	21:00:00																								
ZZZZZZ	5	21:02:00																								
CCV17	1	21:04:00	X	X		X		X	X	X	X	X	X	X	X	X		X		X	X		X	X		
CCB17	1	21:06:00	X	X		X		X	X	X	X	X	X	X	X	X		X		X	X		X	X		
ZZZZZZ	1	21:09:00																								
ZZZZZZ	1	21:11:00																								
ZZZZZZ	1	21:14:00																								
ZZZZZZ	1	21:16:00																								
CCV18	1	21:18:00	X	X		X		X	X	X	X	X	X	X	X	X		X		X	X		X	X		
CCB18	1	21:20:00	X	X		X		X	X	X	X	X	X	X	X	X		X		X	X		X	X		
ZZZZZZ	1	21:23:00																								
ZZZZZZ	1	21:26:00																								
ZZZZZZ	1	21:27:00																								

**Metals**  
**-14-**  
**Analysis Run Log**

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
ZZZZZZ	1	21:29:00																								
ZZZZZZ	1	21:31:00																								
ZZZZZZ	1	21:32:00																								
ZZZZZZ	5	21:33:00																								
ZZZZZZ	1	21:35:00																								
CCV19	1	21:37:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB19	1	21:39:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202065045	1	21:42:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202065046	1	21:45:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	21:46:00																								
1202065047	1	21:48:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202065048	1	21:50:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202065050	1	21:51:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202065049	5	21:53:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV20	1	21:55:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB20	1	21:57:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
248515001	1	22:00:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
248515002	1	22:02:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
248515003	1	22:04:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	22:06:00																								
ZZZZZZ	1	22:08:00																								
ZZZZZZ	1	22:10:00																								
ZZZZZZ	1	22:12:00																								
ZZZZZZ	1	22:14:00																								
CCV21	1	22:16:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB21	1	22:18:00	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X

# Standards

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**METALS**  
**-10-**  
**Instrument Detection Limits**

SDG NO. 10-2197

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. 10-2197

Contract: LANL01004

Lab Code: GEL

MDL Effective Date: 15-JUN-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>			
SOLID	Mercury		0.068	.2

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**METALS**  
**-10-**  
**Instrument Detection Limits**

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SDG NO. 10-2197

Contract: LANL01004

Lab Code: GEL

MDL Effective Date: 01-JUL-09

---

ICP	<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	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

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**METALS**  
**-11-**  
**Interement Correction Factors**

Lab Code: GEL

GEL Job No: 10-2197

Contract: LANL01004

Instrument: OPTIMA4

Effective Dates: 22-MAR-10

Interement Correction Factors (apparent ppb analyte/ppm interferent)

		Aluminum	Antimony	Arsenic	Barium	Beryllium
Parmname	Wavelength					
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00676	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	-0.98369	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	-0.06206	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
Phosphorous	214.914	-0.22134	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.22220	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
Sodium	589.592	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	-0.01674	0.00000	0.00000	0.00000	0.00000



**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GEL

GEL Job No: 10-2197

Contract: LANL01004

Instrument: OPTIMA4

Effective Dates: 22-MAR-10

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Boron	Cadmium	Chromium	Cobalt	Copper
Parmname	Wavelength					
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	14.9992	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	-9.49960	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	3.47778	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	-0.18390	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	-0.60088	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.04741	0.32747
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
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	10.9289
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	-0.07359	0.00000	0.00000
Sodium	589.592	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	5.02864	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.33675	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	1.18768	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	-4.30004	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.03286	0.12442	0.79397

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GEL

GEL Job No: 10-2197

Contract: LANL01004

Instrument: OPTIMA4

Effective Dates: 22-MAR-10

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Lead	Magnesium	Manganese	Molybdenum	Phosphorous
Parmname	Wavelength					
Aluminum	396.153	0.00000	0.00000	0.00000	46.4438	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	-14.0269	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	-2.84596	0.00000
Barium	233.527	0.00000	0.00000	0.00000	-0.32136	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	0.01216	0.24903	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	-0.02702	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	-2.77286	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	-24.4630	0.00000
Manganese	257.61	0.00000	0.03966	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	-0.01826	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	10.3832	0.00000
Potassium	766.49	0.00000	0.07568	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	13.3443	0.00000
Silver	328.068	0.00000	0.00000	0.28019	-0.03095	0.00000
Sodium	589.592	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	-8.43314	0.00000
Thallium	190.801	0.00000	0.00000	-2.58065	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.08144	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	-6.48399	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	-10.3466	0.00000
Zinc	213.857	0.00000	0.00000	0.06887	-0.04597	0.00000

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GEL

GEL Job No: 10-2197

Contract: LANL01004

Instrument: OPTIMA4

Effective Dates: 22-MAR-10

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Potassium	Selenium	Silicon	Silver	Sodium
<b>Parmname</b>	<b>Wavelength</b>					
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
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
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.16274
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
Sodium	589.592	0.88937	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: 10-2197

Contract: LANL01004

Instrument: OPTIMA4

Effective Dates: 22-MAR-10

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Strontium	Sulfur	Thallium	Tin	Titanium
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	-1.82716	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
Lead	220.353	0.00000	0.00000	0.00000	0.00000	-1.32991
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
Phosphorous	214.914	0.00000	0.00000	0.00000	-8.61809	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	0.00000	6.59640	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Sodium	589.592	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	-10.0432
Tin	189.927	0.00000	0.00000	0.00000	0.00000	-3.37234
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	0.92753
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	-0.56798

**METALS**  
**-11-**  
**Interement Correction Factors**

Lab Code: GEL

GEL Job No: 10-2197

Contract: LANL01004

Instrument: OPTIMA4

Effective Dates: 22-MAR-10

Interement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Uranium	Vanadium	Zinc
Aluminum	396.153	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	-1.62578	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000
Barium	233.527	0.00000	-0.63442	0.00000
Beryllium	313.107	-0.30229	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000
Chromium	267.716	0.78601	-0.47146	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000
Copper	324.752	-0.82619	0.00000	0.00000
Lead	220.353	0.74521	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	-0.33953	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000
Selenium	196.026	-0.96499	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000
Silver	328.068	-1.22996	-11.9401	0.00000
Sodium	589.592	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	-7.37871	0.00000
Tin	189.927	0.00000	0.00000	0.00000
Titanium	334.94	0.40930	0.00000	0.00000
Uranium	409.014	0.00000	-57.5852	0.00000
Vanadium	292.402	-0.67226	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000

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**METALS**  
**-12-**  
**Linear Ranges**

SDG NO. 10-2197

Contract: LANL01004

Lab Code: GEL

Instrument ID ICPMS5

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<u>Analyte</u>	<u>Integration Time (msec)</u>	<u>LDR</u>	<u>Units</u>	<u>Effective Date</u>
Calcium	500	50000	ug/L	01-FEB-10
Chromium	1000	1000	ug/L	01-FEB-10
Cobalt	1000	1000	ug/L	01-FEB-10
Copper	1000	1000	ug/L	01-FEB-10
Iron	500	50000	ug/L	01-FEB-10
Lead	1000	5000	ug/L	01-FEB-10
Magnesium	1	50000	ug/L	01-FEB-10
Manganese	1000	1000	ug/L	01-FEB-10
Nickel	1000	1000	ug/L	01-FEB-10
Potassium	1	50000	ug/L	01-FEB-10
Selenium	1000	500	ug/L	01-FEB-10
Silver	1000	250	ug/L	01-FEB-10
Sodium	1	50000	ug/L	01-FEB-10
Thallium	1000	500	ug/L	01-FEB-10
Uranium	1000	5000	ug/L	01-FEB-10
Vanadium	1000	100	ug/L	01-FEB-10
Zinc	1000	2500	ug/L	01-FEB-10
Aluminum	1	50000	ug/L	01-FEB-10
Antimony	1000	250	ug/L	01-FEB-10
Arsenic	1000	1000	ug/L	01-FEB-10
Barium	1000	1000	ug/L	01-FEB-10
Beryllium	1000	1000	ug/L	01-FEB-10
Cadmium	1000	1000	ug/L	01-FEB-10

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METALS  
-12-  
Linear Ranges

SDG NO. 10-2197

Contract: LANL01004

Lab Code: GEL

Instrument ID OPTIMA4

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<u>Analyte</u>	<u>Integration Time (sec)</u>	<u>LDR</u>	<u>Units</u>	<u>Effective Date</u>
Aluminum	20	500000	ug/L	01-FEB-10
Antimony	20	10000	ug/L	01-FEB-10
Arsenic	20	10000	ug/L	01-FEB-10
Barium	20	15000	ug/L	01-FEB-10
Beryllium	20	3000	ug/L	01-FEB-10
Cadmium	20	10000	ug/L	01-FEB-10
Calcium	20	500000	ug/L	01-FEB-10
Chromium	20	25000	ug/L	01-FEB-10
Cobalt	20	10000	ug/L	01-FEB-10
Copper	20	20000	ug/L	01-FEB-10
Iron	20	500000	ug/L	01-FEB-10
Lead	20	25000	ug/L	01-FEB-10
Magnesium	20	500000	ug/L	01-FEB-10
Manganese	20	10000	ug/L	01-FEB-10
Nickel	20	10000	ug/L	01-FEB-10
Potassium	20	300000	ug/L	01-FEB-10
Selenium	20	10000	ug/L	01-FEB-10
Silver	20	1000	ug/L	01-FEB-10
Sodium	20	500000	ug/L	01-FEB-10
Thallium	20	10000	ug/L	01-FEB-10
Uranium	20	15000	ug/L	01-FEB-10
Vanadium	20	10000	ug/L	01-FEB-10
Zinc	20	15000	ug/L	01-FEB-10

# Raw Data



Spec: Communications time out error.

This message may have resulted when the spectrometer starts up from standby (sleep) mode.

If that is the case, Click on OK and ignore this message.

Otherwise... Check the following:

- » Make sure the spectrometer is powered on.
- » Make sure the cable is connected between the spectrometer and the computer.

Correct the problem and then press the Reconnect button on the Spectrometer page of the Diagnostics window.

[0104]

## =====

Analysis Begun

Start Time: 3/30/2010 15:06:00 Plasma On Time: 3/29/2010 18:07:58  
 Logged In Analyst: optima4 Technique: ICP Continuous  
 Spectrometer Model: Optima 7300 DV, S/N 077C0022701 Autosampler Model: AS-93plus

Sample Information File: C:\pe\optima4\Sample Information\033010.sif  
 Batch ID:  
 Results Data Set: 033010B  
 Results Library: C:\pe\optima4\Results\Results.mdb

=====

Sequence No.: 1 Autosampler Location: 8  
 Sample ID: S0 Date Collected: 3/30/2010 15:06:02  
 Analyst: Data Type: Original  
 Initial Sample Wt: Initial Sample Vol:  
 Dilution: Sample Prep Vol:

## -----

Replicate Data: S0		Net	Corrected	Calib.	Analysis
Repl#	Analyte	Intensity	Intensity	Conc. Units	Time
1	Sc RADIAL	146497.9	146497.9	99.1 %	15:06:32
1	Al 396.153Radial†	-101.0	-101.9	[0.00] µg/L	15:06:52
1	Ca 317.933Radial†	670.1	676.2	[0.00] µg/L	15:06:52
1	Fe 238.204 Radial†	133.7	134.9	[0.00] µg/L	15:06:52
1	K 766.490 Radial†	1222.4	1233.5	[0.00] µg/L	15:06:32
1	Mg 279.077 IEC†	174.9	176.5	[0.00] µg/L	15:06:52
1	Na 589.592 Radial†	1269.7	1281.2	[0.00] µg/L	15:06:32
1	Sr 421.552†	-245.3	-247.6	[0.00] µg/L	15:06:32
1	Sc 361.383	1750148.6	1750148.6	99.719 %	15:07:54
1	Y 371.029	1060907.2	1060907.2	99.705 %	15:07:54
1	Ag 328.068†	3317.5	3326.9	[0.00] µg/L	15:07:56
1	As 188.979†	-16.5	-16.5	[0.00] µg/L	15:08:16
1	B 249.677†	3233.9	3243.0	[0.00] µg/L	15:08:16
1	Ba 233.527†	-160.6	-161.1	[0.00] µg/L	15:08:16
1	Be 313.107†	-773.6	-775.8	[0.00] µg/L	15:07:56
1	Cd 226.502†	-119.9	-120.3	[0.00] µg/L	15:08:16
1	Co 228.616†	-167.4	-167.9	[0.00] µg/L	15:08:16
1	Cr 267.716†	181.0	181.5	[0.00] µg/L	15:08:16
1	Cu 324.752†	2790.1	2798.0	[0.00] µg/L	15:07:56
1	Mn 257.610†	176.6	177.1	[0.00] µg/L	15:08:16
1	Mo 202.031†	-36.7	-36.8	[0.00] µg/L	15:08:16
1	Ni 231.604†	-71.2	-71.4	[0.00] µg/L	15:08:16
1	P 214.914†	0.0	0.0	[0.00] µg/L	15:08:16
1	Pb 220.353†	115.5	115.9	[0.00] µg/L	15:08:16
1	S 181.975 Axial†	85.9	86.1	[0.00] µg/L	15:08:16
1	Sb 206.836†	81.3	81.5	[0.00] µg/L	15:08:16
1	Se 196.026†	3.3	3.3	[0.00] µg/L	15:08:16
1	SiO2†	1748.5	1753.4	[0.00] µg/L	15:08:16
1	Si 251.611†	853.8	856.2	[0.00] µg/L	15:07:56
1	Sn 189.927†	-7.6	-7.7	[0.00] µg/L	15:08:16
1	Ti 334.940†	867.0	869.5	[0.00] µg/L	15:07:56
1	Tl 190.801†	-111.8	-112.1	[0.00] µg/L	15:08:16
1	U 409.014†	-248.2	-248.9	[0.00] µg/L	15:07:56
1	V 292.402†	416.2	417.4	[0.00] µg/L	15:07:56
1	Zn 213.857†	524.3	525.8	[0.00] µg/L	15:08:16
2	Sc RADIAL	147907.3	147907.3	100 %	15:06:55
2	Al 396.153Radial†	-34.8	-34.7	[0.00] µg/L	15:07:15
2	Ca 317.933Radial†	694.0	693.6	[0.00] µg/L	15:07:15
2	Fe 238.204 Radial†	148.0	147.9	[0.00] µg/L	15:07:15
2	K 766.490 Radial†	1396.5	1395.7	[0.00] µg/L	15:06:55
2	Mg 279.077 IEC†	152.8	152.7	[0.00] µg/L	15:07:15
2	Na 589.592 Radial†	1149.0	1148.4	[0.00] µg/L	15:06:55
2	Sr 421.552†	-193.4	-193.3	[0.00] µg/L	15:06:55
2	Sc 361.383	1758204.8	1758204.8	100.18 %	15:08:19
2	Y 371.029	1066082.1	1066082.1	100.19 %	15:08:19
2	Ag 328.068†	3417.1	3411.0	[0.00] µg/L	15:08:21
2	As 188.979†	-15.0	-15.0	[0.00] µg/L	15:08:41

2	B 249.677†	3227.6	3221.9	[0.00]	µg/L	15:08:41
2	Ba 233.527†	-147.6	-147.4	[0.00]	µg/L	15:08:41
2	Be 313.107†	-698.8	-697.5	[0.00]	µg/L	15:08:21
2	Cd 226.502†	-114.7	-114.5	[0.00]	µg/L	15:08:41
2	Co 228.616†	-169.7	-169.4	[0.00]	µg/L	15:08:41
2	Cr 267.716†	163.9	163.6	[0.00]	µg/L	15:08:41
2	Cu 324.752†	2765.8	2760.9	[0.00]	µg/L	15:08:21
2	Mn 257.610†	183.5	183.2	[0.00]	µg/L	15:08:41
2	Mo 202.031†	-33.7	-33.6	[0.00]	µg/L	15:08:41
2	Ni 231.604†	-86.0	-85.8	[0.00]	µg/L	15:08:41
2	P 214.914†	8.3	8.3	[0.00]	µg/L	15:08:41
2	Pb 220.353†	81.9	81.8	[0.00]	µg/L	15:08:41
2	S 181.975 Axial†	81.0	80.8	[0.00]	µg/L	15:08:41
2	Sb 206.836†	78.6	78.4	[0.00]	µg/L	15:08:41
2	Se 196.026†	28.8	28.8	[0.00]	µg/L	15:08:41
2	SiO2†	1754.9	1751.8	[0.00]	µg/L	15:08:41
2	Si 251.611†	1018.7	1016.9	[0.00]	µg/L	15:08:21
2	Sn 189.927†	0.3	0.3	[0.00]	µg/L	15:08:41
2	Ti 334.940†	994.7	992.9	[0.00]	µg/L	15:08:21
2	Tl 190.801†	-109.6	-109.4	[0.00]	µg/L	15:08:41
2	U 409.014†	-263.3	-262.8	[0.00]	µg/L	15:08:21
2	V 292.402†	284.4	283.9	[0.00]	µg/L	15:08:21
2	Zn 213.857†	528.6	527.6	[0.00]	µg/L	15:08:41
3	Sc RADIAL	149084.2	149084.2	101	%	15:07:17
3	Al 396.153Radial†	-52.4	-52.0	[0.00]	µg/L	15:07:37
3	Ca 317.933Radial†	730.3	724.2	[0.00]	µg/L	15:07:37
3	Fe 238.204 Radial†	140.4	139.2	[0.00]	µg/L	15:07:37
3	K 766.490 Radial†	1320.3	1309.2	[0.00]	µg/L	15:07:17
3	Mg 279.077 IEC†	178.6	177.1	[0.00]	µg/L	15:07:37
3	Na 589.592 Radial†	1200.4	1190.3	[0.00]	µg/L	15:07:17
3	Sr 421.552†	-226.0	-224.1	[0.00]	µg/L	15:07:17
3	Sc 361.383	1756878.6	1756878.6	100.10	%	15:08:43
3	Y 371.029	1065144.1	1065144.1	100.10	%	15:08:43
3	Ag 328.068†	3607.1	3603.4	[0.00]	µg/L	15:08:45
3	As 188.979†	-21.6	-21.6	[0.00]	µg/L	15:09:05
3	B 249.677†	3229.5	3226.2	[0.00]	µg/L	15:09:05
3	Ba 233.527†	-178.2	-178.0	[0.00]	µg/L	15:09:05
3	Be 313.107†	-884.3	-883.4	[0.00]	µg/L	15:08:45
3	Cd 226.502†	-95.4	-95.3	[0.00]	µg/L	15:09:05
3	Co 228.616†	-180.2	-180.0	[0.00]	µg/L	15:09:05
3	Cr 267.716†	190.8	190.6	[0.00]	µg/L	15:09:05
3	Cu 324.752†	2810.8	2808.0	[0.00]	µg/L	15:08:45
3	Mn 257.610†	166.6	166.4	[0.00]	µg/L	15:09:05
3	Mo 202.031†	-33.9	-33.9	[0.00]	µg/L	15:09:05
3	Ni 231.604†	-76.5	-76.4	[0.00]	µg/L	15:09:05
3	P 214.914†	6.7	6.7	[0.00]	µg/L	15:09:05
3	Pb 220.353†	93.4	93.3	[0.00]	µg/L	15:09:05
3	S 181.975 Axial†	96.2	96.1	[0.00]	µg/L	15:09:05
3	Sb 206.836†	74.4	74.3	[0.00]	µg/L	15:09:05
3	Se 196.026†	8.6	8.6	[0.00]	µg/L	15:09:05
3	SiO2†	1756.0	1754.2	[0.00]	µg/L	15:09:05
3	Si 251.611†	973.9	972.9	[0.00]	µg/L	15:08:45
3	Sn 189.927†	-0.2	-0.2	[0.00]	µg/L	15:09:05
3	Ti 334.940†	795.2	794.4	[0.00]	µg/L	15:08:45
3	Tl 190.801†	-129.9	-129.8	[0.00]	µg/L	15:09:05
3	U 409.014†	-340.0	-339.6	[0.00]	µg/L	15:08:45
3	V 292.402†	228.5	228.3	[0.00]	µg/L	15:08:45
3	Zn 213.857†	520.8	520.3	[0.00]	µg/L	15:09:05

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Mean Data: S0

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units	Calib
Sc 361.383	1755077.4	4319.59	0.25%	100.00	%
Sc RADIAL	147829.8	1294.89	0.88%	100	%
Y 371.029	1064044.5	2757.13	0.26%	100.00	%
Ag 328.068†	3447.1	141.77	4.11%	[0.00]	µg/L
Al 396.153Radial†	-62.9	34.89	55.49%	[0.00]	µg/L
As 188.979†	-17.7	3.44	19.45%	[0.00]	µg/L
B 249.677†	3230.3	11.14	0.34%	[0.00]	µg/L
Ba 233.527†	-162.2	15.33	9.46%	[0.00]	µg/L

Be 313.107†	-785.6	93.33	11.88%	[0.00]	µg/L
Ca 317.933Radial†	698.0	24.30	3.48%	[0.00]	µg/L
Cd 226.502†	-110.0	13.07	11.88%	[0.00]	µg/L
Co 228.616†	-172.4	6.63	3.84%	[0.00]	µg/L
Cr 267.716†	178.6	13.74	7.69%	[0.00]	µg/L
Cu 324.752†	2788.9	24.81	0.89%	[0.00]	µg/L
Fe 238.204 Radial†	140.7	6.62	4.70%	[0.00]	µg/L
K 766.490 Radial†	1312.8	81.17	6.18%	[0.00]	µg/L
Mg 279.077 IEC†	168.8	13.89	8.23%	[0.00]	µg/L
Mn 257.610†	175.6	8.49	4.84%	[0.00]	µg/L
Mo 202.031†	-34.8	1.78	5.12%	[0.00]	µg/L
Na 589.592 Radial†	1206.6	67.93	5.63%	[0.00]	µg/L
Ni 231.604†	-77.9	7.31	9.39%	[0.00]	µg/L
P 214.914†	5.0	4.37	87.51%	[0.00]	µg/L
Pb 220.353†	97.0	17.35	17.90%	[0.00]	µg/L
S 181.975 Axial†	87.7	7.77	8.86%	[0.00]	µg/L
Sb 206.836†	78.1	3.61	4.63%	[0.00]	µg/L
Se 196.026†	13.6	13.43	99.02%	[0.00]	µg/L
SiO2†	1753.1	1.20	0.07%	[0.00]	µg/L
Si 251.611†	948.7	83.02	8.75%	[0.00]	µg/L
Sn 189.927†	-2.5	4.43	174.28%	[0.00]	µg/L
Sr 421.552†	-221.7	27.19	12.27%	[0.00]	µg/L
Ti 334.940†	885.6	100.24	11.32%	[0.00]	µg/L
Tl 190.801†	-117.1	11.10	9.48%	[0.00]	µg/L
U 409.014†	-283.8	48.88	17.23%	[0.00]	µg/L
V 292.402†	309.8	97.21	31.37%	[0.00]	µg/L
Zn 213.857†	524.6	3.82	0.73%	[0.00]	µg/L

Sequence No.: 2

Sample ID: S0.1

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 2

Date Collected: 3/30/2010 15:09:13

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	151106.4	151106.4	102 %	15:09:44
1	K 766.490 Radial†	3818.5	2422.9	[1000] µg/L	15:09:44
1	Sr 421.552†	45253.2	44493.6	[100] µg/L	15:09:44
1	Sc 361.383	1738037.7	1738037.7	99.029 %	15:09:52
1	Y 371.029	1049397.7	1049397.7	98.623 %	15:09:52
1	Ag 328.068†	28574.4	25407.5	[100] µg/L	15:09:54
1	As 188.979†	268.3	288.6	[100] µg/L	15:10:14
1	B 249.677†	9207.2	6067.1	[100] µg/L	15:09:54
1	Ba 233.527†	22852.5	23238.7	[100] µg/L	15:09:54
1	Be 313.107†	323892.5	327853.5	[100] µg/L	15:09:52
1	Cd 226.502†	14574.7	14827.6	[100] µg/L	15:09:54
1	Co 228.616†	7300.6	7544.6	[100] µg/L	15:10:14
1	Cr 267.716†	11891.0	11829.0	[100] µg/L	15:09:54
1	Cu 324.752†	26223.3	23691.5	[100] µg/L	15:09:54
1	Mn 257.610†	76566.4	77141.5	[100] µg/L	15:09:54
1	Mo 202.031†	3085.6	3150.6	[100] µg/L	15:10:14
1	Ni 231.604†	8046.1	8202.9	[100] µg/L	15:09:54
1	P 214.914†	2079.3	2094.7	[500] µg/L	15:10:14
1	Pb 220.353†	1741.7	1661.8	[100] µg/L	15:10:14
1	S 181.975 Axial†	326.5	242.0	[200] µg/L	15:10:14
1	Sb 206.836†	832.0	762.0	[100] µg/L	15:10:14
1	Se 196.026†	250.1	238.9	[100] µg/L	15:10:14
1	SiO2†	11525.9	9885.8	[1069.5] µg/L	15:09:54
1	Si 251.611†	31162.9	30519.8	[500] µg/L	15:09:54
1	Sn 189.927†	1432.7	1449.3	[100] µg/L	15:10:14
1	Ti 334.940†	99104.5	99190.5	[100] µg/L	15:09:54
1	Tl 190.801†	632.9	756.2	[100] µg/L	15:10:14
1	U 409.014†	1279.0	1575.3	[100] µg/L	15:09:54
1	V 292.402†	18747.4	18621.3	[100] µg/L	15:09:54
1	Zn 213.857†	16580.0	16218.0	[100] µg/L	15:09:54
2	Sc RADIAL	151100.7	151100.7	102 %	15:09:46
2	K 766.490 Radial†	3799.4	2404.3	[1000] µg/L	15:09:46
2	Sr 421.552†	45444.4	44682.4	[100] µg/L	15:09:46
2	Sc 361.383	1757465.9	1757465.9	100.14 %	15:10:16
2	Y 371.029	1061598.8	1061598.8	99.770 %	15:10:16
2	Ag 328.068†	28565.6	25079.7	[100] µg/L	15:10:18
2	As 188.979†	278.0	295.3	[100] µg/L	15:10:38
2	B 249.677†	9241.9	5999.0	[100] µg/L	15:10:18
2	Ba 233.527†	23009.2	23140.1	[100] µg/L	15:10:18
2	Be 313.107†	327346.9	327687.6	[100] µg/L	15:10:16
2	Cd 226.502†	14590.2	14680.4	[100] µg/L	15:10:18
2	Co 228.616†	7268.8	7431.4	[100] µg/L	15:10:38
2	Cr 267.716†	12079.9	11884.9	[100] µg/L	15:10:18
2	Cu 324.752†	26500.5	23675.6	[100] µg/L	15:10:18
2	Mn 257.610†	77037.2	76756.9	[100] µg/L	15:10:18
2	Mo 202.031†	3083.7	3114.3	[100] µg/L	15:10:38
2	Ni 231.604†	8112.2	8179.1	[100] µg/L	15:10:18
2	P 214.914†	2063.1	2055.3	[500] µg/L	15:10:38
2	Pb 220.353†	1736.3	1637.0	[100] µg/L	15:10:38
2	S 181.975 Axial†	322.2	234.0	[200] µg/L	15:10:38
2	Sb 206.836†	843.3	764.1	[100] µg/L	15:10:38
2	Se 196.026†	260.0	246.1	[100] µg/L	15:10:38
2	SiO2†	11608.3	9839.4	[1069.5] µg/L	15:10:18
2	Si 251.611†	31441.9	30450.5	[500] µg/L	15:10:18
2	Sn 189.927†	1435.4	1436.0	[100] µg/L	15:10:38
2	Ti 334.940†	99940.5	98919.1	[100] µg/L	15:10:18
2	Tl 190.801†	638.1	754.3	[100] µg/L	15:10:38
2	U 409.014†	1394.8	1676.7	[100] µg/L	15:10:18
2	V 292.402†	18757.2	18421.9	[100] µg/L	15:10:18

2	Zn 213.857†	16630.2	16083.1	[100] µg/L	15:10:18
3	Sc RADIAL	150595.1	150595.1	102 %	15:09:48
3	K 766.490 Radial†	3957.0	2571.5	[1000] µg/L	15:09:48
3	Sr 421.552†	45519.0	44904.8	[100] µg/L	15:09:48
3	Sc 361.383	1739244.5	1739244.5	99.098 %	15:10:40
3	Y 371.029	1050569.8	1050569.8	98.734 %	15:10:40
3	Ag 328.068†	28423.4	25235.1	[100] µg/L	15:10:42
3	As 188.979†	270.5	290.7	[100] µg/L	15:11:02
3	B 249.677†	9031.4	5883.3	[100] µg/L	15:10:42
3	Ba 233.527†	22814.2	23184.1	[100] µg/L	15:10:42
3	Be 313.107†	324651.0	328391.9	[100] µg/L	15:10:40
3	Cd 226.502†	14381.3	14622.3	[100] µg/L	15:10:42
3	Co 228.616†	7305.3	7544.2	[100] µg/L	15:11:02
3	Cr 267.716†	11842.0	11771.3	[100] µg/L	15:10:42
3	Cu 324.752†	26162.4	23611.6	[100] µg/L	15:10:42
3	Mn 257.610†	76240.8	76759.2	[100] µg/L	15:10:42
3	Mo 202.031†	3086.5	3149.4	[100] µg/L	15:11:02
3	Ni 231.604†	7930.5	8080.6	[100] µg/L	15:10:42
3	P 214.914†	2052.5	2066.2	[500] µg/L	15:11:02
3	Pb 220.353†	1737.1	1655.9	[100] µg/L	15:11:02
3	S 181.975 Axial†	322.8	238.0	[200] µg/L	15:11:02
3	Sb 206.836†	838.9	768.4	[100] µg/L	15:11:02
3	Se 196.026†	267.2	256.1	[100] µg/L	15:11:02
3	SiO2†	11482.8	9834.2	[1069.5] µg/L	15:10:42
3	Si 251.611†	31025.8	30359.6	[500] µg/L	15:10:42
3	Sn 189.927†	1439.4	1455.1	[100] µg/L	15:11:02
3	Ti 334.940†	98234.7	98243.4	[100] µg/L	15:10:42
3	Tl 190.801†	640.7	763.7	[100] µg/L	15:11:02
3	U 409.014†	1354.3	1650.4	[100] µg/L	15:10:42
3	V 292.402†	18608.8	18468.4	[100] µg/L	15:10:42
3	Zn 213.857†	16438.9	16064.0	[100] µg/L	15:10:42

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Mean Data: S0.1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
Sc 361.383	1744916.0	10885.22	0.62%	99.421 %
Sc RADIAL	150934.1	293.54	0.19%	102 %
Y 371.029	1053855.4	6731.54	0.64%	99.042 %
Ag 328.068†	25240.8	163.97	0.65%	[100] µg/L
As 188.979†	291.5	3.43	1.18%	[100] µg/L
B 249.677†	5983.1	92.92	1.55%	[100] µg/L
Ba 233.527†	23187.6	49.38	0.21%	[100] µg/L
Be 313.107†	327977.7	368.24	0.11%	[100] µg/L
Cd 226.502†	14710.1	105.82	0.72%	[100] µg/L
Co 228.616†	7506.8	65.26	0.87%	[100] µg/L
Cr 267.716†	11828.4	56.81	0.48%	[100] µg/L
Cu 324.752†	23659.5	42.28	0.18%	[100] µg/L
K 766.490 Radial†	2466.2	91.66	3.72%	[1000] µg/L
Mn 257.610†	76885.9	221.36	0.29%	[100] µg/L
Mo 202.031†	3138.1	20.62	0.66%	[100] µg/L
Ni 231.604†	8154.2	64.85	0.80%	[100] µg/L
P 214.914†	2072.0	20.35	0.98%	[500] µg/L
Pb 220.353†	1651.6	12.97	0.79%	[100] µg/L
S 181.975 Axial†	238.0	4.01	1.69%	[200] µg/L
Sb 206.836†	764.9	3.26	0.43%	[100] µg/L
Se 196.026†	247.0	8.60	3.48%	[100] µg/L
SiO2†	9853.1	28.41	0.29%	[1069.5] µg/L
Si 251.611†	30443.3	80.34	0.26%	[500] µg/L
Sn 189.927†	1446.8	9.79	0.68%	[100] µg/L
Sr 421.552†	44693.6	205.85	0.46%	[100] µg/L
Ti 334.940†	98784.3	487.73	0.49%	[100] µg/L
Tl 190.801†	758.0	4.95	0.65%	[100] µg/L
U 409.014†	1634.1	52.62	3.22%	[100] µg/L
V 292.402†	18503.9	104.35	0.56%	[100] µg/L
Zn 213.857†	16121.7	83.92	0.52%	[100] µg/L

Sequence No.: 3

Sample ID: S0.5

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 3

Date Collected: 3/30/2010 15:11:10

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	153789.5	153789.5	104	%	15:11:41
1	Al 396.153Radial†	24481.1	23595.3	[5000]	µg/L	15:11:41
1	Ca 317.933Radial†	85129.1	81132.2	[5000]	µg/L	15:11:41
1	K 766.490 Radial†	13676.3	11833.5	[5000]	µg/L	15:11:41
1	Mg 279.077 IEC†	12814.2	12148.8	[5000]	µg/L	15:11:41
1	Sr 421.552†	211787.7	203802.1	[500]	µg/L	15:11:39
1	Sc 361.383	1735951.4	1735951.4	98.910	%	15:11:54
1	Y 371.029	1040161.6	1040161.6	97.755	%	15:11:54
1	Ag 328.068†	126606.2	124554.0	[500]	µg/L	15:11:54
1	As 188.979†	1397.2	1430.3	[500]	µg/L	15:12:14
1	B 249.677†	33216.3	30351.9	[500]	µg/L	15:11:54
1	Ba 233.527†	113577.9	114991.4	[500]	µg/L	15:11:54
1	Be 313.107†	1647596.1	1666534.1	[500]	µg/L	15:11:54
1	Cd 226.502†	72100.2	73004.6	[500]	µg/L	15:11:54
1	Co 228.616†	36584.4	37159.9	[500]	µg/L	15:11:54
1	Cr 267.716†	58901.1	59371.5	[500]	µg/L	15:11:54
1	Cu 324.752†	119610.4	118139.2	[500]	µg/L	15:11:54
1	Mn 257.610†	371672.1	375591.5	[500]	µg/L	15:11:54
1	Mo 202.031†	15467.6	15672.8	[500]	µg/L	15:12:14
1	Ni 231.604†	39521.0	40034.3	[500]	µg/L	15:11:54
1	P 214.914†	10340.4	10449.3	[2500]	µg/L	15:12:14
1	Pb 220.353†	8226.2	8219.8	[500]	µg/L	15:12:14
1	S 181.975 Axial†	1292.3	1218.9	[1000]	µg/L	15:12:14
1	Sb 206.836†	3846.6	3810.9	[500]	µg/L	15:12:14
1	Se 196.026†	1241.8	1241.9	[500]	µg/L	15:12:14
1	SiO2†	50998.0	49806.7	[5347.5]	µg/L	15:11:54
1	Si 251.611†	153709.5	154454.4	[2500]	µg/L	15:11:54
1	Sn 189.927†	7149.3	7230.6	[500]	µg/L	15:12:14
1	Ti 334.940†	494470.5	499032.8	[500]	µg/L	15:11:54
1	Tl 190.801†	3575.0	3731.4	[500]	µg/L	15:12:14
1	U 409.014†	7148.3	7510.8	[500]	µg/L	15:11:54
1	V 292.402†	92825.6	93538.5	[500]	µg/L	15:11:54
1	Zn 213.857†	80524.0	80886.6	[500]	µg/L	15:11:54
2	Sc RADIAL	152865.2	152865.2	103	%	15:11:45
2	Al 396.153Radial†	24989.3	24229.1	[5000]	µg/L	15:11:45
2	Ca 317.933Radial†	86974.4	83411.5	[5000]	µg/L	15:11:45
2	K 766.490 Radial†	13984.7	12211.3	[5000]	µg/L	15:11:45
2	Mg 279.077 IEC†	12966.9	12370.9	[5000]	µg/L	15:11:45
2	Sr 421.552†	222524.3	215416.0	[500]	µg/L	15:11:43
2	Sc 361.383	1734190.5	1734190.5	98.810	%	15:12:17
2	Y 371.029	1038691.4	1038691.4	97.617	%	15:12:17
2	Ag 328.068†	126509.4	124586.0	[500]	µg/L	15:12:17
2	As 188.979†	1391.7	1426.2	[500]	µg/L	15:12:37
2	B 249.677†	33048.7	30216.4	[500]	µg/L	15:12:17
2	Ba 233.527†	113148.6	114673.5	[500]	µg/L	15:12:17
2	Be 313.107†	1642503.0	1663071.1	[500]	µg/L	15:12:17
2	Cd 226.502†	71973.8	72950.7	[500]	µg/L	15:12:17
2	Co 228.616†	36618.8	37232.2	[500]	µg/L	15:12:17
2	Cr 267.716†	58524.7	59051.0	[500]	µg/L	15:12:17
2	Cu 324.752†	119301.7	117949.6	[500]	µg/L	15:12:17
2	Mn 257.610†	370432.5	374718.5	[500]	µg/L	15:12:17
2	Mo 202.031†	15519.2	15740.9	[500]	µg/L	15:12:37
2	Ni 231.604†	39230.4	39780.8	[500]	µg/L	15:12:17
2	P 214.914†	10372.7	10492.7	[2500]	µg/L	15:12:37
2	Pb 220.353†	8220.3	8222.3	[500]	µg/L	15:12:37
2	S 181.975 Axial†	1292.2	1220.1	[1000]	µg/L	15:12:37
2	Sb 206.836†	3819.7	3787.6	[500]	µg/L	15:12:37
2	Se 196.026†	1255.4	1257.0	[500]	µg/L	15:12:37
2	SiO2†	51109.7	49972.2	[5347.5]	µg/L	15:12:17

2	Si 251.611†	153212.5	154109.2	[2500]	µg/L	15:12:17
2	Sn 189.927†	7129.5	7217.9	[500]	µg/L	15:12:37
2	Ti 334.940†	493094.1	498147.4	[500]	µg/L	15:12:17
2	Tl 190.801†	3556.4	3716.3	[500]	µg/L	15:12:37
2	U 409.014†	6944.1	7311.5	[500]	µg/L	15:12:17
2	V 292.402†	92554.7	93359.6	[500]	µg/L	15:12:17
2	Zn 213.857†	80255.8	80697.8	[500]	µg/L	15:12:17
3	Sc RADIAL	149863.4	149863.4	101	%	15:11:49
3	Al 396.153Radial†	24669.1	24397.3	[5000]	µg/L	15:11:49
3	Ca 317.933Radial†	85030.9	83179.1	[5000]	µg/L	15:11:49
3	K 766.490 Radial†	13600.3	12103.0	[5000]	µg/L	15:11:49
3	Mg 279.077 IEC†	12711.9	12370.7	[5000]	µg/L	15:11:49
3	Sr 421.552†	221546.3	218761.8	[500]	µg/L	15:11:47
3	Sc 361.383	1723472.7	1723472.7	98.199	%	15:12:40
3	Y 371.029	1032864.9	1032864.9	97.070	%	15:12:40
3	Ag 328.068†	125972.8	124835.8	[500]	µg/L	15:12:40
3	As 188.979†	1399.9	1443.2	[500]	µg/L	15:13:00
3	B 249.677†	33059.7	30435.6	[500]	µg/L	15:12:40
3	Ba 233.527†	112125.9	114344.2	[500]	µg/L	15:12:40
3	Be 313.107†	1630400.6	1661084.1	[500]	µg/L	15:12:40
3	Cd 226.502†	71306.5	72724.1	[500]	µg/L	15:12:40
3	Co 228.616†	36272.9	37110.5	[500]	µg/L	15:12:40
3	Cr 267.716†	58285.2	59175.5	[500]	µg/L	15:12:40
3	Cu 324.752†	118561.9	117947.1	[500]	µg/L	15:12:40
3	Mn 257.610†	367562.2	374126.9	[500]	µg/L	15:12:40
3	Mo 202.031†	15553.6	15873.5	[500]	µg/L	15:13:00
3	Ni 231.604†	38922.1	39713.7	[500]	µg/L	15:12:40
3	P 214.914†	10377.3	10562.6	[2500]	µg/L	15:13:00
3	Pb 220.353†	8241.3	8295.5	[500]	µg/L	15:13:00
3	S 181.975 Axial†	1295.0	1231.1	[1000]	µg/L	15:13:00
3	Sb 206.836†	3839.0	3831.3	[500]	µg/L	15:13:00
3	Se 196.026†	1246.3	1255.5	[500]	µg/L	15:13:00
3	SiO2†	50697.4	49873.9	[5347.5]	µg/L	15:12:40
3	Si 251.611†	152190.0	154032.2	[2500]	µg/L	15:12:40
3	Sn 189.927†	7135.8	7269.2	[500]	µg/L	15:13:00
3	Ti 334.940†	489890.4	497988.3	[500]	µg/L	15:12:40
3	Tl 190.801†	3591.9	3774.8	[500]	µg/L	15:13:00
3	U 409.014†	7340.9	7759.3	[500]	µg/L	15:12:40
3	V 292.402†	91865.1	93239.8	[500]	µg/L	15:12:40
3	Zn 213.857†	79572.2	80506.8	[500]	µg/L	15:12:40

## Mean Data: S0.5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	1731204.9	6753.87	0.39%	98.640	%
Sc RADIAL	152172.7	2052.66	1.35%	103	%
Y 371.029	1037239.3	3858.99	0.37%	97.481	%
Ag 328.068†	124658.6	154.27	0.12%	[500]	µg/L
Al 396.153Radial†	24073.9	422.90	1.76%	[5000]	µg/L
As 188.979†	1433.2	8.90	0.62%	[500]	µg/L
B 249.677†	30334.6	110.59	0.36%	[500]	µg/L
Ba 233.527†	114669.7	323.62	0.28%	[500]	µg/L
Be 313.107†	1663563.1	2758.14	0.17%	[500]	µg/L
Ca 317.933Radial†	82574.3	1254.28	1.52%	[5000]	µg/L
Cd 226.502†	72893.1	148.83	0.20%	[500]	µg/L
Co 228.616†	37167.5	61.23	0.16%	[500]	µg/L
Cr 267.716†	59199.3	161.54	0.27%	[500]	µg/L
Cu 324.752†	118012.0	110.23	0.09%	[500]	µg/L
K 766.490 Radial†	12049.3	194.52	1.61%	[5000]	µg/L
Mg 279.077 IEC†	12296.8	128.17	1.04%	[5000]	µg/L
Mn 257.610†	374812.3	736.78	0.20%	[500]	µg/L
Mo 202.031†	15762.4	102.07	0.65%	[500]	µg/L
Ni 231.604†	39842.9	169.11	0.42%	[500]	µg/L
P 214.914†	10501.5	57.19	0.54%	[2500]	µg/L
Pb 220.353†	8245.9	42.98	0.52%	[500]	µg/L
S 181.975 Axial†	1223.3	6.71	0.55%	[1000]	µg/L
Sb 206.836†	3809.9	21.86	0.57%	[500]	µg/L
Se 196.026†	1251.5	8.34	0.67%	[500]	µg/L
SiO2†	49884.3	83.19	0.17%	[5347.5]	µg/L
Si 251.611†	154198.6	224.84	0.15%	[2500]	µg/L



Sn 189.927†	7239.2	26.70	0.37%	[500] µg/L
Sr 421.552†	212660.0	7851.46	3.69%	[500] µg/L
Ti 334.940†	498389.5	562.78	0.11%	[500] µg/L
Tl 190.801†	3740.9	30.37	0.81%	[500] µg/L
U 409.014†	7527.2	224.34	2.98%	[500] µg/L
V 292.402†	93379.3	150.30	0.16%	[500] µg/L
Zn 213.857†	80697.1	189.88	0.24%	[500] µg/L

Sequence No.: 4

Sample ID: SCAL

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 4

Date Collected: 3/30/2010 15:13:09

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: SCAL

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Analysis Time
1	Sc RADIAL	151479.9	151479.9	102 %	15:13:40
1	Al 396.153Radial†	50248.0	49100.2	[10000] µg/L	15:13:40
1	Ca 317.933Radial†	172576.6	167720.3	[10000] µg/L	15:13:40
1	Fe 238.204 Radial†	152851.3	149027.6	[10000] µg/L	15:13:40
1	K 766.490 Radial†	26338.9	24391.4	[10000] µg/L	15:13:40
1	Mg 279.077 IEC†	25844.4	25052.9	[10000] µg/L	15:13:40
1	Na 589.592 Radial†	68427.5	65572.1	[10000] µg/L	15:13:40
1	Sr 421.552†	443569.3	433102.8	[1000] µg/L	15:13:38
1	Sc 361.383	1755665.6	1755665.6	100.03 %	15:13:53
1	Y 371.029	1044873.8	1044873.8	98.198 %	15:13:53
1	Ag 328.068†	252438.6	248906.9	[1000] µg/L	15:13:55
1	As 188.979†	2841.7	2858.5	[1000] µg/L	15:14:15
1	B 249.677†	63707.1	60455.4	[1000] µg/L	15:13:55
1	Ba 233.527†	226640.1	226726.3	[1000] µg/L	15:13:55
1	Be 313.107†	3325212.5	3324883.9	[1000] µg/L	15:13:53
1	Cd 226.502†	143542.8	143604.7	[1000] µg/L	15:13:55
1	Co 228.616†	72617.2	72765.3	[1000] µg/L	15:13:55
1	Cr 267.716†	117324.3	117106.4	[1000] µg/L	15:13:55
1	Cu 324.752†	237494.2	234625.7	[1000] µg/L	15:13:55
1	Mn 257.610†	738395.3	737972.3	[1000] µg/L	15:13:55
1	Mo 202.031†	31197.3	31221.6	[1000] µg/L	15:14:15
1	Ni 231.604†	78391.2	78442.8	[1000] µg/L	15:13:55
1	P 214.914†	20837.0	20825.0	[5000] µg/L	15:14:15
1	Pb 220.353†	16272.4	16170.0	[1000] µg/L	15:14:15
1	S 181.975 Axial†	2513.2	2424.7	[2000] µg/L	15:14:15
1	Sb 206.836†	7651.2	7570.5	[1000] µg/L	15:14:15
1	Se 196.026†	2493.0	2478.6	[1000] µg/L	15:14:15
1	SiO2†	100259.4	98472.6	[10695] µg/L	15:13:55
1	Si 251.611†	305887.8	304836.7	[5000] µg/L	15:13:55
1	Sn 189.927†	14332.6	14330.3	[1000] µg/L	15:14:15
1	Ti 334.940†	997065.9	995846.2	[1000] µg/L	15:13:53
1	Tl 190.801†	7268.8	7383.5	[1000] µg/L	15:14:15
1	U 409.014†	15767.1	16045.6	[1000] µg/L	15:13:55
1	V 292.402†	186730.1	186357.7	[1000] µg/L	15:13:55
1	Zn 213.857†	159431.2	158853.3	[1000] µg/L	15:13:55
2	Sc RADIAL	151260.0	151260.0	102 %	15:13:44
2	Al 396.153Radial†	50210.8	49135.1	[10000] µg/L	15:13:44
2	Ca 317.933Radial†	171845.0	167250.0	[10000] µg/L	15:13:44
2	Fe 238.204 Radial†	152123.6	148533.1	[10000] µg/L	15:13:44
2	K 766.490 Radial†	26188.8	24282.1	[10000] µg/L	15:13:44
2	Mg 279.077 IEC†	25703.0	24951.3	[10000] µg/L	15:13:44
2	Na 589.592 Radial†	67914.1	65167.3	[10000] µg/L	15:13:44
2	Sr 421.552†	445909.8	436019.5	[1000] µg/L	15:13:42
2	Sc 361.383	1749606.7	1749606.7	99.688 %	15:14:18
2	Y 371.029	1042280.4	1042280.4	97.955 %	15:14:18
2	Ag 328.068†	254491.0	251839.7	[1000] µg/L	15:14:20
2	As 188.979†	2842.0	2868.6	[1000] µg/L	15:14:40
2	B 249.677†	64704.3	61676.3	[1000] µg/L	15:14:20
2	Ba 233.527†	228264.2	229140.1	[1000] µg/L	15:14:20
2	Be 313.107†	3335523.1	3346738.2	[1000] µg/L	15:14:18
2	Cd 226.502†	144794.1	145356.9	[1000] µg/L	15:14:20
2	Co 228.616†	73330.2	73732.0	[1000] µg/L	15:14:20
2	Cr 267.716†	118422.9	118614.6	[1000] µg/L	15:14:20
2	Cu 324.752†	239130.0	237088.8	[1000] µg/L	15:14:20
2	Mn 257.610†	744297.2	746448.9	[1000] µg/L	15:14:20
2	Mo 202.031†	31343.1	31475.9	[1000] µg/L	15:14:40
2	Ni 231.604†	78921.8	79246.4	[1000] µg/L	15:14:20
2	P 214.914†	20931.4	20991.9	[5000] µg/L	15:14:40
2	Pb 220.353†	16369.7	16323.9	[1000] µg/L	15:14:40

2	S 181.975 Axial†	2522.0	2442.1	[2000]	µg/L	15:14:40
2	Sb 206.836†	7703.7	7649.7	[1000]	µg/L	15:14:40
2	Se 196.026†	2507.4	2501.6	[1000]	µg/L	15:14:40
2	SiO2†	101466.2	100030.3	[10695]	µg/L	15:14:20
2	Si 251.611†	308702.3	308718.9	[5000]	µg/L	15:14:20
2	Sn 189.927†	14433.4	14481.1	[1000]	µg/L	15:14:40
2	Ti 334.940†	998815.3	1001052.9	[1000]	µg/L	15:14:18
2	Tl 190.801†	7296.7	7436.6	[1000]	µg/L	15:14:40
2	U 409.014†	15818.7	16151.9	[1000]	µg/L	15:14:20
2	V 292.402†	188107.1	188385.4	[1000]	µg/L	15:14:20
2	Zn 213.857†	161016.2	160995.1	[1000]	µg/L	15:14:20
3	Sc RADIAL	151014.0	151014.0	102	%	15:13:48
3	Al 396.153Radial†	50198.3	49202.7	[10000]	µg/L	15:13:48
3	Ca 317.933Radial†	171941.8	167618.5	[10000]	µg/L	15:13:48
3	Fe 238.204 Radial†	152128.1	148779.8	[10000]	µg/L	15:13:48
3	K 766.490 Radial†	26223.9	24358.2	[10000]	µg/L	15:13:48
3	Mg 279.077 IEC†	25716.3	25005.2	[10000]	µg/L	15:13:48
3	Na 589.592 Radial†	67843.5	65206.4	[10000]	µg/L	15:13:48
3	Sr 421.552†	446265.2	437077.4	[1000]	µg/L	15:13:46
3	Sc 361.383	1732533.9	1732533.9	98.716	%	15:14:42
3	Y 371.029	1032118.8	1032118.8	97.000	%	15:14:42
3	Ag 328.068†	255803.1	255684.5	[1000]	µg/L	15:14:45
3	As 188.979†	2815.4	2869.7	[1000]	µg/L	15:15:05
3	B 249.677†	64798.9	62411.8	[1000]	µg/L	15:14:45
3	Ba 233.527†	230158.6	233315.5	[1000]	µg/L	15:14:45
3	Be 313.107†	3286563.4	3330113.2	[1000]	µg/L	15:14:42
3	Cd 226.502†	145823.0	147830.4	[1000]	µg/L	15:14:45
3	Co 228.616†	73882.3	75016.1	[1000]	µg/L	15:14:45
3	Cr 267.716†	119164.2	120536.2	[1000]	µg/L	15:14:45
3	Cu 324.752†	240884.9	241230.3	[1000]	µg/L	15:14:45
3	Mn 257.610†	748765.6	758332.8	[1000]	µg/L	15:14:45
3	Mo 202.031†	31112.5	31552.1	[1000]	µg/L	15:15:05
3	Ni 231.604†	79518.6	80631.2	[1000]	µg/L	15:14:45
3	P 214.914†	20780.9	21046.3	[5000]	µg/L	15:15:05
3	Pb 220.353†	16271.0	16385.8	[1000]	µg/L	15:15:05
3	S 181.975 Axial†	2504.4	2449.3	[2000]	µg/L	15:15:05
3	Sb 206.836†	7642.3	7663.6	[1000]	µg/L	15:15:05
3	Se 196.026†	2492.7	2511.6	[1000]	µg/L	15:15:05
3	SiO2†	102016.4	101590.7	[10695]	µg/L	15:14:45
3	Si 251.611†	310581.1	313673.7	[5000]	µg/L	15:14:45
3	Sn 189.927†	14306.7	14495.4	[1000]	µg/L	15:15:05
3	Ti 334.940†	986990.6	998947.6	[1000]	µg/L	15:14:42
3	Tl 190.801†	7254.3	7465.7	[1000]	µg/L	15:15:05
3	U 409.014†	15880.8	16371.2	[1000]	µg/L	15:14:45
3	V 292.402†	189443.3	191598.5	[1000]	µg/L	15:14:45
3	Zn 213.857†	162084.4	163668.8	[1000]	µg/L	15:14:45

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Mean Data: SCAL

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
Sc 361.383	1745935.4	11994.92	0.69%	99.479 %
Sc RADIAL	151251.3	233.07	0.15%	102 %
Y 371.029	1039757.6	6741.31	0.65%	97.717 %
Ag 328.068†	252143.7	3399.00	1.35%	[1000] µg/L
Al 396.153Radial†	49146.0	52.14	0.11%	[10000] µg/L
As 188.979†	2865.6	6.19	0.22%	[1000] µg/L
B 249.677†	61514.5	988.13	1.61%	[1000] µg/L
Ba 233.527†	229727.3	3333.66	1.45%	[1000] µg/L
Be 313.107†	3333911.8	11411.59	0.34%	[1000] µg/L
Ca 317.933Radial†	167529.6	247.39	0.15%	[10000] µg/L
Cd 226.502†	145597.3	2123.07	1.46%	[1000] µg/L
Co 228.616†	73837.8	1129.09	1.53%	[1000] µg/L
Cr 267.716†	118752.4	1719.04	1.45%	[1000] µg/L
Cu 324.752†	237648.3	3337.68	1.40%	[1000] µg/L
Fe 238.204 Radial†	148780.2	247.21	0.17%	[10000] µg/L
K 766.490 Radial†	24343.9	56.06	0.23%	[10000] µg/L
Mg 279.077 IEC†	25003.1	50.81	0.20%	[10000] µg/L
Mn 257.610†	747584.7	10227.64	1.37%	[1000] µg/L
Mo 202.031†	31416.5	173.06	0.55%	[1000] µg/L
Na 589.592 Radial†	65315.3	223.25	0.34%	[10000] µg/L

Ni 231.604†	79440.2	1106.98	1.39%	[1000]	µg/L
P 214.914†	20954.4	115.28	0.55%	[5000]	µg/L
Pb 220.353†	16293.2	111.12	0.68%	[1000]	µg/L
S 181.975 Axial†	2438.7	12.65	0.52%	[2000]	µg/L
Sb 206.836†	7628.0	50.21	0.66%	[1000]	µg/L
Se 196.026†	2497.3	16.89	0.68%	[1000]	µg/L
SiO2†	100031.2	1559.01	1.56%	[10695]	µg/L
Si 251.611†	309076.4	4429.34	1.43%	[5000]	µg/L
Sn 189.927†	14435.6	91.46	0.63%	[1000]	µg/L
Sr 421.552†	435399.9	2058.45	0.47%	[1000]	µg/L
Ti 334.940†	998615.5	2619.17	0.26%	[1000]	µg/L
Tl 190.801†	7428.6	41.70	0.56%	[1000]	µg/L
U 409.014†	16189.6	166.03	1.03%	[1000]	µg/L
V 292.402†	188780.5	2642.62	1.40%	[1000]	µg/L
Zn 213.857†	161172.4	2412.67	1.50%	[1000]	µg/L

Sequence No.: 5

Sample ID: S10

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 5

Date Collected: 3/30/2010 15:15:12

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	147370.9	147370.9	99.7 %		15:15:41
1	Al 396.153Radial†	240906.1	241719.3	[50000] µg/L		15:15:41
1	Ca 317.933Radial†	827273.1	829151.6	[50000] µg/L		15:15:41
1	Fe 238.204 Radial†	295786.6	296567.1	[20000] µg/L		15:15:41
1	Mg 279.077 IEC†	121547.2	121756.9	[50000] µg/L		15:15:41
1	Na 589.592 Radial†	132367.2	131572.8	[20000] µg/L		15:15:41
1	Sc 361.383	1684238.1	1684238.1	95.964 %		15:16:04
1	Y 371.029	1003912.2	1003912.2	94.349 %		15:16:04
2	Sc RADIAL	146863.2	146863.2	99.3 %		15:15:43
2	Al 396.153Radial†	241723.2	243377.1	[50000] µg/L		15:15:43
2	Ca 317.933Radial†	829762.2	834525.6	[50000] µg/L		15:15:43
2	Fe 238.204 Radial†	296606.6	298418.2	[20000] µg/L		15:15:43
2	Mg 279.077 IEC†	121675.8	122307.8	[50000] µg/L		15:15:43
2	Na 589.592 Radial†	132905.7	132573.9	[20000] µg/L		15:15:43
2	Sc 361.383	1671225.1	1671225.1	95.222 %		15:16:06
2	Y 371.029	995871.7	995871.7	93.593 %		15:16:06
3	Sc RADIAL	146034.8	146034.8	98.8 %		15:15:45
3	Al 396.153Radial†	239485.6	242492.1	[50000] µg/L		15:15:45
3	Ca 317.933Radial†	819348.2	828721.4	[50000] µg/L		15:15:45
3	Fe 238.204 Radial†	292983.7	296444.2	[20000] µg/L		15:15:45
3	Mg 279.077 IEC†	119881.9	121186.7	[50000] µg/L		15:15:45
3	Na 589.592 Radial†	131389.7	131798.1	[20000] µg/L		15:15:45
3	Sc 361.383	1683479.0	1683479.0	95.921 %		15:16:09
3	Y 371.029	1003957.3	1003957.3	94.353 %		15:16:09

## Mean Data: S10

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units	Calib Units
Sc 361.383	1679647.4	7303.80	0.43%	95.702 %	
Sc RADIAL	146756.3	674.41	0.46%	99.3 %	
Y 371.029	1001247.1	4655.29	0.46%	94.098 %	
Al 396.153Radial†	242529.5	829.53	0.34%	[50000] µg/L	
Ca 317.933Radial†	830799.6	3234.04	0.39%	[50000] µg/L	
Fe 238.204 Radial†	297143.2	1105.88	0.37%	[20000] µg/L	
Mg 279.077 IEC†	121750.5	560.60	0.46%	[50000] µg/L	
Na 589.592 Radial†	131981.6	525.16	0.40%	[20000] µg/L	

## Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	3	Lin Thru 0	0.0	251.6	0.00000	0.999990	
Al 396.153Radial	3	Lin Thru 0	0.0	4.853	0.00000	0.999997	
As 188.979	3	Lin Thru 0	0.0	2.866	0.00000	0.999999	
B 249.677	3	Lin Thru 0	0.0	61.33	0.00000	0.999983	
Ba 233.527	3	Lin Thru 0	0.0	229.7	0.00000	0.999999	
Be 313.107	3	Lin Thru 0	0.0	3332	0.00000	0.999999	
Ca 317.933Radial	3	Lin Thru 0	0.0	16.62	0.00000	0.999999	
Cd 226.502	3	Lin Thru 0	0.0	145.6	0.00000	0.999999	
Co 228.616	3	Lin Thru 0	0.0	73.95	0.00000	0.999995	
Cr 267.716	3	Lin Thru 0	0.0	118.7	0.00000	0.999999	
Cu 324.752	3	Lin Thru 0	0.0	237.3	0.00000	0.999996	
Fe 238.204 Radia	2	Lin Thru 0	0.0	14.86	0.00000	1.000000	
K 766.490 Radial	3	Lin Thru 0	0.0	2.430	0.00000	0.999991	
Mg 279.077 IEC	3	Lin Thru 0	0.0	2.438	0.00000	0.999986	
Mn 257.610	3	Lin Thru 0	0.0	748.2	0.00000	0.999996	
Mo 202.031	3	Lin Thru 0	0.0	31.44	0.00000	0.999999	
Na 589.592 Radia	2	Lin Thru 0	0.0	6.586	0.00000	0.999992	

Ni 231.604	3	Lin Thru 0	0.0	79.51	0.00000	0.999997
P 214.914	3	Lin Thru 0	0.0	4.192	0.00000	0.999999
Pb 220.353	3	Lin Thru 0	0.0	16.33	0.00000	0.999988
S 181.975 Axial	3	Lin Thru 0	0.0	1.220	0.00000	0.999997
Sb 206.836	3	Lin Thru 0	0.0	7.627	0.00000	1.000000
Se 196.026	3	Lin Thru 0	0.0	2.498	0.00000	0.999999
SiO2	3	Lin Thru 0	0.0	9.347	0.00000	0.999999
Si 251.611	3	Lin Thru 0	0.0	61.78	0.00000	0.999999
Sn 189.927	3	Lin Thru 0	0.0	14.44	0.00000	0.999999
Sr 421.552	3	Lin Thru 0	0.0	433.5	0.00000	0.999953
Ti 334.940	3	Lin Thru 0	0.0	998.2	0.00000	0.999999
Tl 190.801	3	Lin Thru 0	0.0	7.440	0.00000	0.999995
U 409.014	3	Lin Thru 0	0.0	15.97	0.00000	0.999597
V 292.402	3	Lin Thru 0	0.0	188.3	0.00000	0.999990
Zn 213.857	3	Lin Thru 0	0.0	161.2	0.00000	1.000000

Sequence No.: 6

Sample ID: ICV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 9

Date Collected: 3/30/2010 15:16:17

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	149158.9	149158.9	101 %		15:16:49
1	Al 396.153Radial†	25831.6	25664.3	5263.3 µg/L	5263.3 ppb	15:16:49
1	Ca 317.933Radial†	87376.8	85900.3	5168.4 µg/L	5168.4 ppb	15:16:49
1	Fe 238.204 Radial†	77792.8	76958.9	5178.5 µg/L	5178.5 ppb	15:16:49
1	K 766.490 Radial†	7770.6	6388.5	2626.3 µg/L	2626.3 ppb	15:16:49
1	Mg 279.077 IEC†	13533.9	13244.5	5442.1 µg/L	5442.1 ppb	15:16:49
1	Na 589.592 Radial†	18509.1	17137.5	2599.9 µg/L	2599.9 ppb	15:16:49
1	Sr 421.552†	239535.7	237623.0	548.12 µg/L	548.12 ppb	15:16:47
1	Sc 361.383	1733695.8	1733695.8	98.782 %		15:17:16
1	Y 371.029	1040751.9	1040751.9	97.811 %		15:17:16
1	Ag 328.068†	68135.2	65528.4	266.96 µg/L	266.96 ppb	15:17:16
1	As 188.979†	1329.3	1363.4	483.14 µg/L	483.14 ppb	15:17:36
1	B 249.677†	34869.6	32069.3	521.06 µg/L	521.06 ppb	15:17:16
1	Ba 233.527†	117588.5	119200.9	519.45 µg/L	519.45 ppb	15:17:16
1	Be 313.107†	875829.6	887416.8	266.46 µg/L	266.46 ppb	15:17:16
1	Cd 226.502†	73213.2	74226.2	509.34 µg/L	509.34 ppb	15:17:16
1	Co 228.616†	37882.5	38522.2	521.28 µg/L	521.28 ppb	15:17:16
1	Cr 267.716†	58712.5	59258.0	499.17 µg/L	499.17 ppb	15:17:16
1	Cu 324.752†	124786.7	123536.7	522.16 µg/L	522.16 ppb	15:17:16
1	Mn 257.610†	389862.8	394495.4	527.06 µg/L	527.06 ppb	15:17:16
1	Mo 202.031†	16938.7	17182.4	547.03 µg/L	547.03 ppb	15:17:36
1	Ni 231.604†	40201.0	40774.7	512.85 µg/L	512.85 ppb	15:17:16
1	P 214.914†	10575.5	10701.0	2543.4 µg/L	2543.4 ppb	15:17:36
1	Pb 220.353†	8363.7	8369.8	514.21 µg/L	514.21 ppb	15:17:36
1	S 181.975 Axial†	3115.2	3066.0	2517.9 µg/L	2517.9 ppb	15:17:36
1	Sb 206.836†	3912.6	3882.7	511.03 µg/L	511.03 ppb	15:17:36
1	Se 196.026†	6300.9	6365.0	2550 µg/L	2550 ppb	15:17:36
1	SiO2†	99885.1	99363.8	10607 µg/L	10607 ppb	15:17:16
1	Si 251.611†	304452.4	307258.6	4962.5 µg/L	4962.5 ppb	15:17:16
1	Sn 189.927†	7790.2	7888.8	547.86 µg/L	547.86 ppb	15:17:36
1	Ti 334.940†	499727.2	505004.7	505.26 µg/L	505.26 ppb	15:17:16
1	Tl 190.801†	3892.3	4057.4	552.96 µg/L	552.96 ppb	15:17:36
1	U 409.014†	7143.0	7514.9	502.35 µg/L	502.35 ppb	15:17:16
1	V 292.402†	96557.1	97438.1	524.43 µg/L	524.43 ppb	15:17:16
1	Zn 213.857†	83773.2	84281.8	518.68 µg/L	518.68 ppb	15:17:16
2	Sc RADIAL	150464.5	150464.5	102 %		15:16:53
2	Al 396.153Radial†	26338.4	25940.0	5320.0 µg/L	5320.0 ppb	15:16:53
2	Ca 317.933Radial†	88167.1	85925.3	5169.9 µg/L	5169.9 ppb	15:16:53
2	Fe 238.204 Radial†	78818.8	77298.0	5201.3 µg/L	5201.3 ppb	15:16:53
2	K 766.490 Radial†	7643.7	6197.1	2547.5 µg/L	2547.5 ppb	15:16:53
2	Mg 279.077 IEC†	13736.8	13327.5	5476.1 µg/L	5476.1 ppb	15:16:53
2	Na 589.592 Radial†	18678.7	17145.0	2601.2 µg/L	2601.2 ppb	15:16:53
2	Sr 421.552†	239844.1	235866.0	544.07 µg/L	544.07 ppb	15:16:51
2	Sc 361.383	1726627.6	1726627.6	98.379 %		15:17:39
2	Y 371.029	1036918.0	1036918.0	97.451 %		15:17:39
2	Ag 328.068†	67812.3	65482.6	266.77 µg/L	266.77 ppb	15:17:39
2	As 188.979†	1343.8	1383.7	490.23 µg/L	490.23 ppb	15:17:59
2	B 249.677†	34859.4	32203.4	523.24 µg/L	523.24 ppb	15:17:39
2	Ba 233.527†	117491.5	119589.6	521.15 µg/L	521.15 ppb	15:17:39
2	Be 313.107†	873409.7	888586.5	266.81 µg/L	266.81 ppb	15:17:39
2	Cd 226.502†	73073.6	74387.6	510.44 µg/L	510.44 ppb	15:17:39
2	Co 228.616†	37714.1	38508.0	521.09 µg/L	521.09 ppb	15:17:39
2	Cr 267.716†	58529.2	59315.0	499.66 µg/L	499.66 ppb	15:17:39
2	Cu 324.752†	124562.2	123825.7	523.38 µg/L	523.38 ppb	15:17:39
2	Mn 257.610†	389247.0	395485.0	528.38 µg/L	528.38 ppb	15:17:39
2	Mo 202.031†	16924.2	17237.8	548.80 µg/L	548.80 ppb	15:17:59
2	Ni 231.604†	40215.9	40956.5	515.14 µg/L	515.14 ppb	15:17:39
2	P 214.914†	10595.6	10765.2	2558.7 µg/L	2558.7 ppb	15:17:59
2	Pb 220.353†	8379.7	8420.8	517.34 µg/L	517.34 ppb	15:17:59

2	S 181.975 Axial†	3127.7	3091.5	2538.8 µg/L	2538.8 ppb	15:17:59
2	Sb 206.836†	3893.4	3879.5	510.62 µg/L	510.62 ppb	15:17:59
2	Se 196.026†	6305.0	6395.3	2560 µg/L	2560 ppb	15:17:59
2	SiO2†	99950.6	99844.4	10658 µg/L	10658 ppb	15:17:39
2	Si 251.611†	303842.4	307900.2	4972.8 µg/L	4972.8 ppb	15:17:39
2	Sn 189.927†	7799.1	7930.2	550.73 µg/L	550.73 ppb	15:17:59
2	Ti 334.940†	499097.0	506435.1	506.70 µg/L	506.70 ppb	15:17:39
2	Tl 190.801†	3884.6	4065.7	554.09 µg/L	554.09 ppb	15:17:59
2	U 409.014†	7044.9	7444.7	497.98 µg/L	497.98 ppb	15:17:39
2	V 292.402†	96220.1	97495.7	524.75 µg/L	524.75 ppb	15:17:39
2	Zn 213.857†	83633.8	84487.3	519.94 µg/L	519.94 ppb	15:17:39
3	Sc RADIAL	148694.2	148694.2	101 %		15:16:57
3	Al 396.153Radial†	25757.3	25670.4	5264.3 µg/L	5264.3 ppb	15:16:57
3	Ca 317.933Radial†	86641.6	85440.0	5140.7 µg/L	5140.7 ppb	15:16:57
3	Fe 238.204 Radial†	77077.3	76488.6	5146.8 µg/L	5146.8 ppb	15:16:57
3	K 766.490 Radial†	7760.1	6402.2	2631.9 µg/L	2631.9 ppb	15:16:57
3	Mg 279.077 IEC†	13465.4	13218.4	5431.5 µg/L	5431.5 ppb	15:16:57
3	Na 589.592 Radial†	18458.7	17144.8	2601.0 µg/L	2601.0 ppb	15:16:57
3	Sr 421.552†	238015.5	236853.6	546.35 µg/L	546.35 ppb	15:16:55
3	Sc 361.383	1717483.0	1717483.0	97.858 %		15:18:02
3	Y 371.029	1031891.3	1031891.3	96.978 %		15:18:02
3	Ag 328.068†	67510.7	65541.4	267.02 µg/L	267.02 ppb	15:18:02
3	As 188.979†	1346.0	1393.2	493.54 µg/L	493.54 ppb	15:18:22
3	B 249.677†	34582.2	32108.8	521.70 µg/L	521.70 ppb	15:18:02
3	Ba 233.527†	116478.8	119190.5	519.41 µg/L	519.41 ppb	15:18:02
3	Be 313.107†	866925.4	886687.4	266.25 µg/L	266.25 ppb	15:18:02
3	Cd 226.502†	72305.6	73998.3	507.78 µg/L	507.78 ppb	15:18:02
3	Co 228.616†	37543.9	38538.1	521.50 µg/L	521.50 ppb	15:18:02
3	Cr 267.716†	58047.4	59139.5	498.16 µg/L	498.16 ppb	15:18:02
3	Cu 324.752†	123812.4	123733.6	522.99 µg/L	522.99 ppb	15:18:02
3	Mn 257.610†	386013.5	394287.5	526.78 µg/L	526.78 ppb	15:18:02
3	Mo 202.031†	16915.6	17320.6	551.43 µg/L	551.43 ppb	15:18:22
3	Ni 231.604†	40039.0	40993.3	515.60 µg/L	515.60 ppb	15:18:02
3	P 214.914†	10618.3	10845.7	2578.0 µg/L	2578.0 ppb	15:18:22
3	Pb 220.353†	8376.9	8463.3	519.94 µg/L	519.94 ppb	15:18:22
3	S 181.975 Axial†	3127.7	3108.5	2552.8 µg/L	2552.8 ppb	15:18:22
3	Sb 206.836†	3899.6	3906.9	514.27 µg/L	514.27 ppb	15:18:22
3	Se 196.026†	6296.1	6420.3	2570 µg/L	2570 ppb	15:18:22
3	SiO2†	99144.2	99561.3	10628 µg/L	10628 ppb	15:18:02
3	Si 251.611†	301303.2	306949.8	4957.4 µg/L	4957.4 ppb	15:18:02
3	Sn 189.927†	7767.3	7939.9	551.39 µg/L	551.39 ppb	15:18:22
3	Ti 334.940†	494745.0	504689.0	504.94 µg/L	504.94 ppb	15:18:02
3	Tl 190.801†	3887.5	4089.7	557.29 µg/L	557.29 ppb	15:18:22
3	U 409.014†	7321.2	7765.3	517.97 µg/L	517.97 ppb	15:18:02
3	V 292.402†	95435.5	97214.7	523.30 µg/L	523.30 ppb	15:18:02
3	Zn 213.857†	82911.3	84201.6	518.17 µg/L	518.17 ppb	15:18:02

## Mean Data: ICV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1725935.5	98.340 %	0.4631			0.47%
Sc RADIAL	149439.2	101 %	0.6			0.61%
Y 371.029	1036520.4	97.413 %	0.4176			0.43%
Ag 328.068†	65517.5	266.92 µg/L	0.126	266.92 ppb	0.126	0.05%
QC value within limits for Ag 328.068 Recovery = 106.77%						
Al 396.153Radial†	25758.3	5282.6 µg/L	32.46	5282.6 ppb	32.46	0.61%
QC value within limits for Al 396.153Radial Recovery = 105.65%						
As 188.979†	1380.1	488.97 µg/L	5.311	488.97 ppb	5.311	1.09%
QC value within limits for As 188.979 Recovery = 97.79%						
B 249.677†	32127.2	522.00 µg/L	1.124	522.00 ppb	1.124	0.22%
QC value within limits for B 249.677 Recovery = 104.40%						
Ba 233.527†	119327.0	520.00 µg/L	0.990	520.00 ppb	0.990	0.19%
QC value within limits for Ba 233.527 Recovery = 104.00%						
Be 313.107†	887563.5	266.51 µg/L	0.285	266.51 ppb	0.285	0.11%
QC value within limits for Be 313.107 Recovery = 106.60%						
Ca 317.933Radial†	85755.2	5159.7 µg/L	16.44	5159.7 ppb	16.44	0.32%
QC value within limits for Ca 317.933Radial Recovery = 103.19%						
Cd 226.502†	74204.1	509.18 µg/L	1.340	509.18 ppb	1.340	0.26%
QC value within limits for Cd 226.502 Recovery = 101.84%						
Co 228.616†	38522.7	521.29 µg/L	0.204	521.29 ppb	0.204	0.04%



QC value within limits for Co 228.616 Recovery = 104.26%							
Cr 267.716†	59237.5	499.00 µg/L	0.764	499.00 ppb	0.764	0.15%	
QC value within limits for Cr 267.716 Recovery = 99.80%							
Cu 324.752†	123698.7	522.84 µg/L	0.623	522.84 ppb	0.623	0.12%	
QC value within limits for Cu 324.752 Recovery = 104.57%							
Fe 238.204 Radial†	76915.2	5175.5 µg/L	27.35	5175.5 ppb	27.35	0.53%	
QC value within limits for Fe 238.204 Radial Recovery = 103.51%							
K 766.490 Radial†	6329.3	2601.9 µg/L	47.21	2601.9 ppb	47.21	1.81%	
QC value within limits for K 766.490 Radial Recovery = 104.08%							
Mg 279.077 IEC†	13263.4	5449.9 µg/L	23.33	5449.9 ppb	23.33	0.43%	
QC value within limits for Mg 279.077 IEC Recovery = 109.00%							
Mn 257.610†	394756.0	527.41 µg/L	0.854	527.41 ppb	0.854	0.16%	
QC value within limits for Mn 257.610 Recovery = 105.48%							
Mo 202.031†	17246.9	549.09 µg/L	2.212	549.09 ppb	2.212	0.40%	
QC value within limits for Mo 202.031 Recovery = 109.82%							
Na 589.592 Radial†	17142.4	2600.7 µg/L	0.67	2600.7 ppb	0.67	0.03%	
QC value within limits for Na 589.592 Radial Recovery = 104.03%							
Ni 231.604†	40908.1	514.53 µg/L	1.472	514.53 ppb	1.472	0.29%	
QC value within limits for Ni 231.604 Recovery = 102.91%							
P 214.914†	10770.6	2560.0 µg/L	17.30	2560.0 ppb	17.30	0.68%	
QC value within limits for P 214.914 Recovery = 102.40%							
Pb 220.353†	8418.0	517.16 µg/L	2.867	517.16 ppb	2.867	0.55%	
QC value within limits for Pb 220.353 Recovery = 103.43%							
S 181.975 Axial†	3088.6	2536.5 µg/L	17.56	2536.5 ppb	17.56	0.69%	
QC value within limits for S 181.975 Axial Recovery = 101.46%							
Sb 206.836†	3889.7	511.97 µg/L	2.001	511.97 ppb	2.001	0.39%	
QC value within limits for Sb 206.836 Recovery = 102.39%							
Se 196.026†	6393.5	2560 µg/L	11.1	2560 ppb	11.1	0.43%	
QC value within limits for Se 196.026 Recovery = 102.46%							
SiO2†	99589.8	10631 µg/L	25.8	10631 ppb	25.8	0.24%	
QC value within limits for SiO2 Recovery = 99.40%							
Si 251.611†	307369.5	4964.2 µg/L	7.86	4964.2 ppb	7.86	0.16%	
QC value within limits for Si 251.611 Recovery = 99.28%							
Sn 189.927†	7919.6	549.99 µg/L	1.879	549.99 ppb	1.879	0.34%	
QC value within limits for Sn 189.927 Recovery = 110.00%							
Sr 421.552†	236780.8	546.18 µg/L	2.032	546.18 ppb	2.032	0.37%	
QC value within limits for Sr 421.552 Recovery = 109.24%							
Ti 334.940†	505376.2	505.63 µg/L	0.934	505.63 ppb	0.934	0.18%	
QC value within limits for Ti 334.940 Recovery = 101.13%							
Tl 190.801†	4070.9	554.78 µg/L	2.246	554.78 ppb	2.246	0.40%	
QC value greater than the upper limit for Tl 190.801 Recovery = 110.96%							
U 409.014†	7575.0	506.10 µg/L	10.510	506.10 ppb	10.510	2.08%	
QC value within limits for U 409.014 Recovery = 101.22%							
V 292.402†	97382.8	524.16 µg/L	0.762	524.16 ppb	0.762	0.15%	
QC value within limits for V 292.402 Recovery = 104.83%							
Zn 213.857†	84323.6	518.93 µg/L	0.911	518.93 ppb	0.911	0.18%	
QC value within limits for Zn 213.857 Recovery = 103.79%							
QC Failed. Continue with analysis.							

Sequence No.: 7

Sample ID: ICB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 10

Date Collected: 3/30/2010 15:18:31

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	153206.5	153206.5	104 %		15:19:00
1	Al 396.153Radial†	-69.1	-3.8	-0.7740 µg/L	-0.7740 ppb	15:19:20
1	Ca 317.933Radial†	556.4	-161.1	-9.6939 µg/L	-9.6939 ppb	15:19:20
1	Fe 238.204 Radial†	151.0	5.0	0.3342 µg/L	0.3342 ppb	15:19:20
1	K 766.490 Radial†	1545.6	178.5	73.465 µg/L	73.465 ppb	15:19:00
1	Mg 279.077 IEC†	183.7	8.5	3.4678 µg/L	3.4678 ppb	15:19:20
1	Na 589.592 Radial†	1438.4	181.3	27.462 µg/L	27.462 ppb	15:19:00
1	Sr 421.552†	-358.4	-124.2	-0.2864 µg/L	-0.2864 ppb	15:19:00
1	Sc 361.383	1778800.0	1778800.0	101.35 %		15:20:22
1	Y 371.029	1078865.1	1078865.1	101.39 %		15:20:22
1	Ag 328.068†	3508.3	14.4	0.0586 µg/L	0.0586 ppb	15:20:24
1	As 188.979†	-17.8	0.1	0.0419 µg/L	0.0419 ppb	15:20:44
1	B 249.677†	3246.0	-27.6	-0.4511 µg/L	-0.4511 ppb	15:20:44
1	Ba 233.527†	-161.5	2.8	0.0123 µg/L	0.0123 ppb	15:20:44
1	Be 313.107†	-690.5	104.3	0.0315 µg/L	0.0315 ppb	15:20:24
1	Cd 226.502†	-93.8	17.5	0.1201 µg/L	0.1201 ppb	15:20:44
1	Co 228.616†	-157.8	16.7	0.2258 µg/L	0.2258 ppb	15:20:44
1	Cr 267.716†	167.7	-13.1	-0.1107 µg/L	-0.1107 ppb	15:20:44
1	Cu 324.752†	2840.6	13.8	0.0589 µg/L	0.0589 ppb	15:20:24
1	Mn 257.610†	177.2	-0.8	-0.0012 µg/L	-0.0012 ppb	15:20:44
1	Mo 202.031†	-35.1	0.1	0.0047 µg/L	0.0047 ppb	15:20:44
1	Ni 231.604†	-78.0	1.0	0.0124 µg/L	0.0124 ppb	15:20:44
1	P 214.914†	12.7	7.5	1.7929 µg/L	1.7929 ppb	15:20:44
1	Pb 220.353†	60.9	-36.9	-2.2599 µg/L	-2.2599 ppb	15:20:44
1	S 181.975 Axial†	88.2	-0.7	-0.5610 µg/L	-0.5610 ppb	15:20:44
1	Sb 206.836†	85.2	6.0	0.7853 µg/L	0.7853 ppb	15:20:44
1	Se 196.026†	10.8	-2.9	-1.16 µg/L	-1.16 ppb	15:20:44
1	SiO2†	1722.8	-53.3	-5.7163 µg/L	-5.7163 ppb	15:20:44
1	Si 251.611†	826.6	-133.1	-2.1594 µg/L	-2.1594 ppb	15:20:24
1	Sn 189.927†	10.2	12.7	0.8755 µg/L	0.8755 ppb	15:20:44
1	Ti 334.940†	723.6	-171.6	-0.1727 µg/L	-0.1727 ppb	15:20:24
1	Tl 190.801†	-106.8	11.7	1.5760 µg/L	1.5760 ppb	15:20:44
1	U 409.014†	-277.6	9.9	0.6216 µg/L	0.6216 ppb	15:20:24
1	V 292.402†	320.4	6.3	0.0333 µg/L	0.0333 ppb	15:20:24
1	Zn 213.857†	499.5	-31.7	-0.1969 µg/L	-0.1969 ppb	15:20:44
2	Sc RADIAL	150721.0	150721.0	102 %		15:19:22
2	Al 396.153Radial†	-48.2	15.6	3.2216 µg/L	3.2216 ppb	15:19:42
2	Ca 317.933Radial†	575.9	-133.2	-8.0115 µg/L	-8.0115 ppb	15:19:42
2	Fe 238.204 Radial†	145.3	1.8	0.1215 µg/L	0.1215 ppb	15:19:42
2	K 766.490 Radial†	1483.0	141.7	58.321 µg/L	58.321 ppb	15:19:22
2	Mg 279.077 IEC†	163.5	-8.4	-3.4473 µg/L	-3.4473 ppb	15:19:42
2	Na 589.592 Radial†	1391.5	158.1	23.961 µg/L	23.961 ppb	15:19:22
2	Sr 421.552†	-206.6	19.0	0.0439 µg/L	0.0439 ppb	15:19:22
2	Sc 361.383	1728906.2	1728906.2	98.509 %		15:20:46
2	Y 371.029	1049241.8	1049241.8	98.609 %		15:20:46
2	Ag 328.068†	3539.7	146.2	0.5945 µg/L	0.5945 ppb	15:20:48
2	As 188.979†	-19.5	-2.1	-0.7336 µg/L	-0.7336 ppb	15:21:09
2	B 249.677†	3272.0	91.1	1.4866 µg/L	1.4866 ppb	15:21:09
2	Ba 233.527†	-163.6	-3.9	-0.0168 µg/L	-0.0168 ppb	15:21:09
2	Be 313.107†	-841.3	-68.5	-0.0184 µg/L	-0.0184 ppb	15:20:48
2	Cd 226.502†	-103.2	5.3	0.0364 µg/L	0.0364 ppb	15:21:09
2	Co 228.616†	-181.8	-12.1	-0.1642 µg/L	-0.1642 ppb	15:21:09
2	Cr 267.716†	152.0	-24.2	-0.2095 µg/L	-0.2095 ppb	15:21:09
2	Cu 324.752†	2859.0	113.3	0.4833 µg/L	0.4833 ppb	15:20:48
2	Mn 257.610†	143.9	-29.5	-0.0393 µg/L	-0.0393 ppb	15:21:09
2	Mo 202.031†	-37.4	-3.3	-0.1034 µg/L	-0.1034 ppb	15:21:09
2	Ni 231.604†	-63.8	13.1	0.1646 µg/L	0.1646 ppb	15:21:09
2	P 214.914†	23.6	18.9	4.5148 µg/L	4.5148 ppb	15:21:09
2	Pb 220.353†	114.5	19.3	1.1760 µg/L	1.1760 ppb	15:21:09

2	S 181.975 Axial†	90.2	3.8	3.1293 µg/L	3.1293 ppb	15:21:09
2	Sb 206.836†	78.1	1.2	0.1567 µg/L	0.1567 ppb	15:21:09
2	Se 196.026†	19.1	5.8	2.34 µg/L	2.34 ppb	15:21:09
2	SiO2†	1747.5	20.9	2.2278 µg/L	2.2278 ppb	15:21:09
2	Si 251.611†	794.7	-141.9	-2.2988 µg/L	-2.2988 ppb	15:20:48
2	Sn 189.927†	3.9	6.5	0.4511 µg/L	0.4511 ppb	15:21:09
2	Ti 334.940†	935.4	64.0	0.0614 µg/L	0.0614 ppb	15:20:48
2	Tl 190.801†	-90.0	25.7	3.4630 µg/L	3.4630 ppb	15:21:09
2	U 409.014†	-168.9	112.3	7.0568 µg/L	7.0568 ppb	15:20:48
2	V 292.402†	376.2	72.1	0.3855 µg/L	0.3855 ppb	15:20:48
2	Zn 213.857†	512.2	-4.7	-0.0302 µg/L	-0.0302 ppb	15:21:09
3	Sc RADIAL	152025.6	152025.6	103 %		15:19:44
3	Al 396.153Radial†	-48.0	16.2	3.3357 µg/L	3.3357 ppb	15:20:04
3	Ca 317.933Radial†	564.3	-149.3	-8.9821 µg/L	-8.9821 ppb	15:20:04
3	Fe 238.204 Radial†	130.3	-14.0	-0.9447 µg/L	-0.9447 ppb	15:20:04
3	K 766.490 Radial†	1448.5	95.7	39.384 µg/L	39.384 ppb	15:19:44
3	Mg 279.077 IEC†	171.7	-1.8	-0.7289 µg/L	-0.7289 ppb	15:20:04
3	Na 589.592 Radial†	1555.7	306.1	46.445 µg/L	46.445 ppb	15:19:44
3	Sr 421.552†	-343.8	-112.6	-0.2598 µg/L	-0.2598 ppb	15:19:44
3	Sc 361.383	1742344.9	1742344.9	99.275 %		15:21:11
3	Y 371.029	1057263.7	1057263.7	99.363 %		15:21:11
3	Ag 328.068†	3422.8	0.7	0.0063 µg/L	0.0063 ppb	15:21:13
3	As 188.979†	-7.6	10.0	3.4870 µg/L	3.4870 ppb	15:21:33
3	B 249.677†	3234.7	28.0	0.4564 µg/L	0.4564 ppb	15:21:33
3	Ba 233.527†	-159.6	1.4	0.0057 µg/L	0.0057 ppb	15:21:33
3	Be 313.107†	-681.8	98.8	0.0318 µg/L	0.0318 ppb	15:21:13
3	Cd 226.502†	-79.8	29.6	0.2034 µg/L	0.2034 ppb	15:21:33
3	Co 228.616†	-174.0	-2.8	-0.0378 µg/L	-0.0378 ppb	15:21:33
3	Cr 267.716†	147.7	-29.7	-0.2566 µg/L	-0.2566 ppb	15:21:33
3	Cu 324.752†	2965.4	198.1	0.8405 µg/L	0.8405 ppb	15:21:13
3	Mn 257.610†	154.7	-19.8	-0.0264 µg/L	-0.0264 ppb	15:21:33
3	Mo 202.031†	-28.3	6.3	0.1999 µg/L	0.1999 ppb	15:21:33
3	Ni 231.604†	-70.4	6.9	0.0872 µg/L	0.0872 ppb	15:21:33
3	P 214.914†	20.5	15.7	3.7359 µg/L	3.7359 ppb	15:21:33
3	Pb 220.353†	105.1	8.9	0.5395 µg/L	0.5395 ppb	15:21:33
3	S 181.975 Axial†	78.6	-8.5	-6.9957 µg/L	-6.9957 ppb	15:21:33
3	Sb 206.836†	83.3	5.8	0.7689 µg/L	0.7689 ppb	15:21:33
3	Se 196.026†	22.9	9.5	3.79 µg/L	3.79 ppb	15:21:33
3	SiO2†	1714.3	-26.3	-2.8302 µg/L	-2.8302 ppb	15:21:33
3	Si 251.611†	912.8	-29.2	-0.4782 µg/L	-0.4782 ppb	15:21:13
3	Sn 189.927†	4.9	7.5	0.5192 µg/L	0.5192 ppb	15:21:33
3	Ti 334.940†	727.2	-153.0	-0.1564 µg/L	-0.1564 ppb	15:21:13
3	Tl 190.801†	-113.2	3.0	0.4038 µg/L	0.4038 ppb	15:21:33
3	U 409.014†	-166.2	116.3	7.2590 µg/L	7.2590 ppb	15:21:13
3	V 292.402†	217.4	-90.9	-0.4764 µg/L	-0.4764 ppb	15:21:13
3	Zn 213.857†	498.8	-22.1	-0.1381 µg/L	-0.1381 ppb	15:21:33

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Mean Data: ICB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1750017.0	99.712 %	1.4710			1.48%
Sc RADIAL	151984.4	103 %	0.8			0.82%
Y 371.029	1061790.2	99.788 %	1.4399			1.44%
Ag 328.068†	53.8	0.2198 µg/L	0.32552	0.2198 ppb	0.32552	148.11%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	9.4	1.9278 µg/L	2.34050	1.9278 ppb	2.34050	121.41%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	2.7	0.9318 µg/L	2.24662	0.9318 ppb	2.24662	241.11%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	30.5	0.4973 µg/L	0.96947	0.4973 ppb	0.96947	194.95%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	0.1	0.0004 µg/L	0.01528	0.0004 ppb	0.01528	>999.9%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	44.9	0.0150 µg/L	0.02892	0.0150 ppb	0.02892	193.16%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-147.9	-8.8958 µg/L	0.84451	-8.8958 ppb	0.84451	9.49%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	17.5	0.1200 µg/L	0.08355	0.1200 ppb	0.08355	69.64%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	0.6	0.0079 µg/L	0.19896	0.0079 ppb	0.19896	>999.9%

QC value within limits for Co 228.616	Recovery = Not calculated		
Cr 267.716†	-22.4 -0.1923 µg/L	0.07446 -0.1923 ppb	0.07446 38.72%
QC value within limits for Cr 267.716	Recovery = Not calculated		
Cu 324.752†	108.4 0.4609 µg/L	0.39130 0.4609 ppb	0.39130 84.90%
QC value within limits for Cu 324.752	Recovery = Not calculated		
Fe 238.204 Radial†	-2.4 -0.1630 µg/L	0.68528 -0.1630 ppb	0.68528 420.53%
QC value within limits for Fe 238.204 Radial	Recovery = Not calculated		
K 766.490 Radial†	138.6 57.056 µg/L	17.0760 57.056 ppb	17.0760 29.93%
QC value within limits for K 766.490 Radial	Recovery = Not calculated		
Mg 279.077 IEC†	-0.6 -0.2362 µg/L	3.48380 -0.2362 ppb	3.48380 >999.9%
QC value within limits for Mg 279.077 IEC	Recovery = Not calculated		
Mn 257.610†	-16.7 -0.0223 µg/L	0.01938 -0.0223 ppb	0.01938 86.94%
QC value within limits for Mn 257.610	Recovery = Not calculated		
Mo 202.031†	1.1 0.0337 µg/L	0.15371 0.0337 ppb	0.15371 455.98%
QC value within limits for Mo 202.031	Recovery = Not calculated		
Na 589.592 Radial†	215.2 32.622 µg/L	12.0980 32.622 ppb	12.0980 37.09%
QC value within limits for Na 589.592 Radial	Recovery = Not calculated		
Ni 231.604†	7.0 0.0880 µg/L	0.07611 0.0880 ppb	0.07611 86.44%
QC value within limits for Ni 231.604	Recovery = Not calculated		
P 214.914†	14.0 3.3479 µg/L	1.40183 3.3479 ppb	1.40183 41.87%
QC value within limits for P 214.914	Recovery = Not calculated		
Pb 220.353†	-2.9 -0.1815 µg/L	1.82791 -0.1815 ppb	1.82791 >999.9%
QC value within limits for Pb 220.353	Recovery = Not calculated		
S 181.975 Axial†	-1.8 -1.4758 µg/L	5.12412 -1.4758 ppb	5.12412 347.21%
QC value within limits for S 181.975 Axial	Recovery = Not calculated		
Sb 206.836†	4.3 0.5703 µg/L	0.35827 0.5703 ppb	0.35827 62.82%
QC value within limits for Sb 206.836	Recovery = Not calculated		
Se 196.026†	4.1 1.66 µg/L	2.544 1.66 ppb	2.544 153.28%
QC value within limits for Se 196.026	Recovery = Not calculated		
SiO2†	-19.6 -2.1063 µg/L	4.02123 -2.1063 ppb	4.02123 190.92%
QC value within limits for SiO2	Recovery = Not calculated		
Si 251.611†	-101.4 -1.6455 µg/L	1.01329 -1.6455 ppb	1.01329 61.58%
QC value within limits for Si 251.611	Recovery = Not calculated		
Sn 189.927†	8.9 0.6153 µg/L	0.22794 0.6153 ppb	0.22794 37.05%
QC value within limits for Sn 189.927	Recovery = Not calculated		
Sr 421.552†	-72.6 -0.1674 µg/L	0.18347 -0.1674 ppb	0.18347 109.58%
QC value within limits for Sr 421.552	Recovery = Not calculated		
Ti 334.940†	-86.9 -0.0892 µg/L	0.13068 -0.0892 ppb	0.13068 146.45%
QC value within limits for Ti 334.940	Recovery = Not calculated		
Tl 190.801†	13.5 1.8143 µg/L	1.54345 1.8143 ppb	1.54345 85.07%
QC value within limits for Tl 190.801	Recovery = Not calculated		
U 409.014†	79.5 4.9791 µg/L	3.77508 4.9791 ppb	3.77508 75.82%
QC value within limits for U 409.014	Recovery = Not calculated		
V 292.402†	-4.2 -0.0192 µg/L	0.43332 -0.0192 ppb	0.43332 >999.9%
QC value within limits for V 292.402	Recovery = Not calculated		
Zn 213.857†	-19.5 -0.1217 µg/L	0.08455 -0.1217 ppb	0.08455 69.46%
QC value within limits for Zn 213.857	Recovery = Not calculated		

All analyte(s) passed QC.

Sequence No.: 8

Sample ID: PQL

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 101

Date Collected: 3/30/2010 15:21:41

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	151538.9	151538.9	103 %		15:22:11
1	Al 396.153Radial†	1003.2	1041.6	214.21 µg/L	214.21 ppb	15:22:13
1	Ca 317.933Radial†	4094.6	3296.4	198.34 µg/L	198.34 ppb	15:22:13
1	Fe 238.204 Radial†	1655.5	1474.3	99.205 µg/L	99.205 ppb	15:22:13
1	K 766.490 Radial†	1863.9	505.5	207.89 µg/L	207.89 ppb	15:22:11
1	Mg 279.077 IEC†	958.9	766.6	314.63 µg/L	314.63 ppb	15:22:13
1	Na 589.592 Radial†	3105.5	1822.9	276.62 µg/L	276.62 ppb	15:22:13
1	Sr 421.552†	2223.1	2390.3	5.5126 µg/L	5.5126 ppb	15:22:13
1	Sc 361.383	1725451.3	1725451.3	98.312 %		15:22:25
1	Y 371.029	1045817.3	1045817.3	98.287 %		15:22:25
1	Ag 328.068†	4999.9	1638.6	6.6213 µg/L	6.6213 ppb	15:22:27
1	As 188.979†	69.8	88.7	31.042 µg/L	31.042 ppb	15:22:47
1	B 249.677†	6177.2	3052.9	49.758 µg/L	49.758 ppb	15:22:27
1	Ba 233.527†	1015.0	1194.5	5.2065 µg/L	5.2065 ppb	15:22:47
1	Be 313.107†	15418.6	16468.9	4.9544 µg/L	4.9544 ppb	15:22:27
1	Cd 226.502†	613.7	734.2	5.0333 µg/L	5.0333 ppb	15:22:47
1	Co 228.616†	186.0	361.7	4.8917 µg/L	4.8917 ppb	15:22:47
1	Cr 267.716†	742.4	576.6	4.8271 µg/L	4.8271 ppb	15:22:47
1	Cu 324.752†	5231.2	2532.1	10.728 µg/L	10.728 ppb	15:22:27
1	Mn 257.610†	7935.2	7895.9	10.541 µg/L	10.541 ppb	15:22:27
1	Mo 202.031†	249.7	288.8	9.1970 µg/L	9.1970 ppb	15:22:47
1	Ni 231.604†	321.7	405.1	5.0950 µg/L	5.0950 ppb	15:22:47
1	P 214.914†	631.6	637.5	151.90 µg/L	151.90 ppb	15:22:47
1	Pb 220.353†	247.1	154.4	9.4588 µg/L	9.4588 ppb	15:22:47
1	S 181.975 Axial†	205.3	121.2	99.392 µg/L	99.392 ppb	15:22:47
1	Sb 206.836†	157.6	82.2	10.863 µg/L	10.863 ppb	15:22:47
1	Se 196.026†	84.0	71.8	28.8 µg/L	28.8 ppb	15:22:47
1	SiO2†	3795.8	2107.8	225.10 µg/L	225.10 ppb	15:22:27
1	Si 251.611†	7081.1	6254.0	101.04 µg/L	101.04 ppb	15:22:27
1	Sn 189.927†	137.7	142.6	9.8879 µg/L	9.8879 ppb	15:22:47
1	Ti 334.940†	5809.9	5024.1	4.9951 µg/L	4.9951 ppb	15:22:27
1	Tl 190.801†	48.7	166.6	22.483 µg/L	22.483 ppb	15:22:47
1	U 409.014†	339.2	628.8	39.760 µg/L	39.760 ppb	15:22:27
1	V 292.402†	1353.2	1066.6	5.7900 µg/L	5.7900 ppb	15:22:27
1	Zn 213.857†	2145.8	1658.1	10.236 µg/L	10.236 ppb	15:22:47
2	Sc RADIAL	148899.4	148899.4	101 %		15:22:15
2	Al 396.153Radial†	1029.3	1084.8	223.07 µg/L	223.07 ppb	15:22:17
2	Ca 317.933Radial†	4074.2	3347.0	201.38 µg/L	201.38 ppb	15:22:17
2	Fe 238.204 Radial†	1672.9	1520.1	102.29 µg/L	102.29 ppb	15:22:17
2	K 766.490 Radial†	1737.9	412.6	169.65 µg/L	169.65 ppb	15:22:15
2	Mg 279.077 IEC†	908.9	733.6	301.09 µg/L	301.09 ppb	15:22:17
2	Na 589.592 Radial†	3196.8	1967.2	298.57 µg/L	298.57 ppb	15:22:17
2	Sr 421.552†	2249.0	2454.5	5.6605 µg/L	5.6605 ppb	15:22:17
2	Sc 361.383	1717434.8	1717434.8	97.855 %		15:22:49
2	Y 371.029	1041401.9	1041401.9	97.872 %		15:22:49
2	Ag 328.068†	4641.9	1296.6	5.2704 µg/L	5.2704 ppb	15:22:51
2	As 188.979†	74.8	94.2	32.949 µg/L	32.949 ppb	15:23:11
2	B 249.677†	6109.5	3013.0	49.107 µg/L	49.107 ppb	15:22:51
2	Ba 233.527†	1038.4	1223.3	5.3319 µg/L	5.3319 ppb	15:23:11
2	Be 313.107†	15483.7	16608.6	4.9987 µg/L	4.9987 ppb	15:22:51
2	Cd 226.502†	609.6	733.0	5.0245 µg/L	5.0245 ppb	15:23:11
2	Co 228.616†	220.5	397.7	5.3796 µg/L	5.3796 ppb	15:23:11
2	Cr 267.716†	746.1	583.9	4.8822 µg/L	4.8822 ppb	15:23:11
2	Cu 324.752†	5004.9	2325.7	9.8653 µg/L	9.8653 ppb	15:22:51
2	Mn 257.610†	7953.3	7952.0	10.617 µg/L	10.617 ppb	15:22:51
2	Mo 202.031†	280.4	321.3	10.233 µg/L	10.233 ppb	15:23:11
2	Ni 231.604†	327.6	412.6	5.1901 µg/L	5.1901 ppb	15:23:11
2	P 214.914†	627.8	636.5	151.69 µg/L	151.69 ppb	15:23:11
2	Pb 220.353†	232.0	140.1	8.5854 µg/L	8.5854 ppb	15:23:11

2	S 181.975 Axial†	215.9	132.9	109.04 µg/L	109.04 ppb	15:23:11
2	Sb 206.836†	152.4	77.7	10.282 µg/L	10.282 ppb	15:23:11
2	Se 196.026†	92.7	81.2	32.6 µg/L	32.6 ppb	15:23:11
2	SiO2†	3796.8	2126.8	227.10 µg/L	227.10 ppb	15:22:51
2	Si 251.611†	7000.4	6205.2	100.23 µg/L	100.23 ppb	15:22:51
2	Sn 189.927†	143.5	149.1	10.342 µg/L	10.342 ppb	15:23:11
2	Ti 334.940†	5589.1	4826.0	4.7945 µg/L	4.7945 ppb	15:22:51
2	Tl 190.801†	51.0	169.2	22.830 µg/L	22.830 ppb	15:23:11
2	U 409.014†	463.4	757.3	47.801 µg/L	47.801 ppb	15:22:51
2	V 292.402†	1329.4	1048.7	5.7113 µg/L	5.7113 ppb	15:22:51
2	Zn 213.857†	2132.0	1654.1	10.211 µg/L	10.211 ppb	15:23:11
3	Sc RADIAL	147081.9	147081.9	99.5 %		15:22:19
3	Al 396.153Radial†	978.9	1046.8	215.27 µg/L	215.27 ppb	15:22:21
3	Ca 317.933Radial†	4080.3	3403.1	204.76 µg/L	204.76 ppb	15:22:21
3	Fe 238.204 Radial†	1709.0	1577.0	106.12 µg/L	106.12 ppb	15:22:21
3	K 766.490 Radial†	1766.2	462.3	190.12 µg/L	190.12 ppb	15:22:19
3	Mg 279.077 IEC†	964.2	800.3	328.44 µg/L	328.44 ppb	15:22:21
3	Na 589.592 Radial†	3215.9	2025.6	307.42 µg/L	307.42 ppb	15:22:21
3	Sr 421.552†	2210.3	2443.2	5.6344 µg/L	5.6344 ppb	15:22:21
3	Sc 361.383	1716395.9	1716395.9	97.796 %		15:23:13
3	Y 371.029	1041833.4	1041833.4	97.913 %		15:23:13
3	Ag 328.068†	4888.2	1551.3	6.2744 µg/L	6.2744 ppb	15:23:15
3	As 188.979†	68.7	88.0	30.793 µg/L	30.793 ppb	15:23:35
3	B 249.677†	6241.4	3151.7	51.368 µg/L	51.368 ppb	15:23:15
3	Ba 233.527†	993.3	1177.8	5.1332 µg/L	5.1332 ppb	15:23:35
3	Be 313.107†	15462.3	16596.3	4.9945 µg/L	4.9945 ppb	15:23:15
3	Cd 226.502†	611.3	735.1	5.0386 µg/L	5.0386 ppb	15:23:35
3	Co 228.616†	213.2	390.4	5.2802 µg/L	5.2802 ppb	15:23:35
3	Cr 267.716†	767.8	606.5	5.0744 µg/L	5.0744 ppb	15:23:35
3	Cu 324.752†	5204.8	2533.2	10.739 µg/L	10.739 ppb	15:23:15
3	Mn 257.610†	7893.3	7895.6	10.540 µg/L	10.540 ppb	15:23:15
3	Mo 202.031†	255.2	295.7	9.4171 µg/L	9.4171 ppb	15:23:35
3	Ni 231.604†	332.4	417.8	5.2544 µg/L	5.2544 ppb	15:23:35
3	P 214.914†	626.6	635.7	151.47 µg/L	151.47 ppb	15:23:35
3	Pb 220.353†	252.3	161.1	9.8653 µg/L	9.8653 ppb	15:23:35
3	S 181.975 Axial†	209.7	126.7	103.93 µg/L	103.93 ppb	15:23:35
3	Sb 206.836†	150.6	75.9	10.029 µg/L	10.029 ppb	15:23:35
3	Se 196.026†	96.6	85.2	34.2 µg/L	34.2 ppb	15:23:35
3	SiO2†	3748.3	2079.7	222.08 µg/L	222.08 ppb	15:23:15
3	Si 251.611†	6933.3	6140.9	99.207 µg/L	99.207 ppb	15:23:15
3	Sn 189.927†	138.0	143.7	9.9640 µg/L	9.9640 ppb	15:23:35
3	Ti 334.940†	5690.8	4933.4	4.9007 µg/L	4.9007 ppb	15:23:15
3	Tl 190.801†	46.5	164.6	22.211 µg/L	22.211 ppb	15:23:35
3	U 409.014†	434.0	727.6	45.909 µg/L	45.909 ppb	15:23:15
3	V 292.402†	1234.9	952.9	5.1933 µg/L	5.1933 ppb	15:23:15
3	Zn 213.857†	2110.8	1633.8	10.083 µg/L	10.083 ppb	15:23:35

## Mean Data: PQL

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1719760.6	97.988 %	0.2824			0.29%
Sc RADIAL	149173.4	101 %	1.5			1.50%
Y 371.029	1043017.5	98.024 %	0.2288			0.23%
Ag 328.068†	1495.5	6.0554 µg/L	0.70156	6.0554 ppb	0.70156	11.59%
QC value within limits for Ag 328.068 Recovery = 121.11%						
Al 396.153Radial†	1057.7	217.52 µg/L	4.840	217.52 ppb	4.840	2.22%
QC value within limits for Al 396.153Radial Recovery = 108.76%						
As 188.979†	90.3	31.595 µg/L	1.1796	31.595 ppb	1.1796	3.73%
QC value within limits for As 188.979 Recovery = 105.32%						
B 249.677†	3072.5	50.078 µg/L	1.1640	50.078 ppb	1.1640	2.32%
QC value within limits for B 249.677 Recovery = 100.16%						
Ba 233.527†	1198.6	5.2239 µg/L	0.10050	5.2239 ppb	0.10050	1.92%
QC value within limits for Ba 233.527 Recovery = 104.48%						
Be 313.107†	16558.0	4.9825 µg/L	0.02447	4.9825 ppb	0.02447	0.49%
QC value within limits for Be 313.107 Recovery = 99.65%						
Ca 317.933Radial†	3348.8	201.49 µg/L	3.210	201.49 ppb	3.210	1.59%
QC value within limits for Ca 317.933Radial Recovery = 100.75%						
Cd 226.502†	734.1	5.0321 µg/L	0.00712	5.0321 ppb	0.00712	0.14%
QC value within limits for Cd 226.502 Recovery = 100.64%						
Co 228.616†	383.3	5.1838 µg/L	0.25781	5.1838 ppb	0.25781	4.97%

QC value within limits for Co 228.616	Recovery = 103.68%			
Cr 267.716†	589.0	4.9279 µg/L	0.12984	4.9279 ppb 0.12984 2.63%
QC value within limits for Cr 267.716	Recovery = 98.56%			
Cu 324.752†	2463.6	10.444 µg/L	0.5014	10.444 ppb 0.5014 4.80%
QC value within limits for Cu 324.752	Recovery = 104.44%			
Fe 238.204 Radial†	1523.8	102.54 µg/L	3.462	102.54 ppb 3.462 3.38%
QC value within limits for Fe 238.204 Radial	Recovery = 102.54%			
K 766.490 Radial†	460.2	189.22 µg/L	19.137	189.22 ppb 19.137 10.11%
QC value within limits for K 766.490 Radial	Recovery = 126.15%			
Mg 279.077 IEC†	766.8	314.72 µg/L	13.677	314.72 ppb 13.677 4.35%
QC value within limits for Mg 279.077 IEC	Recovery = 104.91%			
Mn 257.610†	7914.5	10.566 µg/L	0.0439	10.566 ppb 0.0439 0.42%
QC value within limits for Mn 257.610	Recovery = 105.66%			
Mo 202.031†	301.9	9.6156 µg/L	0.54552	9.6156 ppb 0.54552 5.67%
QC value within limits for Mo 202.031	Recovery = 96.16%			
Na 589.592 Radial†	1938.6	294.20 µg/L	15.859	294.20 ppb 15.859 5.39%
QC value within limits for Na 589.592 Radial	Recovery = 98.07%			
Ni 231.604†	411.8	5.1799 µg/L	0.08020	5.1799 ppb 0.08020 1.55%
QC value within limits for Ni 231.604	Recovery = 103.60%			
P 214.914†	636.6	151.69 µg/L	0.216	151.69 ppb 0.216 0.14%
QC value within limits for P 214.914	Recovery = 101.13%			
Pb 220.353†	151.8	9.3032 µg/L	0.65396	9.3032 ppb 0.65396 7.03%
QC value within limits for Pb 220.353	Recovery = 93.03%			
S 181.975 Axial†	126.9	104.12 µg/L	4.828	104.12 ppb 4.828 4.64%
QC value within limits for S 181.975 Axial	Recovery = 104.12%			
Sb 206.836†	78.6	10.391 µg/L	0.4280	10.391 ppb 0.4280 4.12%
QC value within limits for Sb 206.836	Recovery = 103.91%			
Se 196.026†	79.4	31.9 µg/L	2.75	31.9 ppb 2.75 8.64%
QC value within limits for Se 196.026	Recovery = 106.24%			
SiO2†	2104.8	224.76 µg/L	2.527	224.76 ppb 2.527 1.12%
QC value within limits for SiO2	Recovery = 105.52%			
Si 251.611†	6200.0	100.16 µg/L	0.919	100.16 ppb 0.919 0.92%
QC value within limits for Si 251.611	Recovery = 100.16%			
Sn 189.927†	145.1	10.065 µg/L	0.2432	10.065 ppb 0.2432 2.42%
QC value within limits for Sn 189.927	Recovery = 100.65%			
Sr 421.552†	2429.3	5.6025 µg/L	0.07899	5.6025 ppb 0.07899 1.41%
QC value within limits for Sr 421.552	Recovery = 112.05%			
Ti 334.940†	4927.8	4.8968 µg/L	0.10034	4.8968 ppb 0.10034 2.05%
QC value within limits for Ti 334.940	Recovery = 97.94%			
Tl 190.801†	166.8	22.508 µg/L	0.3103	22.508 ppb 0.3103 1.38%
QC value within limits for Tl 190.801	Recovery = 112.54%			
U 409.014†	704.5	44.490 µg/L	4.2038	44.490 ppb 4.2038 9.45%
QC value within limits for U 409.014	Recovery = 88.98%			
V 292.402†	1022.7	5.5648 µg/L	0.32420	5.5648 ppb 0.32420 5.83%
QC value within limits for V 292.402	Recovery = 111.30%			
Zn 213.857†	1648.7	10.177 µg/L	0.0818	10.177 ppb 0.0818 0.80%
QC value within limits for Zn 213.857	Recovery = 101.77%			

All analyte(s) passed QC.

Sequence No.: 9

Sample ID: ICSA

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 103

Date Collected: 3/30/2010 15:23:44

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	135491.3	135491.3	91.7 %		15:24:17
1	Al 396.153Radial†	2286947.2	2495271.1	514200 µg/L	514200 ppb	15:24:15
1	Ca 317.933Radial†	7501113.1	8183504.6	492380 µg/L	492380 ppb	15:24:15
1	Fe 238.204 Radial†	2650457.5	2891680.9	194580 µg/L	194580 ppb	15:24:15
1	K 766.490 Radial†	1541.2	368.7	-93.473 µg/L	-93.473 ppb	15:24:17
1	Mg 279.077 IEC†	1105922.5	1206464.7	494750 µg/L	494750 ppb	15:24:15
1	Na 589.592 Radial†	1485.9	414.6	62.815 µg/L	62.815 ppb	15:24:17
1	Sr 421.552†	1315.2	1656.6	-0.0324 µg/L	-0.0324 ppb	15:24:17
1	Sc 361.383	1550377.8	1550377.8	88.337 %		15:24:30
1	Y 371.029	923448.2	923448.2	86.787 %		15:24:30
1	Ag 328.068†	5848.7	3173.8	-0.9573 µg/L	-0.9573 ppb	15:24:30
1	As 188.979†	-95.4	-90.4	12.078 µg/L	12.078 ppb	15:24:50
1	B 249.677†	3031.8	201.7	3.2757 µg/L	3.2757 ppb	15:24:30
1	Ba 233.527†	439.1	659.2	0.3855 µg/L	0.3855 ppb	15:24:50
1	Be 313.107†	-852.7	-179.7	-0.0514 µg/L	-0.0514 ppb	15:24:30
1	Cd 226.502†	2265.2	2674.3	-2.0990 µg/L	-2.0990 ppb	15:24:50
1	Co 228.616†	89.3	273.6	-6.4479 µg/L	-6.4479 ppb	15:24:50
1	Cr 267.716†	184.7	30.5	0.9733 µg/L	0.9733 ppb	15:24:50
1	Cu 324.752†	-5458.4	-8968.0	3.9288 µg/L	3.9288 ppb	15:24:30
1	Mn 257.610†	15118.7	16939.3	2.5037 µg/L	2.5037 ppb	15:24:30
1	Mo 202.031†	-527.3	-562.2	-1.1409 µg/L	-1.1409 ppb	15:24:50
1	Ni 231.604†	156.5	255.0	3.2074 µg/L	3.2074 ppb	15:24:50
1	P 214.914†	186.0	205.6	31.164 µg/L	31.164 ppb	15:24:50
1	Pb 220.353†	-313.6	-451.9	-2.0684 µg/L	-2.0684 ppb	15:24:50
1	S 181.975 Axial†	145.2	76.7	62.685 µg/L	62.685 ppb	15:24:50
1	Sb 206.836†	119.3	56.9	1.3356 µg/L	1.3356 ppb	15:24:50
1	Se 196.026†	-140.9	-173.0	-1.74 µg/L	-1.74 ppb	15:24:50
1	SiO2†	1610.5	70.0	7.9672 µg/L	7.9672 ppb	15:24:50
1	Si 251.611†	429.3	-462.7	-7.2638 µg/L	-7.2638 ppb	15:24:50
1	Sn 189.927†	24.6	30.4	2.1790 µg/L	2.1790 ppb	15:24:50
1	Ti 334.940†	20051.3	21813.1	-5.6222 µg/L	-5.6222 ppb	15:24:30
1	Tl 190.801†	-176.0	-82.2	-10.613 µg/L	-10.613 ppb	15:24:50
1	U 409.014†	-134.3	131.7	-13.380 µg/L	-13.380 ppb	15:24:30
1	V 292.402†	4112.7	4345.8	2.3469 µg/L	2.3469 ppb	15:24:50
1	Zn 213.857†	4024.9	4031.8	8.3012 µg/L	8.3012 ppb	15:24:50
2	Sc RADIAL	134398.4	134398.4	90.9 %		15:24:22
2	Al 396.153Radial†	2251126.8	2476161.2	510270 µg/L	510270 ppb	15:24:20
2	Ca 317.933Radial†	7350398.9	8084279.8	486410 µg/L	486410 ppb	15:24:20
2	Fe 238.204 Radial†	2597180.3	2856594.8	192220 µg/L	192220 ppb	15:24:20
2	K 766.490 Radial†	1495.4	332.0	-106.03 µg/L	-106.03 ppb	15:24:22
2	Mg 279.077 IEC†	1081861.3	1189810.8	487920 µg/L	487920 ppb	15:24:20
2	Na 589.592 Radial†	1353.7	282.4	42.754 µg/L	42.754 ppb	15:24:22
2	Sr 421.552†	1363.4	1721.3	0.1636 µg/L	0.1636 ppb	15:24:22
2	Sc 361.383	1529302.7	1529302.7	87.136 %		15:24:53
2	Y 371.029	911641.3	911641.3	85.677 %		15:24:53
2	Ag 328.068†	6201.8	3670.3	1.1894 µg/L	1.1894 ppb	15:24:53
2	As 188.979†	-96.9	-93.6	10.426 µg/L	10.426 ppb	15:25:13
2	B 249.677†	3140.4	373.6	6.0801 µg/L	6.0801 ppb	15:24:53
2	Ba 233.527†	440.1	667.2	0.4501 µg/L	0.4501 ppb	15:25:13
2	Be 313.107†	-1112.6	-491.3	-0.1442 µg/L	-0.1442 ppb	15:24:53
2	Cd 226.502†	2279.3	2725.8	-1.4965 µg/L	-1.4965 ppb	15:25:13
2	Co 228.616†	67.3	249.7	-6.6477 µg/L	-6.6477 ppb	15:25:13
2	Cr 267.716†	204.6	56.2	1.1890 µg/L	1.1890 ppb	15:25:13
2	Cu 324.752†	-5392.7	-8977.8	3.3610 µg/L	3.3610 ppb	15:24:53
2	Mn 257.610†	15342.3	17431.7	3.4390 µg/L	3.4390 ppb	15:24:53
2	Mo 202.031†	-551.7	-598.4	-2.5108 µg/L	-2.5108 ppb	15:25:13
2	Ni 231.604†	154.5	255.2	3.2101 µg/L	3.2101 ppb	15:25:13
2	P 214.914†	160.5	179.1	25.620 µg/L	25.620 ppb	15:25:13
2	Pb 220.353†	-375.1	-527.4	-6.8630 µg/L	-6.8630 ppb	15:25:13



2	S 181.975 Axial†	153.7	88.7	72.553 µg/L	72.553 ppb	15:25:13
2	Sb 206.836†	118.2	57.5	1.4515 µg/L	1.4515 ppb	15:25:13
2	Se 196.026†	-176.7	-216.4	-19.9 µg/L	-19.9 ppb	15:25:13
2	SiO2†	1570.0	48.6	5.6934 µg/L	5.6934 ppb	15:25:13
2	Si 251.611†	436.0	-448.3	-7.0262 µg/L	-7.0262 ppb	15:25:13
2	Sn 189.927†	42.7	51.6	3.6464 µg/L	3.6464 ppb	15:25:13
2	Ti 334.940†	20530.0	22675.4	-4.3587 µg/L	-4.3587 ppb	15:24:53
2	Tl 190.801†	-173.6	-82.2	-10.599 µg/L	-10.599 ppb	15:25:13
2	U 409.014†	-99.0	170.2	-10.670 µg/L	-10.670 ppb	15:24:53
2	V 292.402†	4093.4	4387.9	2.8090 µg/L	2.8090 ppb	15:25:13
2	Zn 213.857†	4029.0	4099.2	8.9615 µg/L	8.9615 ppb	15:25:13
3	Sc RADIAL	135723.7	135723.7	91.8 %		15:24:26
3	Al 396.153Radial†	2273186.3	2476011.1	510240 µg/L	510240 ppb	15:24:24
3	Ca 317.933Radial†	7430044.5	8092086.0	486880 µg/L	486880 ppb	15:24:24
3	Fe 238.204 Radial†	2629467.1	2863867.6	192710 µg/L	192710 ppb	15:24:24
3	K 766.490 Radial†	1436.9	252.3	-139.06 µg/L	-139.06 ppb	15:24:26
3	Mg 279.077 IEC†	1095585.1	1193139.5	489280 µg/L	489280 ppb	15:24:24
3	Na 589.592 Radial†	1426.6	347.2	52.627 µg/L	52.627 ppb	15:24:26
3	Sr 421.552†	1369.3	1713.1	0.1409 µg/L	0.1409 ppb	15:24:26
3	Sc 361.383	1526692.0	1526692.0	86.987 %		15:25:16
3	Y 371.029	910201.6	910201.6	85.542 %		15:25:16
3	Ag 328.068†	6006.6	3458.1	0.3388 µg/L	0.3388 ppb	15:25:16
3	As 188.979†	-97.6	-94.5	10.205 µg/L	10.205 ppb	15:25:36
3	B 249.677†	3058.7	285.9	4.6488 µg/L	4.6488 ppb	15:25:16
3	Ba 233.527†	404.6	627.3	0.2707 µg/L	0.2707 ppb	15:25:36
3	Be 313.107†	-1039.4	-409.4	-0.1186 µg/L	-0.1186 ppb	15:25:16
3	Cd 226.502†	2276.1	2726.6	-1.5425 µg/L	-1.5425 ppb	15:25:36
3	Co 228.616†	93.3	279.7	-6.2669 µg/L	-6.2669 ppb	15:25:36
3	Cr 267.716†	191.5	41.6	1.0636 µg/L	1.0636 ppb	15:25:36
3	Cu 324.752†	-5604.7	-9232.1	2.4007 µg/L	2.4007 ppb	15:25:16
3	Mn 257.610†	15289.1	17400.7	3.3421 µg/L	3.3421 ppb	15:25:16
3	Mo 202.031†	-523.8	-567.4	-1.4815 µg/L	-1.4815 ppb	15:25:36
3	Ni 231.604†	202.7	310.9	3.9104 µg/L	3.9104 ppb	15:25:36
3	P 214.914†	185.5	208.2	32.197 µg/L	32.197 ppb	15:25:36
3	Pb 220.353†	-350.8	-500.2	-5.2143 µg/L	-5.2143 ppb	15:25:36
3	S 181.975 Axial†	149.8	84.5	69.091 µg/L	69.091 ppb	15:25:36
3	Sb 206.836†	125.1	65.7	2.5329 µg/L	2.5329 ppb	15:25:36
3	Se 196.026†	-153.6	-190.1	-9.22 µg/L	-9.22 ppb	15:25:36
3	SiO2†	1630.8	121.7	13.502 µg/L	13.502 ppb	15:25:36
3	Si 251.611†	470.7	-407.5	-6.3676 µg/L	-6.3676 ppb	15:25:36
3	Sn 189.927†	20.5	26.1	1.8853 µg/L	1.8853 ppb	15:25:36
3	Ti 334.940†	20741.8	22959.1	-4.1747 µg/L	-4.1747 ppb	15:25:16
3	Tl 190.801†	-132.1	-34.8	-4.2279 µg/L	-4.2279 ppb	15:25:36
3	U 409.014†	-51.7	224.3	-7.3537 µg/L	-7.3537 ppb	15:25:16
3	V 292.402†	4139.6	4449.0	3.0936 µg/L	3.0936 ppb	15:25:36
3	Zn 213.857†	4013.6	4089.5	8.8407 µg/L	8.8407 ppb	15:25:36

## Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1535457.5	87.487 %	0.7400			0.85%
Sc RADIAL	135204.5	91.5 %	0.48			0.52%
Y 371.029	915097.0	86.002 %	0.6831			0.79%
Ag 328.068†	3434.1	0.1903 µg/L	1.08102	0.1903 ppb	1.08102	567.98%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	2482481.1	511570 µg/L	2282.6	511570 ppb	2282.6	0.45%
QC value within limits for Al 396.153Radial Recovery = 102.31%						
As 188.979†	-92.8	10.903 µg/L	1.0235	10.903 ppb	1.0235	9.39%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	287.1	4.6682 µg/L	1.40228	4.6682 ppb	1.40228	30.04%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	651.2	0.3687 µg/L	0.09087	0.3687 ppb	0.09087	24.65%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-360.1	-0.1047 µg/L	0.04792	-0.1047 ppb	0.04792	45.74%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	8119956.8	488560 µg/L	3319.6	488560 ppb	3319.6	0.68%
QC value within limits for Ca 317.933Radial Recovery = 97.71%						
Cd 226.502†	2708.9	-1.7127 µg/L	0.33534	-1.7127 ppb	0.33534	19.58%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	267.6	-6.4542 µg/L	0.19046	-6.4542 ppb	0.19046	2.95%

QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	42.8	1.0753 µg/L	0.10833	1.0753 ppb	0.10833	10.07%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-9059.3	3.2302 µg/L	0.77242	3.2302 ppb	0.77242	23.91%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	2870714.4	193170 µg/L	1246.1	193170 ppb	1246.1	0.65%	
QC value within limits for Fe 238.204 Radial Recovery = 96.58%							
K 766.490 Radial†	317.7	-112.85 µg/L	23.545	-112.85 ppb	23.545	20.86%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	1196471.7	490650 µg/L	3614.1	490650 ppb	3614.1	0.74%	
QC value within limits for Mg 279.077 IEC Recovery = 98.13%							
Mn 257.610†	17257.2	3.0950 µg/L	0.51432	3.0950 ppb	0.51432	16.62%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	-576.0	-1.7111 µg/L	0.71323	-1.7111 ppb	0.71323	41.68%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	348.0	52.732 µg/L	10.0310	52.732 ppb	10.0310	19.02%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	273.7	3.4426 µg/L	0.40513	3.4426 ppb	0.40513	11.77%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	197.6	29.660 µg/L	3.5371	29.660 ppb	3.5371	11.93%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	-493.2	-4.7152 µg/L	2.43592	-4.7152 ppb	2.43592	51.66%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	83.3	68.110 µg/L	5.0065	68.110 ppb	5.0065	7.35%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	60.1	1.7733 µg/L	0.66034	1.7733 ppb	0.66034	37.24%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-193.2	-10.3 µg/L	9.13	-10.3 ppb	9.13	88.75%	
QC value within limits for Se 196.026 Recovery = Not calculated							
SiO2†	80.1	9.0540 µg/L	4.01594	9.0540 ppb	4.01594	44.36%	
QC value within limits for SiO2 Recovery = Not calculated							
Si 251.611†	-439.5	-6.8859 µg/L	0.46433	-6.8859 ppb	0.46433	6.74%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	36.0	2.5702 µg/L	0.94345	2.5702 ppb	0.94345	36.71%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	1697.0	0.0907 µg/L	0.10724	0.0907 ppb	0.10724	118.24%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	22482.5	-4.7185 µg/L	0.78801	-4.7185 ppb	0.78801	16.70%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	-66.4	-8.4799 µg/L	3.68229	-8.4799 ppb	3.68229	43.42%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	175.4	-10.468 µg/L	3.0181	-10.468 ppb	3.0181	28.83%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	4394.2	2.7499 µg/L	0.37684	2.7499 ppb	0.37684	13.70%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	4073.5	8.7011 µg/L	0.35156	8.7011 ppb	0.35156	4.04%	
QC value within limits for Zn 213.857 Recovery = Not calculated							

All analyte(s) passed QC.

Sequence No.: 10

Sample ID: ICSAB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 104

Date Collected: 3/30/2010 15:25:44

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	128969.8	128969.8	87.2 %		15:26:16
1	Al 396.153Radial†	2268643.5	2600464.8	535860 µg/L	535860 ppb	15:26:14
1	Ca 317.933Radial†	7418203.8	8502317.5	511560 µg/L	511560 ppb	15:26:14
1	Fe 238.204 Radial†	2626582.9	3010544.4	202580 µg/L	202580 ppb	15:26:14
1	K 766.490 Radial†	13932.0	14656.5	5776.6 µg/L	5776.6 ppb	15:26:16
1	Mg 279.077 IEC†	1076571.1	1233836.2	505980 µg/L	505980 ppb	15:26:16
1	Na 589.592 Radial†	33219.3	36870.5	5593.3 µg/L	5593.3 ppb	15:26:16
1	Sr 421.552†	207277.5	237810.7	544.59 µg/L	544.59 ppb	15:26:16
1	Sc 361.383	1516196.2	1516196.2	86.389 %		15:26:44
1	Y 371.029	903728.7	903728.7	84.933 %		15:26:44
1	Ag 328.068†	63350.6	69884.6	270.36 µg/L	270.36 ppb	15:26:44
1	As 188.979†	1221.1	1431.2	550.90 µg/L	550.90 ppb	15:26:46
1	B 249.677†	30854.5	32485.4	528.04 µg/L	528.04 ppb	15:26:44
1	Ba 233.527†	100374.9	116351.4	504.51 µg/L	504.51 ppb	15:26:44
1	Be 313.107†	710674.5	823428.9	247.28 µg/L	247.28 ppb	15:26:44
1	Cd 226.502†	62827.3	72836.0	479.01 µg/L	479.01 ppb	15:26:44
1	Co 228.616†	29526.2	34350.5	454.56 µg/L	454.56 ppb	15:26:46
1	Cr 267.716†	51013.6	58872.4	496.64 µg/L	496.64 ppb	15:26:46
1	Cu 324.752†	105945.5	119848.6	548.90 µg/L	548.90 ppb	15:26:44
1	Mn 257.610†	328467.2	380042.5	487.37 µg/L	487.37 ppb	15:26:44
1	Mo 202.031†	13247.4	15369.3	506.32 µg/L	506.32 ppb	15:26:46
1	Ni 231.604†	32031.3	37155.8	467.34 µg/L	467.34 ppb	15:26:46
1	P 214.914†	9671.9	11190.7	2643.8 µg/L	2643.8 ppb	15:26:46
1	Pb 220.353†	6483.0	7407.4	481.68 µg/L	481.68 ppb	15:26:46
1	S 181.975 Axial†	3019.3	3407.3	2797.2 µg/L	2797.2 ppb	15:26:46
1	Sb 206.836†	3474.0	3943.3	512.08 µg/L	512.08 ppb	15:26:46
1	Se 196.026†	5295.0	6115.7	2520 µg/L	2520 ppb	15:26:46
1	SiO2†	92064.6	104816.5	11193 µg/L	11193 ppb	15:26:44
1	Si 251.611†	280816.9	324111.7	5236.4 µg/L	5236.4 ppb	15:26:44
1	Sn 189.927†	6181.1	7157.5	497.35 µg/L	497.35 ppb	15:26:46
1	Ti 334.940†	466691.3	539334.3	512.06 µg/L	512.06 ppb	15:26:44
1	Tl 190.801†	2873.7	3443.5	471.18 µg/L	471.18 ppb	15:26:46
1	U 409.014†	7010.7	8399.0	535.66 µg/L	535.66 ppb	15:26:44
1	V 292.402†	87819.1	101345.4	523.74 µg/L	523.74 ppb	15:26:44
1	Zn 213.857†	72585.4	83496.9	497.27 µg/L	497.27 ppb	15:26:44
2	Sc RADIAL	138750.1	138750.1	93.9 %		15:26:21
2	Al 396.153Radial†	2248527.6	2395732.2	493670 µg/L	493670 ppb	15:26:19
2	Ca 317.933Radial†	7355600.1	7836246.5	471490 µg/L	471490 ppb	15:26:19
2	Fe 238.204 Radial†	2604562.2	2774861.9	186720 µg/L	186720 ppb	15:26:19
2	K 766.490 Radial†	14271.2	13892.3	5480.7 µg/L	5480.7 ppb	15:26:21
2	Mg 279.077 IEC†	1111258.4	1183809.4	485470 µg/L	485470 ppb	15:26:21
2	Na 589.592 Radial†	34192.5	35223.4	5343.5 µg/L	5343.5 ppb	15:26:21
2	Sr 421.552†	211492.1	225553.7	516.63 µg/L	516.63 ppb	15:26:21
2	Sc 361.383	1518506.0	1518506.0	86.521 %		15:26:49
2	Y 371.029	904980.6	904980.6	85.051 %		15:26:49
2	Ag 328.068†	63288.3	69701.0	270.75 µg/L	270.75 ppb	15:26:49
2	As 188.979†	1123.1	1315.7	507.01 µg/L	507.01 ppb	15:26:51
2	B 249.677†	31121.0	32739.1	532.19 µg/L	532.19 ppb	15:26:49
2	Ba 233.527†	100793.3	116658.3	506.05 µg/L	506.05 ppb	15:26:49
2	Be 313.107†	712144.3	823876.4	247.41 µg/L	247.41 ppb	15:26:49
2	Cd 226.502†	63049.4	72982.0	481.68 µg/L	481.68 ppb	15:26:49
2	Co 228.616†	29214.5	33938.3	449.81 µg/L	449.81 ppb	15:26:51
2	Cr 267.716†	50659.7	58373.5	492.13 µg/L	492.13 ppb	15:26:51
2	Cu 324.752†	106123.6	119867.9	546.12 µg/L	546.12 ppb	15:26:49
2	Mn 257.610†	329580.6	380751.0	489.17 µg/L	489.17 ppb	15:26:49
2	Mo 202.031†	13269.6	15371.7	505.39 µg/L	505.39 ppb	15:26:51
2	Ni 231.604†	31669.3	36681.0	461.36 µg/L	461.36 ppb	15:26:51
2	P 214.914†	9695.4	11200.9	2647.7 µg/L	2647.7 ppb	15:26:51
2	Pb 220.353†	6408.2	7309.6	473.58 µg/L	473.58 ppb	15:26:51

2	S 181.975 Axial†	3032.1	3416.8	2805.0 µg/L	2805.0 ppb	15:26:51
2	Sb 206.836†	3497.1	3963.8	515.32 µg/L	515.32 ppb	15:26:51
2	Se 196.026†	5153.5	5942.8	2440 µg/L	2440 ppb	15:26:51
2	SiO2†	92148.0	104750.8	11186 µg/L	11186 ppb	15:26:49
2	Si 251.611†	282053.1	325046.0	5251.5 µg/L	5251.5 ppb	15:26:49
2	Sn 189.927†	6186.0	7152.3	496.98 µg/L	496.98 ppb	15:26:51
2	Ti 334.940†	465598.1	537249.0	510.59 µg/L	510.59 ppb	15:26:49
2	Tl 190.801†	2897.1	3465.6	474.15 µg/L	474.15 ppb	15:26:51
2	U 409.014†	7068.1	8453.0	540.87 µg/L	540.87 ppb	15:26:49
2	V 292.402†	87740.2	101099.6	524.10 µg/L	524.10 ppb	15:26:49
2	Zn 213.857†	72899.1	83731.7	500.12 µg/L	500.12 ppb	15:26:49
3	Sc RADIAL	136915.4	136915.4	92.6 %		15:26:25
3	Al 396.153Radial†	2257454.6	2437473.9	502270 µg/L	502270 ppb	15:26:23
3	Ca 317.933Radial†	7359855.8	7945860.1	478080 µg/L	478080 ppb	15:26:23
3	Fe 238.204 Radial†	2604669.3	2812163.8	189230 µg/L	189230 ppb	15:26:23
3	K 766.490 Radial†	14264.5	14088.8	5558.0 µg/L	5558.0 ppb	15:26:25
3	Mg 279.077 IEC†	1106854.3	1194920.1	490030 µg/L	490030 ppb	15:26:25
3	Na 589.592 Radial†	34167.4	35684.5	5413.4 µg/L	5413.4 ppb	15:26:25
3	Sr 421.552†	210799.8	227825.7	521.82 µg/L	521.82 ppb	15:26:25
3	Sc 361.383	1532637.0	1532637.0	87.326 %		15:26:54
3	Y 371.029	912980.1	912980.1	85.803 %		15:26:54
3	Ag 328.068†	63997.3	69838.5	271.10 µg/L	271.10 ppb	15:26:54
3	As 188.979†	1202.6	1394.9	535.14 µg/L	535.14 ppb	15:26:56
3	B 249.677†	30994.7	32262.8	524.43 µg/L	524.43 ppb	15:26:54
3	Ba 233.527†	101425.8	116308.4	504.49 µg/L	504.49 ppb	15:26:54
3	Be 313.107†	717134.4	822001.9	246.85 µg/L	246.85 ppb	15:26:54
3	Cd 226.502†	63386.1	72695.7	479.45 µg/L	479.45 ppb	15:26:54
3	Co 228.616†	29425.6	33868.8	448.74 µg/L	448.74 ppb	15:26:56
3	Cr 267.716†	50967.1	58185.7	490.58 µg/L	490.58 ppb	15:26:56
3	Cu 324.752†	106853.0	119572.3	545.36 µg/L	545.36 ppb	15:26:54
3	Mn 257.610†	331501.6	379438.8	487.23 µg/L	487.23 ppb	15:26:54
3	Mo 202.031†	13182.9	15131.0	497.92 µg/L	497.92 ppb	15:26:56
3	Ni 231.604†	31816.9	36512.6	459.25 µg/L	459.25 ppb	15:26:56
3	P 214.914†	9750.3	11160.5	2638.3 µg/L	2638.3 ppb	15:26:56
3	Pb 220.353†	6296.3	7113.2	461.99 µg/L	461.99 ppb	15:26:56
3	S 181.975 Axial†	3014.7	3364.5	2762.1 µg/L	2762.1 ppb	15:26:56
3	Sb 206.836†	3428.2	3847.7	499.92 µg/L	499.92 ppb	15:26:56
3	Se 196.026†	5199.2	5940.2	2440 µg/L	2440 ppb	15:26:56
3	SiO2†	93000.5	104745.0	11185 µg/L	11185 ppb	15:26:54
3	Si 251.611†	283786.9	324025.9	5235.1 µg/L	5235.1 ppb	15:26:54
3	Sn 189.927†	6228.6	7135.1	495.78 µg/L	495.78 ppb	15:26:56
3	Ti 334.940†	468402.8	535499.2	508.64 µg/L	508.64 ppb	15:26:54
3	Tl 190.801†	2875.8	3410.2	466.69 µg/L	466.69 ppb	15:26:56
3	U 409.014†	7143.9	8464.4	541.20 µg/L	541.20 ppb	15:26:54
3	V 292.402†	88322.9	100831.9	522.33 µg/L	522.33 ppb	15:26:54
3	Zn 213.857†	73408.9	83538.6	498.75 µg/L	498.75 ppb	15:26:54

## Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1522446.4	86.745 %	0.5071			0.58%
Sc RADIAL	134878.4	91.2 %	3.52			3.85%
Y 371.029	907229.8	85.262 %	0.4717			0.55%
Ag 328.068†	69808.1	270.74 µg/L	0.366	270.74 ppb	0.366	0.14%
QC value within limits for Ag 328.068 Recovery = 108.29%						
Al 396.153Radial†	2477890.3	510600 µg/L	22293.7	510600 ppb	22293.7	4.37%
QC value within limits for Al 396.153Radial Recovery = 102.12%						
As 188.979†	1380.6	531.02 µg/L	22.233	531.02 ppb	22.233	4.19%
QC value within limits for As 188.979 Recovery = 106.20%						
B 249.677†	32495.8	528.22 µg/L	3.885	528.22 ppb	3.885	0.74%
QC value within limits for B 249.677 Recovery = 105.64%						
Ba 233.527†	116439.4	505.02 µg/L	0.894	505.02 ppb	0.894	0.18%
QC value within limits for Ba 233.527 Recovery = 101.00%						
Be 313.107†	823102.4	247.18 µg/L	0.294	247.18 ppb	0.294	0.12%
QC value within limits for Be 313.107 Recovery = 98.87%						
Ca 317.933Radial†	8094808.1	487050 µg/L	21488.5	487050 ppb	21488.5	4.41%
QC value within limits for Ca 317.933Radial Recovery = 97.41%						
Cd 226.502†	72837.9	480.04 µg/L	1.431	480.04 ppb	1.431	0.30%
QC value within limits for Cd 226.502 Recovery = 96.01%						
Co 228.616†	34052.5	451.03 µg/L	3.097	451.03 ppb	3.097	0.69%

Cr	267.716†	58477.2	493.12 µg/L	3.147	493.12 ppb	3.147	0.64%
Cu	324.752†	119762.9	546.80 µg/L	1.864	546.80 ppb	1.864	0.34%
Fe	238.204 Radial†	2865856.7	192840 µg/L	8524.4	192840 ppb	8524.4	4.42%
K	766.490 Radial†	14212.5	5605.1 µg/L	153.49	5605.1 ppb	153.49	2.74%
Mg	279.077 IEC†	1204188.6	493830 µg/L	10769.0	493830 ppb	10769.0	2.18%
Mn	257.610†	380077.4	487.92 µg/L	1.083	487.92 ppb	1.083	0.22%
Mo	202.031†	15290.7	503.21 µg/L	4.607	503.21 ppb	4.607	0.92%
Na	589.592 Radial†	35926.2	5450.1 µg/L	128.88	5450.1 ppb	128.88	2.36%
Ni	231.604†	36783.1	462.65 µg/L	4.196	462.65 ppb	4.196	0.91%
P	214.914†	11184.0	2643.3 µg/L	4.70	2643.3 ppb	4.70	0.18%
Pb	220.353†	7276.7	472.42 µg/L	9.899	472.42 ppb	9.899	2.10%
S	181.975 Axial†	3396.2	2788.1 µg/L	22.86	2788.1 ppb	22.86	0.82%
Sb	206.836†	3918.3	509.11 µg/L	8.121	509.11 ppb	8.121	1.60%
Se	196.026†	5999.6	2470 µg/L	43.2	2470 ppb	43.2	1.75%
SiO2†		104770.8	11188 µg/L	4.2	11188 ppb	4.2	0.04%
Si	251.611†	324394.5	5241.0 µg/L	9.12	5241.0 ppb	9.12	0.17%
Sn	189.927†	7148.3	496.70 µg/L	0.817	496.70 ppb	0.817	0.16%
Sr	421.552†	230396.7	527.68 µg/L	14.874	527.68 ppb	14.874	2.82%
Ti	334.940†	537360.8	510.43 µg/L	1.713	510.43 ppb	1.713	0.34%
Tl	190.801†	3439.8	470.67 µg/L	3.758	470.67 ppb	3.758	0.80%
U	409.014†	8438.8	539.25 µg/L	3.108	539.25 ppb	3.108	0.58%
V	292.402†	101092.3	523.39 µg/L	0.936	523.39 ppb	0.936	0.18%
Zn	213.857†	83589.1	498.71 µg/L	1.427	498.71 ppb	1.427	0.29%

QC value within limits for Co 228.616 Recovery = 90.21%  
 QC value within limits for Cr 267.716 Recovery = 98.62%  
 QC value within limits for Cu 324.752 Recovery = 109.36%  
 QC value within limits for Fe 238.204 Radial Recovery = 96.42%  
 QC value within limits for K 766.490 Radial Recovery = 112.10%  
 QC value within limits for Mg 279.077 IEC Recovery = 98.77%  
 QC value within limits for Mn 257.610 Recovery = 97.58%  
 QC value within limits for Mo 202.031 Recovery = 100.64%  
 QC value within limits for Na 589.592 Radial Recovery = 109.00%  
 QC value within limits for Ni 231.604 Recovery = 92.53%  
 QC value within limits for P 214.914 Recovery = 105.73%  
 QC value within limits for Pb 220.353 Recovery = 94.48%  
 QC value within limits for S 181.975 Axial Recovery = 111.52%  
 QC value within limits for Sb 206.836 Recovery = 101.82%  
 QC value within limits for Se 196.026 Recovery = 98.76%  
 QC value within limits for SiO2 Recovery = 104.61%  
 QC value within limits for Si 251.611 Recovery = 104.82%  
 QC value within limits for Sn 189.927 Recovery = 99.34%  
 QC value within limits for Sr 421.552 Recovery = 105.54%  
 QC value within limits for Ti 334.940 Recovery = 102.09%  
 QC value within limits for Tl 190.801 Recovery = 94.13%  
 QC value within limits for U 409.014 Recovery = 107.85%  
 QC value within limits for V 292.402 Recovery = 104.68%  
 QC value within limits for Zn 213.857 Recovery = 99.74%

All analyte(s) passed QC.

Sequence No.: 11  
 Sample ID: LR1  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 105  
 Date Collected: 3/30/2010 15:27:03  
 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	136437.1	136437.1	92.3 %		15:27:35
1	Al 396.153Radial†	2201698.9	2385608.2	491610 µg/L	491610 ppb	15:27:33
1	Ca 317.933Radial†	7214807.5	7816561.1	470300 µg/L	470300 ppb	15:27:33
1	Fe 238.204 Radial†	6118140.6	6628877.5	446050 µg/L	446050 ppb	15:27:33
1	K 766.490 Radial†	1829.8	669.7	-38.783 µg/L	-38.783 ppb	15:27:35
1	Mg 279.077 IEC†	1054744.4	1142649.0	468350 µg/L	468350 ppb	15:27:33
1	Na 589.592 Radial†	3004311.9	3253971.6	494110 µg/L	494110 ppb	15:27:33
1	Sr 421.552†	4865.0	5492.9	8.9901 µg/L	8.9901 ppb	15:27:35
1	Sc 361.383	1479324.6	1479324.6	84.288 %		15:27:49
1	Y 371.029	877883.5	877883.5	82.504 %		15:27:49
1	Ag 328.068†	2175.4	-866.2	2.3746 µg/L	2.3746 ppb	15:27:49
1	As 188.979†	-230.5	-255.8	10.757 µg/L	10.757 ppb	15:28:09
1	B 249.677†	4044.4	1567.9	25.520 µg/L	25.520 ppb	15:27:49
1	Ba 233.527†	614.2	890.8	-1.8194 µg/L	-1.8194 ppb	15:28:09
1	Be 313.107†	-14328.5	-16213.8	0.0899 µg/L	0.0899 ppb	15:27:49
1	Cd 226.502†	5667.7	6834.2	0.0189 µg/L	0.0189 ppb	15:27:49
1	Co 228.616†	648.7	942.0	-10.524 µg/L	-10.524 ppb	15:28:09
1	Cr 267.716†	423.8	324.2	-0.4000 µg/L	-0.4000 ppb	15:28:09
1	Cu 324.752†	-15616.5	-21316.4	1.3548 µg/L	1.3548 ppb	15:27:49
1	Mn 257.610†	16797.3	19752.8	6.6460 µg/L	6.6460 ppb	15:27:49
1	Mo 202.031†	-897.8	-1030.4	-6.5604 µg/L	-6.5604 ppb	15:27:49
1	Ni 231.604†	211.2	328.5	4.1319 µg/L	4.1319 ppb	15:28:09
1	P 214.914†	924.8	1092.2	67.436 µg/L	67.436 ppb	15:28:09
1	Pb 220.353†	-15.3	-115.1	-3.2134 µg/L	-3.2134 ppb	15:28:09
1	S 181.975 Axial†	174.3	119.1	97.381 µg/L	97.381 ppb	15:28:09
1	Sb 206.836†	113.6	56.7	-1.8998 µg/L	-1.8998 ppb	15:28:09
1	Se 196.026†	-352.5	-431.8	-2.26 µg/L	-2.26 ppb	15:28:09
1	SiO2†	1807.3	391.1	42.666 µg/L	42.666 ppb	15:28:09
1	Si 251.611†	-1781.3	-3062.0	-49.173 µg/L	-49.173 ppb	15:27:49
1	Sn 189.927†	87.2	106.0	7.4350 µg/L	7.4350 ppb	15:28:09
1	Ti 334.940†	24073.9	27675.7	-4.9000 µg/L	-4.9000 ppb	15:27:49
1	Tl 190.801†	-177.4	-93.4	-11.930 µg/L	-11.930 ppb	15:28:09
1	U 409.014†	220380.3	261743.9	16316 µg/L	16316 ppb	15:27:49
1	V 292.402†	7565.3	8665.6	9.6187 µg/L	9.6187 ppb	15:27:49
1	Zn 213.857†	7862.1	8803.1	11.198 µg/L	11.198 ppb	15:28:09
2	Sc RADIAL	133662.6	133662.6	90.4 %		15:27:40
2	Al 396.153Radial†	2208386.1	2442521.6	503340 µg/L	503340 ppb	15:27:38
2	Ca 317.933Radial†	7235360.6	8001557.4	481430 µg/L	481430 ppb	15:27:38
2	Fe 238.204 Radial†	6131145.7	6780861.1	456280 µg/L	456280 ppb	15:27:38
2	K 766.490 Radial†	1926.9	818.3	14.893 µg/L	14.893 ppb	15:27:40
2	Mg 279.077 IEC†	1057709.3	1169649.9	479420 µg/L	479420 ppb	15:27:38
2	Na 589.592 Radial†	3012824.9	3330955.4	505800 µg/L	505800 ppb	15:27:38
2	Sr 421.552†	4780.7	5509.1	8.9403 µg/L	8.9403 ppb	15:27:40
2	Sc 361.383	1491945.8	1491945.8	85.007 %		15:28:12
2	Y 371.029	884642.3	884642.3	83.140 %		15:28:12
2	Ag 328.068†	2189.1	-871.9	1.9264 µg/L	1.9264 ppb	15:28:12
2	As 188.979†	-239.5	-264.0	10.187 µg/L	10.187 ppb	15:28:32
2	B 249.677†	4005.3	1481.3	24.110 µg/L	24.110 ppb	15:28:12
2	Ba 233.527†	580.5	845.0	-2.1494 µg/L	-2.1494 ppb	15:28:32
2	Be 313.107†	-14594.1	-16382.5	0.0185 µg/L	0.0185 ppb	15:28:12
2	Cd 226.502†	5774.9	6903.5	-0.5813 µg/L	-0.5813 ppb	15:28:12
2	Co 228.616†	624.1	906.6	-11.537 µg/L	-11.537 ppb	15:28:32
2	Cr 267.716†	416.0	310.8	-0.2391 µg/L	-0.2391 ppb	15:28:32
2	Cu 324.752†	-15844.3	-21427.7	2.6175 µg/L	2.6175 ppb	15:28:12
2	Mn 257.610†	16681.9	19448.5	5.7732 µg/L	5.7732 ppb	15:28:12
2	Mo 202.031†	-885.2	-1006.6	-5.1979 µg/L	-5.1979 ppb	15:28:12
2	Ni 231.604†	194.7	306.9	3.8599 µg/L	3.8599 ppb	15:28:32
2	P 214.914†	903.2	1057.5	54.786 µg/L	54.786 ppb	15:28:32
2	Pb 220.353†	-9.7	-108.4	-2.3505 µg/L	-2.3505 ppb	15:28:32

2	S 181.975 Axial†	162.6	103.6	84.638 µg/L	84.638 ppb	15:28:32
2	Sb 206.836†	103.8	44.0	-3.7528 µg/L	-3.7528 ppb	15:28:32
2	Se 196.026†	-363.4	-441.0	-2.47 µg/L	-2.47 ppb	15:28:32
2	SiO2†	1787.0	349.0	38.154 µg/L	38.154 ppb	15:28:32
2	Si 251.611†	-1775.4	-3037.1	-48.774 µg/L	-48.774 ppb	15:28:12
2	Sn 189.927†	75.0	90.8	6.3853 µg/L	6.3853 ppb	15:28:32
2	Ti 334.940†	25851.7	29525.6	-3.6306 µg/L	-3.6306 ppb	15:28:12
2	Tl 190.801†	-199.4	-117.5	-15.139 µg/L	-15.139 ppb	15:28:32
2	U 409.014†	221329.4	260648.6	16245 µg/L	16245 ppb	15:28:12
2	V 292.402†	7749.2	8806.1	9.2452 µg/L	9.2452 ppb	15:28:12
2	Zn 213.857†	7893.7	8761.3	9.9501 µg/L	9.9501 ppb	15:28:32
3	Sc RADIAL	132134.1	132134.1	89.4 %		15:27:44
3	Al 396.153Radial†	2215858.4	2479134.6	510880 µg/L	510880 ppb	15:27:42
3	Ca 317.933Radial†	7272268.0	8135414.9	489490 µg/L	489490 ppb	15:27:42
3	Fe 238.204 Radial†	6164754.1	6896900.9	464080 µg/L	464080 ppb	15:27:42
3	K 766.490 Radial†	1800.0	701.0	-38.551 µg/L	-38.551 ppb	15:27:44
3	Mg 279.077 IEC†	1064515.1	1190796.0	488090 µg/L	488090 ppb	15:27:42
3	Na 589.592 Radial†	3025200.4	3383345.7	513750 µg/L	513750 ppb	15:27:42
3	Sr 421.552†	4781.2	5570.8	9.0197 µg/L	9.0197 ppb	15:27:44
3	Sc 361.383	1476102.9	1476102.9	84.105 %		15:28:34
3	Y 371.029	876472.2	876472.2	82.372 %		15:28:34
3	Ag 328.068†	1850.6	-1246.7	0.2207 µg/L	0.2207 ppb	15:28:34
3	As 188.979†	-230.9	-256.9	14.443 µg/L	14.443 ppb	15:28:55
3	B 249.677†	3692.4	1159.9	18.868 µg/L	18.868 ppb	15:28:34
3	Ba 233.527†	608.5	885.6	-2.0717 µg/L	-2.0717 ppb	15:28:55
3	Be 313.107†	-14186.1	-16081.6	0.1172 µg/L	0.1172 ppb	15:28:34
3	Cd 226.502†	5641.6	6817.9	-1.9905 µg/L	-1.9905 ppb	15:28:34
3	Co 228.616†	619.3	908.7	-11.915 µg/L	-11.915 ppb	15:28:55
3	Cr 267.716†	455.9	363.5	0.3478 µg/L	0.3478 ppb	15:28:55
3	Cu 324.752†	-15453.9	-21163.5	5.1254 µg/L	5.1254 ppb	15:28:34
3	Mn 257.610†	16497.8	19440.3	5.3978 µg/L	5.3978 ppb	15:28:34
3	Mo 202.031†	-841.4	-965.6	-3.4268 µg/L	-3.4268 ppb	15:28:34
3	Ni 231.604†	143.2	248.2	3.1217 µg/L	3.1217 ppb	15:28:55
3	P 214.914†	894.1	1058.1	51.284 µg/L	51.284 ppb	15:28:55
3	Pb 220.353†	-28.9	-131.3	-3.5614 µg/L	-3.5614 ppb	15:28:55
3	S 181.975 Axial†	161.0	103.7	84.779 µg/L	84.779 ppb	15:28:55
3	Sb 206.836†	120.2	64.8	-1.1601 µg/L	-1.1601 ppb	15:28:55
3	Se 196.026†	-381.7	-467.4	-10.3 µg/L	-10.3 ppb	15:28:55
3	SiO2†	1817.9	408.3	44.447 µg/L	44.447 ppb	15:28:55
3	Si 251.611†	-1958.8	-3277.6	-52.691 µg/L	-52.691 ppb	15:28:34
3	Sn 189.927†	86.5	105.4	7.3929 µg/L	7.3929 ppb	15:28:55
3	Ti 334.940†	24067.1	27730.1	-5.9375 µg/L	-5.9375 ppb	15:28:34
3	Tl 190.801†	-187.6	-105.9	-13.606 µg/L	-13.606 ppb	15:28:55
3	U 409.014†	219352.6	261092.7	16272 µg/L	16272 ppb	15:28:34
3	V 292.402†	7743.9	8897.6	8.9429 µg/L	8.9429 ppb	15:28:34
3	Zn 213.857†	7836.5	8793.0	9.3727 µg/L	9.3727 ppb	15:28:55

## Mean Data: LR1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1482457.8	84.467 %	0.4771			0.56%
Sc RADIAL	134077.9	90.7 %	1.48			1.63%
Y 371.029	879666.0	82.672 %	0.4104			0.50%
Ag 328.068†	-995.0	1.5072 µg/L	1.13650	1.5072 ppb	1.13650	75.40%
Al 396.153Radial†	2435754.8	501940 µg/L	9711.9	501940 ppb	9711.9	1.93%
QC value within limits for Al 396.153Radial Recovery = 100.39%						
As 188.979†	-258.9	11.796 µg/L	2.3107	11.796 ppb	2.3107	19.59%
B 249.677†	1403.1	22.833 µg/L	3.5049	22.833 ppb	3.5049	15.35%
Ba 233.527†	873.8	-2.0135 µg/L	0.17249	-2.0135 ppb	0.17249	8.57%
Be 313.107†	-16226.0	0.0752 µg/L	0.05096	0.0752 ppb	0.05096	67.76%
Ca 317.933Radial†	7984511.1	480410 µg/L	9633.4	480410 ppb	9633.4	2.01%
QC value within limits for Ca 317.933Radial Recovery = 96.08%						
Cd 226.502†	6851.9	-0.8510 µg/L	1.03148	-0.8510 ppb	1.03148	121.21%
Co 228.616†	919.1	-11.326 µg/L	0.7193	-11.326 ppb	0.7193	6.35%
Cr 267.716†	332.8	-0.0971 µg/L	0.39360	-0.0971 ppb	0.39360	405.29%
Cu 324.752†	-21302.5	3.0326 µg/L	1.91926	3.0326 ppb	1.91926	63.29%
Fe 238.204 Radial†	6768879.8	455470 µg/L	9044.5	455470 ppb	9044.5	1.99%
QC value within limits for Fe 238.204 Radial Recovery = 91.09%						
K 766.490 Radial†	729.7	-20.814 µg/L	30.9231	-20.814 ppb	30.9231	148.57%
Mg 279.077 IEC†	1167698.3	478620 µg/L	9892.0	478620 ppb	9892.0	2.07%

QC value within limits for Mg 279.077 IEC Recovery = 95.72%							
Mn 257.610†	19547.2	5.9390 µg/L	0.64043	5.9390 ppb	0.64043	10.78%	
Mo 202.031†	-1000.9	-5.0617 µg/L	1.57123	-5.0617 ppb	1.57123	31.04%	
Na 589.592 Radial†	3322757.6	504550 µg/L	9881.5	504550 ppb	9881.5	1.96%	
QC value within limits for Na 589.592 Radial Recovery = 100.91%							
Ni 231.604†	294.5	3.7045 µg/L	0.52272	3.7045 ppb	0.52272	14.11%	
P 214.914†	1069.3	57.835 µg/L	8.4971	57.835 ppb	8.4971	14.69%	
Pb 220.353†	-118.3	-3.0417 µg/L	0.62343	-3.0417 ppb	0.62343	20.50%	
S 181.975 Axial†	108.8	88.932 µg/L	7.3171	88.932 ppb	7.3171	8.23%	
Sb 206.836†	55.2	-2.2709 µg/L	1.33559	-2.2709 ppb	1.33559	58.81%	
Se 196.026†	-446.7	-5.01 µg/L	4.588	-5.01 ppb	4.588	91.56%	
SiO2†	382.8	41.756 µg/L	3.2436	41.756 ppb	3.2436	7.77%	
Si 251.611†	-3125.6	-50.213 µg/L	2.1553	-50.213 ppb	2.1553	4.29%	
Sn 189.927†	100.8	7.0710 µg/L	0.59428	7.0710 ppb	0.59428	8.40%	
Sr 421.552†	5524.3	8.9834 µg/L	0.04013	8.9834 ppb	0.04013	0.45%	
Ti 334.940†	28310.5	-4.8227 µg/L	1.15537	-4.8227 ppb	1.15537	23.96%	
Tl 190.801†	-105.6	-13.558 µg/L	1.6047	-13.558 ppb	1.6047	11.84%	
U 409.014†	261161.7	16278 µg/L	35.6	16278 ppb	35.6	0.22%	
QC value within limits for U 409.014 Recovery = 108.52%							
V 292.402†	8789.8	9.2689 µg/L	0.33852	9.2689 ppb	0.33852	3.65%	
Zn 213.857†	8785.8	10.174 µg/L	0.9330	10.174 ppb	0.9330	9.17%	
All analyte(s) passed QC.							



Sequence No.: 12  
 Sample ID: LR2  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 108  
 Date Collected: 3/30/2010 15:29:03  
 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	144237.0	144237.0	97.6 %		15:29:37
1	Al 396.153Radial†	2225.8	2344.2	31.470 µg/L	31.470 ppb	15:29:39
1	Ca 317.933Radial†	1195.6	527.4	31.732 µg/L	31.732 ppb	15:29:39
1	Fe 238.204 Radial†	-828.0	-989.3	-66.568 µg/L	-66.568 ppb	15:29:39
1	K 766.490 Radial†	705257.6	721512.5	296950 µg/L	296950 ppb	15:29:37
1	Mg 279.077 IEC†	-489.5	-670.5	-37.134 µg/L	-37.134 ppb	15:29:39
1	Na 589.592 Radial†	5220.5	4143.9	365.14 µg/L	365.14 ppb	15:29:39
1	Sr 421.552†	4186503.5	4291009.0	9898.7 µg/L	9898.7 ppb	15:29:35
1	Sc 361.383	1663697.1	1663697.1	94.793 %		15:30:01
1	Y 371.029	981892.5	981892.5	92.279 %		15:30:01
1	Ag 328.068†	-23773.7	-28526.5	5.2873 µg/L	5.2873 ppb	15:30:03
1	As 188.979†	27146.9	28655.7	10253 µg/L	10253 ppb	15:30:03
1	B 249.677†	294226.0	307156.3	4975.3 µg/L	4975.3 ppb	15:30:01
1	Ba 233.527†	3027478.9	3193928.4	13916 µg/L	13916 ppb	15:30:01
1	Be 313.107†	8944351.3	9436414.6	2831.8 µg/L	2831.8 ppb	15:29:57
1	Cd 226.502†	1332439.6	1405735.3	9656.4 µg/L	9656.4 ppb	15:30:01
1	Co 228.616†	659087.3	695460.8	9423.0 µg/L	9423.0 ppb	15:30:01
1	Cr 267.716†	2697213.0	2845181.7	23977 µg/L	23977 ppb	15:30:01
1	Cu 324.752†	4547393.6	4794374.9	20208 µg/L	20208 ppb	15:30:01
1	Mn 257.610†	6649756.4	7014825.5	9376.1 µg/L	9376.1 ppb	15:30:01
1	Mo 202.031†	289733.3	305681.9	9726.8 µg/L	9726.8 ppb	15:30:03
1	Ni 231.604†	734586.5	775012.3	9747.9 µg/L	9747.9 ppb	15:30:01
1	P 214.914†	60333.5	63642.4	14943 µg/L	14943 ppb	15:30:03
1	Pb 220.353†	364788.7	384728.2	23587 µg/L	23587 ppb	15:30:03
1	S 181.975 Axial†	59471.6	62650.4	51439 µg/L	51439 ppb	15:30:03
1	Sb 206.836†	72079.2	75960.2	9771.1 µg/L	9771.1 ppb	15:30:03
1	Se 196.026†	22882.5	24125.7	9660 µg/L	9660 ppb	15:30:03
1	SiO2†	894874.0	942272.7	100390 µg/L	100390 ppb	15:30:01
1	Si 251.611†	2754729.3	2905086.9	46828 µg/L	46828 ppb	15:30:01
1	Sn 189.927†	134561.0	141954.4	9861.0 µg/L	9861.0 ppb	15:30:03
1	Ti 334.940†	9355396.9	9868366.1	9878.7 µg/L	9878.7 ppb	15:29:57
1	Tl 190.801†	66599.1	70374.2	9608.7 µg/L	9608.7 ppb	15:30:03
1	U 409.014†	-8124.9	-8267.4	91.396 µg/L	91.396 ppb	15:30:03
1	V 292.402†	1792814.5	1890976.9	10234 µg/L	10234 ppb	15:30:01
1	Zn 213.857†	2209060.9	2329871.3	14375 µg/L	14375 ppb	15:30:01
2	Sc RADIAL	143986.9	143986.9	97.4 %		15:29:43
2	Al 396.153Radial†	2195.1	2316.5	19.993 µg/L	19.993 ppb	15:29:45
2	Ca 317.933Radial†	1141.8	474.3	28.538 µg/L	28.538 ppb	15:29:45
2	Fe 238.204 Radial†	-802.9	-965.1	-64.938 µg/L	-64.938 ppb	15:29:45
2	K 766.490 Radial†	707310.9	724875.9	298330 µg/L	298330 ppb	15:29:43
2	Mg 279.077 IEC†	-481.5	-663.1	-31.044 µg/L	-31.044 ppb	15:29:45
2	Na 589.592 Radial†	5011.9	3939.1	332.81 µg/L	332.81 ppb	15:29:45
2	Sr 421.552†	4170441.9	4281970.6	9877.9 µg/L	9877.9 ppb	15:29:41
2	Sc 361.383	1652411.6	1652411.6	94.150 %		15:30:11
2	Y 371.029	975307.9	975307.9	91.660 %		15:30:11
2	Ag 328.068†	-23549.1	-28459.3	5.3021 µg/L	5.3021 ppb	15:30:13
2	As 188.979†	27298.6	29012.4	10378 µg/L	10378 ppb	15:30:13
2	B 249.677†	291433.3	306310.0	4961.5 µg/L	4961.5 ppb	15:30:11
2	Ba 233.527†	2999547.4	3186074.1	13882 µg/L	13882 ppb	15:30:11
2	Be 313.107†	9002117.0	9562212.2	2869.5 µg/L	2869.5 ppb	15:30:07
2	Cd 226.502†	1319189.5	1401262.0	9625.7 µg/L	9625.7 ppb	15:30:11
2	Co 228.616†	653056.4	693803.8	9400.6 µg/L	9400.6 ppb	15:30:11
2	Cr 267.716†	2673331.9	2839249.8	23927 µg/L	23927 ppb	15:30:11
2	Cu 324.752†	4508860.7	4786211.3	20173 µg/L	20173 ppb	15:30:11
2	Mn 257.610†	6592131.1	7001530.5	9358.4 µg/L	9358.4 ppb	15:30:11
2	Mo 202.031†	291456.6	309599.8	9851.4 µg/L	9851.4 ppb	15:30:13
2	Ni 231.604†	727344.3	772612.7	9717.7 µg/L	9717.7 ppb	15:30:11
2	P 214.914†	60767.2	64537.7	15157 µg/L	15157 ppb	15:30:13
2	Pb 220.353†	367598.0	390340.2	23931 µg/L	23931 ppb	15:30:13

2	S 181.975 Axial†	60050.6	63693.9	52295 µg/L	52295 ppb	15:30:13
2	Sb 206.836†	72605.5	77038.4	9915.2 µg/L	9915.2 ppb	15:30:13
2	Se 196.026†	23187.2	24614.2	9850 µg/L	9850 ppb	15:30:13
2	SiO2†	886511.8	939838.4	100120 µg/L	100120 ppb	15:30:11
2	Si 251.611†	2730380.4	2899072.8	46728 µg/L	46728 ppb	15:30:11
2	Sn 189.927†	135964.5	144414.7	10032 µg/L	10032 ppb	15:30:13
2	Ti 334.940†	9415705.5	9999826.1	10010 µg/L	10010 ppb	15:30:07
2	Tl 190.801†	67195.6	71487.6	9759.6 µg/L	9759.6 ppb	15:30:13
2	U 409.014†	-7767.0	-7965.8	110.12 µg/L	110.12 ppb	15:30:13
2	V 292.402†	1776456.8	1886519.8	10211 µg/L	10211 ppb	15:30:11
2	Zn 213.857†	2189903.3	2325439.4	14348 µg/L	14348 ppb	15:30:11
3	Sc RADIAL	144822.6	144822.6	98.0 %		15:29:50
3	Al 396.153Radial†	2092.1	2198.4	-0.8903 µg/L	-0.8903 ppb	15:29:52
3	Ca 317.933Radial†	1203.7	530.7	31.929 µg/L	31.929 ppb	15:29:52
3	Fe 238.204 Radial†	-857.2	-1015.7	-68.345 µg/L	-68.345 ppb	15:29:52
3	K 766.490 Radial†	711651.3	725116.0	298430 µg/L	298430 ppb	15:29:50
3	Mg 279.077 IEC†	-463.8	-642.2	-24.276 µg/L	-24.276 ppb	15:29:52
3	Na 589.592 Radial†	4742.0	3633.8	286.38 µg/L	286.38 ppb	15:29:52
3	Sr 421.552†	4172633.3	4259499.7	9826.0 µg/L	9826.0 ppb	15:29:48
3	Sc 361.383	1657044.9	1657044.9	94.414 %		15:30:20
3	Y 371.029	978361.9	978361.9	91.947 %		15:30:20
3	Ag 328.068†	-23261.7	-28085.0	6.8804 µg/L	6.8804 ppb	15:30:22
3	As 188.979†	26976.3	28590.0	10231 µg/L	10231 ppb	15:30:22
3	B 249.677†	292997.5	307101.2	4974.4 µg/L	4974.4 ppb	15:30:20
3	Ba 233.527†	3012217.2	3190585.1	13902 µg/L	13902 ppb	15:30:20
3	Be 313.107†	8910545.1	9438487.5	2832.4 µg/L	2832.4 ppb	15:30:17
3	Cd 226.502†	1326786.2	1405390.3	9654.0 µg/L	9654.0 ppb	15:30:20
3	Co 228.616†	655684.4	694647.7	9412.0 µg/L	9412.0 ppb	15:30:20
3	Cr 267.716†	2685859.8	2844579.4	23972 µg/L	23972 ppb	15:30:20
3	Cu 324.752†	4522887.5	4787677.1	20179 µg/L	20179 ppb	15:30:20
3	Mn 257.610†	6615553.1	7006760.3	9365.4 µg/L	9365.4 ppb	15:30:20
3	Mo 202.031†	290065.6	307260.9	9777.0 µg/L	9777.0 ppb	15:30:22
3	Ni 231.604†	731039.6	774366.6	9739.8 µg/L	9739.8 ppb	15:30:20
3	P 214.914†	60515.4	64090.6	15051 µg/L	15051 ppb	15:30:22
3	Pb 220.353†	365639.3	387174.0	23737 µg/L	23737 ppb	15:30:22
3	S 181.975 Axial†	59594.5	63032.5	51752 µg/L	51752 ppb	15:30:22
3	Sb 206.836†	72374.1	76577.8	9853.0 µg/L	9853.0 ppb	15:30:22
3	Se 196.026†	23069.3	24420.5	9770 µg/L	9770 ppb	15:30:22
3	SiO2†	891398.7	942381.5	100400 µg/L	100400 ppb	15:30:20
3	Si 251.611†	2745197.8	2906657.8	46852 µg/L	46852 ppb	15:30:20
3	Sn 189.927†	135116.5	143112.7	9941.3 µg/L	9941.3 ppb	15:30:22
3	Ti 334.940†	9334301.8	9885642.8	9896.0 µg/L	9896.0 ppb	15:30:17
3	Tl 190.801†	66740.2	70805.7	9666.8 µg/L	9666.8 ppb	15:30:22
3	U 409.014†	-8268.5	-8473.9	78.920 µg/L	78.920 ppb	15:30:22
3	V 292.402†	1783384.1	1888581.0	10222 µg/L	10222 ppb	15:30:20
3	Zn 213.857†	2199491.6	2329091.1	14370 µg/L	14370 ppb	15:30:20

## Mean Data: LR2

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1657717.9	94.453 %	0.3232			0.34%
Sc RADIAL	144348.8	97.6 %	0.29			0.30%
Y 371.029	978520.8	91.962 %	0.3097			0.34%
Ag 328.068†	-28357.0	5.8233 µg/L	0.91551	5.8233 ppb	0.91551	15.72%
Al 396.153Radial†	2286.4	16.858 µg/L	16.4064	16.858 ppb	16.4064	97.32%
As 188.979†	28752.7	10287 µg/L	79.2	10287 ppb	79.2	0.77%
QC value within limits for As 188.979 Recovery = 102.87%						
B 249.677†	306855.8	4970.4 µg/L	7.69	4970.4 ppb	7.69	0.15%
QC value within limits for B 249.677 Recovery = 99.41%						
Ba 233.527†	3190195.9	13900 µg/L	17.1	13900 ppb	17.1	0.12%
QC value within limits for Ba 233.527 Recovery = 92.67%						
Be 313.107†	9479038.1	2844.6 µg/L	21.62	2844.6 ppb	21.62	0.76%
QC value within limits for Be 313.107 Recovery = 94.82%						
Ca 317.933Radial†	510.8	30.733 µg/L	1.9038	30.733 ppb	1.9038	6.19%
Cd 226.502†	1404129.2	9645.4 µg/L	17.10	9645.4 ppb	17.10	0.18%
QC value within limits for Cd 226.502 Recovery = 96.45%						
Co 228.616†	694637.5	9411.9 µg/L	11.23	9411.9 ppb	11.23	0.12%
QC value within limits for Co 228.616 Recovery = 94.12%						
Cr 267.716†	2843003.6	23958 µg/L	27.5	23958 ppb	27.5	0.11%
QC value within limits for Cr 267.716 Recovery = 95.83%						

Cu 324.752†	4789421.1	20187 µg/L	18.3	20187 ppb	18.3	0.09%
QC value within limits for Cu 324.752 Recovery = 100.93%						
Fe 238.204 Radial†	-990.0	-66.617 µg/L	1.7042	-66.617 ppb	1.7042	2.56%
K 766.490 Radial†	723834.8	297900 µg/L	829.2	297900 ppb	829.2	0.28%
QC value within limits for K 766.490 Radial Recovery = 99.30%						
Mg 279.077 IEC†	-658.6	-30.818 µg/L	6.4320	-30.818 ppb	6.4320	20.87%
Mn 257.610†	7007705.4	9366.6 µg/L	8.95	9366.6 ppb	8.95	0.10%
QC value within limits for Mn 257.610 Recovery = 93.67%						
Mo 202.031†	307514.2	9785.1 µg/L	62.70	9785.1 ppb	62.70	0.64%
QC value within limits for Mo 202.031 Recovery = 97.85%						
Na 589.592 Radial†	3905.6	328.11 µg/L	39.594	328.11 ppb	39.594	12.07%
Ni 231.604†	773997.2	9735.1 µg/L	15.62	9735.1 ppb	15.62	0.16%
QC value within limits for Ni 231.604 Recovery = 97.35%						
P 214.914†	64090.2	15051 µg/L	107.1	15051 ppb	107.1	0.71%
QC value within limits for P 214.914 Recovery = 100.34%						
Pb 220.353†	387414.1	23751 µg/L	172.5	23751 ppb	172.5	0.73%
QC value within limits for Pb 220.353 Recovery = 95.01%						
S 181.975 Axial†	63125.6	51829 µg/L	433.3	51829 ppb	433.3	0.84%
QC value within limits for S 181.975 Axial Recovery = 103.66%						
Sb 206.836†	76525.5	9846.4 µg/L	72.30	9846.4 ppb	72.30	0.73%
QC value within limits for Sb 206.836 Recovery = 98.46%						
Se 196.026†	24386.8	9760 µg/L	98.5	9760 ppb	98.5	1.01%
QC value within limits for Se 196.026 Recovery = 97.61%						
SiO2†	941497.5	100300 µg/L	156.5	100300 ppb	156.5	0.16%
QC value within limits for SiO2 Recovery = 93.74%						
Si 251.611†	2903605.8	46802 µg/L	65.9	46802 ppb	65.9	0.14%
QC value within limits for Si 251.611 Recovery = 93.60%						
Sn 189.927†	143160.6	9944.7 µg/L	85.44	9944.7 ppb	85.44	0.86%
QC value within limits for Sn 189.927 Recovery = 99.45%						
Sr 421.552†	4277493.1	9867.5 µg/L	37.43	9867.5 ppb	37.43	0.38%
QC value within limits for Sr 421.552 Recovery = 98.68%						
Ti 334.940†	9917945.0	9928.3 µg/L	71.57	9928.3 ppb	71.57	0.72%
QC value within limits for Ti 334.940 Recovery = 99.28%						
Tl 190.801†	70889.2	9678.4 µg/L	76.09	9678.4 ppb	76.09	0.79%
QC value within limits for Tl 190.801 Recovery = 96.78%						
U 409.014†	-8242.4	93.479 µg/L	15.7042	93.479 ppb	15.7042	16.80%
V 292.402†	1888692.6	10222 µg/L	11.4	10222 ppb	11.4	0.11%
QC value within limits for V 292.402 Recovery = 102.22%						
Zn 213.857†	2328133.9	14364 µg/L	14.5	14364 ppb	14.5	0.10%
QC value within limits for Zn 213.857 Recovery = 95.76%						
All analyte(s) passed QC.						

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Analysis Begun

Start Time: 3/30/2010 15:38:03

Plasma On Time: 3/29/2010 18:07:58

Logged In Analyst: optima4

Technique: ICP Continuous

Spectrometer Model: Optima 7300 DV, S/N 077C0022701Autosampler Model: AS-93plus

Sample Information File: C:\pe\optima4\Sample Information\033010.sif

Batch ID:

Results Data Set: 033010B

Results Library: C:\pe\optima4\Results\Results.mdb  
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## Method Loaded

Method Name: Gen Eng fast\_new Si

Method Last Saved: 3/30/2010 14:42:21

IEC File: 031810.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	No
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	Yes
Ni 231.604	Lin Thru 0	Peak Area	Axial	Sc 361.383	No
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
SiO2	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

Sequence No.: 1

Autosampler Location: 7

Sample ID: CCV

Date Collected: 3/30/2010 15:38:05

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	151504.5	151504.5	102 %		15:38:38
1	Al 396.153Radial†	25127.4	24580.8	5041.9 µg/L	5041.9 ppb	15:38:38
1	Ca 317.933Radial†	86568.9	83771.3	5040.3 µg/L	5040.3 ppb	15:38:38
1	Fe 238.204 Radial†	76327.0	74335.0	5001.9 µg/L	5001.9 ppb	15:38:38

1	K 766.490 Radial†	14132.9	12477.3	5131.1 µg/L	5131.1 ppb	15:38:38
1	Mg 279.077 IEC†	12891.5	12410.0	5098.9 µg/L	5098.9 ppb	15:38:38
1	Na 589.592 Radial†	69008.8	66128.4	10037 µg/L	10037 ppb	15:38:38
1	Sr 421.552†	226574.4	221300.6	510.47 µg/L	510.47 ppb	15:38:36
1	Sc 361.383	1759627.0	1759627.0	100.26 %		15:39:05
1	Y 371.029	1053204.5	1053204.5	98.981 %		15:39:05
1	Ag 328.068†	128951.6	125171.1	503.81 µg/L	503.81 ppb	15:39:05
1	As 188.979†	1422.1	1436.1	508.39 µg/L	508.39 ppb	15:39:25
1	B 249.677†	33989.6	30671.4	498.32 µg/L	498.32 ppb	15:39:05
1	Ba 233.527†	115707.9	115570.8	503.62 µg/L	503.62 ppb	15:39:05
1	Be 313.107†	1680446.8	1676887.5	503.39 µg/L	503.39 ppb	15:39:05
1	Cd 226.502†	73648.0	73567.6	504.83 µg/L	504.83 ppb	15:39:05
1	Co 228.616†	37203.9	37280.2	504.48 µg/L	504.48 ppb	15:39:05
1	Cr 267.716†	59799.2	59466.0	500.92 µg/L	500.92 ppb	15:39:05
1	Cu 324.752†	121918.4	118814.3	502.21 µg/L	502.21 ppb	15:39:05
1	Mn 257.610†	378583.6	377429.2	504.26 µg/L	504.26 ppb	15:39:05
1	Mo 202.031†	15912.6	15906.2	506.42 µg/L	506.42 ppb	15:39:25
1	Ni 231.604†	40265.5	40239.2	506.12 µg/L	506.12 ppb	15:39:05
1	P 214.914†	10703.2	10670.6	2536.6 µg/L	2536.6 ppb	15:39:25
1	Pb 220.353†	8477.2	8358.3	513.39 µg/L	513.39 ppb	15:39:25
1	S 181.975 Axial†	1327.5	1236.3	1017.7 µg/L	1017.7 ppb	15:39:25
1	Sb 206.836†	3955.7	3867.4	508.32 µg/L	508.32 ppb	15:39:25
1	Se 196.026†	1278.1	1261.2	507 µg/L	507 ppb	15:39:25
1	SiO2†	52159.9	50271.9	5356.6 µg/L	5356.6 ppb	15:39:05
1	Si 251.611†	156911.9	155557.5	2507.8 µg/L	2507.8 ppb	15:39:05
1	Sn 189.927†	7362.3	7345.9	510.26 µg/L	510.26 ppb	15:39:25
1	Ti 334.940†	504167.2	501978.0	502.26 µg/L	502.26 ppb	15:39:05
1	Tl 190.801†	3668.6	3776.2	515.02 µg/L	515.02 ppb	15:39:25
1	U 409.014†	7195.7	7460.8	497.79 µg/L	497.79 ppb	15:39:05
1	V 292.402†	94524.8	93970.6	505.63 µg/L	505.63 ppb	15:39:05
1	Zn 213.857†	82270.9	81533.6	501.71 µg/L	501.71 ppb	15:39:05
2	Sc RADIAL	151631.1	151631.1	103 %		15:38:42
2	Al 396.153Radial†	25213.3	24644.1	5055.0 µg/L	5055.0 ppb	15:38:42
2	Ca 317.933Radial†	87483.6	84592.5	5089.7 µg/L	5089.7 ppb	15:38:42
2	Fe 238.204 Radial†	77201.5	75125.4	5055.1 µg/L	5055.1 ppb	15:38:42
2	K 766.490 Radial†	14019.2	12355.0	5080.7 µg/L	5080.7 ppb	15:38:42
2	Mg 279.077 IEC†	13203.3	12703.5	5219.2 µg/L	5219.2 ppb	15:38:42
2	Na 589.592 Radial†	69553.7	66603.4	10109 µg/L	10109 ppb	15:38:42
2	Sr 421.552†	226352.0	220899.3	509.54 µg/L	509.54 ppb	15:38:40
2	Sc 361.383	1767397.7	1767397.7	100.70 %		15:39:28
2	Y 371.029	1058646.7	1058646.7	99.493 %		15:39:28
2	Ag 328.068†	130859.4	126500.1	509.15 µg/L	509.15 ppb	15:39:28
2	As 188.979†	1436.5	1444.1	511.22 µg/L	511.22 ppb	15:39:48
2	B 249.677†	34379.8	30909.8	502.19 µg/L	502.19 ppb	15:39:28
2	Ba 233.527†	116901.8	116249.1	506.58 µg/L	506.58 ppb	15:39:28
2	Be 313.107†	1699340.4	1688280.0	506.81 µg/L	506.81 ppb	15:39:28
2	Cd 226.502†	74684.6	74274.0	509.68 µg/L	509.68 ppb	15:39:28
2	Co 228.616†	37834.3	37743.0	510.74 µg/L	510.74 ppb	15:39:28
2	Cr 267.716†	60466.1	59866.0	504.29 µg/L	504.29 ppb	15:39:28
2	Cu 324.752†	122933.7	119287.8	504.23 µg/L	504.23 ppb	15:39:28
2	Mn 257.610†	382584.1	379741.6	507.35 µg/L	507.35 ppb	15:39:28
2	Mo 202.031†	15964.7	15888.1	505.85 µg/L	505.85 ppb	15:39:48
2	Ni 231.604†	40711.4	40505.5	509.47 µg/L	509.47 ppb	15:39:28
2	P 214.914†	10678.1	10598.7	2519.4 µg/L	2519.4 ppb	15:39:48
2	Pb 220.353†	8471.7	8315.7	510.77 µg/L	510.77 ppb	15:39:48
2	S 181.975 Axial†	1340.2	1243.1	1023.3 µg/L	1023.3 ppb	15:39:48
2	Sb 206.836†	3947.9	3842.3	504.98 µg/L	504.98 ppb	15:39:48
2	Se 196.026†	1275.0	1252.5	504 µg/L	504 ppb	15:39:48
2	SiO2†	52564.4	50444.8	5375.1 µg/L	5375.1 ppb	15:39:28
2	Si 251.611†	158508.2	156454.6	2522.3 µg/L	2522.3 ppb	15:39:28
2	Sn 189.927†	7380.4	7331.5	509.27 µg/L	509.27 ppb	15:39:48
2	Ti 334.940†	508780.8	504348.6	504.62 µg/L	504.62 ppb	15:39:28
2	Tl 190.801†	3664.4	3755.9	512.33 µg/L	512.33 ppb	15:39:48
2	U 409.014†	7366.9	7599.3	506.72 µg/L	506.72 ppb	15:39:28
2	V 292.402†	95762.2	94784.8	509.95 µg/L	509.95 ppb	15:39:28
2	Zn 213.857†	83402.5	82296.5	506.42 µg/L	506.42 ppb	15:39:28
3	Sc RADIAL	151391.2	151391.2	102 %		15:38:46
3	Al 396.153Radial†	25270.0	24738.4	5074.3 µg/L	5074.3 ppb	15:38:46
3	Ca 317.933Radial†	87371.5	84618.2	5091.3 µg/L	5091.3 ppb	15:38:46
3	Fe 238.204 Radial†	77219.5	75262.3	5064.3 µg/L	5064.3 ppb	15:38:46
3	K 766.490 Radial†	14248.8	12600.8	5181.9 µg/L	5181.9 ppb	15:38:46

3	Mg 279.077 IEC†	13166.9	12688.3	5213.0 µg/L	5213.0 ppb	15:38:46
3	Na 589.592 Radial†	69635.2	66790.4	10137 µg/L	10137 ppb	15:38:46
3	Sr 421.552†	229157.3	223988.2	516.67 µg/L	516.67 ppb	15:38:44
3	Sc 361.383	1755860.8	1755860.8	100.04 %		15:39:51
3	Y 371.029	1051150.6	1051150.6	98.788 %		15:39:51
3	Ag 328.068†	129337.0	125832.2	506.50 µg/L	506.50 ppb	15:39:51
3	As 188.979†	1421.3	1438.3	509.21 µg/L	509.21 ppb	15:40:11
3	B 249.677†	34212.5	30966.9	503.12 µg/L	503.12 ppb	15:39:51
3	Ba 233.527†	115940.4	116050.8	505.72 µg/L	505.72 ppb	15:39:51
3	Be 313.107†	1687416.9	1687449.6	506.56 µg/L	506.56 ppb	15:39:51
3	Cd 226.502†	73921.5	73998.5	507.78 µg/L	507.78 ppb	15:39:51
3	Co 228.616†	37565.8	37721.5	510.45 µg/L	510.45 ppb	15:39:51
3	Cr 267.716†	60098.6	59893.2	504.51 µg/L	504.51 ppb	15:39:51
3	Cu 324.752†	122263.6	119420.1	504.79 µg/L	504.79 ppb	15:39:51
3	Mn 257.610†	379537.3	379192.3	506.61 µg/L	506.61 ppb	15:39:51
3	Mo 202.031†	15914.9	15942.5	507.58 µg/L	507.58 ppb	15:40:11
3	Ni 231.604†	40391.8	40451.7	508.79 µg/L	508.79 ppb	15:39:51
3	P 214.914†	10679.2	10669.4	2536.2 µg/L	2536.2 ppb	15:40:11
3	Pb 220.353†	8465.8	8365.1	513.80 µg/L	513.80 ppb	15:40:11
3	S 181.975 Axial†	1323.1	1234.8	1016.5 µg/L	1016.5 ppb	15:40:11
3	Sb 206.836†	3956.0	3876.1	509.43 µg/L	509.43 ppb	15:40:11
3	Se 196.026†	1279.2	1265.1	509 µg/L	509 ppb	15:40:11
3	SiO2†	52368.9	50592.4	5390.8 µg/L	5390.8 ppb	15:39:51
3	Si 251.611†	157439.7	156420.8	2521.7 µg/L	2521.7 ppb	15:39:51
3	Sn 189.927†	7339.1	7338.4	509.75 µg/L	509.75 ppb	15:40:11
3	Ti 334.940†	505640.1	504528.9	504.80 µg/L	504.80 ppb	15:39:51
3	Tl 190.801†	3657.4	3772.9	514.61 µg/L	514.61 ppb	15:40:11
3	U 409.014†	7450.5	7730.9	514.89 µg/L	514.89 ppb	15:39:51
3	V 292.402†	94903.2	94551.0	508.74 µg/L	508.74 ppb	15:39:51
3	Zn 213.857†	82565.8	82004.4	504.61 µg/L	504.61 ppb	15:39:51

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1760961.8	100.34 %	0.335			0.33%
Sc RADIAL	151508.9	102 %	0.1			0.08%
Y 371.029	1054333.9	99.087 %	0.3640			0.37%
Ag 328.068†	125834.5	506.49 µg/L	2.671	506.49 ppb	2.671	0.53%
QC value within limits for Ag 328.068 Recovery = 101.30%						
Al 396.153Radial†	24654.5	5057.1 µg/L	16.32	5057.1 ppb	16.32	0.32%
QC value within limits for Al 396.153Radial Recovery = 101.14%						
As 188.979†	1439.5	509.60 µg/L	1.458	509.60 ppb	1.458	0.29%
QC value within limits for As 188.979 Recovery = 101.92%						
B 249.677†	30849.4	501.21 µg/L	2.544	501.21 ppb	2.544	0.51%
QC value within limits for B 249.677 Recovery = 100.24%						
Ba 233.527†	115956.9	505.31 µg/L	1.519	505.31 ppb	1.519	0.30%
QC value within limits for Ba 233.527 Recovery = 101.06%						
Be 313.107†	1684205.7	505.59 µg/L	1.908	505.59 ppb	1.908	0.38%
QC value within limits for Be 313.107 Recovery = 101.12%						
Ca 317.933Radial†	84327.3	5073.8 µg/L	28.98	5073.8 ppb	28.98	0.57%
QC value within limits for Ca 317.933Radial Recovery = 101.48%						
Cd 226.502†	73946.7	507.43 µg/L	2.442	507.43 ppb	2.442	0.48%
QC value within limits for Cd 226.502 Recovery = 101.49%						
Co 228.616†	37581.5	508.55 µg/L	3.533	508.55 ppb	3.533	0.69%
QC value within limits for Co 228.616 Recovery = 101.71%						
Cr 267.716†	59741.7	503.24 µg/L	2.010	503.24 ppb	2.010	0.40%
QC value within limits for Cr 267.716 Recovery = 100.65%						
Cu 324.752†	119174.0	503.74 µg/L	1.358	503.74 ppb	1.358	0.27%
QC value within limits for Cu 324.752 Recovery = 100.75%						
Fe 238.204 Radial†	74907.6	5040.4 µg/L	33.68	5040.4 ppb	33.68	0.67%
QC value within limits for Fe 238.204 Radial Recovery = 100.81%						
K 766.490 Radial†	12477.7	5131.2 µg/L	50.59	5131.2 ppb	50.59	0.99%
QC value within limits for K 766.490 Radial Recovery = 102.62%						
Mg 279.077 IEC†	12600.6	5177.1 µg/L	67.76	5177.1 ppb	67.76	1.31%
QC value within limits for Mg 279.077 IEC Recovery = 103.54%						
Mn 257.610†	378787.7	506.08 µg/L	1.612	506.08 ppb	1.612	0.32%
QC value within limits for Mn 257.610 Recovery = 101.22%						
Mo 202.031†	15912.3	506.62 µg/L	0.882	506.62 ppb	0.882	0.17%
QC value within limits for Mo 202.031 Recovery = 101.32%						
Na 589.592 Radial†	66507.4	10094 µg/L	51.8	10094 ppb	51.8	0.51%

QC value within limits for Na 589.592 Radial Recovery = 100.94%

Ni 231.604†	40398.8	508.13 µg/L	1.771	508.13 ppb	1.771	0.35%
QC value within limits for Ni 231.604 Recovery = 101.63%						
P 214.914†	10646.2	2530.7 µg/L	9.83	2530.7 ppb	9.83	0.39%
QC value within limits for P 214.914 Recovery = 101.23%						
Pb 220.353†	8346.3	512.65 µg/L	1.641	512.65 ppb	1.641	0.32%
QC value within limits for Pb 220.353 Recovery = 102.53%						
S 181.975 Axial†	1238.1	1019.2 µg/L	3.61	1019.2 ppb	3.61	0.35%
QC value within limits for S 181.975 Axial Recovery = 101.92%						
Sb 206.836†	3861.9	507.58 µg/L	2.318	507.58 ppb	2.318	0.46%
QC value within limits for Sb 206.836 Recovery = 101.52%						
Se 196.026†	1259.6	506 µg/L	2.6	506 ppb	2.6	0.51%
QC value within limits for Se 196.026 Recovery = 101.28%						
SiO2†	50436.4	5374.2 µg/L	17.15	5374.2 ppb	17.15	0.32%
QC value within limits for SiO2 Recovery = 100.50%						
Si 251.611†	156144.3	2517.3 µg/L	8.23	2517.3 ppb	8.23	0.33%
QC value within limits for Si 251.611 Recovery = 100.69%						
Sn 189.927†	7338.6	509.76 µg/L	0.493	509.76 ppb	0.493	0.10%
QC value within limits for Sn 189.927 Recovery = 101.95%						
Sr 421.552†	222062.7	512.23 µg/L	3.874	512.23 ppb	3.874	0.76%
QC value within limits for Sr 421.552 Recovery = 102.45%						
Ti 334.940†	503618.5	503.89 µg/L	1.418	503.89 ppb	1.418	0.28%
QC value within limits for Ti 334.940 Recovery = 100.78%						
Tl 190.801†	3768.3	513.99 µg/L	1.448	513.99 ppb	1.448	0.28%
QC value within limits for Tl 190.801 Recovery = 102.80%						
U 409.014†	7597.0	506.47 µg/L	8.551	506.47 ppb	8.551	1.69%
QC value within limits for U 409.014 Recovery = 101.29%						
V 292.402†	94435.5	508.11 µg/L	2.233	508.11 ppb	2.233	0.44%
QC value within limits for V 292.402 Recovery = 101.62%						
Zn 213.857†	81944.8	504.24 µg/L	2.372	504.24 ppb	2.372	0.47%
QC value within limits for Zn 213.857 Recovery = 100.85%						

All analyte(s) passed QC.

Sequence No.: 2

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 3/30/2010 15:40:19

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	152271.6	152271.6	103 %		15:40:49
1	Al 396.153Radial†	-38.2	25.8	5.3134 µg/L	5.3134 ppb	15:41:09
1	Ca 317.933Radial†	593.7	-121.6	-7.3179 µg/L	-7.3179 ppb	15:41:09
1	Fe 238.204 Radial†	146.8	1.9	0.1250 µg/L	0.1250 ppb	15:41:09
1	K 766.490 Radial†	1582.5	223.6	91.992 µg/L	91.992 ppb	15:40:49
1	Mg 279.077 IEC†	171.9	-1.9	-0.7624 µg/L	-0.7624 ppb	15:41:09
1	Na 589.592 Radial†	1948.7	685.2	103.97 µg/L	103.97 ppb	15:40:49
1	Sr 421.552†	-262.3	-33.0	-0.0760 µg/L	-0.0760 ppb	15:40:49
1	Sc 361.383	1761746.1	1761746.1	100.38 %		15:42:11
1	Y 371.029	1068118.8	1068118.8	100.38 %		15:42:11
1	Ag 328.068†	3245.5	-213.9	-0.8439 µg/L	-0.8439 ppb	15:42:13
1	As 188.979†	-13.3	4.5	1.5509 µg/L	1.5509 ppb	15:42:33
1	B 249.677†	3249.5	6.9	0.1116 µg/L	0.1116 ppb	15:42:33
1	Ba 233.527†	-156.2	6.5	0.0280 µg/L	0.0280 ppb	15:42:33
1	Be 313.107†	-658.9	129.2	0.0424 µg/L	0.0424 ppb	15:42:13
1	Cd 226.502†	-73.5	36.8	0.2528 µg/L	0.2528 ppb	15:42:33
1	Co 228.616†	-169.4	3.7	0.0497 µg/L	0.0497 ppb	15:42:33
1	Cr 267.716†	146.3	-32.8	-0.2859 µg/L	-0.2859 ppb	15:42:33
1	Cu 324.752†	2940.0	139.9	0.5993 µg/L	0.5993 ppb	15:42:13
1	Mn 257.610†	146.6	-29.6	-0.0395 µg/L	-0.0395 ppb	15:42:33
1	Mo 202.031†	-31.7	3.2	0.1017 µg/L	0.1017 ppb	15:42:33
1	Ni 231.604†	-80.5	-2.3	-0.0290 µg/L	-0.0290 ppb	15:42:33
1	P 214.914†	10.9	5.9	1.4022 µg/L	1.4022 ppb	15:42:33
1	Pb 220.353†	91.1	-6.2	-0.3899 µg/L	-0.3899 ppb	15:42:33
1	S 181.975 Axial†	91.1	3.1	2.5246 µg/L	2.5246 ppb	15:42:33
1	Sb 206.836†	82.7	4.4	0.5766 µg/L	0.5766 ppb	15:42:33
1	Se 196.026†	16.5	2.9	1.16 µg/L	1.16 ppb	15:42:33
1	SiO2†	1686.5	-73.0	-7.8262 µg/L	-7.8262 ppb	15:42:33
1	Si 251.611†	796.3	-155.3	-2.5203 µg/L	-2.5203 ppb	15:42:33
1	Sn 189.927†	8.2	10.7	0.7386 µg/L	0.7386 ppb	15:42:33
1	Ti 334.940†	880.2	-8.7	-0.0137 µg/L	-0.0137 ppb	15:42:13
1	Tl 190.801†	-115.7	1.9	0.2434 µg/L	0.2434 ppb	15:42:33
1	U 409.014†	-94.2	189.9	11.851 µg/L	11.851 ppb	15:42:13
1	V 292.402†	174.7	-135.8	-0.7133 µg/L	-0.7133 ppb	15:42:13
1	Zn 213.857†	549.9	23.3	0.1441 µg/L	0.1441 ppb	15:42:33
2	Sc RADIAL	150618.8	150618.8	102 %		15:41:11
2	Al 396.153Radial†	-53.4	10.5	2.1418 µg/L	2.1418 ppb	15:41:31
2	Ca 317.933Radial†	581.3	-127.4	-7.6675 µg/L	-7.6675 ppb	15:41:31
2	Fe 238.204 Radial†	171.2	27.3	1.8369 µg/L	1.8369 ppb	15:41:31
2	K 766.490 Radial†	1606.1	263.5	108.45 µg/L	108.45 ppb	15:41:11
2	Mg 279.077 IEC†	179.0	6.9	2.8302 µg/L	2.8302 ppb	15:41:31
2	Na 589.592 Radial†	1952.8	710.0	107.71 µg/L	107.71 ppb	15:41:11
2	Sr 421.552†	-168.0	56.8	0.1310 µg/L	0.1310 ppb	15:41:11
2	Sc 361.383	1744841.8	1744841.8	99.417 %		15:42:35
2	Y 371.029	1059308.4	1059308.4	99.555 %		15:42:35
2	Ag 328.068†	3616.7	190.8	0.7580 µg/L	0.7580 ppb	15:42:37
2	As 188.979†	-24.5	-7.0	-2.4263 µg/L	-2.4263 ppb	15:42:57
2	B 249.677†	3270.5	59.3	0.9680 µg/L	0.9680 ppb	15:42:57
2	Ba 233.527†	-154.1	7.2	0.0313 µg/L	0.0313 ppb	15:42:57
2	Be 313.107†	-485.0	297.7	0.0894 µg/L	0.0894 ppb	15:42:37
2	Cd 226.502†	-103.0	6.4	0.0440 µg/L	0.0440 ppb	15:42:57
2	Co 228.616†	-197.0	-25.7	-0.3482 µg/L	-0.3482 ppb	15:42:57
2	Cr 267.716†	149.9	-27.8	-0.2344 µg/L	-0.2344 ppb	15:42:57
2	Cu 324.752†	2688.9	-84.2	-0.3548 µg/L	-0.3548 ppb	15:42:37
2	Mn 257.610†	185.8	11.3	0.0150 µg/L	0.0150 ppb	15:42:57
2	Mo 202.031†	-25.5	9.1	0.2905 µg/L	0.2905 ppb	15:42:57
2	Ni 231.604†	-56.6	20.9	0.2635 µg/L	0.2635 ppb	15:42:57
2	P 214.914†	13.3	8.4	2.0004 µg/L	2.0004 ppb	15:42:57
2	Pb 220.353†	110.4	14.1	0.8625 µg/L	0.8625 ppb	15:42:57



2	S 181.975 Axial†	98.4	11.2	9.2093 µg/L	9.2093 ppb	15:42:57
2	Sb 206.836†	81.8	4.2	0.5540 µg/L	0.5540 ppb	15:42:57
2	Se 196.026†	12.4	-1.1	-0.426 µg/L	-0.426 ppb	15:42:57
2	SiO2†	1708.7	-34.4	-3.6920 µg/L	-3.6920 ppb	15:42:57
2	Si 251.611†	793.5	-150.5	-2.4395 µg/L	-2.4395 ppb	15:42:57
2	Sn 189.927†	-3.9	-1.4	-0.0980 µg/L	-0.0980 ppb	15:42:57
2	Ti 334.940†	736.5	-144.8	-0.1454 µg/L	-0.1454 ppb	15:42:37
2	Tl 190.801†	-120.7	-4.3	-0.5836 µg/L	-0.5836 ppb	15:42:57
2	U 409.014†	-281.2	0.9	0.0544 µg/L	0.0544 ppb	15:42:37
2	V 292.402†	298.4	-9.7	-0.0495 µg/L	-0.0495 ppb	15:42:37
2	Zn 213.857†	548.3	27.0	0.1659 µg/L	0.1659 ppb	15:42:57
3	Sc RADIAL	150276.3	150276.3	102 %		15:41:33
3	Al 396.153Radial†	-42.9	20.6	4.2398 µg/L	4.2398 ppb	15:41:53
3	Ca 317.933Radial†	575.7	-131.7	-7.9223 µg/L	-7.9223 ppb	15:41:53
3	Fe 238.204 Radial†	159.4	16.1	1.0819 µg/L	1.0819 ppb	15:41:53
3	K 766.490 Radial†	1605.7	266.8	109.77 µg/L	109.77 ppb	15:41:33
3	Mg 279.077 IEC†	158.6	-12.8	-5.2449 µg/L	-5.2449 ppb	15:41:53
3	Na 589.592 Radial†	1794.4	558.5	84.715 µg/L	84.715 ppb	15:41:33
3	Sr 421.552†	-256.8	-31.0	-0.0714 µg/L	-0.0714 ppb	15:41:33
3	Sc 361.383	1748415.8	1748415.8	99.620 %		15:42:59
3	Y 371.029	1061132.7	1061132.7	99.726 %		15:42:59
3	Ag 328.068†	3479.1	45.3	0.1721 µg/L	0.1721 ppb	15:43:01
3	As 188.979†	-15.1	2.5	0.8709 µg/L	0.8709 ppb	15:43:21
3	B 249.677†	3242.7	24.7	0.4031 µg/L	0.4031 ppb	15:43:21
3	Ba 233.527†	-211.2	-49.8	-0.2173 µg/L	-0.2173 ppb	15:43:21
3	Be 313.107†	-621.8	161.4	0.0478 µg/L	0.0478 ppb	15:43:01
3	Cd 226.502†	-106.4	3.2	0.0217 µg/L	0.0217 ppb	15:43:21
3	Co 228.616†	-168.4	3.4	0.0451 µg/L	0.0451 ppb	15:43:21
3	Cr 267.716†	182.8	4.9	0.0428 µg/L	0.0428 ppb	15:43:21
3	Cu 324.752†	2822.4	44.2	0.1848 µg/L	0.1848 ppb	15:43:01
3	Mn 257.610†	163.1	-11.8	-0.0156 µg/L	-0.0156 ppb	15:43:21
3	Mo 202.031†	-27.1	7.5	0.2393 µg/L	0.2393 ppb	15:43:21
3	Ni 231.604†	-73.8	3.8	0.0482 µg/L	0.0482 ppb	15:43:21
3	P 214.914†	21.6	16.6	3.9756 µg/L	3.9756 ppb	15:43:21
3	Pb 220.353†	107.7	11.1	0.6820 µg/L	0.6820 ppb	15:43:21
3	S 181.975 Axial†	89.1	1.7	1.3920 µg/L	1.3920 ppb	15:43:21
3	Sb 206.836†	74.7	-3.1	-0.3965 µg/L	-0.3965 ppb	15:43:21
3	Se 196.026†	12.9	-0.6	-0.241 µg/L	-0.241 ppb	15:43:21
3	SiO2†	1708.0	-38.6	-4.1618 µg/L	-4.1618 ppb	15:43:21
3	Si 251.611†	777.3	-168.4	-2.7378 µg/L	-2.7378 ppb	15:43:21
3	Sn 189.927†	17.4	20.0	1.3815 µg/L	1.3815 ppb	15:43:21
3	Ti 334.940†	767.6	-115.0	-0.1142 µg/L	-0.1142 ppb	15:43:01
3	Tl 190.801†	-132.3	-15.7	-2.1132 µg/L	-2.1132 ppb	15:43:21
3	U 409.014†	-314.3	-31.8	-2.0187 µg/L	-2.0187 ppb	15:43:01
3	V 292.402†	220.4	-88.6	-0.4693 µg/L	-0.4693 ppb	15:43:01
3	Zn 213.857†	528.4	5.8	0.0357 µg/L	0.0357 ppb	15:43:21

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1751667.9	99.806 %		0.5076			0.51%
Sc RADIAL	151055.6	102 %		0.7			0.71%
Y 371.029	1062853.3	99.888 %		0.4370			0.44%
Ag 328.068†	7.4	0.0288 µg/L		0.81049	0.0288 ppb	0.81049	>999.9%
QC value within limits for Ag 328.068 Recovery = Not calculated							
Al 396.153Radial†	19.0	3.8983 µg/L		1.61314	3.8983 ppb	1.61314	41.38%
QC value within limits for Al 396.153Radial Recovery = Not calculated							
As 188.979†	-0.0	-0.0015 µg/L		2.12733	-0.0015 ppb	2.12733	>999.9%
QC value within limits for As 188.979 Recovery = Not calculated							
B 249.677†	30.3	0.4942 µg/L		0.43544	0.4942 ppb	0.43544	88.10%
QC value within limits for B 249.677 Recovery = Not calculated							
Ba 233.527†	-12.0	-0.0527 µg/L		0.14255	-0.0527 ppb	0.14255	270.66%
QC value within limits for Ba 233.527 Recovery = Not calculated							
Be 313.107†	196.1	0.0599 µg/L		0.02571	0.0599 ppb	0.02571	42.95%
QC value within limits for Be 313.107 Recovery = Not calculated							
Ca 317.933Radial†	-126.9	-7.6359 µg/L		0.30344	-7.6359 ppb	0.30344	3.97%
QC value within limits for Ca 317.933Radial Recovery = Not calculated							
Cd 226.502†	15.5	0.1061 µg/L		0.12749	0.1061 ppb	0.12749	120.11%
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	-6.2	-0.0845 µg/L		0.22840	-0.0845 ppb	0.22840	270.40%

QC value within limits for Co 228.616	Recovery = Not calculated		
Cr 267.716†	-18.6	-0.1592 µg/L	0.17679 -0.1592 ppb 0.17679 111.07%
QC value within limits for Cr 267.716	Recovery = Not calculated		
Cu 324.752†	33.3	0.1431 µg/L	0.47842 0.1431 ppb 0.47842 334.35%
QC value within limits for Cu 324.752	Recovery = Not calculated		
Fe 238.204 Radial†	15.1	1.0146 µg/L	0.85793 1.0146 ppb 0.85793 84.56%
QC value within limits for Fe 238.204 Radial	Recovery = Not calculated		
K 766.490 Radial†	251.3	103.40 µg/L	9.906 103.40 ppb 9.906 9.58%
QC value within limits for K 766.490 Radial	Recovery = Not calculated		
Mg 279.077 IEC†	-2.6	-1.0590 µg/L	4.04567 -1.0590 ppb 4.04567 382.01%
QC value within limits for Mg 279.077 IEC	Recovery = Not calculated		
Mn 257.610†	-10.0	-0.0134 µg/L	0.02732 -0.0134 ppb 0.02732 204.49%
QC value within limits for Mn 257.610	Recovery = Not calculated		
Mo 202.031†	6.6	0.2105 µg/L	0.09765 0.2105 ppb 0.09765 46.40%
QC value within limits for Mo 202.031	Recovery = Not calculated		
Na 589.592 Radial†	651.2	98.798 µg/L	12.3396 98.798 ppb 12.3396 12.49%
QC value within limits for Na 589.592 Radial	Recovery = Not calculated		
Ni 231.604†	7.5	0.0942 µg/L	0.15155 0.0942 ppb 0.15155 160.83%
QC value within limits for Ni 231.604	Recovery = Not calculated		
P 214.914†	10.3	2.4594 µg/L	1.34672 2.4594 ppb 1.34672 54.76%
QC value within limits for P 214.914	Recovery = Not calculated		
Pb 220.353†	6.3	0.3849 µg/L	0.67701 0.3849 ppb 0.67701 175.89%
QC value within limits for Pb 220.353	Recovery = Not calculated		
S 181.975 Axial†	5.3	4.3753 µg/L	4.22448 4.3753 ppb 4.22448 96.55%
QC value within limits for S 181.975 Axial	Recovery = Not calculated		
Sb 206.836†	1.8	0.2447 µg/L	0.55538 0.2447 ppb 0.55538 226.96%
QC value within limits for Sb 206.836	Recovery = Not calculated		
Se 196.026†	0.4	0.163 µg/L	0.8651 0.163 ppb 0.8651 529.21%
QC value within limits for Se 196.026	Recovery = Not calculated		
SiO2†	-48.7	-5.2267 µg/L	2.26347 -5.2267 ppb 2.26347 43.31%
QC value within limits for SiO2	Recovery = Not calculated		
Si 251.611†	-158.1	-2.5658 µg/L	0.15427 -2.5658 ppb 0.15427 6.01%
QC value within limits for Si 251.611	Recovery = Not calculated		
Sn 189.927†	9.7	0.6740 µg/L	0.74189 0.6740 ppb 0.74189 110.07%
QC value within limits for Sn 189.927	Recovery = Not calculated		
Sr 421.552†	-2.4	-0.0055 µg/L	0.11824 -0.0055 ppb 0.11824 >999.9%
QC value within limits for Sr 421.552	Recovery = Not calculated		
Ti 334.940†	-89.5	-0.0911 µg/L	0.06887 -0.0911 ppb 0.06887 75.59%
QC value within limits for Ti 334.940	Recovery = Not calculated		
Tl 190.801†	-6.1	-0.8178 µg/L	1.19565 -0.8178 ppb 1.19565 146.20%
QC value within limits for Tl 190.801	Recovery = Not calculated		
U 409.014†	53.0	3.2957 µg/L	7.48152 3.2957 ppb 7.48152 227.01%
QC value within limits for U 409.014	Recovery = Not calculated		
V 292.402†	-78.1	-0.4107 µg/L	0.33575 -0.4107 ppb 0.33575 81.75%
QC value within limits for V 292.402	Recovery = Not calculated		
Zn 213.857†	18.7	0.1152 µg/L	0.06972 0.1152 ppb 0.06972 60.49%
QC value within limits for Zn 213.857	Recovery = Not calculated		

All analyte(s) passed QC.

Sequence No.: 8

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 3/30/2010 15:54:07

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	152898.0	152898.0	103 %		15:54:41
1	Al 396.153Radial†	25494.9	24712.6	5069.0 µg/L	5069.0 ppb	15:54:41
1	Ca 317.933Radial†	88550.4	84917.2	5109.3 µg/L	5109.3 ppb	15:54:41
1	Fe 238.204 Radial†	78113.2	75383.3	5072.4 µg/L	5072.4 ppb	15:54:41
1	K 766.490 Radial†	14245.1	12460.1	5124.0 µg/L	5124.0 ppb	15:54:41
1	Mg 279.077 IEC†	13260.3	12651.9	5198.1 µg/L	5198.1 ppb	15:54:41
1	Na 589.592 Radial†	69947.5	66422.3	10081 µg/L	10081 ppb	15:54:41
1	Sr 421.552†	225954.2	218686.1	504.44 µg/L	504.44 ppb	15:54:39
1	Sc 361.383	1766476.2	1766476.2	100.65 %		15:54:53
1	Y 371.029	1056827.3	1056827.3	99.322 %		15:54:53
1	Ag 328.068†	130821.0	126529.7	509.27 µg/L	509.27 ppb	15:54:53
1	As 188.979†	1449.4	1457.7	516.01 µg/L	516.01 ppb	15:55:14
1	B 249.677†	34337.2	30885.3	501.79 µg/L	501.79 ppb	15:54:53
1	Ba 233.527†	116922.3	116330.0	506.93 µg/L	506.93 ppb	15:54:53
1	Be 313.107†	1701022.2	1690831.4	507.58 µg/L	507.58 ppb	15:54:53
1	Cd 226.502†	74763.6	74391.2	510.48 µg/L	510.48 ppb	15:54:53
1	Co 228.616†	37890.8	37818.7	511.76 µg/L	511.76 ppb	15:54:53
1	Cr 267.716†	60801.9	60231.0	507.36 µg/L	507.36 ppb	15:54:53
1	Cu 324.752†	123064.6	119481.6	505.05 µg/L	505.05 ppb	15:54:53
1	Mn 257.610†	383529.0	380878.5	508.87 µg/L	508.87 ppb	15:54:53
1	Mo 202.031†	16006.9	15938.4	507.45 µg/L	507.45 ppb	15:55:14
1	Ni 231.604†	40839.2	40653.6	511.33 µg/L	511.33 ppb	15:54:53
1	P 214.914†	10798.6	10723.9	2549.2 µg/L	2549.2 ppb	15:55:14
1	Pb 220.353†	8511.4	8359.5	513.46 µg/L	513.46 ppb	15:55:14
1	S 181.975 Axial†	1341.1	1244.7	1024.6 µg/L	1024.6 ppb	15:55:14
1	Sb 206.836†	3967.2	3863.5	507.74 µg/L	507.74 ppb	15:55:14
1	Se 196.026†	1297.6	1275.7	513 µg/L	513 ppb	15:55:14
1	SiO2†	53075.1	50979.5	5432.2 µg/L	5432.2 ppb	15:54:53
1	Si 251.611†	159406.2	157429.0	2538.1 µg/L	2538.1 ppb	15:54:53
1	Sn 189.927†	7400.1	7354.9	510.89 µg/L	510.89 ppb	15:55:14
1	Ti 334.940†	509982.0	505805.6	506.08 µg/L	506.08 ppb	15:54:53
1	Tl 190.801†	3697.9	3791.1	517.08 µg/L	517.08 ppb	15:55:14
1	U 409.014†	7385.3	7621.4	508.08 µg/L	508.08 ppb	15:54:53
1	V 292.402†	95602.3	94675.5	509.40 µg/L	509.40 ppb	15:54:53
1	Zn 213.857†	83405.4	82342.7	506.69 µg/L	506.69 ppb	15:54:53
2	Sc RADIAL	153813.3	153813.3	104 %		15:54:45
2	Al 396.153Radial†	25906.1	24961.2	5120.3 µg/L	5120.3 ppb	15:54:45
2	Ca 317.933Radial†	90324.6	86113.0	5181.2 µg/L	5181.2 ppb	15:54:45
2	Fe 238.204 Radial†	79894.0	76645.4	5157.4 µg/L	5157.4 ppb	15:54:45
2	K 766.490 Radial†	14489.5	12613.1	5186.9 µg/L	5186.9 ppb	15:54:45
2	Mg 279.077 IEC†	13565.2	12868.7	5286.9 µg/L	5286.9 ppb	15:54:45
2	Na 589.592 Radial†	71256.6	67278.0	10211 µg/L	10211 ppb	15:54:45
2	Sr 421.552†	230368.6	221628.8	511.22 µg/L	511.22 ppb	15:54:43
2	Sc 361.383	1761903.1	1761903.1	100.39 %		15:55:17
2	Y 371.029	1054491.7	1054491.7	99.102 %		15:55:17
2	Ag 328.068†	130499.2	126546.5	509.34 µg/L	509.34 ppb	15:55:17
2	As 188.979†	1426.1	1438.2	509.18 µg/L	509.18 ppb	15:55:37
2	B 249.677†	34599.7	31235.3	507.49 µg/L	507.49 ppb	15:55:17
2	Ba 233.527†	116559.6	116270.2	506.67 µg/L	506.67 ppb	15:55:17
2	Be 313.107†	1696997.8	1691209.1	507.69 µg/L	507.69 ppb	15:55:17
2	Cd 226.502†	74443.4	74265.1	509.60 µg/L	509.60 ppb	15:55:17
2	Co 228.616†	37855.1	37880.8	512.60 µg/L	512.60 ppb	15:55:17
2	Cr 267.716†	60290.1	59878.0	504.39 µg/L	504.39 ppb	15:55:17
2	Cu 324.752†	122978.4	119713.0	506.04 µg/L	506.04 ppb	15:55:17
2	Mn 257.610†	382160.3	380504.2	508.37 µg/L	508.37 ppb	15:55:17
2	Mo 202.031†	15939.1	15912.1	506.62 µg/L	506.62 ppb	15:55:37
2	Ni 231.604†	40586.6	40507.2	509.49 µg/L	509.49 ppb	15:55:17
2	P 214.914†	10736.5	10689.9	2541.1 µg/L	2541.1 ppb	15:55:37
2	Pb 220.353†	8464.9	8335.1	511.96 µg/L	511.96 ppb	15:55:37

2	S 181.975 Axial†	1327.2	1234.3	1016.1 µg/L	1016.1 ppb	15:55:37
2	Sb 206.836†	3978.2	3884.7	510.55 µg/L	510.55 ppb	15:55:37
2	Se 196.026†	1299.1	1280.5	515 µg/L	515 ppb	15:55:37
2	SiO2†	52598.8	50641.9	5396.2 µg/L	5396.2 ppb	15:55:17
2	Si 251.611†	158393.7	156831.4	2528.4 µg/L	2528.4 ppb	15:55:17
2	Sn 189.927†	7363.2	7337.2	509.67 µg/L	509.67 ppb	15:55:37
2	Ti 334.940†	508335.3	505480.4	505.75 µg/L	505.75 ppb	15:55:17
2	Tl 190.801†	3693.7	3796.5	517.79 µg/L	517.79 ppb	15:55:37
2	U 409.014†	7366.6	7621.9	508.14 µg/L	508.14 ppb	15:55:17
2	V 292.402†	95533.2	94853.3	510.32 µg/L	510.32 ppb	15:55:17
2	Zn 213.857†	83149.2	82302.5	506.44 µg/L	506.44 ppb	15:55:17
3	Sc RADIAL	153503.9	153503.9	104 %		15:54:49
3	Al 396.153Radial†	25953.2	25056.8	5139.8 µg/L	5139.8 ppb	15:54:49
3	Ca 317.933Radial†	89994.6	85970.1	5172.6 µg/L	5172.6 ppb	15:54:49
3	Fe 238.204 Radial†	79338.5	76265.2	5131.8 µg/L	5131.8 ppb	15:54:49
3	K 766.490 Radial†	14412.9	12567.4	5168.1 µg/L	5168.1 ppb	15:54:49
3	Mg 279.077 IEC†	13512.1	12843.9	5276.9 µg/L	5276.9 ppb	15:54:49
3	Na 589.592 Radial†	70773.4	66950.7	10162 µg/L	10162 ppb	15:54:49
3	Sr 421.552†	228639.3	220409.6	508.41 µg/L	508.41 ppb	15:54:47
3	Sc 361.383	1744601.8	1744601.8	99.403 %		15:55:40
3	Y 371.029	1045173.0	1045173.0	98.226 %		15:55:40
3	Ag 328.068†	129131.8	126460.1	509.00 µg/L	509.00 ppb	15:55:40
3	As 188.979†	1420.2	1446.5	512.07 µg/L	512.07 ppb	15:56:00
3	B 249.677†	33934.1	30907.5	502.15 µg/L	502.15 ppb	15:55:40
3	Ba 233.527†	115526.7	116382.5	507.16 µg/L	507.16 ppb	15:55:40
3	Be 313.107†	1678703.4	1689568.9	507.20 µg/L	507.20 ppb	15:55:40
3	Cd 226.502†	73616.8	74168.8	508.94 µg/L	508.94 ppb	15:55:40
3	Co 228.616†	37455.8	37853.1	512.22 µg/L	512.22 ppb	15:55:40
3	Cr 267.716†	59770.6	59950.9	505.00 µg/L	505.00 ppb	15:55:40
3	Cu 324.752†	121792.5	119734.9	506.13 µg/L	506.13 ppb	15:55:40
3	Mn 257.610†	378385.7	380482.1	508.34 µg/L	508.34 ppb	15:55:40
3	Mo 202.031†	15905.8	16036.1	510.56 µg/L	510.56 ppb	15:56:00
3	Ni 231.604†	40232.3	40551.8	510.05 µg/L	510.05 ppb	15:55:40
3	P 214.914†	10667.1	10726.2	2549.7 µg/L	2549.7 ppb	15:56:00
3	Pb 220.353†	8410.1	8363.6	513.72 µg/L	513.72 ppb	15:56:00
3	S 181.975 Axial†	1333.4	1253.7	1032.0 µg/L	1032.0 ppb	15:56:00
3	Sb 206.836†	3953.6	3899.3	512.51 µg/L	512.51 ppb	15:56:00
3	Se 196.026†	1280.3	1274.4	512 µg/L	512 ppb	15:56:00
3	SiO2†	52227.3	50787.7	5411.6 µg/L	5411.6 ppb	15:55:40
3	Si 251.611†	156966.4	156960.3	2530.4 µg/L	2530.4 ppb	15:55:40
3	Sn 189.927†	7357.1	7403.9	514.29 µg/L	514.29 ppb	15:56:00
3	Ti 334.940†	503753.2	505892.4	506.16 µg/L	506.16 ppb	15:55:40
3	Tl 190.801†	3662.1	3801.2	518.43 µg/L	518.43 ppb	15:56:00
3	U 409.014†	7305.2	7632.8	508.81 µg/L	508.81 ppb	15:55:40
3	V 292.402†	94531.3	94789.1	510.02 µg/L	510.02 ppb	15:55:40
3	Zn 213.857†	82414.1	82384.4	506.95 µg/L	506.95 ppb	15:55:40

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1757660.4	100.15 %	0.657			0.66%
Sc RADIAL	153405.1	104 %	0.3			0.30%
Y 371.029	1052164.0	98.883 %	0.5795			0.59%
Ag 328.068†	126512.1	509.20 µg/L	0.182	509.20 ppb	0.182	0.04%
QC value within limits for Ag 328.068 Recovery = 101.84%						
Al 396.153Radial†	24910.2	5109.7 µg/L	36.55	5109.7 ppb	36.55	0.72%
QC value within limits for Al 396.153Radial Recovery = 102.19%						
As 188.979†	1447.5	512.42 µg/L	3.425	512.42 ppb	3.425	0.67%
QC value within limits for As 188.979 Recovery = 102.48%						
B 249.677†	31009.4	503.81 µg/L	3.194	503.81 ppb	3.194	0.63%
QC value within limits for B 249.677 Recovery = 100.76%						
Ba 233.527†	116327.6	506.92 µg/L	0.245	506.92 ppb	0.245	0.05%
QC value within limits for Ba 233.527 Recovery = 101.38%						
Be 313.107†	1690536.5	507.49 µg/L	0.258	507.49 ppb	0.258	0.05%
QC value within limits for Be 313.107 Recovery = 101.50%						
Ca 317.933Radial†	85666.7	5154.4 µg/L	39.29	5154.4 ppb	39.29	0.76%
QC value within limits for Ca 317.933Radial Recovery = 103.09%						
Cd 226.502†	74275.0	509.68 µg/L	0.769	509.68 ppb	0.769	0.15%
QC value within limits for Cd 226.502 Recovery = 101.94%						
Co 228.616†	37850.9	512.19 µg/L	0.418	512.19 ppb	0.418	0.08%

QC value within limits for Co 228.616 Recovery = 102.44%							
Cr 267.716†	60020.0	505.58 µg/L	1.569	505.58 ppb	1.569	0.31%	
QC value within limits for Cr 267.716 Recovery = 101.12%							
Cu 324.752†	119643.1	505.74 µg/L	0.599	505.74 ppb	0.599	0.12%	
QC value within limits for Cu 324.752 Recovery = 101.15%							
Fe 238.204 Radial†	76097.9	5120.5 µg/L	43.57	5120.5 ppb	43.57	0.85%	
QC value within limits for Fe 238.204 Radial Recovery = 102.41%							
K 766.490 Radial†	12546.8	5159.6 µg/L	32.29	5159.6 ppb	32.29	0.63%	
QC value within limits for K 766.490 Radial Recovery = 103.19%							
Mg 279.077 IEC†	12788.2	5254.0 µg/L	48.64	5254.0 ppb	48.64	0.93%	
QC value within limits for Mg 279.077 IEC Recovery = 105.08%							
Mn 257.610†	380621.6	508.52 µg/L	0.300	508.52 ppb	0.300	0.06%	
QC value within limits for Mn 257.610 Recovery = 101.70%							
Mo 202.031†	15962.2	508.21 µg/L	2.079	508.21 ppb	2.079	0.41%	
QC value within limits for Mo 202.031 Recovery = 101.64%							
Na 589.592 Radial†	66883.7	10152 µg/L	65.5	10152 ppb	65.5	0.65%	
QC value within limits for Na 589.592 Radial Recovery = 101.52%							
Ni 231.604†	40570.9	510.29 µg/L	0.944	510.29 ppb	0.944	0.18%	
QC value within limits for Ni 231.604 Recovery = 102.06%							
P 214.914†	10713.3	2546.7 µg/L	4.86	2546.7 ppb	4.86	0.19%	
QC value within limits for P 214.914 Recovery = 101.87%							
Pb 220.353†	8352.7	513.05 µg/L	0.948	513.05 ppb	0.948	0.18%	
QC value within limits for Pb 220.353 Recovery = 102.61%							
S 181.975 Axial†	1244.2	1024.2 µg/L	7.94	1024.2 ppb	7.94	0.78%	
QC value within limits for S 181.975 Axial Recovery = 102.42%							
Sb 206.836†	3882.5	510.27 µg/L	2.400	510.27 ppb	2.400	0.47%	
QC value within limits for Sb 206.836 Recovery = 102.05%							
Se 196.026†	1276.9	513 µg/L	1.3	513 ppb	1.3	0.25%	
QC value within limits for Se 196.026 Recovery = 102.67%							
SiO2†	50803.0	5413.3 µg/L	18.10	5413.3 ppb	18.10	0.33%	
QC value within limits for SiO2 Recovery = 101.23%							
Si 251.611†	157073.6	2532.3 µg/L	5.09	2532.3 ppb	5.09	0.20%	
QC value within limits for Si 251.611 Recovery = 101.29%							
Sn 189.927†	7365.3	511.62 µg/L	2.390	511.62 ppb	2.390	0.47%	
QC value within limits for Sn 189.927 Recovery = 102.32%							
Sr 421.552†	220241.5	508.02 µg/L	3.410	508.02 ppb	3.410	0.67%	
QC value within limits for Sr 421.552 Recovery = 101.60%							
Ti 334.940†	505726.1	506.00 µg/L	0.218	506.00 ppb	0.218	0.04%	
QC value within limits for Ti 334.940 Recovery = 101.20%							
Tl 190.801†	3796.3	517.77 µg/L	0.678	517.77 ppb	0.678	0.13%	
QC value within limits for Tl 190.801 Recovery = 103.55%							
U 409.014†	7625.4	508.34 µg/L	0.406	508.34 ppb	0.406	0.08%	
QC value within limits for U 409.014 Recovery = 101.67%							
V 292.402†	94772.6	509.91 µg/L	0.466	509.91 ppb	0.466	0.09%	
QC value within limits for V 292.402 Recovery = 101.98%							
Zn 213.857†	82343.2	506.69 µg/L	0.254	506.69 ppb	0.254	0.05%	
QC value within limits for Zn 213.857 Recovery = 101.34%							
All analyte(s) passed QC.							

Sequence No.: 9

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 3/30/2010 15:56:07

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	151439.2	151439.2	102 %		15:56:36
1	Al 396.153Radial†	-72.0	-7.4	-1.5426 µg/L	-1.5426 ppb	15:56:56
1	Ca 317.933Radial†	616.3	-96.4	-5.7988 µg/L	-5.7988 ppb	15:56:56
1	Fe 238.204 Radial†	169.0	24.3	1.6349 µg/L	1.6349 ppb	15:56:56
1	K 766.490 Radial†	1445.7	98.4	40.501 µg/L	40.501 ppb	15:56:36
1	Mg 279.077 IEC†	154.2	-18.3	-7.4960 µg/L	-7.4960 ppb	15:56:56
1	Na 589.592 Radial†	1619.2	374.0	56.749 µg/L	56.749 ppb	15:56:36
1	Sr 421.552†	-165.2	60.4	0.1393 µg/L	0.1393 ppb	15:56:36
1	Sc 361.383	1780635.7	1780635.7	101.46 %		15:57:44
1	Y 371.029	1078953.6	1078953.6	101.40 %		15:57:44
1	Ag 328.068†	3244.7	-249.0	-0.9690 µg/L	-0.9690 ppb	15:57:46
1	As 188.979†	-21.9	-3.9	-1.3519 µg/L	-1.3519 ppb	15:58:06
1	B 249.677†	3281.0	3.6	0.0578 µg/L	0.0578 ppb	15:58:06
1	Ba 233.527†	-154.7	9.6	0.0424 µg/L	0.0424 ppb	15:58:06
1	Be 313.107†	-762.3	34.2	0.0139 µg/L	0.0139 ppb	15:57:46
1	Cd 226.502†	-101.4	10.1	0.0691 µg/L	0.0691 ppb	15:58:06
1	Co 228.616†	-173.3	1.6	0.0220 µg/L	0.0220 ppb	15:58:06
1	Cr 267.716†	179.0	-2.1	-0.0268 µg/L	-0.0268 ppb	15:58:06
1	Cu 324.752†	2941.0	109.8	0.4727 µg/L	0.4727 ppb	15:57:46
1	Mn 257.610†	182.1	3.9	0.0055 µg/L	0.0055 ppb	15:58:06
1	Mo 202.031†	-29.1	6.1	0.1930 µg/L	0.1930 ppb	15:58:06
1	Ni 231.604†	-53.4	25.3	0.3179 µg/L	0.3179 ppb	15:58:06
1	P 214.914†	-6.7	-11.6	-2.7718 µg/L	-2.7718 ppb	15:58:06
1	Pb 220.353†	74.0	-24.0	-1.4785 µg/L	-1.4785 ppb	15:58:06
1	S 181.975 Axial†	91.2	2.2	1.8313 µg/L	1.8313 ppb	15:58:06
1	Sb 206.836†	88.4	9.1	1.1933 µg/L	1.1933 ppb	15:58:06
1	Se 196.026†	5.5	-8.2	-3.26 µg/L	-3.26 ppb	15:58:06
1	SiO2†	1722.5	-55.4	-5.9330 µg/L	-5.9330 ppb	15:58:06
1	Si 251.611†	814.0	-146.4	-2.3730 µg/L	-2.3730 ppb	15:57:46
1	Sn 189.927†	0.5	3.0	0.2076 µg/L	0.2076 ppb	15:58:06
1	Ti 334.940†	800.0	-97.0	-0.1016 µg/L	-0.1016 ppb	15:57:46
1	Tl 190.801†	-108.0	10.6	1.4336 µg/L	1.4336 ppb	15:58:06
1	U 409.014†	-95.3	189.8	11.916 µg/L	11.916 ppb	15:57:46
1	V 292.402†	409.5	93.8	0.5079 µg/L	0.5079 ppb	15:57:46
1	Zn 213.857†	545.2	12.8	0.0767 µg/L	0.0767 ppb	15:58:06
2	Sc RADIAL	151193.9	151193.9	102 %		15:56:58
2	Al 396.153Radial†	-43.5	20.3	4.1777 µg/L	4.1777 ppb	15:57:18
2	Ca 317.933Radial†	606.3	-105.1	-6.3262 µg/L	-6.3262 ppb	15:57:18
2	Fe 238.204 Radial†	149.4	5.4	0.3634 µg/L	0.3634 ppb	15:57:18
2	K 766.490 Radial†	1567.7	220.0	90.539 µg/L	90.539 ppb	15:56:58
2	Mg 279.077 IEC†	165.7	-6.8	-2.7730 µg/L	-2.7730 ppb	15:57:18
2	Na 589.592 Radial†	1434.7	196.2	29.707 µg/L	29.707 ppb	15:56:58
2	Sr 421.552†	-144.2	80.6	0.1860 µg/L	0.1860 ppb	15:56:58
2	Sc 361.383	1788543.9	1788543.9	101.91 %		15:58:08
2	Y 371.029	1084926.2	1084926.2	101.96 %		15:58:08
2	Ag 328.068†	3467.9	-44.1	-0.1775 µg/L	-0.1775 ppb	15:58:10
2	As 188.979†	-14.5	3.4	1.1993 µg/L	1.1993 ppb	15:58:31
2	B 249.677†	3282.6	-9.2	-0.1495 µg/L	-0.1495 ppb	15:58:31
2	Ba 233.527†	-160.2	5.0	0.0214 µg/L	0.0214 ppb	15:58:31
2	Be 313.107†	-876.6	-74.6	-0.0216 µg/L	-0.0216 ppb	15:58:10
2	Cd 226.502†	-88.5	23.2	0.1594 µg/L	0.1594 ppb	15:58:31
2	Co 228.616†	-168.8	6.8	0.0915 µg/L	0.0915 ppb	15:58:31
2	Cr 267.716†	172.5	-9.3	-0.0809 µg/L	-0.0809 ppb	15:58:31
2	Cu 324.752†	2798.2	-43.1	-0.1793 µg/L	-0.1793 ppb	15:58:10
2	Mn 257.610†	188.0	8.9	0.0120 µg/L	0.0120 ppb	15:58:31
2	Mo 202.031†	-30.5	4.8	0.1539 µg/L	0.1539 ppb	15:58:31
2	Ni 231.604†	-56.6	22.4	0.2813 µg/L	0.2813 ppb	15:58:31
2	P 214.914†	16.7	11.4	2.7279 µg/L	2.7279 ppb	15:58:31
2	Pb 220.353†	87.8	-10.8	-0.6657 µg/L	-0.6657 ppb	15:58:31

2	S 181.975 Axial†	84.4	-4.9	-3.9753 µg/L	-3.9753 ppb	15:58:31
2	Sb 206.836†	83.3	3.7	0.4863 µg/L	0.4863 ppb	15:58:31
2	Se 196.026†	10.9	-2.8	-1.14 µg/L	-1.14 ppb	15:58:31
2	SiO2†	1694.0	-90.8	-9.7342 µg/L	-9.7342 ppb	15:58:31
2	Si 251.611†	679.6	-281.8	-4.5682 µg/L	-4.5682 ppb	15:58:10
2	Sn 189.927†	8.5	10.8	0.7504 µg/L	0.7504 ppb	15:58:31
2	Ti 334.940†	780.2	-120.0	-0.1212 µg/L	-0.1212 ppb	15:58:10
2	Tl 190.801†	-120.1	-0.8	-0.1139 µg/L	-0.1139 ppb	15:58:31
2	U 409.014†	-244.9	43.5	2.6943 µg/L	2.6943 ppb	15:58:10
2	V 292.402†	222.5	-91.5	-0.4827 µg/L	-0.4827 ppb	15:58:10
2	Zn 213.857†	522.6	-11.7	-0.0744 µg/L	-0.0744 ppb	15:58:31
3	Sc RADIAL	154076.6	154076.6	104 %		15:57:20
3	Al 396.153Radial†	-54.3	10.8	2.1942 µg/L	2.1942 ppb	15:57:40
3	Ca 317.933Radial†	596.1	-126.0	-7.5815 µg/L	-7.5815 ppb	15:57:40
3	Fe 238.204 Radial†	155.3	8.3	0.5568 µg/L	0.5568 ppb	15:57:40
3	K 766.490 Radial†	1553.2	177.5	73.025 µg/L	73.025 ppb	15:57:20
3	Mg 279.077 IEC†	169.5	-6.1	-2.5093 µg/L	-2.5093 ppb	15:57:40
3	Na 589.592 Radial†	1594.2	322.9	48.967 µg/L	48.967 ppb	15:57:20
3	Sr 421.552†	-178.8	50.1	0.1157 µg/L	0.1157 ppb	15:57:20
3	Sc 361.383	1782784.5	1782784.5	101.58 %		15:58:33
3	Y 371.029	1079758.6	1079758.6	101.48 %		15:58:33
3	Ag 328.068†	3519.5	17.7	0.0810 µg/L	0.0810 ppb	15:58:35
3	As 188.979†	-20.0	-2.0	-0.7016 µg/L	-0.7016 ppb	15:58:55
3	B 249.677†	3260.4	-20.6	-0.3346 µg/L	-0.3346 ppb	15:58:55
3	Ba 233.527†	-168.8	-4.1	-0.0174 µg/L	-0.0174 ppb	15:58:55
3	Be 313.107†	-744.6	52.6	0.0175 µg/L	0.0175 ppb	15:58:35
3	Cd 226.502†	-119.6	-7.7	-0.0530 µg/L	-0.0530 ppb	15:58:55
3	Co 228.616†	-192.4	-17.0	-0.2302 µg/L	-0.2302 ppb	15:58:55
3	Cr 267.716†	193.8	12.2	0.0986 µg/L	0.0986 ppb	15:58:55
3	Cu 324.752†	2820.2	-12.5	-0.0483 µg/L	-0.0483 ppb	15:58:35
3	Mn 257.610†	192.7	14.1	0.0190 µg/L	0.0190 ppb	15:58:55
3	Mo 202.031†	-18.1	16.9	0.5389 µg/L	0.5389 ppb	15:58:55
3	Ni 231.604†	-65.1	13.9	0.1742 µg/L	0.1742 ppb	15:58:55
3	P 214.914†	28.6	23.1	5.5155 µg/L	5.5155 ppb	15:58:55
3	Pb 220.353†	86.4	-11.9	-0.7331 µg/L	-0.7331 ppb	15:58:55
3	S 181.975 Axial†	100.3	11.1	9.0775 µg/L	9.0775 ppb	15:58:55
3	Sb 206.836†	82.3	2.9	0.3909 µg/L	0.3909 ppb	15:58:55
3	Se 196.026†	27.7	13.7	5.49 µg/L	5.49 ppb	15:58:55
3	SiO2†	1706.2	-73.4	-7.8720 µg/L	-7.8720 ppb	15:58:55
3	Si 251.611†	625.5	-332.9	-5.3961 µg/L	-5.3961 ppb	15:58:35
3	Sn 189.927†	-0.2	2.4	0.1627 µg/L	0.1627 ppb	15:58:55
3	Ti 334.940†	859.2	-39.7	-0.0422 µg/L	-0.0422 ppb	15:58:35
3	Tl 190.801†	-110.1	8.7	1.1743 µg/L	1.1743 ppb	15:58:55
3	U 409.014†	-196.3	90.5	5.6852 µg/L	5.6852 ppb	15:58:35
3	V 292.402†	371.6	56.0	0.3070 µg/L	0.3070 ppb	15:58:35
3	Zn 213.857†	538.8	5.9	0.0355 µg/L	0.0355 ppb	15:58:55

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1783988.0	101.65 %	0.233			0.23%
Sc RADIAL	152236.5	103 %	1.1			1.05%
Y 371.029	1081212.8	101.61 %	0.305			0.30%
Ag 328.068†	-91.8	-0.3551 µg/L	0.54711	-0.3551 ppb	0.54711	154.05%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	7.9	1.6098 µg/L	2.90460	1.6098 ppb	2.90460	180.44%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-0.8	-0.2847 µg/L	1.32573	-0.2847 ppb	1.32573	465.63%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	-8.7	-0.1421 µg/L	0.19630	-0.1421 ppb	0.19630	138.15%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	3.5	0.0155 µg/L	0.03030	0.0155 ppb	0.03030	196.03%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	4.1	0.0033 µg/L	0.02159	0.0033 ppb	0.02159	661.63%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-109.2	-6.5688 µg/L	0.91577	-6.5688 ppb	0.91577	13.94%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	8.5	0.0585 µg/L	0.10659	0.0585 ppb	0.10659	182.23%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	-2.9	-0.0389 µg/L	0.16924	-0.0389 ppb	0.16924	435.19%

Cr	267.716†	0.3	-0.0031 µg/L	0.09209	-0.0031 ppb	0.09209	>999.9%
				QC value within limits for Co 228.616 Recovery = Not calculated			
Cu	324.752†	18.1	0.0817 µg/L	0.34488	0.0817 ppb	0.34488	421.99%
				QC value within limits for Cr 267.716 Recovery = Not calculated			
Fe	238.204 Radial†	12.7	0.8517 µg/L	0.68511	0.8517 ppb	0.68511	80.44%
				QC value within limits for Cu 324.752 Recovery = Not calculated			
K	766.490 Radial†	165.3	68.022 µg/L	25.3917	68.022 ppb	25.3917	37.33%
				QC value within limits for Fe 238.204 Radial Recovery = Not calculated			
Mg	279.077 IEC†	-10.4	-4.2595 µg/L	2.80607	-4.2595 ppb	2.80607	65.88%
				QC value within limits for K 766.490 Radial Recovery = Not calculated			
Mn	257.610†	9.0	0.0122 µg/L	0.00674	0.0122 ppb	0.00674	55.45%
				QC value within limits for Mg 279.077 IEC Recovery = Not calculated			
Mo	202.031†	9.3	0.2953 µg/L	0.21192	0.2953 ppb	0.21192	71.77%
				QC value within limits for Mn 257.610 Recovery = Not calculated			
Na	589.592 Radial†	297.7	45.141 µg/L	13.9213	45.141 ppb	13.9213	30.84%
				QC value within limits for Mo 202.031 Recovery = Not calculated			
Ni	231.604†	20.5	0.2578 µg/L	0.07467	0.2578 ppb	0.07467	28.96%
				QC value within limits for Na 589.592 Radial Recovery = Not calculated			
P	214.914†	7.7	1.8239 µg/L	4.21694	1.8239 ppb	4.21694	231.21%
				QC value within limits for Ni 231.604 Recovery = Not calculated			
Pb	220.353†	-15.6	-0.9591 µg/L	0.45107	-0.9591 ppb	0.45107	47.03%
				QC value within limits for P 214.914 Recovery = Not calculated			
S	181.975 Axial†	2.8	2.3112 µg/L	6.53963	2.3112 ppb	6.53963	282.96%
				QC value within limits for Pb 220.353 Recovery = Not calculated			
Sb	206.836†	5.2	0.6902 µg/L	0.43831	0.6902 ppb	0.43831	63.51%
				QC value within limits for S 181.975 Axial Recovery = Not calculated			
Se	196.026†	0.9	0.365 µg/L	4.5653	0.365 ppb	4.5653	>999.9%
				QC value within limits for Sb 206.836 Recovery = Not calculated			
SiO2†		-73.2	-7.8464 µg/L	1.90075	-7.8464 ppb	1.90075	24.22%
				QC value within limits for Se 196.026 Recovery = Not calculated			
Si	251.611†	-253.7	-4.1124 µg/L	1.56225	-4.1124 ppb	1.56225	37.99%
				QC value within limits for SiO2 Recovery = Not calculated			
Sn	189.927†	5.4	0.3736 µg/L	0.32709	0.3736 ppb	0.32709	87.56%
				QC value within limits for Si 251.611 Recovery = Not calculated			
Sr	421.552†	63.7	0.1470 µg/L	0.03582	0.1470 ppb	0.03582	24.37%
				QC value within limits for Sn 189.927 Recovery = Not calculated			
Ti	334.940†	-85.6	-0.0883 µg/L	0.04118	-0.0883 ppb	0.04118	46.62%
				QC value within limits for Sr 421.552 Recovery = Not calculated			
Tl	190.801†	6.2	0.8313 µg/L	0.82883	0.8313 ppb	0.82883	99.70%
				QC value within limits for Ti 334.940 Recovery = Not calculated			
U	409.014†	107.9	6.7652 µg/L	4.70490	6.7652 ppb	4.70490	69.55%
				QC value within limits for Tl 190.801 Recovery = Not calculated			
V	292.402†	19.4	0.1107 µg/L	0.52363	0.1107 ppb	0.52363	472.88%
				QC value within limits for U 409.014 Recovery = Not calculated			
Zn	213.857†	2.3	0.0126 µg/L	0.07813	0.0126 ppb	0.07813	619.86%
				QC value within limits for V 292.402 Recovery = Not calculated			

All analyte(s) passed QC.



Sequence No.: 9

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 3/30/2010 16:14:43

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	149150.0	149150.0	101 %		16:15:17
1	Al 396.153Radial†	25269.6	25108.8	5150.9 µg/L	5150.9 ppb	16:15:17
1	Ca 317.933Radial†	86235.0	84773.7	5100.6 µg/L	5100.6 ppb	16:15:17
1	Fe 238.204 Radial†	76185.8	75370.7	5071.6 µg/L	5071.6 ppb	16:15:17
1	K 766.490 Radial†	14043.6	12606.4	5184.2 µg/L	5184.2 ppb	16:15:17
1	Mg 279.077 IEC†	12863.8	12581.1	5168.9 µg/L	5168.9 ppb	16:15:17
1	Na 589.592 Radial†	68590.1	66776.4	10135 µg/L	10135 ppb	16:15:17
1	Sr 421.552†	226232.4	224451.5	517.74 µg/L	517.74 ppb	16:15:15
1	Sc 361.383	1743830.1	1743830.1	99.359 %		16:15:30
1	Y 371.029	1045853.2	1045853.2	98.290 %		16:15:30
1	Ag 328.068†	129026.3	126411.4	508.82 µg/L	508.82 ppb	16:15:30
1	As 188.979†	1380.4	1407.0	498.27 µg/L	498.27 ppb	16:15:50
1	B 249.677†	33705.9	30692.9	498.66 µg/L	498.66 ppb	16:15:30
1	Ba 233.527†	115037.9	115942.0	505.24 µg/L	505.24 ppb	16:15:30
1	Be 313.107†	1673671.2	1685251.5	505.91 µg/L	505.91 ppb	16:15:30
1	Cd 226.502†	72899.8	73480.1	504.22 µg/L	504.22 ppb	16:15:30
1	Co 228.616†	37152.7	37564.8	508.33 µg/L	508.33 ppb	16:15:30
1	Cr 267.716†	59737.2	59944.0	504.93 µg/L	504.93 ppb	16:15:30
1	Cu 324.752†	121910.0	119907.4	506.85 µg/L	506.85 ppb	16:15:30
1	Mn 257.610†	377168.2	379425.3	506.93 µg/L	506.93 ppb	16:15:30
1	Mo 202.031†	15653.7	15789.4	502.71 µg/L	502.71 ppb	16:15:50
1	Ni 231.604†	39991.2	40327.0	507.22 µg/L	507.22 ppb	16:15:30
1	P 214.914†	10343.3	10405.0	2473.1 µg/L	2473.1 ppb	16:15:50
1	Pb 220.353†	8250.5	8206.7	504.09 µg/L	504.09 ppb	16:15:50
1	S 181.975 Axial†	1280.3	1200.9	988.62 µg/L	988.62 ppb	16:15:50
1	Sb 206.836†	3859.6	3806.5	500.20 µg/L	500.20 ppb	16:15:50
1	Se 196.026†	1249.2	1243.7	500 µg/L	500 ppb	16:15:50
1	SiO2†	51956.5	50538.4	5385.4 µg/L	5385.4 ppb	16:15:30
1	Si 251.611†	156244.0	156303.0	2520.0 µg/L	2520.0 ppb	16:15:30
1	Sn 189.927†	7115.0	7163.4	497.64 µg/L	497.64 ppb	16:15:50
1	Ti 334.940†	504315.4	506682.5	506.96 µg/L	506.96 ppb	16:15:30
1	Tl 190.801†	3596.9	3737.2	509.85 µg/L	509.85 ppb	16:15:50
1	U 409.014†	7486.7	7818.7	520.48 µg/L	520.48 ppb	16:15:30
1	V 292.402†	94549.0	94848.9	510.27 µg/L	510.27 ppb	16:15:30
1	Zn 213.857†	81765.0	81767.8	503.15 µg/L	503.15 ppb	16:15:30
2	Sc RADIAL	149765.3	149765.3	101 %		16:15:21
2	Al 396.153Radial†	25441.5	25175.6	5164.4 µg/L	5164.4 ppb	16:15:21
2	Ca 317.933Radial†	86840.7	85020.4	5115.5 µg/L	5115.5 ppb	16:15:21
2	Fe 238.204 Radial†	76775.6	75642.7	5089.9 µg/L	5089.9 ppb	16:15:21
2	K 766.490 Radial†	14122.8	12627.5	5192.8 µg/L	5192.8 ppb	16:15:21
2	Mg 279.077 IEC†	13015.9	12678.9	5209.2 µg/L	5209.2 ppb	16:15:21
2	Na 589.592 Radial†	68934.4	66836.9	10144 µg/L	10144 ppb	16:15:21
2	Sr 421.552†	225922.3	223224.2	514.90 µg/L	514.90 ppb	16:15:19
2	Sc 361.383	1730132.7	1730132.7	98.579 %		16:15:53
2	Y 371.029	1036374.9	1036374.9	97.400 %		16:15:53
2	Ag 328.068†	128093.5	126493.2	509.15 µg/L	509.15 ppb	16:15:53
2	As 188.979†	1394.4	1432.2	507.08 µg/L	507.08 ppb	16:16:13
2	B 249.677†	33578.7	30832.5	500.93 µg/L	500.93 ppb	16:15:53
2	Ba 233.527†	114507.8	116320.9	506.89 µg/L	506.89 ppb	16:15:53
2	Be 313.107†	1660528.3	1685255.0	505.90 µg/L	505.90 ppb	16:15:53
2	Cd 226.502†	72288.3	73440.5	503.95 µg/L	503.95 ppb	16:15:53
2	Co 228.616†	36888.2	37592.4	508.70 µg/L	508.70 ppb	16:15:53
2	Cr 267.716†	59261.1	59936.9	504.88 µg/L	504.88 ppb	16:15:53
2	Cu 324.752†	120688.4	119639.5	505.72 µg/L	505.72 ppb	16:15:53
2	Mn 257.610†	374567.3	379792.1	507.42 µg/L	507.42 ppb	16:15:53
2	Mo 202.031†	15682.3	15943.1	507.60 µg/L	507.60 ppb	16:16:13
2	Ni 231.604†	39635.9	40285.2	506.70 µg/L	506.70 ppb	16:15:53
2	P 214.914†	10438.2	10583.7	2515.7 µg/L	2515.7 ppb	16:16:13
2	Pb 220.353†	8260.4	8282.6	508.75 µg/L	508.75 ppb	16:16:13

2	S 181.975 Axial†	1292.4	1223.3	1007.1 µg/L	1007.1 ppb	16:16:13
2	Sb 206.836†	3885.2	3863.2	507.73 µg/L	507.73 ppb	16:16:13
2	Se 196.026†	1263.8	1268.5	510 µg/L	510 ppb	16:16:13
2	SiO2†	51585.6	50576.2	5389.2 µg/L	5389.2 ppb	16:15:53
2	Si 251.611†	155023.4	156309.8	2520.0 µg/L	2520.0 ppb	16:15:53
2	Sn 189.927†	7177.9	7284.0	505.99 µg/L	505.99 ppb	16:16:13
2	Ti 334.940†	500412.6	506741.9	507.01 µg/L	507.01 ppb	16:15:53
2	Tl 190.801†	3606.0	3775.0	514.95 µg/L	514.95 ppb	16:16:13
2	U 409.014†	7358.1	7747.9	516.08 µg/L	516.08 ppb	16:15:53
2	V 292.402†	93924.9	94969.3	510.96 µg/L	510.96 ppb	16:15:53
2	Zn 213.857†	80946.3	81588.8	502.04 µg/L	502.04 ppb	16:15:53
3	Sc RADIAL	149946.8	149946.8	101 %		16:15:25
3	Al 396.153Radial†	25414.1	25118.2	5152.4 µg/L	5152.4 ppb	16:15:25
3	Ca 317.933Radial†	86403.6	84485.8	5083.3 µg/L	5083.3 ppb	16:15:25
3	Fe 238.204 Radial†	76499.4	75278.7	5065.4 µg/L	5065.4 ppb	16:15:25
3	K 766.490 Radial†	13924.5	12415.1	5105.4 µg/L	5105.4 ppb	16:15:25
3	Mg 279.077 IEC†	12917.9	12566.7	5163.3 µg/L	5163.3 ppb	16:15:25
3	Na 589.592 Radial†	68643.3	66467.5	10088 µg/L	10088 ppb	16:15:25
3	Sr 421.552†	226189.9	223218.1	514.89 µg/L	514.89 ppb	16:15:23
3	Sc 361.383	1725431.7	1725431.7	98.311 %		16:16:16
3	Y 371.029	1034770.8	1034770.8	97.249 %		16:16:16
3	Ag 328.068†	128336.4	127094.3	511.56 µg/L	511.56 ppb	16:16:16
3	As 188.979†	1389.6	1431.2	506.75 µg/L	506.75 ppb	16:16:36
3	B 249.677†	33509.2	30854.7	501.29 µg/L	501.29 ppb	16:16:16
3	Ba 233.527†	114602.5	116733.7	508.69 µg/L	508.69 ppb	16:16:16
3	Be 313.107†	1661309.7	1690639.2	507.52 µg/L	507.52 ppb	16:16:16
3	Cd 226.502†	72576.2	73933.2	507.33 µg/L	507.33 ppb	16:16:16
3	Co 228.616†	37001.5	37809.7	511.64 µg/L	511.64 ppb	16:16:16
3	Cr 267.716†	59258.1	60097.7	506.23 µg/L	506.23 ppb	16:16:16
3	Cu 324.752†	120857.8	120145.4	507.86 µg/L	507.86 ppb	16:16:16
3	Mn 257.610†	375185.0	381455.7	509.64 µg/L	509.64 ppb	16:16:16
3	Mo 202.031†	15775.7	16081.5	512.00 µg/L	512.00 ppb	16:16:36
3	Ni 231.604†	39815.9	40577.9	510.38 µg/L	510.38 ppb	16:16:16
3	P 214.914†	10530.8	10706.7	2545.1 µg/L	2545.1 ppb	16:16:36
3	Pb 220.353†	8329.8	8376.0	514.48 µg/L	514.48 ppb	16:16:36
3	S 181.975 Axial†	1303.5	1238.2	1019.3 µg/L	1019.3 ppb	16:16:36
3	Sb 206.836†	3907.5	3896.6	512.17 µg/L	512.17 ppb	16:16:36
3	Se 196.026†	1269.8	1278.0	514 µg/L	514 ppb	16:16:36
3	SiO2†	51617.4	50751.2	5407.7 µg/L	5407.7 ppb	16:16:16
3	Si 251.611†	155063.4	156779.0	2527.5 µg/L	2527.5 ppb	16:16:16
3	Sn 189.927†	7252.3	7379.4	512.60 µg/L	512.60 ppb	16:16:36
3	Ti 334.940†	500784.6	508503.3	508.78 µg/L	508.78 ppb	16:16:16
3	Tl 190.801†	3630.7	3810.1	519.68 µg/L	519.68 ppb	16:16:36
3	U 409.014†	7461.6	7873.5	524.02 µg/L	524.02 ppb	16:16:16
3	V 292.402†	93864.9	95167.9	512.07 µg/L	512.07 ppb	16:16:16
3	Zn 213.857†	81102.7	81971.6	504.39 µg/L	504.39 ppb	16:16:16

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1733131.5	98.750 %	0.5446			0.55%
Sc RADIAL	149620.7	101 %	0.3			0.28%
Y 371.029	1038999.7	97.646 %	0.5629			0.58%
Ag 328.068†	126666.3	509.84 µg/L	1.496	509.84 ppb	1.496	0.29%
QC value within limits for Ag 328.068 Recovery = 101.97%						
Al 396.153Radial†	25134.2	5155.9 µg/L	7.42	5155.9 ppb	7.42	0.14%
QC value within limits for Al 396.153Radial Recovery = 103.12%						
As 188.979†	1423.5	504.03 µg/L	4.990	504.03 ppb	4.990	0.99%
QC value within limits for As 188.979 Recovery = 100.81%						
B 249.677†	30793.4	500.29 µg/L	1.425	500.29 ppb	1.425	0.28%
QC value within limits for B 249.677 Recovery = 100.06%						
Ba 233.527†	116332.2	506.94 µg/L	1.726	506.94 ppb	1.726	0.34%
QC value within limits for Ba 233.527 Recovery = 101.39%						
Be 313.107†	1687048.6	506.44 µg/L	0.934	506.44 ppb	0.934	0.18%
QC value within limits for Be 313.107 Recovery = 101.29%						
Ca 317.933Radial†	84760.0	5099.8 µg/L	16.10	5099.8 ppb	16.10	0.32%
QC value within limits for Ca 317.933Radial Recovery = 102.00%						
Cd 226.502†	73617.9	505.17 µg/L	1.882	505.17 ppb	1.882	0.37%
QC value within limits for Cd 226.502 Recovery = 101.03%						
Co 228.616†	37655.6	509.56 µg/L	1.816	509.56 ppb	1.816	0.36%

QC value within limits for Co 228.616 Recovery = 101.91%							
Cr 267.716†	59992.9	505.35 µg/L	0.763	505.35 ppb	0.763	0.15%	
QC value within limits for Cr 267.716 Recovery = 101.07%							
Cu 324.752†	119897.4	506.81 µg/L	1.068	506.81 ppb	1.068	0.21%	
QC value within limits for Cu 324.752 Recovery = 101.36%							
Fe 238.204 Radial†	75430.7	5075.6 µg/L	12.74	5075.6 ppb	12.74	0.25%	
QC value within limits for Fe 238.204 Radial Recovery = 101.51%							
K 766.490 Radial†	12549.7	5160.8 µg/L	48.15	5160.8 ppb	48.15	0.93%	
QC value within limits for K 766.490 Radial Recovery = 103.22%							
Mg 279.077 IEC†	12608.9	5180.5 µg/L	25.01	5180.5 ppb	25.01	0.48%	
QC value within limits for Mg 279.077 IEC Recovery = 103.61%							
Mn 257.610†	380224.4	508.00 µg/L	1.447	508.00 ppb	1.447	0.28%	
QC value within limits for Mn 257.610 Recovery = 101.60%							
Mo 202.031†	15938.0	507.44 µg/L	4.647	507.44 ppb	4.647	0.92%	
QC value within limits for Mo 202.031 Recovery = 101.49%							
Na 589.592 Radial†	66693.6	10123 µg/L	30.0	10123 ppb	30.0	0.30%	
QC value within limits for Na 589.592 Radial Recovery = 101.23%							
Ni 231.604†	40396.7	508.10 µg/L	1.991	508.10 ppb	1.991	0.39%	
QC value within limits for Ni 231.604 Recovery = 101.62%							
P 214.914†	10565.1	2511.3 µg/L	36.21	2511.3 ppb	36.21	1.44%	
QC value within limits for P 214.914 Recovery = 100.45%							
Pb 220.353†	8288.4	509.11 µg/L	5.203	509.11 ppb	5.203	1.02%	
QC value within limits for Pb 220.353 Recovery = 101.82%							
S 181.975 Axial†	1220.8	1005.0 µg/L	15.45	1005.0 ppb	15.45	1.54%	
QC value within limits for S 181.975 Axial Recovery = 100.50%							
Sb 206.836†	3855.4	506.70 µg/L	6.046	506.70 ppb	6.046	1.19%	
QC value within limits for Sb 206.836 Recovery = 101.34%							
Se 196.026†	1263.4	508 µg/L	7.1	508 ppb	7.1	1.40%	
QC value within limits for Se 196.026 Recovery = 101.59%							
SiO2†	50621.9	5394.1 µg/L	11.92	5394.1 ppb	11.92	0.22%	
QC value within limits for SiO2 Recovery = 100.87%							
Si 251.611†	156464.0	2522.5 µg/L	4.32	2522.5 ppb	4.32	0.17%	
QC value within limits for Si 251.611 Recovery = 100.90%							
Sn 189.927†	7275.6	505.41 µg/L	7.497	505.41 ppb	7.497	1.48%	
QC value within limits for Sn 189.927 Recovery = 101.08%							
Sr 421.552†	223631.3	515.84 µg/L	1.639	515.84 ppb	1.639	0.32%	
QC value within limits for Sr 421.552 Recovery = 103.17%							
Ti 334.940†	507309.2	507.58 µg/L	1.036	507.58 ppb	1.036	0.20%	
QC value within limits for Ti 334.940 Recovery = 101.52%							
Tl 190.801†	3774.1	514.82 µg/L	4.916	514.82 ppb	4.916	0.95%	
QC value within limits for Tl 190.801 Recovery = 102.96%							
U 409.014†	7813.4	520.19 µg/L	3.979	520.19 ppb	3.979	0.76%	
QC value within limits for U 409.014 Recovery = 104.04%							
V 292.402†	94995.4	511.10 µg/L	0.907	511.10 ppb	0.907	0.18%	
QC value within limits for V 292.402 Recovery = 102.22%							
Zn 213.857†	81776.1	503.20 µg/L	1.177	503.20 ppb	1.177	0.23%	
QC value within limits for Zn 213.857 Recovery = 100.64%							

All analyte(s) passed QC.

Sequence No.: 10

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 3/30/2010 16:16:44

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	152510.8	152510.8	103 %		16:17:13
1	Al 396.153Radial†	-68.3	-3.3	-0.6778 µg/L	-0.6778 ppb	16:17:33
1	Ca 317.933Radial†	643.7	-74.0	-4.4537 µg/L	-4.4537 ppb	16:17:33
1	Fe 238.204 Radial†	170.7	24.8	1.6683 µg/L	1.6683 ppb	16:17:33
1	K 766.490 Radial†	1615.7	253.3	104.22 µg/L	104.22 ppb	16:17:13
1	Mg 279.077 IEC†	181.7	7.3	3.0013 µg/L	3.0013 ppb	16:17:33
1	Na 589.592 Radial†	1660.0	402.4	61.015 µg/L	61.015 ppb	16:17:13
1	Sr 421.552†	-303.7	-72.7	-0.1677 µg/L	-0.1677 ppb	16:17:13
1	Sc 361.383	1759072.3	1759072.3	100.23 %		16:18:35
1	Y 371.029	1067700.7	1067700.7	100.34 %		16:18:35
1	Ag 328.068†	3299.8	-154.8	-0.6092 µg/L	-0.6092 ppb	16:18:37
1	As 188.979†	-9.7	8.0	2.7973 µg/L	2.7973 ppb	16:18:57
1	B 249.677†	3239.6	1.9	0.0316 µg/L	0.0316 ppb	16:18:57
1	Ba 233.527†	-126.7	35.8	0.1559 µg/L	0.1559 ppb	16:18:57
1	Be 313.107†	-608.6	178.4	0.0540 µg/L	0.0540 ppb	16:18:37
1	Cd 226.502†	-84.9	25.3	0.1738 µg/L	0.1738 ppb	16:18:57
1	Co 228.616†	-181.9	-9.1	-0.1227 µg/L	-0.1227 ppb	16:18:57
1	Cr 267.716†	197.4	18.4	0.1538 µg/L	0.1538 ppb	16:18:57
1	Cu 324.752†	2726.7	-68.4	-0.2868 µg/L	-0.2868 ppb	16:18:37
1	Mn 257.610†	182.0	6.0	0.0078 µg/L	0.0078 ppb	16:18:57
1	Mo 202.031†	-34.1	0.7	0.0222 µg/L	0.0222 ppb	16:18:57
1	Ni 231.604†	-52.6	25.4	0.3196 µg/L	0.3196 ppb	16:18:57
1	P 214.914†	19.6	14.5	3.4755 µg/L	3.4755 ppb	16:18:57
1	Pb 220.353†	72.0	-25.1	-1.5369 µg/L	-1.5369 ppb	16:18:57
1	S 181.975 Axial†	79.9	-7.9	-6.5165 µg/L	-6.5165 ppb	16:18:57
1	Sb 206.836†	94.4	16.1	2.1104 µg/L	2.1104 ppb	16:18:57
1	Se 196.026†	15.5	1.9	0.753 µg/L	0.753 ppb	16:18:57
1	SiO2†	1694.7	-62.3	-6.6745 µg/L	-6.6745 ppb	16:18:57
1	Si 251.611†	776.4	-174.1	-2.8231 µg/L	-2.8231 ppb	16:18:57
1	Sn 189.927†	9.6	12.1	0.8404 µg/L	0.8404 ppb	16:18:57
1	Ti 334.940†	742.0	-145.3	-0.1466 µg/L	-0.1466 ppb	16:18:37
1	Tl 190.801†	-106.0	11.3	1.5216 µg/L	1.5216 ppb	16:18:57
1	U 409.014†	-258.8	25.5	1.6179 µg/L	1.6179 ppb	16:18:37
1	V 292.402†	373.2	62.5	0.3338 µg/L	0.3338 ppb	16:18:37
1	Zn 213.857†	535.1	9.3	0.0558 µg/L	0.0558 ppb	16:18:57
2	Sc RADIAL	151582.4	151582.4	103 %		16:17:35
2	Al 396.153Radial†	-55.1	9.1	1.8727 µg/L	1.8727 ppb	16:17:55
2	Ca 317.933Radial†	630.1	-83.4	-5.0209 µg/L	-5.0209 ppb	16:17:55
2	Fe 238.204 Radial†	171.5	26.6	1.7868 µg/L	1.7868 ppb	16:17:55
2	K 766.490 Radial†	1635.4	282.1	116.08 µg/L	116.08 ppb	16:17:35
2	Mg 279.077 IEC†	165.2	-7.7	-3.1386 µg/L	-3.1386 ppb	16:17:55
2	Na 589.592 Radial†	1719.4	470.2	71.292 µg/L	71.292 ppb	16:17:35
2	Sr 421.552†	-209.5	17.3	0.0401 µg/L	0.0401 ppb	16:17:35
2	Sc 361.383	1753832.5	1753832.5	99.929 %		16:18:59
2	Y 371.029	1063469.2	1063469.2	99.946 %		16:18:59
2	Ag 328.068†	3412.7	-31.9	-0.1532 µg/L	-0.1532 ppb	16:19:02
2	As 188.979†	-15.2	2.5	0.8643 µg/L	0.8643 ppb	16:19:22
2	B 249.677†	3187.6	-40.5	-0.6608 µg/L	-0.6608 ppb	16:19:22
2	Ba 233.527†	-166.9	-4.9	-0.0217 µg/L	-0.0217 ppb	16:19:22
2	Be 313.107†	-546.6	238.6	0.0668 µg/L	0.0668 ppb	16:19:02
2	Cd 226.502†	-96.9	13.0	0.0892 µg/L	0.0892 ppb	16:19:22
2	Co 228.616†	-157.9	14.5	0.1955 µg/L	0.1955 ppb	16:19:22
2	Cr 267.716†	176.0	-2.5	-0.0085 µg/L	-0.0085 ppb	16:19:22
2	Cu 324.752†	2780.5	-6.4	-0.0400 µg/L	-0.0400 ppb	16:19:02
2	Mn 257.610†	169.9	-5.6	-0.0073 µg/L	-0.0073 ppb	16:19:22
2	Mo 202.031†	-32.0	2.8	0.0877 µg/L	0.0877 ppb	16:19:22
2	Ni 231.604†	-73.4	4.5	0.0561 µg/L	0.0561 ppb	16:19:22
2	P 214.914†	-19.7	-24.7	-5.8854 µg/L	-5.8854 ppb	16:19:22
2	Pb 220.353†	88.9	-8.0	-0.4789 µg/L	-0.4789 ppb	16:19:22

2	S 181.975 Axial†	82.2	-5.4	-4.4658 µg/L	-4.4658 ppb	16:19:22
2	Sb 206.836†	74.7	-3.3	-0.4337 µg/L	-0.4337 ppb	16:19:22
2	Se 196.026†	28.8	15.3	6.10 µg/L	6.10 ppb	16:19:22
2	SiO2†	1697.3	-54.7	-5.8600 µg/L	-5.8600 ppb	16:19:22
2	Si 251.611†	778.3	-169.8	-2.7541 µg/L	-2.7541 ppb	16:19:22
2	Sn 189.927†	8.2	10.7	0.7420 µg/L	0.7420 ppb	16:19:22
2	Ti 334.940†	832.1	-52.8	-0.0463 µg/L	-0.0463 ppb	16:19:02
2	Tl 190.801†	-117.4	-0.4	-0.0659 µg/L	-0.0659 ppb	16:19:22
2	U 409.014†	-537.9	-254.5	-15.974 µg/L	-15.974 ppb	16:19:02
2	V 292.402†	201.3	-108.4	-0.5855 µg/L	-0.5855 ppb	16:19:02
2	Zn 213.857†	517.9	-6.3	-0.0395 µg/L	-0.0395 ppb	16:19:22
3	Sc RADIAL	150090.6	150090.6	102 %		16:17:57
3	Al 396.153Radial†	-27.8	35.5	7.2924 µg/L	7.2924 ppb	16:18:17
3	Ca 317.933Radial†	602.3	-104.7	-6.3004 µg/L	-6.3004 ppb	16:18:17
3	Fe 238.204 Radial†	165.7	22.5	1.5162 µg/L	1.5162 ppb	16:18:17
3	K 766.490 Radial†	1500.0	164.6	67.743 µg/L	67.743 ppb	16:17:57
3	Mg 279.077 IEC†	180.4	8.9	3.6518 µg/L	3.6518 ppb	16:18:17
3	Na 589.592 Radial†	1423.7	195.7	29.652 µg/L	29.652 ppb	16:17:57
3	Sr 421.552†	-280.9	-55.0	-0.1268 µg/L	-0.1268 ppb	16:17:57
3	Sc 361.383	1757181.1	1757181.1	100.12 %		16:19:24
3	Y 371.029	1066334.2	1066334.2	100.22 %		16:19:24
3	Ag 328.068†	3335.3	-115.8	-0.4663 µg/L	-0.4663 ppb	16:19:26
3	As 188.979†	-22.6	-4.9	-1.6980 µg/L	-1.6980 ppb	16:19:46
3	B 249.677†	3210.1	-24.1	-0.3941 µg/L	-0.3941 ppb	16:19:46
3	Ba 233.527†	-133.3	29.1	0.1267 µg/L	0.1267 ppb	16:19:46
3	Be 313.107†	-716.2	70.2	0.0188 µg/L	0.0188 ppb	16:19:26
3	Cd 226.502†	-95.4	14.7	0.1010 µg/L	0.1010 ppb	16:19:46
3	Co 228.616†	-145.4	27.2	0.3675 µg/L	0.3675 ppb	16:19:46
3	Cr 267.716†	174.6	-4.2	-0.0294 µg/L	-0.0294 ppb	16:19:46
3	Cu 324.752†	2840.0	47.7	0.1953 µg/L	0.1953 ppb	16:19:26
3	Mn 257.610†	201.4	25.5	0.0340 µg/L	0.0340 ppb	16:19:46
3	Mo 202.031†	-24.7	10.1	0.3221 µg/L	0.3221 ppb	16:19:46
3	Ni 231.604†	-54.3	23.6	0.2973 µg/L	0.2973 ppb	16:19:46
3	P 214.914†	-12.8	-17.8	-4.2554 µg/L	-4.2554 ppb	16:19:46
3	Pb 220.353†	63.7	-33.3	-2.0332 µg/L	-2.0332 ppb	16:19:46
3	S 181.975 Axial†	86.2	-1.6	-1.2766 µg/L	-1.2766 ppb	16:19:46
3	Sb 206.836†	86.5	8.3	1.0959 µg/L	1.0959 ppb	16:19:46
3	Se 196.026†	16.3	2.7	1.07 µg/L	1.07 ppb	16:19:46
3	SiO2†	1672.5	-82.6	-8.8396 µg/L	-8.8396 ppb	16:19:46
3	Si 251.611†	786.6	-163.0	-2.6400 µg/L	-2.6400 ppb	16:19:46
3	Sn 189.927†	-9.1	-6.5	-0.4517 µg/L	-0.4517 ppb	16:19:46
3	Ti 334.940†	893.3	6.7	0.0093 µg/L	0.0093 ppb	16:19:26
3	Tl 190.801†	-122.2	-5.0	-0.6666 µg/L	-0.6666 ppb	16:19:46
3	U 409.014†	-403.6	-119.4	-7.4646 µg/L	-7.4646 ppb	16:19:26
3	V 292.402†	355.2	44.9	0.2363 µg/L	0.2363 ppb	16:19:26
3	Zn 213.857†	535.3	10.1	0.0605 µg/L	0.0605 ppb	16:19:46

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1756695.3	100.09 %	0.151			0.15%
Sc RADIAL	151394.6	102 %	0.8			0.81%
Y 371.029	1065834.7	100.17 %	0.203			0.20%
Ag 328.068†	-100.8	-0.4096 µg/L	0.23321	-0.4096 ppb	0.23321	56.94%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	13.8	2.8291 µg/L	4.07026	2.8291 ppb	4.07026	143.87%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	1.9	0.6545 µg/L	2.25498	0.6545 ppb	2.25498	344.51%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	-20.9	-0.3411 µg/L	0.34923	-0.3411 ppb	0.34923	102.38%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	20.0	0.0870 µg/L	0.09526	0.0870 ppb	0.09526	109.53%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	162.4	0.0465 µg/L	0.02485	0.0465 ppb	0.02485	53.38%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-87.4	-5.2583 µg/L	0.94599	-5.2583 ppb	0.94599	17.99%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	17.7	0.1213 µg/L	0.04585	0.1213 ppb	0.04585	37.79%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	10.9	0.1468 µg/L	0.24872	0.1468 ppb	0.24872	169.48%

QC value within limits for Co 228.616	Recovery = Not calculated		
Cr 267.716†	3.9 0.0386 µg/L	0.10032	0.0386 ppb 0.10032 259.61%
QC value within limits for Cr 267.716	Recovery = Not calculated		
Cu 324.752†	-9.1 -0.0438 µg/L	0.24105	-0.0438 ppb 0.24105 550.17%
QC value within limits for Cu 324.752	Recovery = Not calculated		
Fe 238.204 Radial†	24.6 1.6571 µg/L	0.13567	1.6571 ppb 0.13567 8.19%
QC value within limits for Fe 238.204 Radial	Recovery = Not calculated		
K 766.490 Radial†	233.3 96.014 µg/L	25.1904	96.014 ppb 25.1904 26.24%
QC value within limits for K 766.490 Radial	Recovery = Not calculated		
Mg 279.077 IEC†	2.9 1.1715 µg/L	3.74683	1.1715 ppb 3.74683 319.83%
QC value within limits for Mg 279.077 IEC	Recovery = Not calculated		
Mn 257.610†	8.6 0.0115 µg/L	0.02091	0.0115 ppb 0.02091 181.76%
QC value within limits for Mn 257.610	Recovery = Not calculated		
Mo 202.031†	4.5 0.1440 µg/L	0.15766	0.1440 ppb 0.15766 109.48%
QC value within limits for Mo 202.031	Recovery = Not calculated		
Na 589.592 Radial†	356.1 53.987 µg/L	21.6918	53.987 ppb 21.6918 40.18%
QC value within limits for Na 589.592 Radial	Recovery = Not calculated		
Ni 231.604†	17.8 0.2244 µg/L	0.14611	0.2244 ppb 0.14611 65.12%
QC value within limits for Ni 231.604	Recovery = Not calculated		
P 214.914†	-9.3 -2.2218 µg/L	5.00083	-2.2218 ppb 5.00083 225.08%
QC value within limits for P 214.914	Recovery = Not calculated		
Pb 220.353†	-22.1 -1.3497 µg/L	0.79388	-1.3497 ppb 0.79388 58.82%
QC value within limits for Pb 220.353	Recovery = Not calculated		
S 181.975 Axial†	-5.0 -4.0863 µg/L	2.64049	-4.0863 ppb 2.64049 64.62%
QC value within limits for S 181.975 Axial	Recovery = Not calculated		
Sb 206.836†	7.0 0.9242 µg/L	1.28071	0.9242 ppb 1.28071 138.58%
QC value within limits for Sb 206.836	Recovery = Not calculated		
Se 196.026†	6.6 2.64 µg/L	3.002	2.64 ppb 3.002 113.67%
QC value within limits for Se 196.026	Recovery = Not calculated		
SiO2†	-66.5 -7.1247 µg/L	1.53996	-7.1247 ppb 1.53996 21.61%
QC value within limits for SiO2	Recovery = Not calculated		
Si 251.611†	-168.9 -2.7391 µg/L	0.09245	-2.7391 ppb 0.09245 3.38%
QC value within limits for Si 251.611	Recovery = Not calculated		
Sn 189.927†	5.4 0.3769 µg/L	0.71929	0.3769 ppb 0.71929 190.85%
QC value within limits for Sn 189.927	Recovery = Not calculated		
Sr 421.552†	-36.8 -0.0848 µg/L	0.11006	-0.0848 ppb 0.11006 129.76%
QC value within limits for Sr 421.552	Recovery = Not calculated		
Ti 334.940†	-63.8 -0.0612 µg/L	0.07902	-0.0612 ppb 0.07902 129.09%
QC value within limits for Ti 334.940	Recovery = Not calculated		
Tl 190.801†	2.0 0.2630 µg/L	1.13061	0.2630 ppb 1.13061 429.84%
QC value within limits for Tl 190.801	Recovery = Not calculated		
U 409.014†	-116.1 -7.2736 µg/L	8.79754	-7.2736 ppb 8.79754 120.95%
QC value within limits for U 409.014	Recovery = Not calculated		
V 292.402†	-0.3 -0.0051 µg/L	0.50496	-0.0051 ppb 0.50496 >999.9%
QC value within limits for V 292.402	Recovery = Not calculated		
Zn 213.857†	4.4 0.0256 µg/L	0.05641	0.0256 ppb 0.05641 220.56%
QC value within limits for Zn 213.857	Recovery = Not calculated		

All analyte(s) passed QC.

Sequence No.: 18  
 Sample ID: CCV  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 7  
 Date Collected: 3/30/2010 16:33:11  
 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	151139.0	151139.0	102 %		16:33:44
1	Al 396.153Radial†	25196.3	24707.6	5068.1 µg/L	5068.1 ppb	16:33:44
1	Ca 317.933Radial†	86402.3	83812.5	5042.8 µg/L	5042.8 ppb	16:33:44
1	Fe 238.204 Radial†	76395.7	74582.4	5018.6 µg/L	5018.6 ppb	16:33:44
1	K 766.490 Radial†	14135.0	12512.7	5145.6 µg/L	5145.6 ppb	16:33:44
1	Mg 279.077 IEC†	12839.4	12389.5	5090.4 µg/L	5090.4 ppb	16:33:44
1	Na 589.592 Radial†	68823.9	66110.4	10034 µg/L	10034 ppb	16:33:44
1	Sr 421.552†	226964.0	222216.3	512.58 µg/L	512.58 ppb	16:33:42
1	Sc 361.383	1738736.4	1738736.4	99.069 %		16:34:12
1	Y 371.029	1041662.6	1041662.6	97.897 %		16:34:12
1	Ag 328.068†	127423.7	125174.2	503.84 µg/L	503.84 ppb	16:34:12
1	As 188.979†	1389.7	1420.5	502.92 µg/L	502.92 ppb	16:34:32
1	B 249.677†	33453.0	30537.1	496.13 µg/L	496.13 ppb	16:34:12
1	Ba 233.527†	113987.1	115220.6	502.10 µg/L	502.10 ppb	16:34:12
1	Be 313.107†	1653159.2	1669481.5	501.17 µg/L	501.17 ppb	16:34:12
1	Cd 226.502†	72224.6	73013.4	501.02 µg/L	501.02 ppb	16:34:12
1	Co 228.616†	36766.5	37284.5	504.53 µg/L	504.53 ppb	16:34:12
1	Cr 267.716†	59072.0	59448.6	500.77 µg/L	500.77 ppb	16:34:12
1	Cu 324.752†	120311.3	118653.0	501.54 µg/L	501.54 ppb	16:34:12
1	Mn 257.610†	373179.3	376510.9	503.04 µg/L	503.04 ppb	16:34:12
1	Mo 202.031†	15677.5	15859.6	504.94 µg/L	504.94 ppb	16:34:32
1	Ni 231.604†	39543.7	39993.2	503.02 µg/L	503.02 ppb	16:34:12
1	P 214.914†	10442.2	10535.4	2504.3 µg/L	2504.3 ppb	16:34:32
1	Pb 220.353†	8280.1	8260.9	507.41 µg/L	507.41 ppb	16:34:32
1	S 181.975 Axial†	1296.7	1221.2	1005.3 µg/L	1005.3 ppb	16:34:32
1	Sb 206.836†	3864.6	3822.8	502.45 µg/L	502.45 ppb	16:34:32
1	Se 196.026†	1254.0	1252.2	503 µg/L	503 ppb	16:34:32
1	SiO2†	51275.4	50004.2	5328.1 µg/L	5328.1 ppb	16:34:12
1	Si 251.611†	154864.0	155370.8	2504.8 µg/L	2504.8 ppb	16:34:12
1	Sn 189.927†	7172.7	7242.6	503.11 µg/L	503.11 ppb	16:34:32
1	Ti 334.940†	498220.5	502017.3	502.29 µg/L	502.29 ppb	16:34:12
1	Tl 190.801†	3613.1	3764.1	513.40 µg/L	513.40 ppb	16:34:32
1	U 409.014†	7323.5	7676.1	511.26 µg/L	511.26 ppb	16:34:12
1	V 292.402†	93382.5	93950.3	505.51 µg/L	505.51 ppb	16:34:12
1	Zn 213.857†	80909.7	81145.6	499.32 µg/L	499.32 ppb	16:34:12
2	Sc RADIAL	148387.4	148387.4	100 %		16:33:48
2	Al 396.153Radial†	25003.7	24972.6	5122.4 µg/L	5122.4 ppb	16:33:48
2	Ca 317.933Radial†	85779.0	84758.7	5099.7 µg/L	5099.7 ppb	16:33:48
2	Fe 238.204 Radial†	75791.8	75366.3	5071.3 µg/L	5071.3 ppb	16:33:48
2	K 766.490 Radial†	14052.4	12686.8	5217.2 µg/L	5217.2 ppb	16:33:48
2	Mg 279.077 IEC†	12862.3	12645.2	5195.4 µg/L	5195.4 ppb	16:33:48
2	Na 589.592 Radial†	68425.7	66962.0	10163 µg/L	10163 ppb	16:33:48
2	Sr 421.552†	225755.6	225128.9	519.30 µg/L	519.30 ppb	16:33:46
2	Sc 361.383	1732689.3	1732689.3	98.724 %		16:34:35
2	Y 371.029	1037776.0	1037776.0	97.531 %		16:34:35
2	Ag 328.068†	127823.1	126027.7	507.26 µg/L	507.26 ppb	16:34:35
2	As 188.979†	1426.9	1463.0	517.81 µg/L	517.81 ppb	16:34:55
2	B 249.677†	33275.5	30475.1	495.12 µg/L	495.12 ppb	16:34:35
2	Ba 233.527†	113937.6	115572.0	503.63 µg/L	503.63 ppb	16:34:35
2	Be 313.107†	1651670.0	1673796.8	502.47 µg/L	502.47 ppb	16:34:35
2	Cd 226.502†	71981.5	73021.6	501.07 µg/L	501.07 ppb	16:34:35
2	Co 228.616†	36746.8	37394.0	506.02 µg/L	506.02 ppb	16:34:35
2	Cr 267.716†	59002.6	59586.4	501.92 µg/L	501.92 ppb	16:34:35
2	Cu 324.752†	120225.8	118990.3	502.99 µg/L	502.99 ppb	16:34:35
2	Mn 257.610†	372559.0	377197.3	503.95 µg/L	503.95 ppb	16:34:35
2	Mo 202.031†	15857.3	16096.9	512.49 µg/L	512.49 ppb	16:34:55
2	Ni 231.604†	39495.0	40083.2	504.16 µg/L	504.16 ppb	16:34:35
2	P 214.914†	10624.2	10756.4	2557.0 µg/L	2557.0 ppb	16:34:55
2	Pb 220.353†	8415.5	8427.3	517.61 µg/L	517.61 ppb	16:34:55

2	S 181.975 Axial†	1322.3	1251.7	1030.4 µg/L	1030.4 ppb	16:34:55
2	Sb 206.836†	3941.4	3914.2	514.54 µg/L	514.54 ppb	16:34:55
2	Se 196.026†	1272.2	1275.1	513 µg/L	513 ppb	16:34:55
2	SiO2†	51298.9	50208.6	5349.6 µg/L	5349.6 ppb	16:34:35
2	Si 251.611†	154113.0	155155.6	2501.2 µg/L	2501.2 ppb	16:34:35
2	Sn 189.927†	7288.6	7385.3	512.99 µg/L	512.99 ppb	16:34:55
2	Ti 334.940†	497492.0	503034.5	503.30 µg/L	503.30 ppb	16:34:35
2	Tl 190.801†	3651.1	3815.4	520.30 µg/L	520.30 ppb	16:34:55
2	U 409.014†	7472.3	7852.6	522.37 µg/L	522.37 ppb	16:34:35
2	V 292.402†	93254.4	94149.5	506.65 µg/L	506.65 ppb	16:34:35
2	Zn 213.857†	80620.4	81137.6	499.26 µg/L	499.26 ppb	16:34:35
3	Sc RADIAL	149756.5	149756.5	101 %		16:33:53
3	Al 396.153Radial†	25384.2	25120.5	5153.1 µg/L	5153.1 ppb	16:33:53
3	Ca 317.933Radial†	86609.2	84797.0	5102.0 µg/L	5102.0 ppb	16:33:53
3	Fe 238.204 Radial†	76492.1	75367.4	5071.4 µg/L	5071.4 ppb	16:33:53
3	K 766.490 Radial†	13940.1	12448.0	5118.9 µg/L	5118.9 ppb	16:33:53
3	Mg 279.077 IEC†	12945.8	12610.5	5181.1 µg/L	5181.1 ppb	16:33:53
3	Na 589.592 Radial†	68594.3	66505.2	10094 µg/L	10094 ppb	16:33:53
3	Sr 421.552†	224007.7	221347.5	510.58 µg/L	510.58 ppb	16:33:51
3	Sc 361.383	1751130.8	1751130.8	99.775 %		16:34:58
3	Y 371.029	1048597.3	1048597.3	98.548 %		16:34:58
3	Ag 328.068†	129529.0	126373.9	508.64 µg/L	508.64 ppb	16:34:58
3	As 188.979†	1411.3	1432.2	507.05 µg/L	507.05 ppb	16:35:18
3	B 249.677†	33887.0	30733.0	499.31 µg/L	499.31 ppb	16:34:58
3	Ba 233.527†	115619.9	116042.6	505.68 µg/L	505.68 ppb	16:34:58
3	Be 313.107†	1676617.7	1681181.9	504.68 µg/L	504.68 ppb	16:34:58
3	Cd 226.502†	73368.7	73644.1	505.35 µg/L	505.35 ppb	16:34:58
3	Co 228.616†	37328.7	37585.3	508.60 µg/L	508.60 ppb	16:34:58
3	Cr 267.716†	59733.8	59689.9	502.80 µg/L	502.80 ppb	16:34:58
3	Cu 324.752†	121792.3	119277.8	504.19 µg/L	504.19 ppb	16:34:58
3	Mn 257.610†	378088.5	378765.0	506.04 µg/L	506.04 ppb	16:34:58
3	Mo 202.031†	15858.6	15929.1	507.15 µg/L	507.15 ppb	16:35:18
3	Ni 231.604†	40204.0	40372.5	507.79 µg/L	507.79 ppb	16:34:58
3	P 214.914†	10611.8	10630.7	2527.0 µg/L	2527.0 ppb	16:35:18
3	Pb 220.353†	8416.7	8338.7	512.19 µg/L	512.19 ppb	16:35:18
3	S 181.975 Axial†	1321.9	1237.1	1018.4 µg/L	1018.4 ppb	16:35:18
3	Sb 206.836†	3931.6	3862.4	507.66 µg/L	507.66 ppb	16:35:18
3	Se 196.026†	1279.4	1268.7	510 µg/L	510 ppb	16:35:18
3	SiO2†	52016.0	50380.1	5368.1 µg/L	5368.1 ppb	16:34:58
3	Si 251.611†	156602.6	156006.9	2515.0 µg/L	2515.0 ppb	16:34:58
3	Sn 189.927†	7321.0	7340.0	509.86 µg/L	509.86 ppb	16:35:18
3	Ti 334.940†	504195.1	504445.9	504.72 µg/L	504.72 ppb	16:34:58
3	Tl 190.801†	3645.8	3771.1	514.37 µg/L	514.37 ppb	16:35:18
3	U 409.014†	7418.7	7719.2	514.12 µg/L	514.12 ppb	16:34:58
3	V 292.402†	94555.7	94459.0	508.23 µg/L	508.23 ppb	16:34:58
3	Zn 213.857†	81983.3	81643.6	502.38 µg/L	502.38 ppb	16:34:58

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Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1740852.2	99.189 %	0.5356			0.54%
Sc RADIAL	149761.0	101 %	0.9			0.92%
Y 371.029	1042678.6	97.992 %	0.5152			0.53%
Ag 328.068†	125858.6	506.58 µg/L	2.472	506.58 ppb	2.472	0.49%
QC value within limits for Ag 328.068 Recovery = 101.32%						
Al 396.153Radial†	24933.6	5114.5 µg/L	43.04	5114.5 ppb	43.04	0.84%
QC value within limits for Al 396.153Radial Recovery = 102.29%						
As 188.979†	1438.6	509.26 µg/L	7.683	509.26 ppb	7.683	1.51%
QC value within limits for As 188.979 Recovery = 101.85%						
B 249.677†	30581.7	496.85 µg/L	2.189	496.85 ppb	2.189	0.44%
QC value within limits for B 249.677 Recovery = 99.37%						
Ba 233.527†	115611.7	503.80 µg/L	1.797	503.80 ppb	1.797	0.36%
QC value within limits for Ba 233.527 Recovery = 100.76%						
Be 313.107†	1674820.1	502.77 µg/L	1.776	502.77 ppb	1.776	0.35%
QC value within limits for Be 313.107 Recovery = 100.55%						
Ca 317.933Radial†	84456.1	5081.5 µg/L	33.55	5081.5 ppb	33.55	0.66%
QC value within limits for Ca 317.933Radial Recovery = 101.63%						
Cd 226.502†	73226.4	502.48 µg/L	2.483	502.48 ppb	2.483	0.49%
QC value within limits for Cd 226.502 Recovery = 100.50%						
Co 228.616†	37421.3	506.38 µg/L	2.060	506.38 ppb	2.060	0.41%



QC value within limits for Co 228.616 Recovery = 101.28%							
Cr 267.716†	59575.0	501.83 µg/L	1.019	501.83 ppb	1.019	0.20%	
QC value within limits for Cr 267.716 Recovery = 100.37%							
Cu 324.752†	118973.7	502.91 µg/L	1.326	502.91 ppb	1.326	0.26%	
QC value within limits for Cu 324.752 Recovery = 100.58%							
Fe 238.204 Radial†	75105.4	5053.7 µg/L	30.48	5053.7 ppb	30.48	0.60%	
QC value within limits for Fe 238.204 Radial Recovery = 101.07%							
K 766.490 Radial†	12549.1	5160.6 µg/L	50.82	5160.6 ppb	50.82	0.98%	
QC value within limits for K 766.490 Radial Recovery = 103.21%							
Mg 279.077 IEC†	12548.4	5155.7 µg/L	56.94	5155.7 ppb	56.94	1.10%	
QC value within limits for Mg 279.077 IEC Recovery = 103.11%							
Mn 257.610†	377491.1	504.34 µg/L	1.543	504.34 ppb	1.543	0.31%	
QC value within limits for Mn 257.610 Recovery = 100.87%							
Mo 202.031†	15961.9	508.19 µg/L	3.883	508.19 ppb	3.883	0.76%	
QC value within limits for Mo 202.031 Recovery = 101.64%							
Na 589.592 Radial†	66525.8	10097 µg/L	64.7	10097 ppb	64.7	0.64%	
QC value within limits for Na 589.592 Radial Recovery = 100.97%							
Ni 231.604†	40149.6	504.99 µg/L	2.493	504.99 ppb	2.493	0.49%	
QC value within limits for Ni 231.604 Recovery = 101.00%							
P 214.914†	10640.8	2529.4 µg/L	26.43	2529.4 ppb	26.43	1.05%	
QC value within limits for P 214.914 Recovery = 101.18%							
Pb 220.353†	8342.3	512.41 µg/L	5.103	512.41 ppb	5.103	1.00%	
QC value within limits for Pb 220.353 Recovery = 102.48%							
S 181.975 Axial†	1236.7	1018.0 µg/L	12.54	1018.0 ppb	12.54	1.23%	
QC value within limits for S 181.975 Axial Recovery = 101.80%							
Sb 206.836†	3866.5	508.21 µg/L	6.063	508.21 ppb	6.063	1.19%	
QC value within limits for Sb 206.836 Recovery = 101.64%							
Se 196.026†	1265.3	509 µg/L	4.7	509 ppb	4.7	0.93%	
QC value within limits for Se 196.026 Recovery = 101.75%							
SiO2†	50197.6	5348.6 µg/L	20.05	5348.6 ppb	20.05	0.37%	
QC value within limits for SiO2 Recovery = 100.02%							
Si 251.611†	155511.1	2507.0 µg/L	7.19	2507.0 ppb	7.19	0.29%	
QC value within limits for Si 251.611 Recovery = 100.28%							
Sn 189.927†	7322.7	508.66 µg/L	5.051	508.66 ppb	5.051	0.99%	
QC value within limits for Sn 189.927 Recovery = 101.73%							
Sr 421.552†	222897.6	514.15 µg/L	4.569	514.15 ppb	4.569	0.89%	
QC value within limits for Sr 421.552 Recovery = 102.83%							
Ti 334.940†	503165.9	503.44 µg/L	1.219	503.44 ppb	1.219	0.24%	
QC value within limits for Ti 334.940 Recovery = 100.69%							
Tl 190.801†	3783.5	516.02 µg/L	3.736	516.02 ppb	3.736	0.72%	
QC value within limits for Tl 190.801 Recovery = 103.20%							
U 409.014†	7749.3	515.92 µg/L	5.770	515.92 ppb	5.770	1.12%	
QC value within limits for U 409.014 Recovery = 103.18%							
V 292.402†	94186.3	506.80 µg/L	1.369	506.80 ppb	1.369	0.27%	
QC value within limits for V 292.402 Recovery = 101.36%							
Zn 213.857†	81308.9	500.32 µg/L	1.780	500.32 ppb	1.780	0.36%	
QC value within limits for Zn 213.857 Recovery = 100.06%							
All analyte(s) passed QC.							

Sequence No.: 19

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 3/30/2010 16:35:27

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	151878.1	151878.1	103 %		16:35:56
1	Al 396.153Radial†	-27.3	36.3	7.4811 µg/L	7.4811 ppb	16:36:16
1	Ca 317.933Radial†	686.6	-29.7	-1.7857 µg/L	-1.7857 ppb	16:36:16
1	Fe 238.204 Radial†	172.4	27.1	1.8263 µg/L	1.8263 ppb	16:36:16
1	K 766.490 Radial†	1493.5	140.9	57.964 µg/L	57.964 ppb	16:35:56
1	Mg 279.077 IEC†	188.2	14.4	5.9196 µg/L	5.9196 ppb	16:36:16
1	Na 589.592 Radial†	1596.6	347.4	52.696 µg/L	52.696 ppb	16:35:56
1	Sr 421.552†	-187.5	39.2	0.0904 µg/L	0.0904 ppb	16:35:56
1	Sc 361.383	1775966.4	1775966.4	101.19 %		16:37:18
1	Y 371.029	1075816.3	1075816.3	101.11 %		16:37:18
1	Ag 328.068†	3637.8	148.0	0.5819 µg/L	0.5819 ppb	16:37:20
1	As 188.979†	-2.5	15.2	5.2981 µg/L	5.2981 ppb	16:37:40
1	B 249.677†	3304.0	34.8	0.5663 µg/L	0.5663 ppb	16:37:40
1	Ba 233.527†	-170.2	-6.0	-0.0264 µg/L	-0.0264 ppb	16:37:40
1	Be 313.107†	-529.3	262.5	0.0783 µg/L	0.0783 ppb	16:37:20
1	Cd 226.502†	-78.1	32.8	0.2250 µg/L	0.2250 ppb	16:37:40
1	Co 228.616†	-156.5	17.7	0.2396 µg/L	0.2396 ppb	16:37:40
1	Cr 267.716†	134.1	-46.0	-0.3871 µg/L	-0.3871 ppb	16:37:40
1	Cu 324.752†	2726.1	-94.9	-0.4005 µg/L	-0.4005 ppb	16:37:20
1	Mn 257.610†	181.0	3.3	0.0042 µg/L	0.0042 ppb	16:37:40
1	Mo 202.031†	-31.8	3.4	0.1071 µg/L	0.1071 ppb	16:37:40
1	Ni 231.604†	-78.8	0.0	0.0002 µg/L	0.0002 ppb	16:37:40
1	P 214.914†	11.7	6.6	1.5795 µg/L	1.5795 ppb	16:37:40
1	Pb 220.353†	104.7	6.5	0.4021 µg/L	0.4021 ppb	16:37:40
1	S 181.975 Axial†	97.8	9.0	7.3534 µg/L	7.3534 ppb	16:37:40
1	Sb 206.836†	78.3	-0.7	-0.0809 µg/L	-0.0809 ppb	16:37:40
1	Se 196.026†	26.0	12.1	4.86 µg/L	4.86 ppb	16:37:40
1	SiO2†	1712.3	-61.0	-6.5292 µg/L	-6.5292 ppb	16:37:40
1	Si 251.611†	932.1	-27.5	-0.4477 µg/L	-0.4477 ppb	16:37:20
1	Sn 189.927†	-1.2	1.4	0.0971 µg/L	0.0971 ppb	16:37:40
1	Ti 334.940†	836.6	-58.8	-0.0587 µg/L	-0.0587 ppb	16:37:20
1	Tl 190.801†	-101.3	17.0	2.2738 µg/L	2.2738 ppb	16:37:40
1	U 409.014†	-310.8	-23.4	-1.4888 µg/L	-1.4888 ppb	16:37:20
1	V 292.402†	243.1	-69.6	-0.3711 µg/L	-0.3711 ppb	16:37:20
1	Zn 213.857†	533.2	2.3	0.0148 µg/L	0.0148 ppb	16:37:40
2	Sc RADIAL	150766.1	150766.1	102 %		16:36:18
2	Al 396.153Radial†	-29.1	34.4	7.0870 µg/L	7.0870 ppb	16:36:38
2	Ca 317.933Radial†	682.2	-29.1	-1.7514 µg/L	-1.7514 ppb	16:36:38
2	Fe 238.204 Radial†	166.3	22.4	1.5048 µg/L	1.5048 ppb	16:36:38
2	K 766.490 Radial†	1525.1	182.6	75.152 µg/L	75.152 ppb	16:36:18
2	Mg 279.077 IEC†	179.6	7.3	2.9938 µg/L	2.9938 ppb	16:36:38
2	Na 589.592 Radial†	1371.5	138.2	20.914 µg/L	20.914 ppb	16:36:18
2	Sr 421.552†	-190.0	35.3	0.0815 µg/L	0.0815 ppb	16:36:18
2	Sc 361.383	1781472.1	1781472.1	101.50 %		16:37:42
2	Y 371.029	1078812.6	1078812.6	101.39 %		16:37:42
2	Ag 328.068†	3322.4	-173.9	-0.6936 µg/L	-0.6936 ppb	16:37:44
2	As 188.979†	-9.9	7.9	2.7584 µg/L	2.7584 ppb	16:38:05
2	B 249.677†	3225.9	-52.2	-0.8523 µg/L	-0.8523 ppb	16:38:05
2	Ba 233.527†	-165.6	-1.0	-0.0040 µg/L	-0.0040 ppb	16:38:05
2	Be 313.107†	-662.6	132.8	0.0378 µg/L	0.0378 ppb	16:37:44
2	Cd 226.502†	-107.6	4.0	0.0272 µg/L	0.0272 ppb	16:38:05
2	Co 228.616†	-153.4	21.3	0.2875 µg/L	0.2875 ppb	16:38:05
2	Cr 267.716†	167.4	-13.7	-0.1095 µg/L	-0.1095 ppb	16:38:05
2	Cu 324.752†	2776.0	-54.1	-0.2330 µg/L	-0.2330 ppb	16:37:44
2	Mn 257.610†	220.5	41.7	0.0556 µg/L	0.0556 ppb	16:38:05
2	Mo 202.031†	-36.8	-1.5	-0.0478 µg/L	-0.0478 ppb	16:38:05
2	Ni 231.604†	-80.5	-1.4	-0.0180 µg/L	-0.0180 ppb	16:38:05
2	P 214.914†	12.5	7.3	1.7603 µg/L	1.7603 ppb	16:38:05
2	Pb 220.353†	90.3	-8.0	-0.4821 µg/L	-0.4821 ppb	16:38:05

2	S 181.975 Axial†	91.8	2.7	2.2316 µg/L	2.2316 ppb	16:38:05
2	Sb 206.836†	83.6	4.3	0.5702 µg/L	0.5702 ppb	16:38:05
2	Se 196.026†	1.8	-11.8	-4.75 µg/L	-4.75 ppb	16:38:05
2	SiO2†	1691.8	-86.4	-9.2496 µg/L	-9.2496 ppb	16:38:05
2	Si 251.611†	787.2	-173.1	-2.8052 µg/L	-2.8052 ppb	16:37:44
2	Sn 189.927†	7.4	9.9	0.6835 µg/L	0.6835 ppb	16:38:05
2	Ti 334.940†	827.4	-70.5	-0.0680 µg/L	-0.0680 ppb	16:37:44
2	Tl 190.801†	-117.6	1.3	0.1723 µg/L	0.1723 ppb	16:38:05
2	U 409.014†	-399.5	-109.8	-6.8488 µg/L	-6.8488 ppb	16:37:44
2	V 292.402†	412.9	96.9	0.5089 µg/L	0.5089 ppb	16:37:44
2	Zn 213.857†	530.6	-1.8	-0.0109 µg/L	-0.0109 ppb	16:38:05
3	Sc RADIAL	151659.3	151659.3	103 %		16:36:40
3	Al 396.153Radial†	-28.3	35.3	7.2531 µg/L	7.2531 ppb	16:37:00
3	Ca 317.933Radial†	646.0	-68.3	-4.1086 µg/L	-4.1086 ppb	16:37:00
3	Fe 238.204 Radial†	199.0	53.3	3.5851 µg/L	3.5851 ppb	16:37:00
3	K 766.490 Radial†	1519.9	168.8	69.446 µg/L	69.446 ppb	16:36:40
3	Mg 279.077 IEC†	179.2	5.9	2.4278 µg/L	2.4278 ppb	16:37:00
3	Na 589.592 Radial†	1454.5	211.2	32.007 µg/L	32.007 ppb	16:36:40
3	Sr 421.552†	-167.3	58.5	0.1351 µg/L	0.1351 ppb	16:36:40
3	Sc 361.383	1777415.3	1777415.3	101.27 %		16:38:07
3	Y 371.029	1077075.4	1077075.4	101.22 %		16:38:07
3	Ag 328.068†	3547.2	55.6	0.2339 µg/L	0.2339 ppb	16:38:09
3	As 188.979†	-14.0	3.8	1.3299 µg/L	1.3299 ppb	16:38:29
3	B 249.677†	3244.0	-27.1	-0.4430 µg/L	-0.4430 ppb	16:38:29
3	Ba 233.527†	-186.1	-21.6	-0.0937 µg/L	-0.0937 ppb	16:38:29
3	Be 313.107†	-746.5	48.4	0.0159 µg/L	0.0159 ppb	16:38:09
3	Cd 226.502†	-82.7	28.3	0.1941 µg/L	0.1941 ppb	16:38:29
3	Co 228.616†	-162.0	12.5	0.1686 µg/L	0.1686 ppb	16:38:29
3	Cr 267.716†	143.6	-36.8	-0.3130 µg/L	-0.3130 ppb	16:38:29
3	Cu 324.752†	2855.6	30.7	0.1338 µg/L	0.1338 ppb	16:38:09
3	Mn 257.610†	204.7	26.6	0.0354 µg/L	0.0354 ppb	16:38:29
3	Mo 202.031†	-21.9	13.1	0.4182 µg/L	0.4182 ppb	16:38:29
3	Ni 231.604†	-69.6	9.2	0.1151 µg/L	0.1151 ppb	16:38:29
3	P 214.914†	1.4	-3.6	-0.8646 µg/L	-0.8646 ppb	16:38:29
3	Pb 220.353†	84.4	-13.6	-0.8367 µg/L	-0.8367 ppb	16:38:29
3	S 181.975 Axial†	90.3	1.5	1.2325 µg/L	1.2325 ppb	16:38:29
3	Sb 206.836†	80.7	1.6	0.2186 µg/L	0.2186 ppb	16:38:29
3	Se 196.026†	8.3	-5.3	-2.13 µg/L	-2.13 ppb	16:38:29
3	SiO2†	1696.0	-78.5	-8.4316 µg/L	-8.4316 ppb	16:38:29
3	Si 251.611†	738.0	-219.9	-3.5748 µg/L	-3.5748 ppb	16:38:09
3	Sn 189.927†	18.0	20.3	1.4069 µg/L	1.4069 ppb	16:38:29
3	Ti 334.940†	846.9	-49.3	-0.0514 µg/L	-0.0514 ppb	16:38:09
3	Tl 190.801†	-120.1	-1.5	-0.1973 µg/L	-0.1973 ppb	16:38:29
3	U 409.014†	-216.0	70.5	4.4517 µg/L	4.4517 ppb	16:38:09
3	V 292.402†	433.2	117.9	0.6318 µg/L	0.6318 ppb	16:38:09
3	Zn 213.857†	526.7	-4.5	-0.0291 µg/L	-0.0291 ppb	16:38:29

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1778284.6	101.32 %	0.163			0.16%
Sc RADIAL	151434.5	102 %	0.4			0.39%
Y 371.029	1077234.8	101.24 %	0.141			0.14%
Ag 328.068†	9.9	0.0407 µg/L	0.65930	0.0407 ppb	0.65930	>999.9%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	35.3	7.2737 µg/L	0.19788	7.2737 ppb	0.19788	2.72%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	9.0	3.1288 µg/L	2.00985	3.1288 ppb	2.00985	64.24%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	-14.9	-0.2430 µg/L	0.73013	-0.2430 ppb	0.73013	300.47%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-9.5	-0.0414 µg/L	0.04672	-0.0414 ppb	0.04672	112.91%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	147.9	0.0440 µg/L	0.03169	0.0440 ppb	0.03169	72.04%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-42.4	-2.5486 µg/L	1.35112	-2.5486 ppb	1.35112	53.02%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	21.7	0.1488 µg/L	0.10645	0.1488 ppb	0.10645	71.55%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	17.2	0.2319 µg/L	0.05984	0.2319 ppb	0.05984	25.81%

QC value within limits for Co 228.616 Recovery = Not calculated							
Cr	267.716†	-32.2	-0.2698 µg/L	0.14373	-0.2698 ppb	0.14373	53.27%
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu	324.752†	-39.4	-0.1666 µg/L	0.27327	-0.1666 ppb	0.27327	164.06%
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe	238.204 Radial†	34.3	2.3054 µg/L	1.11984	2.3054 ppb	1.11984	48.57%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K	766.490 Radial†	164.1	67.521 µg/L	8.7540	67.521 ppb	8.7540	12.96%
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg	279.077 IEC†	9.2	3.7804 µg/L	1.87409	3.7804 ppb	1.87409	49.57%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn	257.610†	23.9	0.0317 µg/L	0.02590	0.0317 ppb	0.02590	81.64%
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo	202.031†	5.0	0.1592 µg/L	0.23731	0.1592 ppb	0.23731	149.11%
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na	589.592 Radial†	232.2	35.206 µg/L	16.1307	35.206 ppb	16.1307	45.82%
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni	231.604†	2.6	0.0324 µg/L	0.07220	0.0324 ppb	0.07220	222.64%
QC value within limits for Ni 231.604 Recovery = Not calculated							
P	214.914†	3.4	0.8250 µg/L	1.46608	0.8250 ppb	1.46608	177.70%
QC value within limits for P 214.914 Recovery = Not calculated							
Pb	220.353†	-5.0	-0.3056 µg/L	0.63802	-0.3056 ppb	0.63802	208.80%
QC value within limits for Pb 220.353 Recovery = Not calculated							
S	181.975 Axial†	4.4	3.6058 µg/L	3.28371	3.6058 ppb	3.28371	91.07%
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb	206.836†	1.7	0.2360 µg/L	0.32585	0.2360 ppb	0.32585	138.10%
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se	196.026†	-1.7	-0.675 µg/L	4.9659	-0.675 ppb	4.9659	736.21%
QC value within limits for Se 196.026 Recovery = Not calculated							
SiO2†		-75.3	-8.0701 µg/L	1.39574	-8.0701 ppb	1.39574	17.30%
QC value within limits for SiO2 Recovery = Not calculated							
Si	251.611†	-140.2	-2.2759 µg/L	1.62935	-2.2759 ppb	1.62935	71.59%
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn	189.927†	10.5	0.7292 µg/L	0.65610	0.7292 ppb	0.65610	89.98%
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr	421.552†	44.3	0.1023 µg/L	0.02870	0.1023 ppb	0.02870	28.05%
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti	334.940†	-59.5	-0.0594 µg/L	0.00835	-0.0594 ppb	0.00835	14.06%
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl	190.801†	5.6	0.7496 µg/L	1.33288	0.7496 ppb	1.33288	177.82%
QC value within limits for Tl 190.801 Recovery = Not calculated							
U	409.014†	-20.9	-1.2953 µg/L	5.65273	-1.2953 ppb	5.65273	436.40%
QC value within limits for U 409.014 Recovery = Not calculated							
V	292.402†	48.4	0.2565 µg/L	0.54704	0.2565 ppb	0.54704	213.25%
QC value within limits for V 292.402 Recovery = Not calculated							
Zn	213.857†	-1.3	-0.0084 µg/L	0.02204	-0.0084 ppb	0.02204	262.12%
QC value within limits for Zn 213.857 Recovery = Not calculated							
All analyte(s) passed QC.							

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Analysis Begun

Start Time: 3/30/2010 16:57:39

Plasma On Time: 3/29/2010 18:07:58

Logged In Analyst: optima4

Technique: ICP Continuous

Spectrometer Model: Optima 7300 DV, S/N 077C0022701 Autosampler Model: AS-93plus

Sample Information File: C:\pe\optima4\Sample Information\033010.sif

Batch ID:

Results Data Set: 033010B

Results Library: C:\pe\optima4\Results\Results.mdb

Sequence No.: 1

Autosampler Location: 7

Sample ID: CCV

Date Collected: 3/30/2010 16:57:41

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	149199.2	149199.2	101 %		16:58:14
1	Al 396.153Radial†	25133.4	24965.6	5121.0 µg/L	5121.0 ppb	16:58:14
1	Ca 317.933Radial†	86291.1	84801.1	5102.3 µg/L	5102.3 ppb	16:58:14
1	Fe 238.204 Radial†	76166.0	75326.2	5068.6 µg/L	5068.6 ppb	16:58:14
1	K 766.490 Radial†	13784.3	12344.9	5076.5 µg/L	5076.5 ppb	16:58:14
1	Mg 279.077 IEC†	13036.4	12747.9	5237.5 µg/L	5237.5 ppb	16:58:14
1	Na 589.592 Radial†	68524.1	66688.5	10122 µg/L	10122 ppb	16:58:14
1	Sr 421.552†	222273.3	220454.9	508.52 µg/L	508.52 ppb	16:58:12
1	Sc 361.383	1729437.6	1729437.6	98.539 %		16:58:26
1	Y 371.029	1036324.1	1036324.1	97.395 %		16:58:26
1	Ag 328.068†	127198.8	125637.5	505.71 µg/L	505.71 ppb	16:58:26
1	As 188.979†	1397.3	1435.7	508.27 µg/L	508.27 ppb	16:58:46
1	B 249.677†	33342.8	30606.8	497.26 µg/L	497.26 ppb	16:58:26
1	Ba 233.527†	113491.6	115336.4	502.60 µg/L	502.60 ppb	16:58:26
1	Be 313.107†	1652988.4	1678280.3	503.82 µg/L	503.82 ppb	16:58:26
1	Cd 226.502†	72383.9	73567.0	504.82 µg/L	504.82 ppb	16:58:26
1	Co 228.616†	36695.5	37411.9	506.26 µg/L	506.26 ppb	16:58:26
1	Cr 267.716†	58963.9	59659.5	502.53 µg/L	502.53 ppb	16:58:26
1	Cu 324.752†	119751.4	118737.8	501.93 µg/L	501.93 ppb	16:58:26
1	Mn 257.610†	372127.1	377468.5	504.31 µg/L	504.31 ppb	16:58:26
1	Mo 202.031†	15742.5	16010.6	509.75 µg/L	509.75 ppb	16:58:46
1	Ni 231.604†	39503.2	40166.7	505.21 µg/L	505.21 ppb	16:58:26
1	P 214.914†	10540.5	10691.7	2541.6 µg/L	2541.6 ppb	16:58:46
1	Pb 220.353†	8315.2	8341.5	512.35 µg/L	512.35 ppb	16:58:46
1	S 181.975 Axial†	1305.5	1237.2	1018.5 µg/L	1018.5 ppb	16:58:46
1	Sb 206.836†	3903.1	3882.9	510.37 µg/L	510.37 ppb	16:58:46
1	Se 196.026†	1270.8	1276.1	513 µg/L	513 ppb	16:58:46
1	SiO2†	51353.9	50362.1	5366.1 µg/L	5366.1 ppb	16:58:26
1	Si 251.611†	154170.2	155507.2	2506.9 µg/L	2506.9 ppb	16:58:26
1	Sn 189.927†	7252.0	7362.1	511.38 µg/L	511.38 ppb	16:58:46
1	Ti 334.940†	496039.9	502508.3	502.77 µg/L	502.77 ppb	16:58:26
1	Tl 190.801†	3625.2	3796.0	517.69 µg/L	517.69 ppb	16:58:46
1	U 409.014†	7556.6	7952.4	528.59 µg/L	528.59 ppb	16:58:26
1	V 292.402†	92970.0	94038.4	506.04 µg/L	506.04 ppb	16:58:26
1	Zn 213.857†	80596.8	81267.1	500.06 µg/L	500.06 ppb	16:58:26
2	Sc RADIAL	148989.5	148989.5	101 %		16:58:18
2	Al 396.153Radial†	25062.8	24930.6	5113.9 µg/L	5113.9 ppb	16:58:18
2	Ca 317.933Radial†	86125.4	84757.0	5099.6 µg/L	5099.6 ppb	16:58:18
2	Fe 238.204 Radial†	76239.8	75505.7	5080.7 µg/L	5080.7 ppb	16:58:18
2	K 766.490 Radial†	13841.1	12420.6	5107.7 µg/L	5107.7 ppb	16:58:18
2	Mg 279.077 IEC†	12962.5	12692.8	5214.9 µg/L	5214.9 ppb	16:58:18
2	Na 589.592 Radial†	68179.9	66442.6	10085 µg/L	10085 ppb	16:58:18
2	Sr 421.552†	224560.5	223034.3	514.47 µg/L	514.47 ppb	16:58:16
2	Sc 361.383	1722198.8	1722198.8	98.127 %		16:58:50
2	Y 371.029	1031025.1	1031025.1	96.897 %		16:58:50
2	Ag 328.068†	126600.1	125570.0	505.41 µg/L	505.41 ppb	16:58:50
2	As 188.979†	1403.2	1447.6	512.43 µg/L	512.43 ppb	16:59:10

2	B 249.677†	33328.8	30734.7	499.34 µg/L	499.34 ppb	16:58:50
2	Ba 233.527†	113413.5	115740.8	504.36 µg/L	504.36 ppb	16:58:50
2	Be 313.107†	1647320.5	1679555.1	504.19 µg/L	504.19 ppb	16:58:50
2	Cd 226.502†	72125.6	73612.6	505.13 µg/L	505.13 ppb	16:58:50
2	Co 228.616†	36642.3	37514.2	507.64 µg/L	507.64 ppb	16:58:50
2	Cr 267.716†	58539.2	59478.2	501.02 µg/L	501.02 ppb	16:58:50
2	Cu 324.752†	119171.5	118657.7	501.57 µg/L	501.57 ppb	16:58:50
2	Mn 257.610†	370900.9	377806.2	504.76 µg/L	504.76 ppb	16:58:50
2	Mo 202.031†	15642.4	15975.8	508.64 µg/L	508.64 ppb	16:59:10
2	Ni 231.604†	39353.6	40182.8	505.41 µg/L	505.41 ppb	16:58:50
2	P 214.914†	10458.6	10653.2	2532.4 µg/L	2532.4 ppb	16:59:10
2	Pb 220.353†	8291.2	8352.5	513.04 µg/L	513.04 ppb	16:59:10
2	S 181.975 Axial†	1304.5	1241.7	1022.1 µg/L	1022.1 ppb	16:59:10
2	Sb 206.836†	3865.5	3861.2	507.54 µg/L	507.54 ppb	16:59:10
2	Se 196.026†	1274.2	1284.9	517 µg/L	517 ppb	16:59:10
2	SiO2†	51206.2	50430.6	5373.5 µg/L	5373.5 ppb	16:58:50
2	Si 251.611†	154157.0	156151.3	2517.4 µg/L	2517.4 ppb	16:58:50
2	Sn 189.927†	7197.1	7337.0	509.65 µg/L	509.65 ppb	16:59:10
2	Ti 334.940†	494104.3	502651.7	502.92 µg/L	502.92 ppb	16:58:50
2	Tl 190.801†	3603.4	3789.3	516.79 µg/L	516.79 ppb	16:59:10
2	U 409.014†	7104.1	7523.4	501.74 µg/L	501.74 ppb	16:58:50
2	V 292.402†	92620.1	94078.5	506.21 µg/L	506.21 ppb	16:58:50
2	Zn 213.857†	80704.2	81720.3	502.87 µg/L	502.87 ppb	16:58:50
3	Sc RADIAL	150443.3	150443.3	102 %		16:58:22
3	Al 396.153Radial†	25179.7	24805.1	5087.6 µg/L	5087.6 ppb	16:58:22
3	Ca 317.933Radial†	86584.9	84382.8	5077.1 µg/L	5077.1 ppb	16:58:22
3	Fe 238.204 Radial†	76433.0	74964.6	5044.3 µg/L	5044.3 ppb	16:58:22
3	K 766.490 Radial†	13825.6	12272.6	5046.8 µg/L	5046.8 ppb	16:58:22
3	Mg 279.077 IEC†	12960.3	12566.4	5163.3 µg/L	5163.3 ppb	16:58:22
3	Na 589.592 Radial†	68734.3	66333.7	10068 µg/L	10068 ppb	16:58:22
3	Sr 421.552†	224638.4	220957.7	509.68 µg/L	509.68 ppb	16:58:20
3	Sc 361.383	1703789.7	1703789.7	97.078 %		16:59:13
3	Y 371.029	1020310.6	1020310.6	95.890 %		16:59:13
3	Ag 328.068†	125841.1	126182.1	507.85 µg/L	507.85 ppb	16:59:13
3	As 188.979†	1399.0	1458.8	516.35 µg/L	516.35 ppb	16:59:33
3	B 249.677†	32938.4	30699.6	498.77 µg/L	498.77 ppb	16:59:13
3	Ba 233.527†	112303.0	115845.7	504.83 µg/L	504.83 ppb	16:59:13
3	Be 313.107†	1628078.9	1677873.0	503.68 µg/L	503.68 ppb	16:59:13
3	Cd 226.502†	71318.3	73575.2	504.88 µg/L	504.88 ppb	16:59:13
3	Co 228.616†	36250.4	37514.0	507.64 µg/L	507.64 ppb	16:59:13
3	Cr 267.716†	58103.9	59674.4	502.68 µg/L	502.68 ppb	16:59:13
3	Cu 324.752†	118475.5	119252.9	504.07 µg/L	504.07 ppb	16:59:13
3	Mn 257.610†	367522.6	378410.2	505.57 µg/L	505.57 ppb	16:59:13
3	Mo 202.031†	15766.0	16275.3	518.16 µg/L	518.16 ppb	16:59:33
3	Ni 231.604†	39046.2	40299.5	506.88 µg/L	506.88 ppb	16:59:13
3	P 214.914†	10539.3	10851.5	2579.6 µg/L	2579.6 ppb	16:59:33
3	Pb 220.353†	8372.9	8528.0	523.81 µg/L	523.81 ppb	16:59:33
3	S 181.975 Axial†	1311.9	1263.7	1040.2 µg/L	1040.2 ppb	16:59:33
3	Sb 206.836†	3881.3	3920.0	515.38 µg/L	515.38 ppb	16:59:33
3	Se 196.026†	1263.3	1287.7	518 µg/L	518 ppb	16:59:33
3	SiO2†	50416.9	50181.4	5346.4 µg/L	5346.4 ppb	16:59:13
3	Si 251.611†	151913.4	155537.7	2507.2 µg/L	2507.2 ppb	16:59:13
3	Sn 189.927†	7245.0	7465.6	518.55 µg/L	518.55 ppb	16:59:33
3	Ti 334.940†	489941.5	503804.1	504.08 µg/L	504.08 ppb	16:59:13
3	Tl 190.801†	3643.4	3870.2	527.67 µg/L	527.67 ppb	16:59:33
3	U 409.014†	6984.8	7478.9	499.01 µg/L	499.01 ppb	16:59:13
3	V 292.402†	91797.2	94250.7	507.24 µg/L	507.24 ppb	16:59:13
3	Zn 213.857†	79534.1	81403.7	500.90 µg/L	500.90 ppb	16:59:13

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1718475.4	97.915 %	0.7534			0.77%
Sc RADIAL	149544.0	101 %	0.5			0.53%
Y 371.029	1029219.9	96.727 %	0.7667			0.79%
Ag 328.068†	125796.5	506.32 µg/L	1.332	506.32 ppb	1.332	0.26%
QC value within limits for Ag 328.068 Recovery = 101.26%						
Al 396.153Radial†	24900.4	5107.5 µg/L	17.62	5107.5 ppb	17.62	0.34%
QC value within limits for Al 396.153Radial Recovery = 102.15%						
As 188.979†	1447.4	512.35 µg/L	4.040	512.35 ppb	4.040	0.79%

QC value within limits for As 188.979 Recovery = 102.47%							
B 249.677†	30680.4	498.46 µg/L	1.075	498.46 ppb	1.075	0.22%	
QC value within limits for B 249.677 Recovery = 99.69%							
Ba 233.527†	115641.0	503.93 µg/L	1.172	503.93 ppb	1.172	0.23%	
QC value within limits for Ba 233.527 Recovery = 100.79%							
Be 313.107†	1678569.5	503.90 µg/L	0.262	503.90 ppb	0.262	0.05%	
QC value within limits for Be 313.107 Recovery = 100.78%							
Ca 317.933Radial†	84647.0	5093.0 µg/L	13.83	5093.0 ppb	13.83	0.27%	
QC value within limits for Ca 317.933Radial Recovery = 101.86%							
Cd 226.502†	73584.9	504.94 µg/L	0.166	504.94 ppb	0.166	0.03%	
QC value within limits for Cd 226.502 Recovery = 100.99%							
Co 228.616†	37480.1	507.18 µg/L	0.799	507.18 ppb	0.799	0.16%	
QC value within limits for Co 228.616 Recovery = 101.44%							
Cr 267.716†	59604.0	502.08 µg/L	0.915	502.08 ppb	0.915	0.18%	
QC value within limits for Cr 267.716 Recovery = 100.42%							
Cu 324.752†	118882.8	502.52 µg/L	1.352	502.52 ppb	1.352	0.27%	
QC value within limits for Cu 324.752 Recovery = 100.50%							
Fe 238.204 Radial†	75265.5	5064.5 µg/L	18.55	5064.5 ppb	18.55	0.37%	
QC value within limits for Fe 238.204 Radial Recovery = 101.29%							
K 766.490 Radial†	12346.1	5077.0 µg/L	30.44	5077.0 ppb	30.44	0.60%	
QC value within limits for K 766.490 Radial Recovery = 101.54%							
Mg 279.077 IEC†	12669.1	5205.2 µg/L	38.04	5205.2 ppb	38.04	0.73%	
QC value within limits for Mg 279.077 IEC Recovery = 104.10%							
Mn 257.610†	377895.0	504.88 µg/L	0.639	504.88 ppb	0.639	0.13%	
QC value within limits for Mn 257.610 Recovery = 100.98%							
Mo 202.031†	16087.2	512.18 µg/L	5.210	512.18 ppb	5.210	1.02%	
QC value within limits for Mo 202.031 Recovery = 102.44%							
Na 589.592 Radial†	66488.3	10092 µg/L	27.6	10092 ppb	27.6	0.27%	
QC value within limits for Na 589.592 Radial Recovery = 100.92%							
Ni 231.604†	40216.3	505.83 µg/L	0.911	505.83 ppb	0.911	0.18%	
QC value within limits for Ni 231.604 Recovery = 101.17%							
P 214.914†	10732.2	2551.2 µg/L	25.06	2551.2 ppb	25.06	0.98%	
QC value within limits for P 214.914 Recovery = 102.05%							
Pb 220.353†	8407.3	516.40 µg/L	6.426	516.40 ppb	6.426	1.24%	
QC value within limits for Pb 220.353 Recovery = 103.28%							
S 181.975 Axial†	1247.5	1026.9 µg/L	11.66	1026.9 ppb	11.66	1.14%	
QC value within limits for S 181.975 Axial Recovery = 102.69%							
Sb 206.836†	3888.0	511.10 µg/L	3.970	511.10 ppb	3.970	0.78%	
QC value within limits for Sb 206.836 Recovery = 102.22%							
Se 196.026†	1282.9	516 µg/L	2.4	516 ppb	2.4	0.47%	
QC value within limits for Se 196.026 Recovery = 103.15%							
SiO2†	50324.7	5362.0 µg/L	13.99	5362.0 ppb	13.99	0.26%	
QC value within limits for SiO2 Recovery = 100.27%							
Si 251.611†	155732.1	2510.5 µg/L	5.94	2510.5 ppb	5.94	0.24%	
QC value within limits for Si 251.611 Recovery = 100.42%							
Sn 189.927†	7388.2	513.19 µg/L	4.721	513.19 ppb	4.721	0.92%	
QC value within limits for Sn 189.927 Recovery = 102.64%							
Sr 421.552†	221482.3	510.89 µg/L	3.154	510.89 ppb	3.154	0.62%	
QC value within limits for Sr 421.552 Recovery = 102.18%							
Ti 334.940†	502988.1	503.26 µg/L	0.719	503.26 ppb	0.719	0.14%	
QC value within limits for Ti 334.940 Recovery = 100.65%							
Tl 190.801†	3818.5	520.72 µg/L	6.041	520.72 ppb	6.041	1.16%	
QC value within limits for Tl 190.801 Recovery = 104.14%							
U 409.014†	7651.6	509.78 µg/L	16.349	509.78 ppb	16.349	3.21%	
QC value within limits for U 409.014 Recovery = 101.96%							
V 292.402†	94122.5	506.50 µg/L	0.646	506.50 ppb	0.646	0.13%	
QC value within limits for V 292.402 Recovery = 101.30%							
Zn 213.857†	81463.7	501.27 µg/L	1.442	501.27 ppb	1.442	0.29%	
QC value within limits for Zn 213.857 Recovery = 100.25%							
All analyte(s) passed QC.							

Sequence No.: 2

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 3/30/2010 16:59:41

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	149825.5	149825.5	101 %		17:00:10
1	Al 396.153Radial†	-41.4	22.0	4.5262 µg/L	4.5262 ppb	17:00:30
1	Ca 317.933Radial†	670.9	-36.0	-2.1668 µg/L	-2.1668 ppb	17:00:30
1	Fe 238.204 Radial†	145.6	2.9	0.1962 µg/L	0.1962 ppb	17:00:30
1	K 766.490 Radial†	1426.9	95.1	39.120 µg/L	39.120 ppb	17:00:10
1	Mg 279.077 IEC†	176.4	5.2	2.1463 µg/L	2.1463 ppb	17:00:30
1	Na 589.592 Radial†	1352.8	128.1	19.422 µg/L	19.422 ppb	17:00:10
1	Sr 421.552†	-227.6	-3.0	-0.0068 µg/L	-0.0068 ppb	17:00:10
1	Sc 361.383	1764835.2	1764835.2	100.56 %		17:01:32
1	Y 371.029	1069900.1	1069900.1	100.55 %		17:01:32
1	Ag 328.068†	3768.3	300.4	1.1888 µg/L	1.1888 ppb	17:01:34
1	As 188.979†	-11.1	6.7	2.3224 µg/L	2.3224 ppb	17:01:54
1	B 249.677†	3263.2	14.8	0.2419 µg/L	0.2419 ppb	17:01:54
1	Ba 233.527†	-157.4	5.6	0.0243 µg/L	0.0243 ppb	17:01:54
1	Be 313.107†	-752.2	37.6	0.0106 µg/L	0.0106 ppb	17:01:34
1	Cd 226.502†	-106.0	4.6	0.0315 µg/L	0.0315 ppb	17:01:54
1	Co 228.616†	-180.5	-7.1	-0.0954 µg/L	-0.0954 ppb	17:01:54
1	Cr 267.716†	189.3	9.7	0.0836 µg/L	0.0836 ppb	17:01:54
1	Cu 324.752†	2837.6	32.9	0.1369 µg/L	0.1369 ppb	17:01:34
1	Mn 257.610†	168.5	-8.0	-0.0108 µg/L	-0.0108 ppb	17:01:54
1	Mo 202.031†	-27.2	7.7	0.2445 µg/L	0.2445 ppb	17:01:54
1	Ni 231.604†	-71.9	6.4	0.0807 µg/L	0.0807 ppb	17:01:54
1	P 214.914†	26.2	21.1	5.0333 µg/L	5.0333 ppb	17:01:54
1	Pb 220.353†	90.4	-7.1	-0.4327 µg/L	-0.4327 ppb	17:01:54
1	S 181.975 Axial†	89.0	0.8	0.6968 µg/L	0.6968 ppb	17:01:54
1	Sb 206.836†	80.1	1.6	0.2148 µg/L	0.2148 ppb	17:01:54
1	Se 196.026†	12.1	-1.5	-0.605 µg/L	-0.605 ppb	17:01:54
1	SiO2†	1691.2	-71.3	-7.6443 µg/L	-7.6443 ppb	17:01:54
1	Si 251.611†	802.7	-150.3	-2.4405 µg/L	-2.4405 ppb	17:01:54
1	Sn 189.927†	5.6	8.1	0.5622 µg/L	0.5622 ppb	17:01:54
1	Ti 334.940†	648.3	-240.9	-0.2406 µg/L	-0.2406 ppb	17:01:34
1	Tl 190.801†	-113.4	4.3	0.5811 µg/L	0.5811 ppb	17:01:54
1	U 409.014†	-322.0	-36.5	-2.2948 µg/L	-2.2948 ppb	17:01:34
1	V 292.402†	274.6	-36.7	-0.1933 µg/L	-0.1933 ppb	17:01:34
1	Zn 213.857†	538.9	11.3	0.0695 µg/L	0.0695 ppb	17:01:54
2	Sc RADIAL	154358.9	154358.9	104 %		17:00:32
2	Al 396.153Radial†	-68.9	-3.1	-0.6411 µg/L	-0.6411 ppb	17:00:52
2	Ca 317.933Radial†	649.5	-75.9	-4.5693 µg/L	-4.5693 ppb	17:00:52
2	Fe 238.204 Radial†	162.3	14.7	0.9910 µg/L	0.9910 ppb	17:00:52
2	K 766.490 Radial†	1496.9	120.8	49.716 µg/L	49.716 ppb	17:00:32
2	Mg 279.077 IEC†	172.4	-3.7	-1.5219 µg/L	-1.5219 ppb	17:00:52
2	Na 589.592 Radial†	1529.5	258.2	39.157 µg/L	39.157 ppb	17:00:32
2	Sr 421.552†	-214.6	16.2	0.0373 µg/L	0.0373 ppb	17:00:32
2	Sc 361.383	1766136.3	1766136.3	100.63 %		17:01:56
2	Y 371.029	1069430.1	1069430.1	100.51 %		17:01:56
2	Ag 328.068†	3213.8	-253.4	-1.0074 µg/L	-1.0074 ppb	17:01:58
2	As 188.979†	-17.3	0.5	0.1849 µg/L	0.1849 ppb	17:02:19
2	B 249.677†	3210.2	-40.2	-0.6565 µg/L	-0.6565 ppb	17:02:19
2	Ba 233.527†	-146.3	16.8	0.0730 µg/L	0.0730 ppb	17:02:19
2	Be 313.107†	-621.4	168.1	0.0500 µg/L	0.0500 ppb	17:01:58
2	Cd 226.502†	-122.3	-11.5	-0.0790 µg/L	-0.0790 ppb	17:02:19
2	Co 228.616†	-167.3	6.2	0.0841 µg/L	0.0841 ppb	17:02:19
2	Cr 267.716†	156.6	-22.9	-0.1919 µg/L	-0.1919 ppb	17:02:19
2	Cu 324.752†	2744.8	-61.3	-0.2595 µg/L	-0.2595 ppb	17:01:58
2	Mn 257.610†	188.7	11.9	0.0160 µg/L	0.0160 ppb	17:02:19
2	Mo 202.031†	-39.1	-4.1	-0.1293 µg/L	-0.1293 ppb	17:02:19
2	Ni 231.604†	-60.6	17.7	0.2227 µg/L	0.2227 ppb	17:02:19
2	P 214.914†	0.6	-4.4	-1.0487 µg/L	-1.0487 ppb	17:02:19
2	Pb 220.353†	74.0	-23.4	-1.4319 µg/L	-1.4319 ppb	17:02:19



2	S 181.975 Axial†	92.2	3.9	3.2288 µg/L	3.2288 ppb	17:02:19
2	Sb 206.836†	77.6	-0.9	-0.1180 µg/L	-0.1180 ppb	17:02:19
2	Se 196.026†	1.0	-12.5	-5.02 µg/L	-5.02 ppb	17:02:19
2	SiO2†	1685.5	-78.2	-8.3720 µg/L	-8.3720 ppb	17:02:19
2	Si 251.611†	746.6	-206.7	-3.3496 µg/L	-3.3496 ppb	17:02:19
2	Sn 189.927†	10.3	12.7	0.8809 µg/L	0.8809 ppb	17:02:19
2	Ti 334.940†	719.8	-170.3	-0.1700 µg/L	-0.1700 ppb	17:01:58
2	Tl 190.801†	-109.7	8.1	1.0864 µg/L	1.0864 ppb	17:02:19
2	U 409.014†	-308.2	-22.5	-1.4032 µg/L	-1.4032 ppb	17:01:58
2	V 292.402†	337.0	25.0	0.1297 µg/L	0.1297 ppb	17:01:58
2	Zn 213.857†	520.1	-7.7	-0.0490 µg/L	-0.0490 ppb	17:02:19
3	Sc RADIAL	151821.2	151821.2	103 %		17:00:54
3	Al 396.153Radial†	-35.8	28.1	5.7660 µg/L	5.7660 ppb	17:01:14
3	Ca 317.933Radial†	649.0	-66.1	-3.9762 µg/L	-3.9762 ppb	17:01:14
3	Fe 238.204 Radial†	152.9	8.2	0.5536 µg/L	0.5536 ppb	17:01:14
3	K 766.490 Radial†	1341.6	-6.4	-2.6589 µg/L	-2.6589 ppb	17:00:54
3	Mg 279.077 IEC†	176.0	2.6	1.0683 µg/L	1.0683 ppb	17:01:14
3	Na 589.592 Radial†	1495.8	249.9	37.942 µg/L	37.942 ppb	17:00:54
3	Sr 421.552†	-325.5	-95.3	-0.2198 µg/L	-0.2198 ppb	17:00:54
3	Sc 361.383	1779477.4	1779477.4	101.39 %		17:02:21
3	Y 371.029	1078016.4	1078016.4	101.31 %		17:02:21
3	Ag 328.068†	3389.2	-104.4	-0.4278 µg/L	-0.4278 ppb	17:02:23
3	As 188.979†	-17.2	0.7	0.2529 µg/L	0.2529 ppb	17:02:43
3	B 249.677†	3239.4	-35.4	-0.5764 µg/L	-0.5764 ppb	17:02:43
3	Ba 233.527†	-167.6	-3.1	-0.0137 µg/L	-0.0137 ppb	17:02:43
3	Be 313.107†	-756.0	40.0	0.0096 µg/L	0.0096 ppb	17:02:23
3	Cd 226.502†	-100.9	10.5	0.0724 µg/L	0.0724 ppb	17:02:43
3	Co 228.616†	-186.2	-11.2	-0.1522 µg/L	-0.1522 ppb	17:02:43
3	Cr 267.716†	173.8	-7.2	-0.0544 µg/L	-0.0544 ppb	17:02:43
3	Cu 324.752†	2874.1	45.7	0.1860 µg/L	0.1860 ppb	17:02:23
3	Mn 257.610†	174.4	-3.5	-0.0048 µg/L	-0.0048 ppb	17:02:43
3	Mo 202.031†	-24.1	11.0	0.3501 µg/L	0.3501 ppb	17:02:43
3	Ni 231.604†	-59.8	18.9	0.2376 µg/L	0.2376 ppb	17:02:43
3	P 214.914†	11.8	6.6	1.5759 µg/L	1.5759 ppb	17:02:43
3	Pb 220.353†	73.9	-24.0	-1.4651 µg/L	-1.4651 ppb	17:02:43
3	S 181.975 Axial†	95.0	6.0	4.8862 µg/L	4.8862 ppb	17:02:43
3	Sb 206.836†	84.7	5.4	0.7191 µg/L	0.7191 ppb	17:02:43
3	Se 196.026†	13.3	-0.4	-0.175 µg/L	-0.175 ppb	17:02:43
3	SiO2†	1699.4	-77.0	-8.2473 µg/L	-8.2473 ppb	17:02:43
3	Si 251.611†	782.0	-177.4	-2.8742 µg/L	-2.8742 ppb	17:02:43
3	Sn 189.927†	-6.6	-4.0	-0.2753 µg/L	-0.2753 ppb	17:02:43
3	Ti 334.940†	871.2	-26.3	-0.0232 µg/L	-0.0232 ppb	17:02:23
3	Tl 190.801†	-113.4	5.2	0.6959 µg/L	0.6959 ppb	17:02:43
3	U 409.014†	-417.5	-128.0	-8.0312 µg/L	-8.0312 ppb	17:02:23
3	V 292.402†	265.4	-48.1	-0.2572 µg/L	-0.2572 ppb	17:02:23
3	Zn 213.857†	508.3	-23.2	-0.1456 µg/L	-0.1456 ppb	17:02:43

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1770149.6	100.86 %	0.462			0.46%
Sc RADIAL	152001.9	103 %	1.5			1.49%
Y 371.029	1072448.9	100.79 %	0.454			0.45%
Ag 328.068†	-19.2	-0.0821 µg/L	1.13817	-0.0821 ppb	1.13817	>999.9%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	15.6	3.2170 µg/L	3.39828	3.2170 ppb	3.39828	105.63%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	2.6	0.9201 µg/L	1.21495	0.9201 ppb	1.21495	132.05%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	-20.3	-0.3303 µg/L	0.49719	-0.3303 ppb	0.49719	150.52%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	6.4	0.0278 µg/L	0.04348	0.0278 ppb	0.04348	156.19%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	81.9	0.0234 µg/L	0.02306	0.0234 ppb	0.02306	98.58%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-59.3	-3.5708 µg/L	1.25151	-3.5708 ppb	1.25151	35.05%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	1.2	0.0083 µg/L	0.07832	0.0083 ppb	0.07832	948.51%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	-4.0	-0.0545 µg/L	0.12330	-0.0545 ppb	0.12330	226.30%

Cr	267.716†	QC value within limits for Co 228.616	Recovery = Not calculated			
		-6.8	-0.0542 µg/L	0.13777	-0.0542 ppb	0.13777 254.07%
Cu	324.752†	QC value within limits for Cr 267.716	Recovery = Not calculated			
		5.8	0.0212 µg/L	0.24425	0.0212 ppb	0.24425 >999.9%
Fe	238.204 Radial†	QC value within limits for Cu 324.752	Recovery = Not calculated			
		8.6	0.5803 µg/L	0.39803	0.5803 ppb	0.39803 68.60%
K	766.490 Radial†	QC value within limits for Fe 238.204 Radial	Recovery = Not calculated			
		69.8	28.726 µg/L	27.6913	28.726 ppb	27.6913 96.40%
Mg	279.077 IEC†	QC value within limits for K 766.490 Radial	Recovery = Not calculated			
		1.4	0.5642 µg/L	1.88533	0.5642 ppb	1.88533 334.16%
Mn	257.610†	QC value within limits for Mg 279.077 IEC	Recovery = Not calculated			
		0.1	0.0001 µg/L	0.01404	0.0001 ppb	0.01404 >999.9%
Mo	202.031†	QC value within limits for Mn 257.610	Recovery = Not calculated			
		4.9	0.1551 µg/L	0.25191	0.1551 ppb	0.25191 162.41%
Na	589.592 Radial†	QC value within limits for Mo 202.031	Recovery = Not calculated			
		212.0	32.174 µg/L	11.0603	32.174 ppb	11.0603 34.38%
Ni	231.604†	QC value within limits for Na 589.592 Radial	Recovery = Not calculated			
		14.3	0.1804 µg/L	0.08661	0.1804 ppb	0.08661 48.02%
P	214.914†	QC value within limits for Ni 231.604	Recovery = Not calculated			
		7.8	1.8535 µg/L	3.05049	1.8535 ppb	3.05049 164.58%
Pb	220.353†	QC value within limits for P 214.914	Recovery = Not calculated			
		-18.2	-1.1099 µg/L	0.58669	-1.1099 ppb	0.58669 52.86%
S	181.975 Axial†	QC value within limits for Pb 220.353	Recovery = Not calculated			
		3.6	2.9373 µg/L	2.10985	2.9373 ppb	2.10985 71.83%
Sb	206.836†	QC value within limits for S 181.975 Axial	Recovery = Not calculated			
		2.0	0.2720 µg/L	0.42149	0.2720 ppb	0.42149 154.97%
Se	196.026†	QC value within limits for Sb 206.836	Recovery = Not calculated			
		-4.8	-1.93 µg/L	2.683	-1.93 ppb	2.683 138.72%
SiO2†		QC value within limits for Se 196.026	Recovery = Not calculated			
		-75.5	-8.0878 µg/L	0.38919	-8.0878 ppb	0.38919 4.81%
Si	251.611†	QC value within limits for SiO2	Recovery = Not calculated			
		-178.1	-2.8881 µg/L	0.45468	-2.8881 ppb	0.45468 15.74%
Sn	189.927†	QC value within limits for Si 251.611	Recovery = Not calculated			
		5.6	0.3892 µg/L	0.59721	0.3892 ppb	0.59721 153.43%
Sr	421.552†	QC value within limits for Sn 189.927	Recovery = Not calculated			
		-27.4	-0.0631 µg/L	0.13749	-0.0631 ppb	0.13749 217.84%
Ti	334.940†	QC value within limits for Sr 421.552	Recovery = Not calculated			
		-145.8	-0.1446 µg/L	0.11091	-0.1446 ppb	0.11091 76.69%
Tl	190.801†	QC value within limits for Ti 334.940	Recovery = Not calculated			
		5.9	0.7878 µg/L	0.26491	0.7878 ppb	0.26491 33.63%
U	409.014†	QC value within limits for Tl 190.801	Recovery = Not calculated			
		-62.3	-3.9097 µg/L	3.59701	-3.9097 ppb	3.59701 92.00%
V	292.402†	QC value within limits for U 409.014	Recovery = Not calculated			
		-19.9	-0.1069 µg/L	0.20744	-0.1069 ppb	0.20744 194.00%
Zn	213.857†	QC value within limits for V 292.402	Recovery = Not calculated			
		-6.5	-0.0417 µg/L	0.10773	-0.0417 ppb	0.10773 258.22%
		QC value within limits for Zn 213.857	Recovery = Not calculated			

All analyte(s) passed QC.

Sequence No.: 9

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 3/30/2010 17:18:48

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	150447.1	150447.1	102 %		17:19:22
1	Al 396.153Radial†	25401.2	25022.2	5132.7 µg/L	5132.7 ppb	17:19:22
1	Ca 317.933Radial†	86818.2	84609.9	5090.8 µg/L	5090.8 ppb	17:19:22
1	Fe 238.204 Radial†	76699.6	75224.6	5061.8 µg/L	5061.8 ppb	17:19:22
1	K 766.490 Radial†	13929.7	12374.5	5088.7 µg/L	5088.7 ppb	17:19:22
1	Mg 279.077 IEC†	12998.2	12603.3	5178.2 µg/L	5178.2 ppb	17:19:22
1	Na 589.592 Radial†	68511.6	66113.1	10035 µg/L	10035 ppb	17:19:22
1	Sr 421.552†	228277.5	224527.9	517.91 µg/L	517.91 ppb	17:19:20
1	Sc 361.383	1756736.2	1756736.2	100.09 %		17:19:49
1	Y 371.029	1051471.7	1051471.7	98.818 %		17:19:49
1	Ag 328.068†	129586.2	126016.7	507.22 µg/L	507.22 ppb	17:19:49
1	As 188.979†	1431.2	1447.5	512.40 µg/L	512.40 ppb	17:20:09
1	B 249.677†	34020.5	30758.0	499.72 µg/L	499.72 ppb	17:19:49
1	Ba 233.527†	115660.0	115713.0	504.25 µg/L	504.25 ppb	17:19:49
1	Be 313.107†	1683097.6	1682293.9	505.01 µg/L	505.01 ppb	17:19:49
1	Cd 226.502†	73552.2	73592.8	505.00 µg/L	505.00 ppb	17:19:49
1	Co 228.616†	37413.9	37551.0	508.14 µg/L	508.14 ppb	17:19:49
1	Cr 267.716†	59943.1	59707.9	502.95 µg/L	502.95 ppb	17:19:49
1	Cu 324.752†	122063.0	119158.8	503.68 µg/L	503.68 ppb	17:19:49
1	Mn 257.610†	378802.5	378269.2	505.38 µg/L	505.38 ppb	17:19:49
1	Mo 202.031†	16008.3	16027.9	510.30 µg/L	510.30 ppb	17:20:09
1	Ni 231.604†	40299.1	40338.9	507.37 µg/L	507.37 ppb	17:19:49
1	P 214.914†	10741.1	10725.9	2549.7 µg/L	2549.7 ppb	17:20:09
1	Pb 220.353†	8473.7	8368.8	514.04 µg/L	514.04 ppb	17:20:09
1	S 181.975 Axial†	1329.1	1240.2	1020.9 µg/L	1020.9 ppb	17:20:09
1	Sb 206.836†	3973.9	3892.0	511.59 µg/L	511.59 ppb	17:20:09
1	Se 196.026†	1283.6	1268.8	510 µg/L	510 ppb	17:20:09
1	SiO2†	52268.2	50465.7	5377.2 µg/L	5377.2 ppb	17:19:49
1	Si 251.611†	156995.9	155899.0	2513.2 µg/L	2513.2 ppb	17:19:49
1	Sn 189.927†	7392.9	7388.5	513.21 µg/L	513.21 ppb	17:20:09
1	Ti 334.940†	505007.8	503645.4	503.92 µg/L	503.92 ppb	17:19:49
1	Tl 190.801†	3682.4	3796.0	517.71 µg/L	517.71 ppb	17:20:09
1	U 409.014†	7336.0	7612.8	507.49 µg/L	507.49 ppb	17:19:49
1	V 292.402†	94964.3	94564.8	508.83 µg/L	508.83 ppb	17:19:49
1	Zn 213.857†	82267.7	81665.5	502.52 µg/L	502.52 ppb	17:19:49
2	Sc RADIAL	153172.3	153172.3	104 %		17:19:26
2	Al 396.153Radial†	25695.3	24862.0	5099.7 µg/L	5099.7 ppb	17:19:26
2	Ca 317.933Radial†	88610.7	84822.1	5103.5 µg/L	5103.5 ppb	17:19:26
2	Fe 238.204 Radial†	78237.5	75368.0	5071.4 µg/L	5071.4 ppb	17:19:26
2	K 766.490 Radial†	14116.8	12311.6	5062.8 µg/L	5062.8 ppb	17:19:26
2	Mg 279.077 IEC†	13282.0	12649.9	5197.3 µg/L	5197.3 ppb	17:19:26
2	Na 589.592 Radial†	70025.6	66376.5	10075 µg/L	10075 ppb	17:19:26
2	Sr 421.552†	229523.7	221739.8	511.48 µg/L	511.48 ppb	17:19:24
2	Sc 361.383	1762706.8	1762706.8	100.43 %		17:20:12
2	Y 371.029	1055600.2	1055600.2	99.206 %		17:20:12
2	Ag 328.068†	130291.0	126280.0	508.30 µg/L	508.30 ppb	17:20:12
2	As 188.979†	1437.7	1449.1	512.97 µg/L	512.97 ppb	17:20:32
2	B 249.677†	34155.5	30777.4	500.03 µg/L	500.03 ppb	17:20:12
2	Ba 233.527†	116399.1	116057.5	505.75 µg/L	505.75 ppb	17:20:12
2	Be 313.107†	1693458.0	1686913.9	506.40 µg/L	506.40 ppb	17:20:12
2	Cd 226.502†	74111.5	73900.8	507.11 µg/L	507.11 ppb	17:20:12
2	Co 228.616†	37664.8	37674.2	509.81 µg/L	509.81 ppb	17:20:12
2	Cr 267.716†	60247.9	59808.5	503.80 µg/L	503.80 ppb	17:20:12
2	Cu 324.752†	122964.9	119643.7	505.74 µg/L	505.74 ppb	17:20:12
2	Mn 257.610†	381536.3	379709.3	507.31 µg/L	507.31 ppb	17:20:12
2	Mo 202.031†	16061.8	16027.0	510.27 µg/L	510.27 ppb	17:20:32
2	Ni 231.604†	40512.3	40414.9	508.33 µg/L	508.33 ppb	17:20:12
2	P 214.914†	10769.9	10718.3	2547.9 µg/L	2547.9 ppb	17:20:32
2	Pb 220.353†	8523.3	8389.5	515.30 µg/L	515.30 ppb	17:20:32

2	S 181.975 Axial†	1334.7	1241.2	1021.8 µg/L	1021.8 ppb	17:20:32
2	Sb 206.836†	3976.6	3881.3	510.17 µg/L	510.17 ppb	17:20:32
2	Se 196.026†	1295.2	1276.0	513 µg/L	513 ppb	17:20:32
2	SiO2†	52513.8	50533.4	5384.4 µg/L	5384.4 ppb	17:20:12
2	Si 251.611†	158194.5	156561.2	2524.0 µg/L	2524.0 ppb	17:20:12
2	Sn 189.927†	7405.6	7376.1	512.37 µg/L	512.37 ppb	17:20:32
2	Ti 334.940†	509340.5	506250.4	506.52 µg/L	506.52 ppb	17:20:12
2	Tl 190.801†	3689.5	3790.6	517.02 µg/L	517.02 ppb	17:20:32
2	U 409.014†	7505.9	7757.1	516.63 µg/L	516.63 ppb	17:20:12
2	V 292.402†	95608.6	94885.0	510.53 µg/L	510.53 ppb	17:20:12
2	Zn 213.857†	82875.7	81992.4	504.54 µg/L	504.54 ppb	17:20:12
3	Sc RADIAL	152045.9	152045.9	103 %		17:19:30
3	Al 396.153Radial†	25587.5	24940.8	5115.9 µg/L	5115.9 ppb	17:19:30
3	Ca 317.933Radial†	87880.1	84745.3	5098.9 µg/L	5098.9 ppb	17:19:30
3	Fe 238.204 Radial†	77397.9	75111.0	5054.1 µg/L	5054.1 ppb	17:19:30
3	K 766.490 Radial†	14139.5	12434.6	5113.4 µg/L	5113.4 ppb	17:19:30
3	Mg 279.077 IEC†	13163.6	12629.8	5189.1 µg/L	5189.1 ppb	17:19:30
3	Na 589.592 Radial†	69543.6	66408.6	10079 µg/L	10079 ppb	17:19:30
3	Sr 421.552†	226721.6	220656.4	508.98 µg/L	508.98 ppb	17:19:28
3	Sc 361.383	1744223.5	1744223.5	99.382 %		17:20:35
3	Y 371.029	1044447.8	1044447.8	98.158 %		17:20:35
3	Ag 328.068†	128861.6	126216.4	508.02 µg/L	508.02 ppb	17:20:35
3	As 188.979†	1418.6	1445.1	511.56 µg/L	511.56 ppb	17:20:55
3	B 249.677†	34051.2	31032.7	504.20 µg/L	504.20 ppb	17:20:35
3	Ba 233.527†	114922.7	115799.9	504.62 µg/L	504.62 ppb	17:20:35
3	Be 313.107†	1672379.2	1683571.6	505.40 µg/L	505.40 ppb	17:20:35
3	Cd 226.502†	73206.3	73771.8	506.23 µg/L	506.23 ppb	17:20:35
3	Co 228.616†	37218.9	37622.9	509.11 µg/L	509.11 ppb	17:20:35
3	Cr 267.716†	59519.2	59711.0	502.98 µg/L	502.98 ppb	17:20:35
3	Cu 324.752†	121680.7	119649.0	505.75 µg/L	505.75 ppb	17:20:35
3	Mn 257.610†	376948.2	379118.2	506.52 µg/L	506.52 ppb	17:20:35
3	Mo 202.031†	15874.2	16007.7	509.65 µg/L	509.65 ppb	17:20:55
3	Ni 231.604†	40030.7	40357.7	507.61 µg/L	507.61 ppb	17:20:35
3	P 214.914†	10643.0	10704.2	2544.5 µg/L	2544.5 ppb	17:20:55
3	Pb 220.353†	8430.7	8386.1	515.10 µg/L	515.10 ppb	17:20:55
3	S 181.975 Axial†	1321.8	1242.3	1022.7 µg/L	1022.7 ppb	17:20:55
3	Sb 206.836†	3916.5	3862.8	507.74 µg/L	507.74 ppb	17:20:55
3	Se 196.026†	1283.9	1278.3	514 µg/L	514 ppb	17:20:55
3	SiO2†	51951.5	50521.6	5383.2 µg/L	5383.2 ppb	17:20:35
3	Si 251.611†	156290.5	156314.4	2520.0 µg/L	2520.0 ppb	17:20:35
3	Sn 189.927†	7333.8	7381.9	512.77 µg/L	512.77 ppb	17:20:55
3	Ti 334.940†	502776.2	505019.3	505.29 µg/L	505.29 ppb	17:20:35
3	Tl 190.801†	3676.0	3816.0	520.41 µg/L	520.41 ppb	17:20:55
3	U 409.014†	7327.7	7657.0	510.29 µg/L	510.29 ppb	17:20:35
3	V 292.402†	94376.7	94654.2	509.30 µg/L	509.30 ppb	17:20:35
3	Zn 213.857†	81702.2	81686.1	502.64 µg/L	502.64 ppb	17:20:35

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1754555.5	99.970 %	0.5374			0.54%
Sc RADIAL	151888.5	103 %	0.9			0.90%
Y 371.029	1050506.6	98.728 %	0.5299			0.54%
Ag 328.068†	126171.0	507.85 µg/L	0.560	507.85 ppb	0.560	0.11%
QC value within limits for Ag 328.068 Recovery = 101.57%						
Al 396.153Radial†	24941.7	5116.1 µg/L	16.51	5116.1 ppb	16.51	0.32%
QC value within limits for Al 396.153Radial Recovery = 102.32%						
As 188.979†	1447.2	512.31 µg/L	0.710	512.31 ppb	0.710	0.14%
QC value within limits for As 188.979 Recovery = 102.46%						
B 249.677†	30856.0	501.32 µg/L	2.500	501.32 ppb	2.500	0.50%
QC value within limits for B 249.677 Recovery = 100.26%						
Ba 233.527†	115856.8	504.87 µg/L	0.781	504.87 ppb	0.781	0.15%
QC value within limits for Ba 233.527 Recovery = 100.97%						
Be 313.107†	1684259.8	505.60 µg/L	0.717	505.60 ppb	0.717	0.14%
QC value within limits for Be 313.107 Recovery = 101.12%						
Ca 317.933Radial†	84725.8	5097.7 µg/L	6.46	5097.7 ppb	6.46	0.13%
QC value within limits for Ca 317.933Radial Recovery = 101.95%						
Cd 226.502†	73755.1	506.11 µg/L	1.062	506.11 ppb	1.062	0.21%
QC value within limits for Cd 226.502 Recovery = 101.22%						
Co 228.616†	37616.0	509.02 µg/L	0.837	509.02 ppb	0.837	0.16%

QC value within limits for Co 228.616 Recovery = 101.80%							
Cr 267.716†	59742.5	503.24 µg/L	0.479	503.24 ppb	0.479	0.10%	
QC value within limits for Cr 267.716 Recovery = 100.65%							
Cu 324.752†	119483.8	505.06 µg/L	1.190	505.06 ppb	1.190	0.24%	
QC value within limits for Cu 324.752 Recovery = 101.01%							
Fe 238.204 Radial†	75234.5	5062.4 µg/L	8.67	5062.4 ppb	8.67	0.17%	
QC value within limits for Fe 238.204 Radial Recovery = 101.25%							
K 766.490 Radial†	12373.6	5088.3 µg/L	25.32	5088.3 ppb	25.32	0.50%	
QC value within limits for K 766.490 Radial Recovery = 101.77%							
Mg 279.077 IEC†	12627.7	5188.2 µg/L	9.58	5188.2 ppb	9.58	0.18%	
QC value within limits for Mg 279.077 IEC Recovery = 103.76%							
Mn 257.610†	379032.3	506.40 µg/L	0.967	506.40 ppb	0.967	0.19%	
QC value within limits for Mn 257.610 Recovery = 101.28%							
Mo 202.031†	16020.9	510.07 µg/L	0.363	510.07 ppb	0.363	0.07%	
QC value within limits for Mo 202.031 Recovery = 102.01%							
Na 589.592 Radial†	66299.4	10063 µg/L	24.6	10063 ppb	24.6	0.24%	
QC value within limits for Na 589.592 Radial Recovery = 100.63%							
Ni 231.604†	40370.5	507.77 µg/L	0.497	507.77 ppb	0.497	0.10%	
QC value within limits for Ni 231.604 Recovery = 101.55%							
P 214.914†	10716.1	2547.4 µg/L	2.63	2547.4 ppb	2.63	0.10%	
QC value within limits for P 214.914 Recovery = 101.89%							
Pb 220.353†	8381.5	514.81 µg/L	0.677	514.81 ppb	0.677	0.13%	
QC value within limits for Pb 220.353 Recovery = 102.96%							
S 181.975 Axial†	1241.2	1021.8 µg/L	0.88	1021.8 ppb	0.88	0.09%	
QC value within limits for S 181.975 Axial Recovery = 102.18%							
Sb 206.836†	3878.7	509.83 µg/L	1.944	509.83 ppb	1.944	0.38%	
QC value within limits for Sb 206.836 Recovery = 101.97%							
Se 196.026†	1274.4	512 µg/L	2.0	512 ppb	2.0	0.39%	
QC value within limits for Se 196.026 Recovery = 102.47%							
SiO2†	50506.9	5381.6 µg/L	3.88	5381.6 ppb	3.88	0.07%	
QC value within limits for SiO2 Recovery = 100.64%							
Si 251.611†	156258.2	2519.1 µg/L	5.42	2519.1 ppb	5.42	0.22%	
QC value within limits for Si 251.611 Recovery = 100.76%							
Sn 189.927†	7382.2	512.78 µg/L	0.424	512.78 ppb	0.424	0.08%	
QC value within limits for Sn 189.927 Recovery = 102.56%							
Sr 421.552†	222308.0	512.79 µg/L	4.608	512.79 ppb	4.608	0.90%	
QC value within limits for Sr 421.552 Recovery = 102.56%							
Ti 334.940†	504971.7	505.24 µg/L	1.303	505.24 ppb	1.303	0.26%	
QC value within limits for Ti 334.940 Recovery = 101.05%							
Tl 190.801†	3800.8	518.38 µg/L	1.791	518.38 ppb	1.791	0.35%	
QC value within limits for Tl 190.801 Recovery = 103.68%							
U 409.014†	7675.7	511.47 µg/L	4.685	511.47 ppb	4.685	0.92%	
QC value within limits for U 409.014 Recovery = 102.29%							
V 292.402†	94701.3	509.55 µg/L	0.881	509.55 ppb	0.881	0.17%	
QC value within limits for V 292.402 Recovery = 101.91%							
Zn 213.857†	81781.3	503.23 µg/L	1.132	503.23 ppb	1.132	0.22%	
QC value within limits for Zn 213.857 Recovery = 100.65%							
All analyte(s) passed QC.							

Sequence No.: 10

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 3/30/2010 17:21:02

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Calib. Units	Conc. Units	Sample Units	Analysis Time
1	Sc RADIAL	151612.6	151612.6	103	%			17:21:31
1	Al 396.153Radial†	-56.0	8.2	1.6789	µg/L	1.6789	ppb	17:21:51
1	Ca 317.933Radial†	667.4	-47.3	-2.8438	µg/L	-2.8438	ppb	17:21:51
1	Fe 238.204 Radial†	163.6	18.8	1.2660	µg/L	1.2660	ppb	17:21:51
1	K 766.490 Radial†	1549.7	198.2	81.562	µg/L	81.562	ppb	17:21:31
1	Mg 279.077 IEC†	197.6	23.9	9.8035	µg/L	9.8035	ppb	17:21:51
1	Na 589.592 Radial†	1504.5	260.3	39.459	µg/L	39.459	ppb	17:21:31
1	Sr 421.552†	-197.6	29.0	0.0669	µg/L	0.0669	ppb	17:21:31
1	Sc 361.383	1786652.6	1786652.6	101.80	%			17:22:39
1	Y 371.029	1082214.6	1082214.6	101.71	%			17:22:39
1	Ag 328.068†	3829.2	314.5	1.2474	µg/L	1.2474	ppb	17:22:41
1	As 188.979†	-12.2	5.7	1.9850	µg/L	1.9850	ppb	17:23:01
1	B 249.677†	3259.7	-28.3	-0.4609	µg/L	-0.4609	ppb	17:23:01
1	Ba 233.527†	-146.1	18.7	0.0814	µg/L	0.0814	ppb	17:23:01
1	Be 313.107†	-808.0	-8.2	-0.0030	µg/L	-0.0030	ppb	17:22:41
1	Cd 226.502†	-124.0	-11.8	-0.0807	µg/L	-0.0807	ppb	17:23:01
1	Co 228.616†	-172.8	2.7	0.0368	µg/L	0.0368	ppb	17:23:01
1	Cr 267.716†	168.4	-13.2	-0.1097	µg/L	-0.1097	ppb	17:23:01
1	Cu 324.752†	2861.6	22.1	0.0918	µg/L	0.0918	ppb	17:22:41
1	Mn 257.610†	203.5	24.3	0.0321	µg/L	0.0321	ppb	17:23:01
1	Mo 202.031†	-21.0	14.2	0.4512	µg/L	0.4512	ppb	17:23:01
1	Ni 231.604†	-43.7	35.0	0.4399	µg/L	0.4399	ppb	17:23:01
1	P 214.914†	16.6	11.3	2.6998	µg/L	2.6998	ppb	17:23:01
1	Pb 220.353†	85.6	-12.9	-0.7865	µg/L	-0.7865	ppb	17:23:01
1	S 181.975 Axial†	90.7	1.4	1.1791	µg/L	1.1791	ppb	17:23:01
1	Sb 206.836†	92.8	13.1	1.7284	µg/L	1.7284	ppb	17:23:01
1	Se 196.026†	20.3	6.4	2.54	µg/L	2.54	ppb	17:23:01
1	SiO2†	1716.5	-67.0	-7.1932	µg/L	-7.1932	ppb	17:23:01
1	Si 251.611†	786.3	-176.3	-2.8660	µg/L	-2.8660	ppb	17:23:01
1	Sn 189.927†	12.2	14.5	1.0060	µg/L	1.0060	ppb	17:23:01
1	Ti 334.940†	822.6	-77.5	-0.0777	µg/L	-0.0777	ppb	17:22:41
1	Tl 190.801†	-99.1	19.8	2.6569	µg/L	2.6569	ppb	17:23:01
1	U 409.014†	-320.3	-30.9	-1.9385	µg/L	-1.9385	ppb	17:22:41
1	V 292.402†	311.2	-4.2	-0.0194	µg/L	-0.0194	ppb	17:22:41
1	Zn 213.857†	539.4	5.3	0.0299	µg/L	0.0299	ppb	17:23:01
2	Sc RADIAL	151711.2	151711.2	103	%			17:21:53
2	Al 396.153Radial†	-61.3	3.2	0.6395	µg/L	0.6395	ppb	17:22:13
2	Ca 317.933Radial†	632.0	-82.1	-4.9402	µg/L	-4.9402	ppb	17:22:13
2	Fe 238.204 Radial†	152.2	7.6	0.5125	µg/L	0.5125	ppb	17:22:13
2	K 766.490 Radial†	1537.5	185.4	76.289	µg/L	76.289	ppb	17:21:53
2	Mg 279.077 IEC†	173.8	0.6	0.2447	µg/L	0.2447	ppb	17:22:13
2	Na 589.592 Radial†	1416.7	173.8	26.320	µg/L	26.320	ppb	17:21:53
2	Sr 421.552†	-295.9	-66.7	-0.1537	µg/L	-0.1537	ppb	17:21:53
2	Sc 361.383	1800964.8	1800964.8	102.61	%			17:23:03
2	Y 371.029	1089468.5	1089468.5	102.39	%			17:23:03
2	Ag 328.068†	3309.5	-221.9	-0.8860	µg/L	-0.8860	ppb	17:23:05
2	As 188.979†	-17.3	0.8	0.2871	µg/L	0.2871	ppb	17:23:26
2	B 249.677†	3208.8	-103.3	-1.6830	µg/L	-1.6830	ppb	17:23:26
2	Ba 233.527†	-167.1	-0.7	-0.0027	µg/L	-0.0027	ppb	17:23:26
2	Be 313.107†	-614.2	187.0	0.0548	µg/L	0.0548	ppb	17:23:05
2	Cd 226.502†	-73.2	38.7	0.2657	µg/L	0.2657	ppb	17:23:26
2	Co 228.616†	-188.1	-10.8	-0.1466	µg/L	-0.1466	ppb	17:23:26
2	Cr 267.716†	158.3	-24.3	-0.2015	µg/L	-0.2015	ppb	17:23:26
2	Cu 324.752†	2677.3	-179.9	-0.7614	µg/L	-0.7614	ppb	17:23:05
2	Mn 257.610†	177.7	-2.4	-0.0032	µg/L	-0.0032	ppb	17:23:26
2	Mo 202.031†	-24.4	11.0	0.3508	µg/L	0.3508	ppb	17:23:26
2	Ni 231.604†	-78.6	1.3	0.0163	µg/L	0.0163	ppb	17:23:26
2	P 214.914†	5.6	0.5	0.1210	µg/L	0.1210	ppb	17:23:26
2	Pb 220.353†	99.5	0.0	0.0062	µg/L	0.0062	ppb	17:23:26

2	S 181.975 Axial†	88.6	-1.3	-1.0766 µg/L	-1.0766 ppb	17:23:26
2	Sb 206.836†	81.5	1.3	0.1826 µg/L	0.1826 ppb	17:23:26
2	Se 196.026†	-3.8	-17.2	-6.90 µg/L	-6.90 ppb	17:23:26
2	SiO2†	1740.4	-57.1	-6.1143 µg/L	-6.1143 ppb	17:23:26
2	Si 251.611†	757.6	-210.4	-3.4098 µg/L	-3.4098 ppb	17:23:26
2	Sn 189.927†	-2.7	-0.1	-0.0082 µg/L	-0.0082 ppb	17:23:26
2	Ti 334.940†	623.6	-277.8	-0.2767 µg/L	-0.2767 ppb	17:23:05
2	Tl 190.801†	-113.2	6.7	0.9019 µg/L	0.9019 ppb	17:23:26
2	U 409.014†	-361.4	-68.4	-4.2789 µg/L	-4.2789 ppb	17:23:05
2	V 292.402†	336.0	17.6	0.0936 µg/L	0.0936 ppb	17:23:05
2	Zn 213.857†	519.1	-18.7	-0.1155 µg/L	-0.1155 ppb	17:23:26
3	Sc RADIAL	149965.0	149965.0	101 %		17:22:15
3	Al 396.153Radial†	-31.6	31.7	6.5334 µg/L	6.5334 ppb	17:22:35
3	Ca 317.933Radial†	652.8	-54.4	-3.2756 µg/L	-3.2756 ppb	17:22:35
3	Fe 238.204 Radial†	143.2	0.5	0.0329 µg/L	0.0329 ppb	17:22:35
3	K 766.490 Radial†	1418.5	85.5	35.164 µg/L	35.164 ppb	17:22:15
3	Mg 279.077 IEC†	153.3	-17.6	-7.2349 µg/L	-7.2349 ppb	17:22:35
3	Na 589.592 Radial†	1488.2	260.4	39.503 µg/L	39.503 ppb	17:22:15
3	Sr 421.552†	-208.2	16.4	0.0379 µg/L	0.0379 ppb	17:22:15
3	Sc 361.383	1752421.7	1752421.7	99.849 %		17:23:28
3	Y 371.029	1062426.9	1062426.9	99.848 %		17:23:28
3	Ag 328.068†	3395.4	-46.5	-0.1971 µg/L	-0.1971 ppb	17:23:30
3	As 188.979†	-14.9	2.7	0.9525 µg/L	0.9525 ppb	17:23:50
3	B 249.677†	3249.0	23.6	0.3844 µg/L	0.3844 ppb	17:23:50
3	Ba 233.527†	-163.8	-1.9	-0.0085 µg/L	-0.0085 ppb	17:23:50
3	Be 313.107†	-691.4	93.2	0.0254 µg/L	0.0254 ppb	17:23:30
3	Cd 226.502†	-84.5	25.4	0.1744 µg/L	0.1744 ppb	17:23:50
3	Co 228.616†	-169.0	3.2	0.0435 µg/L	0.0435 ppb	17:23:50
3	Cr 267.716†	148.8	-29.5	-0.2422 µg/L	-0.2422 ppb	17:23:50
3	Cu 324.752†	2779.8	-4.9	-0.0279 µg/L	-0.0279 ppb	17:23:30
3	Mn 257.610†	176.4	1.1	0.0018 µg/L	0.0018 ppb	17:23:50
3	Mo 202.031†	-30.5	4.2	0.1327 µg/L	0.1327 ppb	17:23:50
3	Ni 231.604†	-69.8	8.0	0.1010 µg/L	0.1010 ppb	17:23:50
3	P 214.914†	30.9	26.0	6.1996 µg/L	6.1996 ppb	17:23:50
3	Pb 220.353†	101.9	5.1	0.3202 µg/L	0.3202 ppb	17:23:50
3	S 181.975 Axial†	94.9	7.3	6.0180 µg/L	6.0180 ppb	17:23:50
3	Sb 206.836†	85.1	7.1	0.9397 µg/L	0.9397 ppb	17:23:50
3	Se 196.026†	15.4	1.8	0.725 µg/L	0.725 ppb	17:23:50
3	SiO2†	1680.4	-70.2	-7.5145 µg/L	-7.5145 ppb	17:23:50
3	Si 251.611†	760.4	-187.1	-3.0316 µg/L	-3.0316 ppb	17:23:50
3	Sn 189.927†	-0.2	2.4	0.1634 µg/L	0.1634 ppb	17:23:50
3	Ti 334.940†	528.0	-356.8	-0.3534 µg/L	-0.3534 ppb	17:23:30
3	Tl 190.801†	-100.9	16.0	2.1437 µg/L	2.1437 ppb	17:23:50
3	U 409.014†	-418.3	-135.2	-8.4743 µg/L	-8.4743 ppb	17:23:30
3	V 292.402†	281.8	-27.6	-0.1515 µg/L	-0.1515 ppb	17:23:30
3	Zn 213.857†	523.6	-0.2	-0.0020 µg/L	-0.0020 ppb	17:23:50

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Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1780013.1	101.42 %		1.421			1.40%
Sc RADIAL	151096.3	102 %		0.7			0.65%
Y 371.029	1078036.7	101.32 %		1.315			1.30%
Ag 328.068†	15.3	0.0548 µg/L		1.08877	0.0548 ppb	1.08877	>999.9%
QC value within limits for Ag 328.068 Recovery = Not calculated							
Al 396.153Radial†	14.4	2.9506 µg/L		3.14602	2.9506 ppb	3.14602	106.62%
QC value within limits for Al 396.153Radial Recovery = Not calculated							
As 188.979†	3.1	1.0749 µg/L		0.85558	1.0749 ppb	0.85558	79.60%
QC value within limits for As 188.979 Recovery = Not calculated							
B 249.677†	-36.0	-0.5865 µg/L		1.03942	-0.5865 ppb	1.03942	177.22%
QC value within limits for B 249.677 Recovery = Not calculated							
Ba 233.527†	5.4	0.0234 µg/L		0.05028	0.0234 ppb	0.05028	214.84%
QC value within limits for Ba 233.527 Recovery = Not calculated							
Be 313.107†	90.7	0.0257 µg/L		0.02894	0.0257 ppb	0.02894	112.47%
QC value within limits for Be 313.107 Recovery = Not calculated							
Ca 317.933Radial†	-61.3	-3.6865 µg/L		1.10699	-3.6865 ppb	1.10699	30.03%
QC value within limits for Ca 317.933Radial Recovery = Not calculated							
Cd 226.502†	17.4	0.1198 µg/L		0.17957	0.1198 ppb	0.17957	149.88%
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	-1.6	-0.0221 µg/L		0.10788	-0.0221 ppb	0.10788	488.25%

QC value within limits for Co 228.616	Recovery = Not calculated		
Cr 267.716†	-22.3 -0.1845 µg/L	0.06787 -0.1845 ppb	0.06787 36.80%
QC value within limits for Cr 267.716	Recovery = Not calculated		
Cu 324.752†	-54.2 -0.2325 µg/L	0.46196 -0.2325 ppb	0.46196 198.68%
QC value within limits for Cu 324.752	Recovery = Not calculated		
Fe 238.204 Radial†	9.0 0.6038 µg/L	0.62161 0.6038 ppb	0.62161 102.94%
QC value within limits for Fe 238.204 Radial	Recovery = Not calculated		
K 766.490 Radial†	156.3 64.338 µg/L	25.4031 64.338 ppb	25.4031 39.48%
QC value within limits for K 766.490 Radial	Recovery = Not calculated		
Mg 279.077 IEC†	2.3 0.9378 µg/L	8.54036 0.9378 ppb	8.54036 910.72%
QC value within limits for Mg 279.077 IEC	Recovery = Not calculated		
Mn 257.610†	7.7 0.0102 µg/L	0.01910 0.0102 ppb	0.01910 186.81%
QC value within limits for Mn 257.610	Recovery = Not calculated		
Mo 202.031†	9.8 0.3116 µg/L	0.16283 0.3116 ppb	0.16283 52.26%
QC value within limits for Mo 202.031	Recovery = Not calculated		
Na 589.592 Radial†	231.5 35.094 µg/L	7.5987 35.094 ppb	7.5987 21.65%
QC value within limits for Na 589.592 Radial	Recovery = Not calculated		
Ni 231.604†	14.8 0.1857 µg/L	0.22414 0.1857 ppb	0.22414 120.67%
QC value within limits for Ni 231.604	Recovery = Not calculated		
P 214.914†	12.6 3.0068 µg/L	3.05088 3.0068 ppb	3.05088 101.47%
QC value within limits for P 214.914	Recovery = Not calculated		
Pb 220.353†	-2.6 -0.1534 µg/L	0.57034 -0.1534 ppb	0.57034 371.90%
QC value within limits for Pb 220.353	Recovery = Not calculated		
S 181.975 Axial†	2.5 2.0402 µg/L	3.62485 2.0402 ppb	3.62485 177.67%
QC value within limits for S 181.975 Axial	Recovery = Not calculated		
Sb 206.836†	7.2 0.9502 µg/L	0.77295 0.9502 ppb	0.77295 81.34%
QC value within limits for Sb 206.836	Recovery = Not calculated		
Se 196.026†	-3.0 -1.21 µg/L	5.010 -1.21 ppb	5.010 413.51%
QC value within limits for Se 196.026	Recovery = Not calculated		
SiO2†	-64.7 -6.9407 µg/L	0.73346 -6.9407 ppb	0.73346 10.57%
QC value within limits for SiO2	Recovery = Not calculated		
Si 251.611†	-191.3 -3.1025 µg/L	0.27874 -3.1025 ppb	0.27874 8.98%
QC value within limits for Si 251.611	Recovery = Not calculated		
Sn 189.927†	5.6 0.3871 µg/L	0.54288 0.3871 ppb	0.54288 140.26%
QC value within limits for Sn 189.927	Recovery = Not calculated		
Sr 421.552†	-7.1 -0.0163 µg/L	0.11990 -0.0163 ppb	0.11990 735.65%
QC value within limits for Sr 421.552	Recovery = Not calculated		
Ti 334.940†	-237.4 -0.2359 µg/L	0.14230 -0.2359 ppb	0.14230 60.32%
QC value within limits for Ti 334.940	Recovery = Not calculated		
Tl 190.801†	14.2 1.9008 µg/L	0.90235 1.9008 ppb	0.90235 47.47%
QC value within limits for Tl 190.801	Recovery = Not calculated		
U 409.014†	-78.2 -4.8972 µg/L	3.31148 -4.8972 ppb	3.31148 67.62%
QC value within limits for U 409.014	Recovery = Not calculated		
V 292.402†	-4.7 -0.0257 µg/L	0.12269 -0.0257 ppb	0.12269 476.71%
QC value within limits for V 292.402	Recovery = Not calculated		
Zn 213.857†	-4.5 -0.0292 µg/L	0.07644 -0.0292 ppb	0.07644 261.65%
QC value within limits for Zn 213.857	Recovery = Not calculated		

All analyte(s) passed QC.



Sequence No.: 17

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 3/30/2010 17:40:12

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	154418.8	154418.8	104 %		17:40:45
1	Al 396.153Radial†	25881.5	24840.1	5095.1 µg/L	5095.1 ppb	17:40:45
1	Ca 317.933Radial†	89405.0	84892.2	5107.8 µg/L	5107.8 ppb	17:40:45
1	Fe 238.204 Radial†	78825.0	75320.8	5068.2 µg/L	5068.2 ppb	17:40:45
1	K 766.490 Radial†	14351.2	12426.0	5109.9 µg/L	5109.9 ppb	17:40:45
1	Mg 279.077 IEC†	13472.2	12728.5	5229.6 µg/L	5229.6 ppb	17:40:45
1	Na 589.592 Radial†	70371.6	66162.3	10042 µg/L	10042 ppb	17:40:45
1	Sr 421.552†	231921.2	222246.9	512.65 µg/L	512.65 ppb	17:40:43
1	Sc 361.383	1770216.3	1770216.3	100.86 %		17:41:12
1	Y 371.029	1058374.3	1058374.3	99.467 %		17:41:12
1	Ag 328.068†	130653.5	126089.1	507.50 µg/L	507.50 ppb	17:41:12
1	As 188.979†	1448.8	1454.1	514.70 µg/L	514.70 ppb	17:41:32
1	B 249.677†	34436.8	30912.0	502.23 µg/L	502.23 ppb	17:41:12
1	Ba 233.527†	116767.3	115930.9	505.19 µg/L	505.19 ppb	17:41:12
1	Be 313.107†	1699194.9	1685448.9	505.96 µg/L	505.96 ppb	17:41:12
1	Cd 226.502†	74344.1	73818.3	506.54 µg/L	506.54 ppb	17:41:12
1	Co 228.616†	37776.5	37625.9	509.15 µg/L	509.15 ppb	17:41:12
1	Cr 267.716†	60453.2	59757.6	503.37 µg/L	503.37 ppb	17:41:12
1	Cu 324.752†	123125.1	119283.2	504.21 µg/L	504.21 ppb	17:41:12
1	Mn 257.610†	382389.5	378943.7	506.28 µg/L	506.28 ppb	17:41:12
1	Mo 202.031†	16142.5	16039.2	510.65 µg/L	510.65 ppb	17:41:32
1	Ni 231.604†	40624.4	40354.8	507.57 µg/L	507.57 ppb	17:41:12
1	P 214.914†	10878.0	10780.0	2562.6 µg/L	2562.6 ppb	17:41:32
1	Pb 220.353†	8582.5	8412.1	516.69 µg/L	516.69 ppb	17:41:32
1	S 181.975 Axial†	1354.9	1255.6	1033.6 µg/L	1033.6 ppb	17:41:32
1	Sb 206.836†	4013.1	3900.7	512.73 µg/L	512.73 ppb	17:41:32
1	Se 196.026†	1310.6	1285.8	517 µg/L	517 ppb	17:41:32
1	SiO2†	52722.5	50518.5	5382.8 µg/L	5382.8 ppb	17:41:12
1	Si 251.611†	158212.1	155910.4	2513.4 µg/L	2513.4 ppb	17:41:12
1	Sn 189.927†	7470.8	7409.5	514.67 µg/L	514.67 ppb	17:41:32
1	Ti 334.940†	509168.7	503928.7	504.20 µg/L	504.20 ppb	17:41:12
1	Tl 190.801†	3749.6	3834.6	522.90 µg/L	522.90 ppb	17:41:32
1	U 409.014†	7397.7	7618.2	507.79 µg/L	507.79 ppb	17:41:12
1	V 292.402†	95558.2	94431.1	508.12 µg/L	508.12 ppb	17:41:12
1	Zn 213.857†	83202.9	81966.8	504.38 µg/L	504.38 ppb	17:41:12
2	Sc RADIAL	152256.9	152256.9	103 %		17:40:49
2	Al 396.153Radial†	25420.4	24744.1	5075.6 µg/L	5075.6 ppb	17:40:49
2	Ca 317.933Radial†	88042.4	84784.4	5101.3 µg/L	5101.3 ppb	17:40:49
2	Fe 238.204 Radial†	77781.8	75379.5	5072.2 µg/L	5072.2 ppb	17:40:49
2	K 766.490 Radial†	14172.4	12447.5	5118.8 µg/L	5118.8 ppb	17:40:49
2	Mg 279.077 IEC†	13260.1	12705.8	5220.1 µg/L	5220.1 ppb	17:40:49
2	Na 589.592 Radial†	69446.9	66221.0	10051 µg/L	10051 ppb	17:40:49
2	Sr 421.552†	231973.3	225450.1	520.04 µg/L	520.04 ppb	17:40:47
2	Sc 361.383	1750687.1	1750687.1	99.750 %		17:41:35
2	Y 371.029	1047187.7	1047187.7	98.416 %		17:41:35
2	Ag 328.068†	129307.7	126184.9	507.89 µg/L	507.89 ppb	17:41:35
2	As 188.979†	1415.4	1436.6	508.61 µg/L	508.61 ppb	17:41:55
2	B 249.677†	34174.1	31029.5	504.14 µg/L	504.14 ppb	17:41:35
2	Ba 233.527†	115618.6	116070.7	505.80 µg/L	505.80 ppb	17:41:35
2	Be 313.107†	1681827.2	1686830.4	506.38 µg/L	506.38 ppb	17:41:35
2	Cd 226.502†	73697.6	73992.4	507.74 µg/L	507.74 ppb	17:41:35
2	Co 228.616†	37362.3	37628.4	509.19 µg/L	509.19 ppb	17:41:35
2	Cr 267.716†	59945.8	59917.6	504.72 µg/L	504.72 ppb	17:41:35
2	Cu 324.752†	122121.4	119638.7	505.71 µg/L	505.71 ppb	17:41:35
2	Mn 257.610†	378960.5	379735.3	507.34 µg/L	507.34 ppb	17:41:35
2	Mo 202.031†	15799.0	15873.4	505.38 µg/L	505.38 ppb	17:41:55
2	Ni 231.604†	40245.2	40424.0	508.44 µg/L	508.44 ppb	17:41:35
2	P 214.914†	10594.8	10616.3	2523.6 µg/L	2523.6 ppb	17:41:55
2	Pb 220.353†	8346.4	8270.4	507.99 µg/L	507.99 ppb	17:41:55

2	S 181.975 Axial†	1315.0	1230.6	1013.0 µg/L	1013.0 ppb	17:41:55
2	Sb 206.836†	3926.2	3857.9	507.01 µg/L	507.01 ppb	17:41:55
2	Se 196.026†	1283.5	1273.1	512 µg/L	512 ppb	17:41:55
2	SiO2†	52198.4	50576.1	5389.2 µg/L	5389.2 ppb	17:41:35
2	Si 251.611†	157052.2	156497.4	2523.0 µg/L	2523.0 ppb	17:41:35
2	Sn 189.927†	7295.4	7316.3	508.22 µg/L	508.22 ppb	17:41:55
2	Ti 334.940†	504666.0	505046.0	505.31 µg/L	505.31 ppb	17:41:35
2	Tl 190.801†	3638.3	3764.5	513.49 µg/L	513.49 ppb	17:41:55
2	U 409.014†	7417.4	7719.8	514.19 µg/L	514.19 ppb	17:41:35
2	V 292.402†	94605.0	94532.4	508.61 µg/L	508.61 ppb	17:41:35
2	Zn 213.857†	82370.8	82052.8	504.91 µg/L	504.91 ppb	17:41:35
3	Sc RADIAL	152947.1	152947.1	103 %		17:40:53
3	Al 396.153Radial†	25668.1	24872.2	5101.8 µg/L	5101.8 ppb	17:40:53
3	Ca 317.933Radial†	88921.9	85248.8	5129.2 µg/L	5129.2 ppb	17:40:53
3	Fe 238.204 Radial†	78236.0	75477.7	5078.8 µg/L	5078.8 ppb	17:40:53
3	K 766.490 Radial†	14358.7	12565.5	5167.3 µg/L	5167.3 ppb	17:40:53
3	Mg 279.077 IEC†	13303.1	12689.2	5213.4 µg/L	5213.4 ppb	17:40:53
3	Na 589.592 Radial†	69816.7	66274.2	10059 µg/L	10059 ppb	17:40:53
3	Sr 421.552†	230012.7	222538.7	513.32 µg/L	513.32 ppb	17:40:51
3	Sc 361.383	1730890.4	1730890.4	98.622 %		17:41:58
3	Y 371.029	1036634.2	1036634.2	97.424 %		17:41:58
3	Ag 328.068†	128218.1	126562.7	509.38 µg/L	509.38 ppb	17:41:58
3	As 188.979†	1421.5	1459.1	516.45 µg/L	516.45 ppb	17:42:18
3	B 249.677†	33515.7	30753.7	499.65 µg/L	499.65 ppb	17:41:58
3	Ba 233.527†	114235.8	115994.3	505.47 µg/L	505.47 ppb	17:41:58
3	Be 313.107†	1658067.5	1682022.5	504.93 µg/L	504.93 ppb	17:41:58
3	Cd 226.502†	72585.2	73709.5	505.80 µg/L	505.80 ppb	17:41:58
3	Co 228.616†	36920.9	37609.3	508.93 µg/L	508.93 ppb	17:41:58
3	Cr 267.716†	59212.3	59861.1	504.25 µg/L	504.25 ppb	17:41:58
3	Cu 324.752†	120482.8	119377.5	504.61 µg/L	504.61 ppb	17:41:58
3	Mn 257.610†	374104.2	379156.2	506.57 µg/L	506.57 ppb	17:41:58
3	Mo 202.031†	15772.0	16027.1	510.27 µg/L	510.27 ppb	17:42:18
3	Ni 231.604†	39690.0	40322.5	507.17 µg/L	507.17 ppb	17:41:58
3	P 214.914†	10538.2	10680.4	2538.8 µg/L	2538.8 ppb	17:42:18
3	Pb 220.353†	8367.4	8387.4	515.18 µg/L	515.18 ppb	17:42:18
3	S 181.975 Axial†	1314.1	1244.8	1024.7 µg/L	1024.7 ppb	17:42:18
3	Sb 206.836†	3901.7	3878.2	509.75 µg/L	509.75 ppb	17:42:18
3	Se 196.026†	1266.3	1270.4	511 µg/L	511 ppb	17:42:18
3	SiO2†	51351.6	50316.0	5361.2 µg/L	5361.2 ppb	17:41:58
3	Si 251.611†	154950.0	156166.6	2517.6 µg/L	2517.6 ppb	17:41:58
3	Sn 189.927†	7269.1	7373.3	512.16 µg/L	512.16 ppb	17:42:18
3	Ti 334.940†	498628.4	504710.5	504.98 µg/L	504.98 ppb	17:41:58
3	Tl 190.801†	3639.4	3807.3	519.24 µg/L	519.24 ppb	17:42:18
3	U 409.014†	7213.7	7598.2	506.56 µg/L	506.56 ppb	17:41:58
3	V 292.402†	93505.2	94502.0	508.50 µg/L	508.50 ppb	17:41:58
3	Zn 213.857†	81375.0	81987.6	504.51 µg/L	504.51 ppb	17:41:58

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1750597.9	99.745 %	1.1204			1.12%
Sc RADIAL	153207.6	104 %	0.7			0.72%
Y 371.029	1047398.7	98.436 %	1.0217			1.04%
Ag 328.068†	126278.9	508.26 µg/L	0.994	508.26 ppb	0.994	0.20%
QC value within limits for Ag 328.068 Recovery = 101.65%						
Al 396.153Radial†	24818.8	5090.8 µg/L	13.60	5090.8 ppb	13.60	0.27%
QC value within limits for Al 396.153Radial Recovery = 101.82%						
As 188.979†	1449.9	513.25 µg/L	4.114	513.25 ppb	4.114	0.80%
QC value within limits for As 188.979 Recovery = 102.65%						
B 249.677†	30898.4	502.01 µg/L	2.256	502.01 ppb	2.256	0.45%
QC value within limits for B 249.677 Recovery = 100.40%						
Ba 233.527†	115998.6	505.49 µg/L	0.304	505.49 ppb	0.304	0.06%
QC value within limits for Ba 233.527 Recovery = 101.10%						
Be 313.107†	1684767.3	505.76 µg/L	0.744	505.76 ppb	0.744	0.15%
QC value within limits for Be 313.107 Recovery = 101.15%						
Ca 317.933Radial†	84975.2	5112.7 µg/L	14.62	5112.7 ppb	14.62	0.29%
QC value within limits for Ca 317.933Radial Recovery = 102.25%						
Cd 226.502†	73840.1	506.69 µg/L	0.980	506.69 ppb	0.980	0.19%
QC value within limits for Cd 226.502 Recovery = 101.34%						
Co 228.616†	37621.2	509.09 µg/L	0.141	509.09 ppb	0.141	0.03%

QC value within limits for Co 228.616 Recovery = 101.82%							
Cr 267.716†	59845.4	504.11 µg/L	0.682	504.11 ppb	0.682	0.14%	
QC value within limits for Cr 267.716 Recovery = 100.82%							
Cu 324.752†	119433.1	504.84 µg/L	0.779	504.84 ppb	0.779	0.15%	
QC value within limits for Cu 324.752 Recovery = 100.97%							
Fe 238.204 Radial†	75392.7	5073.1 µg/L	5.33	5073.1 ppb	5.33	0.11%	
QC value within limits for Fe 238.204 Radial Recovery = 101.46%							
K 766.490 Radial†	12479.7	5132.0 µg/L	30.90	5132.0 ppb	30.90	0.60%	
QC value within limits for K 766.490 Radial Recovery = 102.64%							
Mg 279.077 IEC†	12707.8	5221.1 µg/L	8.12	5221.1 ppb	8.12	0.16%	
QC value within limits for Mg 279.077 IEC Recovery = 104.42%							
Mn 257.610†	379278.4	506.73 µg/L	0.548	506.73 ppb	0.548	0.11%	
QC value within limits for Mn 257.610 Recovery = 101.35%							
Mo 202.031†	15979.9	508.77 µg/L	2.941	508.77 ppb	2.941	0.58%	
QC value within limits for Mo 202.031 Recovery = 101.75%							
Na 589.592 Radial†	66219.2	10051 µg/L	8.5	10051 ppb	8.5	0.08%	
QC value within limits for Na 589.592 Radial Recovery = 100.51%							
Ni 231.604†	40367.1	507.73 µg/L	0.652	507.73 ppb	0.652	0.13%	
QC value within limits for Ni 231.604 Recovery = 101.55%							
P 214.914†	10692.3	2541.7 µg/L	19.68	2541.7 ppb	19.68	0.77%	
QC value within limits for P 214.914 Recovery = 101.67%							
Pb 220.353†	8356.6	513.29 µg/L	4.647	513.29 ppb	4.647	0.91%	
QC value within limits for Pb 220.353 Recovery = 102.66%							
S 181.975 Axial†	1243.7	1023.8 µg/L	10.32	1023.8 ppb	10.32	1.01%	
QC value within limits for S 181.975 Axial Recovery = 102.38%							
Sb 206.836†	3879.0	509.83 µg/L	2.858	509.83 ppb	2.858	0.56%	
QC value within limits for Sb 206.836 Recovery = 101.97%							
Se 196.026†	1276.5	513 µg/L	3.3	513 ppb	3.3	0.64%	
QC value within limits for Se 196.026 Recovery = 102.63%							
SiO2†	50470.2	5377.7 µg/L	14.69	5377.7 ppb	14.69	0.27%	
QC value within limits for SiO2 Recovery = 100.56%							
Si 251.611†	156191.5	2518.0 µg/L	4.82	2518.0 ppb	4.82	0.19%	
QC value within limits for Si 251.611 Recovery = 100.72%							
Sn 189.927†	7366.3	511.68 µg/L	3.252	511.68 ppb	3.252	0.64%	
QC value within limits for Sn 189.927 Recovery = 102.34%							
Sr 421.552†	223411.9	515.34 µg/L	4.086	515.34 ppb	4.086	0.79%	
QC value within limits for Sr 421.552 Recovery = 103.07%							
Ti 334.940†	504561.7	504.83 µg/L	0.574	504.83 ppb	0.574	0.11%	
QC value within limits for Ti 334.940 Recovery = 100.97%							
Tl 190.801†	3802.2	518.55 µg/L	4.742	518.55 ppb	4.742	0.91%	
QC value within limits for Tl 190.801 Recovery = 103.71%							
U 409.014†	7645.4	509.51 µg/L	4.094	509.51 ppb	4.094	0.80%	
QC value within limits for U 409.014 Recovery = 101.90%							
V 292.402†	94488.5	508.41 µg/L	0.257	508.41 ppb	0.257	0.05%	
QC value within limits for V 292.402 Recovery = 101.68%							
Zn 213.857†	82002.4	504.60 µg/L	0.274	504.60 ppb	0.274	0.05%	
QC value within limits for Zn 213.857 Recovery = 100.92%							
All analyte(s) passed QC.							

Sequence No.: 18

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 3/30/2010 17:42:27

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	149223.8	149223.8	101 %		17:42:56
1	Al 396.153Radial†	-56.0	7.4	1.5345 µg/L	1.5345 ppb	17:43:16
1	Ca 317.933Radial†	662.0	-42.2	-2.5368 µg/L	-2.5368 ppb	17:43:16
1	Fe 238.204 Radial†	154.9	12.8	0.8607 µg/L	0.8607 ppb	17:43:16
1	K 766.490 Radial†	1607.1	279.3	114.93 µg/L	114.93 ppb	17:42:56
1	Mg 279.077 IEC†	184.4	13.9	5.6942 µg/L	5.6942 ppb	17:43:16
1	Na 589.592 Radial†	1613.7	392.0	59.428 µg/L	59.428 ppb	17:42:56
1	Sr 421.552†	-96.8	125.8	0.2902 µg/L	0.2902 ppb	17:42:56
1	Sc 361.383	1740851.3	1740851.3	99.189 %		17:44:04
1	Y 371.029	1055585.6	1055585.6	99.205 %		17:44:04
1	Ag 328.068†	3751.0	334.6	1.3196 µg/L	1.3196 ppb	17:44:06
1	As 188.979†	-17.7	-0.1	-0.0475 µg/L	-0.0475 ppb	17:44:26
1	B 249.677†	3297.4	94.0	1.5332 µg/L	1.5332 ppb	17:44:26
1	Ba 233.527†	-135.0	26.1	0.1138 µg/L	0.1138 ppb	17:44:26
1	Be 313.107†	-465.5	316.3	0.0913 µg/L	0.0913 ppb	17:44:06
1	Cd 226.502†	-102.2	7.0	0.0477 µg/L	0.0477 ppb	17:44:26
1	Co 228.616†	-169.2	1.9	0.0256 µg/L	0.0256 ppb	17:44:26
1	Cr 267.716†	161.7	-15.5	-0.1210 µg/L	-0.1210 ppb	17:44:26
1	Cu 324.752†	2892.8	127.5	0.5274 µg/L	0.5274 ppb	17:44:06
1	Mn 257.610†	188.2	14.2	0.0187 µg/L	0.0187 ppb	17:44:26
1	Mo 202.031†	-34.7	-0.2	-0.0073 µg/L	-0.0073 ppb	17:44:26
1	Ni 231.604†	-81.0	-3.7	-0.0471 µg/L	-0.0471 ppb	17:44:26
1	P 214.914†	16.6	11.8	2.8139 µg/L	2.8139 ppb	17:44:26
1	Pb 220.353†	73.7	-22.7	-1.3818 µg/L	-1.3818 ppb	17:44:26
1	S 181.975 Axial†	92.6	5.7	4.6757 µg/L	4.6757 ppb	17:44:26
1	Sb 206.836†	88.1	10.7	1.4077 µg/L	1.4077 ppb	17:44:26
1	Se 196.026†	26.9	13.5	5.40 µg/L	5.40 ppb	17:44:26
1	SiO2†	1702.4	-36.8	-3.9566 µg/L	-3.9566 ppb	17:44:26
1	Si 251.611†	805.5	-136.5	-2.2166 µg/L	-2.2166 ppb	17:44:26
1	Sn 189.927†	12.1	14.8	1.0220 µg/L	1.0220 ppb	17:44:26
1	Ti 334.940†	782.8	-96.4	-0.0921 µg/L	-0.0921 ppb	17:44:06
1	Tl 190.801†	-109.4	6.8	0.9176 µg/L	0.9176 ppb	17:44:26
1	U 409.014†	-471.7	-191.8	-11.993 µg/L	-11.993 ppb	17:44:06
1	V 292.402†	376.2	69.5	0.3602 µg/L	0.3602 ppb	17:44:06
1	Zn 213.857†	507.0	-13.4	-0.0835 µg/L	-0.0835 ppb	17:44:26
2	Sc RADIAL	151236.2	151236.2	102 %		17:43:18
2	Al 396.153Radial†	-21.0	42.4	8.7168 µg/L	8.7168 ppb	17:43:38
2	Ca 317.933Radial†	653.0	-59.6	-3.5888 µg/L	-3.5888 ppb	17:43:38
2	Fe 238.204 Radial†	152.7	8.6	0.5778 µg/L	0.5778 ppb	17:43:38
2	K 766.490 Radial†	1413.4	68.8	28.307 µg/L	28.307 ppb	17:43:18
2	Mg 279.077 IEC†	159.0	-13.3	-5.4565 µg/L	-5.4565 ppb	17:43:38
2	Na 589.592 Radial†	1467.8	228.1	34.616 µg/L	34.616 ppb	17:43:18
2	Sr 421.552†	-229.5	-2.7	-0.0061 µg/L	-0.0061 ppb	17:43:18
2	Sc 361.383	1789733.9	1789733.9	101.97 %		17:44:28
2	Y 371.029	1083381.9	1083381.9	101.82 %		17:44:28
2	Ag 328.068†	3704.7	185.9	0.7594 µg/L	0.7594 ppb	17:44:30
2	As 188.979†	-20.5	-2.5	-0.8602 µg/L	-0.8602 ppb	17:44:51
2	B 249.677†	3265.6	-27.9	-0.4549 µg/L	-0.4549 ppb	17:44:51
2	Ba 233.527†	-147.6	17.4	0.0763 µg/L	0.0763 ppb	17:44:51
2	Be 313.107†	-589.1	207.9	0.0663 µg/L	0.0663 ppb	17:44:30
2	Cd 226.502†	-88.1	23.7	0.1626 µg/L	0.1626 ppb	17:44:51
2	Co 228.616†	-190.6	-14.5	-0.1957 µg/L	-0.1957 ppb	17:44:51
2	Cr 267.716†	149.7	-31.7	-0.2772 µg/L	-0.2772 ppb	17:44:51
2	Cu 324.752†	2754.5	-87.8	-0.3595 µg/L	-0.3595 ppb	17:44:30
2	Mn 257.610†	189.1	9.9	0.0134 µg/L	0.0134 ppb	17:44:51
2	Mo 202.031†	-22.2	13.0	0.4125 µg/L	0.4125 ppb	17:44:51
2	Ni 231.604†	-63.7	15.4	0.1938 µg/L	0.1938 ppb	17:44:51
2	P 214.914†	14.2	9.0	2.1371 µg/L	2.1371 ppb	17:44:51
2	Pb 220.353†	93.1	-5.6	-0.3521 µg/L	-0.3521 ppb	17:44:51

2	S 181.975 Axial†	103.3	13.6	11.162 µg/L	11.162 ppb	17:44:51
2	Sb 206.836†	65.2	-14.2	-1.8489 µg/L	-1.8489 ppb	17:44:51
2	Se 196.026†	14.8	1.0	0.409 µg/L	0.409 ppb	17:44:51
2	SiO2†	1667.3	-118.1	-12.646 µg/L	-12.646 ppb	17:44:51
2	Si 251.611†	773.3	-190.4	-3.0841 µg/L	-3.0841 ppb	17:44:51
2	Sn 189.927†	-8.6	-5.9	-0.4098 µg/L	-0.4098 ppb	17:44:51
2	Ti 334.940†	770.5	-130.0	-0.1350 µg/L	-0.1350 ppb	17:44:30
2	Tl 190.801†	-116.4	2.9	0.3948 µg/L	0.3948 ppb	17:44:51
2	U 409.014†	-81.5	203.9	12.791 µg/L	12.791 ppb	17:44:30
2	V 292.402†	391.1	73.7	0.4028 µg/L	0.4028 ppb	17:44:30
2	Zn 213.857†	509.1	-25.3	-0.1579 µg/L	-0.1579 ppb	17:44:51
3	Sc RADIAL	153128.4	153128.4	104 %		17:43:40
3	Al 396.153Radial†	-66.6	-1.4	-0.2868 µg/L	-0.2868 ppb	17:44:00
3	Ca 317.933Radial†	663.9	-57.1	-3.4340 µg/L	-3.4340 ppb	17:44:00
3	Fe 238.204 Radial†	162.3	15.9	1.0724 µg/L	1.0724 ppb	17:44:00
3	K 766.490 Radial†	1397.3	36.1	14.869 µg/L	14.869 ppb	17:43:40
3	Mg 279.077 IEC†	188.4	13.1	5.3774 µg/L	5.3774 ppb	17:44:00
3	Na 589.592 Radial†	1362.5	108.7	16.495 µg/L	16.495 ppb	17:43:40
3	Sr 421.552†	-427.6	-191.1	-0.4409 µg/L	-0.4409 ppb	17:43:40
3	Sc 361.383	1735204.4	1735204.4	98.868 %		17:44:53
3	Y 371.029	1051337.1	1051337.1	98.806 %		17:44:53
3	Ag 328.068†	3394.5	-13.7	-0.0762 µg/L	-0.0762 ppb	17:44:55
3	As 188.979†	-6.8	10.8	3.7567 µg/L	3.7567 ppb	17:45:15
3	B 249.677†	3250.6	57.4	0.9360 µg/L	0.9360 ppb	17:45:15
3	Ba 233.527†	-155.9	4.5	0.0193 µg/L	0.0193 ppb	17:45:15
3	Be 313.107†	-860.6	-84.9	-0.0295 µg/L	-0.0295 ppb	17:44:55
3	Cd 226.502†	-85.7	23.3	0.1600 µg/L	0.1600 ppb	17:45:15
3	Co 228.616†	-156.5	14.1	0.1911 µg/L	0.1911 ppb	17:45:15
3	Cr 267.716†	170.5	-6.1	-0.0410 µg/L	-0.0410 ppb	17:45:15
3	Cu 324.752†	2758.1	0.7	-0.0075 µg/L	-0.0075 ppb	17:44:55
3	Mn 257.610†	168.3	-5.4	-0.0074 µg/L	-0.0074 ppb	17:45:15
3	Mo 202.031†	-34.1	0.3	0.0091 µg/L	0.0091 ppb	17:45:15
3	Ni 231.604†	-62.8	14.3	0.1804 µg/L	0.1804 ppb	17:45:15
3	P 214.914†	9.9	5.0	1.2075 µg/L	1.2075 ppb	17:45:15
3	Pb 220.353†	88.3	-7.7	-0.4611 µg/L	-0.4611 ppb	17:45:15
3	S 181.975 Axial†	91.9	5.3	4.3277 µg/L	4.3277 ppb	17:45:15
3	Sb 206.836†	76.8	-0.4	-0.0552 µg/L	-0.0552 ppb	17:45:15
3	Se 196.026†	9.6	-3.8	-1.55 µg/L	-1.55 ppb	17:45:15
3	SiO2†	1679.3	-54.6	-5.8537 µg/L	-5.8537 ppb	17:45:15
3	Si 251.611†	744.3	-195.8	-3.1739 µg/L	-3.1739 ppb	17:45:15
3	Sn 189.927†	6.5	9.2	0.6338 µg/L	0.6338 ppb	17:45:15
3	Ti 334.940†	819.1	-57.1	-0.0523 µg/L	-0.0523 ppb	17:44:55
3	Tl 190.801†	-108.9	6.9	0.9222 µg/L	0.9222 ppb	17:45:15
3	U 409.014†	-490.6	-212.5	-13.335 µg/L	-13.335 ppb	17:44:55
3	V 292.402†	223.9	-83.4	-0.4518 µg/L	-0.4518 ppb	17:44:55
3	Zn 213.857†	524.3	5.7	0.0343 µg/L	0.0343 ppb	17:45:15

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1755263.2	100.01 %	1.709			1.71%
Sc RADIAL	151196.1	102 %	1.3			1.29%
Y 371.029	1063434.8	99.943 %	1.6357			1.64%
Ag 328.068†	168.9	0.6676 µg/L	0.70241	0.6676 ppb	0.70241	105.22%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	16.1	3.3215 µg/L	4.76035	3.3215 ppb	4.76035	143.32%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	2.7	0.9497 µg/L	2.46469	0.9497 ppb	2.46469	259.52%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	41.2	0.6714 µg/L	1.02013	0.6714 ppb	1.02013	151.93%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	16.0	0.0698 µg/L	0.04762	0.0698 ppb	0.04762	68.22%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	146.5	0.0427 µg/L	0.06375	0.0427 ppb	0.06375	149.33%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-53.0	-3.1865 µg/L	0.56796	-3.1865 ppb	0.56796	17.82%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	18.0	0.1234 µg/L	0.06561	0.1234 ppb	0.06561	53.17%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	0.5	0.0070 µg/L	0.19406	0.0070 ppb	0.19406	>999.9%

QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-17.8	-0.1464 µg/L	0.12014	-0.1464 ppb	0.12014	82.06%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	13.5	0.0535 µg/L	0.44662	0.0535 ppb	0.44662	835.30%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	12.4	0.8369 µg/L	0.24815	0.8369 ppb	0.24815	29.65%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	128.1	52.703 µg/L	54.3096	52.703 ppb	54.3096	103.05%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	4.6	1.8717 µg/L	6.34837	1.8717 ppb	6.34837	339.17%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	6.2	0.0082 µg/L	0.01382	0.0082 ppb	0.01382	167.68%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	4.3	0.1381 µg/L	0.23777	0.1381 ppb	0.23777	172.20%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	243.0	36.846 µg/L	21.5535	36.846 ppb	21.5535	58.50%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	8.7	0.1090 µg/L	0.13543	0.1090 ppb	0.13543	124.19%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	8.6	2.0528 µg/L	0.80647	2.0528 ppb	0.80647	39.29%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	-12.0	-0.7317 µg/L	0.56567	-0.7317 ppb	0.56567	77.31%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	8.2	6.7217 µg/L	3.84909	6.7217 ppb	3.84909	57.26%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	-1.3	-0.1655 µg/L	1.63108	-0.1655 ppb	1.63108	985.78%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	3.6	1.42 µg/L	3.583	1.42 ppb	3.583	252.41%	
QC value within limits for Se 196.026 Recovery = Not calculated							
SiO2†	-69.9	-7.4854 µg/L	4.56863	-7.4854 ppb	4.56863	61.03%	
QC value within limits for SiO2 Recovery = Not calculated							
Si 251.611†	-174.2	-2.8248 µg/L	0.52869	-2.8248 ppb	0.52869	18.72%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	6.0	0.4153 µg/L	0.74044	0.4153 ppb	0.74044	178.28%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	-22.7	-0.0523 µg/L	0.36773	-0.0523 ppb	0.36773	703.35%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	-94.5	-0.0932 µg/L	0.04138	-0.0932 ppb	0.04138	44.41%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	5.5	0.7449 µg/L	0.30318	0.7449 ppb	0.30318	40.70%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	-66.8	-4.1790 µg/L	14.71171	-4.1790 ppb	14.71171	352.04%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	19.9	0.1037 µg/L	0.48160	0.1037 ppb	0.48160	464.37%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	-11.0	-0.0690 µg/L	0.09694	-0.0690 ppb	0.09694	140.45%	
QC value within limits for Zn 213.857 Recovery = Not calculated							

All analyte(s) passed QC.

Sequence No.: 24

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 3/30/2010 18:00:22

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	149963.6	149963.6	101 %		18:00:56
1	Al 396.153Radial†	25208.6	24912.8	5110.3 µg/L	5110.3 ppb	18:00:56
1	Ca 317.933Radial†	86326.3	84400.0	5078.1 µg/L	5078.1 ppb	18:00:56
1	Fe 238.204 Radial†	76400.5	75172.7	5058.3 µg/L	5058.3 ppb	18:00:56
1	K 766.490 Radial†	13741.6	12233.3	5030.6 µg/L	5030.6 ppb	18:00:56
1	Mg 279.077 IEC†	12974.7	12621.3	5185.5 µg/L	5185.5 ppb	18:00:56
1	Na 589.592 Radial†	68473.2	66292.3	10062 µg/L	10062 ppb	18:00:56
1	Sr 421.552†	223153.6	220200.1	507.93 µg/L	507.93 ppb	18:00:54
1	Sc 361.383	1727309.1	1727309.1	98.418 %		18:01:08
1	Y 371.029	1034162.5	1034162.5	97.192 %		18:01:08
1	Ag 328.068†	127504.0	126106.7	507.56 µg/L	507.56 ppb	18:01:08
1	As 188.979†	1389.4	1429.4	506.06 µg/L	506.06 ppb	18:01:29
1	B 249.677†	33211.6	30515.2	495.77 µg/L	495.77 ppb	18:01:08
1	Ba 233.527†	113569.1	115556.9	503.56 µg/L	503.56 ppb	18:01:08
1	Be 313.107†	1649297.9	1676597.6	503.31 µg/L	503.31 ppb	18:01:08
1	Cd 226.502†	71908.8	73174.8	502.13 µg/L	502.13 ppb	18:01:08
1	Co 228.616†	36707.5	37470.0	507.04 µg/L	507.04 ppb	18:01:08
1	Cr 267.716†	58723.3	59488.8	501.11 µg/L	501.11 ppb	18:01:08
1	Cu 324.752†	119828.4	118965.8	502.87 µg/L	502.87 ppb	18:01:08
1	Mn 257.610†	371619.2	377417.8	504.24 µg/L	504.24 ppb	18:01:08
1	Mo 202.031†	15635.4	15921.5	506.91 µg/L	506.91 ppb	18:01:29
1	Ni 231.604†	39521.0	40234.3	506.06 µg/L	506.06 ppb	18:01:08
1	P 214.914†	10443.9	10606.8	2521.3 µg/L	2521.3 ppb	18:01:29
1	Pb 220.353†	8236.3	8271.7	508.08 µg/L	508.08 ppb	18:01:29
1	S 181.975 Axial†	1305.1	1238.3	1019.4 µg/L	1019.4 ppb	18:01:29
1	Sb 206.836†	3867.4	3851.5	506.23 µg/L	506.23 ppb	18:01:29
1	Se 196.026†	1260.5	1267.2	509 µg/L	509 ppb	18:01:29
1	SiO2†	51213.3	50283.5	5357.8 µg/L	5357.8 ppb	18:01:08
1	Si 251.611†	154028.3	155555.8	2507.8 µg/L	2507.8 ppb	18:01:08
1	Sn 189.927†	7184.1	7302.2	507.24 µg/L	507.24 ppb	18:01:29
1	Ti 334.940†	495803.0	502887.9	503.16 µg/L	503.16 ppb	18:01:08
1	Tl 190.801†	3592.4	3767.2	513.82 µg/L	513.82 ppb	18:01:29
1	U 409.014†	7260.0	7660.4	510.36 µg/L	510.36 ppb	18:01:08
1	V 292.402†	93039.1	94225.0	506.98 µg/L	506.98 ppb	18:01:08
1	Zn 213.857†	80748.7	81522.2	501.64 µg/L	501.64 ppb	18:01:08
2	Sc RADIAL	150679.1	150679.1	102 %		18:01:00
2	Al 396.153Radial†	25393.4	24976.1	5123.3 µg/L	5123.3 ppb	18:01:00
2	Ca 317.933Radial†	87448.3	85096.7	5120.1 µg/L	5120.1 ppb	18:01:00
2	Fe 238.204 Radial†	77162.3	75562.5	5084.5 µg/L	5084.5 ppb	18:01:00
2	K 766.490 Radial†	14059.0	12480.3	5132.3 µg/L	5132.3 ppb	18:01:00
2	Mg 279.077 IEC†	13106.1	12689.5	5213.5 µg/L	5213.5 ppb	18:01:00
2	Na 589.592 Radial†	69122.9	66609.2	10110 µg/L	10110 ppb	18:01:00
2	Sr 421.552†	224776.0	220747.3	509.19 µg/L	509.19 ppb	18:00:58
2	Sc 361.383	1719911.6	1719911.6	97.996 %		18:01:32
2	Y 371.029	1029896.4	1029896.4	96.791 %		18:01:32
2	Ag 328.068†	126855.3	126002.0	507.13 µg/L	507.13 ppb	18:01:32
2	As 188.979†	1392.6	1438.8	509.32 µg/L	509.32 ppb	18:01:52
2	B 249.677†	33255.8	30705.4	498.87 µg/L	498.87 ppb	18:01:32
2	Ba 233.527†	112718.1	115184.9	501.94 µg/L	501.94 ppb	18:01:32
2	Be 313.107†	1638841.3	1673135.1	502.27 µg/L	502.27 ppb	18:01:32
2	Cd 226.502†	71582.0	73155.7	501.99 µg/L	501.99 ppb	18:01:32
2	Co 228.616†	36493.4	37412.0	506.26 µg/L	506.26 ppb	18:01:32
2	Cr 267.716†	58378.6	59393.7	500.31 µg/L	500.31 ppb	18:01:32
2	Cu 324.752†	118925.8	118568.4	501.20 µg/L	501.20 ppb	18:01:32
2	Mn 257.610†	369553.2	376933.6	503.60 µg/L	503.60 ppb	18:01:32
2	Mo 202.031†	15590.5	15944.0	507.63 µg/L	507.63 ppb	18:01:52
2	Ni 231.604†	39259.9	40140.5	504.88 µg/L	504.88 ppb	18:01:32
2	P 214.914†	10376.2	10583.3	2515.7 µg/L	2515.7 ppb	18:01:52
2	Pb 220.353†	8224.0	8295.2	509.52 µg/L	509.52 ppb	18:01:52

2	S 181.975 Axial†	1280.5	1219.0	1003.5 µg/L	1003.5 ppb	18:01:52
2	Sb 206.836†	3875.7	3876.8	509.58 µg/L	509.58 ppb	18:01:52
2	Se 196.026†	1257.5	1269.6	510 µg/L	510 ppb	18:01:52
2	SiO2†	50739.1	50023.4	5330.0 µg/L	5330.0 ppb	18:01:32
2	Si 251.611†	152955.9	155134.6	2500.9 µg/L	2500.9 ppb	18:01:32
2	Sn 189.927†	7173.1	7322.3	508.62 µg/L	508.62 ppb	18:01:52
2	Ti 334.940†	492455.2	501638.5	501.91 µg/L	501.91 ppb	18:01:32
2	Tl 190.801†	3592.4	3782.9	515.92 µg/L	515.92 ppb	18:01:52
2	U 409.014†	7198.4	7629.3	508.35 µg/L	508.35 ppb	18:01:32
2	V 292.402†	92465.3	94046.0	506.03 µg/L	506.03 ppb	18:01:32
2	Zn 213.857†	80075.4	81188.1	499.57 µg/L	499.57 ppb	18:01:32
3	Sc RADIAL	150459.0	150459.0	102 %		18:01:04
3	Al 396.153Radial†	25239.2	24861.0	5099.8 µg/L	5099.8 ppb	18:01:04
3	Ca 317.933Radial†	86610.0	84398.5	5078.1 µg/L	5078.1 ppb	18:01:04
3	Fe 238.204 Radial†	76232.2	74759.3	5030.5 µg/L	5030.5 ppb	18:01:04
3	K 766.490 Radial†	14112.6	12553.2	5162.3 µg/L	5162.3 ppb	18:01:04
3	Mg 279.077 IEC†	12790.6	12398.3	5094.0 µg/L	5094.0 ppb	18:01:04
3	Na 589.592 Radial†	68460.4	66057.5	10026 µg/L	10026 ppb	18:01:04
3	Sr 421.552†	225258.6	221544.0	511.03 µg/L	511.03 ppb	18:01:02
3	Sc 361.383	1747302.6	1747302.6	99.557 %		18:01:55
3	Y 371.029	1046057.1	1046057.1	98.310 %		18:01:55
3	Ag 328.068†	127799.7	124921.3	502.82 µg/L	502.82 ppb	18:01:55
3	As 188.979†	1396.1	1420.0	502.76 µg/L	502.76 ppb	18:02:15
3	B 249.677†	33651.3	30570.7	496.68 µg/L	496.68 ppb	18:01:55
3	Ba 233.527†	114681.4	115353.8	502.68 µg/L	502.68 ppb	18:01:55
3	Be 313.107†	1666731.4	1674933.2	502.81 µg/L	502.81 ppb	18:01:55
3	Cd 226.502†	72567.6	73000.5	500.93 µg/L	500.93 ppb	18:01:55
3	Co 228.616†	36961.9	37298.8	504.73 µg/L	504.73 ppb	18:01:55
3	Cr 267.716†	59318.7	59404.1	500.39 µg/L	500.39 ppb	18:01:55
3	Cu 324.752†	120890.6	118639.6	501.49 µg/L	501.49 ppb	18:01:55
3	Mn 257.610†	374818.4	376310.6	502.77 µg/L	502.77 ppb	18:01:55
3	Mo 202.031†	15682.2	15786.7	502.62 µg/L	502.62 ppb	18:02:15
3	Ni 231.604†	39775.3	40030.2	503.49 µg/L	503.49 ppb	18:01:55
3	P 214.914†	10469.8	10511.4	2498.6 µg/L	2498.6 ppb	18:02:15
3	Pb 220.353†	8305.7	8245.7	506.48 µg/L	506.48 ppb	18:02:15
3	S 181.975 Axial†	1304.1	1222.2	1006.1 µg/L	1006.1 ppb	18:02:15
3	Sb 206.836†	3884.1	3823.3	502.48 µg/L	502.48 ppb	18:02:15
3	Se 196.026†	1277.7	1269.8	511 µg/L	511 ppb	18:02:15
3	SiO2†	51665.7	50142.4	5342.9 µg/L	5342.9 ppb	18:01:55
3	Si 251.611†	155152.4	154894.1	2497.1 µg/L	2497.1 ppb	18:01:55
3	Sn 189.927†	7193.0	7227.5	502.07 µg/L	502.07 ppb	18:02:15
3	Ti 334.940†	500401.0	501742.0	502.02 µg/L	502.02 ppb	18:01:55
3	Tl 190.801†	3619.4	3752.6	511.84 µg/L	511.84 ppb	18:02:15
3	U 409.014†	7325.0	7641.3	509.04 µg/L	509.04 ppb	18:01:55
3	V 292.402†	93720.4	93827.6	504.83 µg/L	504.83 ppb	18:01:55
3	Zn 213.857†	81318.5	81155.7	499.38 µg/L	499.38 ppb	18:01:55

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Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1731507.8	98.657 %	0.8074			0.82%
Sc RADIAL	150367.2	102 %	0.2			0.24%
Y 371.029	1036705.4	97.431 %	0.7871			0.81%
Ag 328.068†	125676.6	505.84 µg/L	2.620	505.84 ppb	2.620	0.52%
QC value within limits for Ag 328.068 Recovery = 101.17%						
Al 396.153Radial†	24916.6	5111.1 µg/L	11.77	5111.1 ppb	11.77	0.23%
QC value within limits for Al 396.153Radial Recovery = 102.22%						
As 188.979†	1429.4	506.05 µg/L	3.279	506.05 ppb	3.279	0.65%
QC value within limits for As 188.979 Recovery = 101.21%						
B 249.677†	30597.1	497.11 µg/L	1.595	497.11 ppb	1.595	0.32%
QC value within limits for B 249.677 Recovery = 99.42%						
Ba 233.527†	115365.2	502.73 µg/L	0.812	502.73 ppb	0.812	0.16%
QC value within limits for Ba 233.527 Recovery = 100.55%						
Be 313.107†	1674888.6	502.79 µg/L	0.520	502.79 ppb	0.520	0.10%
QC value within limits for Be 313.107 Recovery = 100.56%						
Ca 317.933Radial†	84631.7	5092.1 µg/L	24.23	5092.1 ppb	24.23	0.48%
QC value within limits for Ca 317.933Radial Recovery = 101.84%						
Cd 226.502†	73110.3	501.68 µg/L	0.654	501.68 ppb	0.654	0.13%
QC value within limits for Cd 226.502 Recovery = 100.34%						
Co 228.616†	37393.6	506.01 µg/L	1.177	506.01 ppb	1.177	0.23%



QC value within limits for Co 228.616 Recovery = 101.20%							
Cr 267.716†	59428.9	500.60 µg/L	0.439	500.60 ppb	0.439	0.09%	
QC value within limits for Cr 267.716 Recovery = 100.12%							
Cu 324.752†	118724.6	501.85 µg/L	0.894	501.85 ppb	0.894	0.18%	
QC value within limits for Cu 324.752 Recovery = 100.37%							
Fe 238.204 Radial†	75164.8	5057.7 µg/L	27.03	5057.7 ppb	27.03	0.53%	
QC value within limits for Fe 238.204 Radial Recovery = 101.15%							
K 766.490 Radial†	12422.3	5108.4 µg/L	69.01	5108.4 ppb	69.01	1.35%	
QC value within limits for K 766.490 Radial Recovery = 102.17%							
Mg 279.077 IEC†	12569.7	5164.3 µg/L	62.53	5164.3 ppb	62.53	1.21%	
QC value within limits for Mg 279.077 IEC Recovery = 103.29%							
Mn 257.610†	376887.3	503.54 µg/L	0.740	503.54 ppb	0.740	0.15%	
QC value within limits for Mn 257.610 Recovery = 100.71%							
Mo 202.031†	15884.1	505.72 µg/L	2.708	505.72 ppb	2.708	0.54%	
QC value within limits for Mo 202.031 Recovery = 101.14%							
Na 589.592 Radial†	66319.7	10066 µg/L	42.1	10066 ppb	42.1	0.42%	
QC value within limits for Na 589.592 Radial Recovery = 100.66%							
Ni 231.604†	40135.0	504.81 µg/L	1.285	504.81 ppb	1.285	0.25%	
QC value within limits for Ni 231.604 Recovery = 100.96%							
P 214.914†	10567.2	2511.9 µg/L	11.84	2511.9 ppb	11.84	0.47%	
QC value within limits for P 214.914 Recovery = 100.47%							
Pb 220.353†	8270.9	508.03 µg/L	1.522	508.03 ppb	1.522	0.30%	
QC value within limits for Pb 220.353 Recovery = 101.61%							
S 181.975 Axial†	1226.5	1009.7 µg/L	8.51	1009.7 ppb	8.51	0.84%	
QC value within limits for S 181.975 Axial Recovery = 100.97%							
Sb 206.836†	3850.5	506.10 µg/L	3.554	506.10 ppb	3.554	0.70%	
QC value within limits for Sb 206.836 Recovery = 101.22%							
Se 196.026†	1268.9	510 µg/L	0.6	510 ppb	0.6	0.12%	
QC value within limits for Se 196.026 Recovery = 102.03%							
SiO2†	50149.7	5343.6 µg/L	13.94	5343.6 ppb	13.94	0.26%	
QC value within limits for SiO2 Recovery = 99.93%							
Si 251.611†	155194.9	2501.9 µg/L	5.38	2501.9 ppb	5.38	0.22%	
QC value within limits for Si 251.611 Recovery = 100.08%							
Sn 189.927†	7284.0	505.98 µg/L	3.457	505.98 ppb	3.457	0.68%	
QC value within limits for Sn 189.927 Recovery = 101.20%							
Sr 421.552†	220830.5	509.38 µg/L	1.559	509.38 ppb	1.559	0.31%	
QC value within limits for Sr 421.552 Recovery = 101.88%							
Ti 334.940†	502089.5	502.36 µg/L	0.693	502.36 ppb	0.693	0.14%	
QC value within limits for Ti 334.940 Recovery = 100.47%							
Tl 190.801†	3767.6	513.86 µg/L	2.039	513.86 ppb	2.039	0.40%	
QC value within limits for Tl 190.801 Recovery = 102.77%							
U 409.014†	7643.7	509.25 µg/L	1.021	509.25 ppb	1.021	0.20%	
QC value within limits for U 409.014 Recovery = 101.85%							
V 292.402†	94032.9	505.95 µg/L	1.080	505.95 ppb	1.080	0.21%	
QC value within limits for V 292.402 Recovery = 101.19%							
Zn 213.857†	81288.7	500.20 µg/L	1.251	500.20 ppb	1.251	0.25%	
QC value within limits for Zn 213.857 Recovery = 100.04%							
All analyte(s) passed QC.							

Sequence No.: 25

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 3/30/2010 18:02:23

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	151780.3	151780.3	103 %		18:02:52
1	Al 396.153Radial†	-40.0	24.0	4.9524 µg/L	4.9524 ppb	18:03:12
1	Ca 317.933Radial†	686.4	-29.4	-1.7696 µg/L	-1.7696 ppb	18:03:12
1	Fe 238.204 Radial†	138.6	-5.7	-0.3811 µg/L	-0.3811 ppb	18:03:12
1	K 766.490 Radial†	1436.1	85.9	35.363 µg/L	35.363 ppb	18:02:52
1	Mg 279.077 IEC†	184.5	10.9	4.4785 µg/L	4.4785 ppb	18:03:12
1	Na 589.592 Radial†	1347.1	105.4	15.979 µg/L	15.979 ppb	18:02:52
1	Sr 421.552†	-270.8	-42.1	-0.0972 µg/L	-0.0972 ppb	18:02:52
1	Sc 361.383	1751686.4	1751686.4	99.807 %		18:04:00
1	Y 371.029	1062037.8	1062037.8	99.811 %		18:04:00
1	Ag 328.068†	3543.8	103.6	0.4081 µg/L	0.4081 ppb	18:04:02
1	As 188.979†	-6.7	11.0	3.8356 µg/L	3.8356 ppb	18:04:22
1	B 249.677†	3203.3	-20.8	-0.3392 µg/L	-0.3392 ppb	18:04:22
1	Ba 233.527†	-132.2	29.7	0.1288 µg/L	0.1288 ppb	18:04:22
1	Be 313.107†	-392.0	392.8	0.1180 µg/L	0.1180 ppb	18:04:02
1	Cd 226.502†	-121.9	-12.1	-0.0830 µg/L	-0.0830 ppb	18:04:22
1	Co 228.616†	-168.7	3.4	0.0467 µg/L	0.0467 ppb	18:04:22
1	Cr 267.716†	150.1	-28.2	-0.2379 µg/L	-0.2379 ppb	18:04:22
1	Cu 324.752†	2898.1	114.8	0.4843 µg/L	0.4843 ppb	18:04:02
1	Mn 257.610†	183.2	8.0	0.0105 µg/L	0.0105 ppb	18:04:22
1	Mo 202.031†	-44.8	-10.1	-0.3221 µg/L	-0.3221 ppb	18:04:22
1	Ni 231.604†	-60.8	17.0	0.2132 µg/L	0.2132 ppb	18:04:22
1	P 214.914†	30.0	25.0	5.9711 µg/L	5.9711 ppb	18:04:22
1	Pb 220.353†	97.6	0.8	0.0491 µg/L	0.0491 ppb	18:04:22
1	S 181.975 Axial†	102.8	15.3	12.573 µg/L	12.573 ppb	18:04:22
1	Sb 206.836†	69.7	-8.2	-1.0769 µg/L	-1.0769 ppb	18:04:22
1	Se 196.026†	1.0	-12.6	-5.04 µg/L	-5.04 ppb	18:04:22
1	SiO2†	1676.0	-73.9	-7.9004 µg/L	-7.9004 ppb	18:04:22
1	Si 251.611†	923.1	-23.8	-0.3831 µg/L	-0.3831 ppb	18:04:02
1	Sn 189.927†	3.9	6.5	0.4467 µg/L	0.4467 ppb	18:04:22
1	Ti 334.940†	772.4	-111.7	-0.1124 µg/L	-0.1124 ppb	18:04:02
1	Tl 190.801†	-112.4	4.5	0.5986 µg/L	0.5986 ppb	18:04:22
1	U 409.014†	-275.1	8.2	0.4912 µg/L	0.4912 ppb	18:04:02
1	V 292.402†	243.1	-66.3	-0.3559 µg/L	-0.3559 ppb	18:04:02
1	Zn 213.857†	522.7	-0.8	-0.0070 µg/L	-0.0070 ppb	18:04:22
2	Sc RADIAL	150352.0	150352.0	102 %		18:03:14
2	Al 396.153Radial†	-78.4	-14.2	-2.9660 µg/L	-2.9660 ppb	18:03:34
2	Ca 317.933Radial†	672.3	-37.0	-2.2240 µg/L	-2.2240 ppb	18:03:34
2	Fe 238.204 Radial†	139.7	-3.3	-0.2234 µg/L	-0.2234 ppb	18:03:34
2	K 766.490 Radial†	1509.0	170.9	70.320 µg/L	70.320 ppb	18:03:14
2	Mg 279.077 IEC†	164.0	-7.5	-3.0724 µg/L	-3.0724 ppb	18:03:34
2	Na 589.592 Radial†	1365.9	136.4	20.649 µg/L	20.649 ppb	18:03:14
2	Sr 421.552†	-117.2	106.4	0.2454 µg/L	0.2454 ppb	18:03:14
2	Sc 361.383	1757278.8	1757278.8	100.13 %		18:04:24
2	Y 371.029	1064446.3	1064446.3	100.04 %		18:04:24
2	Ag 328.068†	3368.6	-82.7	-0.3398 µg/L	-0.3398 ppb	18:04:26
2	As 188.979†	-14.3	3.4	1.1966 µg/L	1.1966 ppb	18:04:47
2	B 249.677†	3190.2	-44.1	-0.7190 µg/L	-0.7190 ppb	18:04:47
2	Ba 233.527†	-159.9	2.4	0.0111 µg/L	0.0111 ppb	18:04:47
2	Be 313.107†	-887.5	-100.8	-0.0345 µg/L	-0.0345 ppb	18:04:26
2	Cd 226.502†	-82.6	27.6	0.1892 µg/L	0.1892 ppb	18:04:47
2	Co 228.616†	-168.5	4.1	0.0555 µg/L	0.0555 ppb	18:04:47
2	Cr 267.716†	132.4	-46.4	-0.3795 µg/L	-0.3795 ppb	18:04:47
2	Cu 324.752†	2643.9	-148.3	-0.6367 µg/L	-0.6367 ppb	18:04:26
2	Mn 257.610†	145.3	-30.4	-0.0405 µg/L	-0.0405 ppb	18:04:47
2	Mo 202.031†	-13.5	21.3	0.6781 µg/L	0.6781 ppb	18:04:47
2	Ni 231.604†	-77.1	0.9	0.0111 µg/L	0.0111 ppb	18:04:47
2	P 214.914†	12.5	7.5	1.7862 µg/L	1.7862 ppb	18:04:47
2	Pb 220.353†	85.7	-11.4	-0.6841 µg/L	-0.6841 ppb	18:04:47

2	S 181.975 Axial†	89.0	1.2	1.0157 µg/L	1.0157 ppb	18:04:47
2	Sb 206.836†	71.9	-6.3	-0.8105 µg/L	-0.8105 ppb	18:04:47
2	Se 196.026†	20.3	6.7	2.68 µg/L	2.68 ppb	18:04:47
2	SiO2†	1697.0	-58.3	-6.2667 µg/L	-6.2667 ppb	18:04:47
2	Si 251.611†	933.3	-16.5	-0.2813 µg/L	-0.2813 ppb	18:04:26
2	Sn 189.927†	8.4	10.9	0.7577 µg/L	0.7577 ppb	18:04:47
2	Ti 334.940†	879.7	-7.0	-0.0010 µg/L	-0.0010 ppb	18:04:26
2	Tl 190.801†	-114.8	2.4	0.3234 µg/L	0.3234 ppb	18:04:47
2	U 409.014†	-507.2	-222.8	-13.924 µg/L	-13.924 ppb	18:04:26
2	V 292.402†	406.8	96.4	0.5080 µg/L	0.5080 ppb	18:04:26
2	Zn 213.857†	527.3	2.1	0.0134 µg/L	0.0134 ppb	18:04:47
3	Sc RADIAL	152318.3	152318.3	103 %		18:03:36
3	Al 396.153Radial†	-73.0	-8.0	-1.6470 µg/L	-1.6470 ppb	18:03:56
3	Ca 317.933Radial†	695.1	-23.4	-1.4076 µg/L	-1.4076 ppb	18:03:56
3	Fe 238.204 Radial†	147.7	2.7	0.1805 µg/L	0.1805 ppb	18:03:56
3	K 766.490 Radial†	1471.4	115.2	47.414 µg/L	47.414 ppb	18:03:36
3	Mg 279.077 IEC†	138.4	-34.5	-14.137 µg/L	-14.137 ppb	18:03:56
3	Na 589.592 Radial†	1413.1	164.8	24.982 µg/L	24.982 ppb	18:03:36
3	Sr 421.552†	-177.7	49.2	0.1135 µg/L	0.1135 ppb	18:03:36
3	Sc 361.383	1761711.7	1761711.7	100.38 %		18:04:49
3	Y 371.029	1067001.7	1067001.7	100.28 %		18:04:49
3	Ag 328.068†	3547.8	87.4	0.3472 µg/L	0.3472 ppb	18:04:51
3	As 188.979†	-20.0	-2.2	-0.7857 µg/L	-0.7857 ppb	18:05:11
3	B 249.677†	3230.5	-12.0	-0.1957 µg/L	-0.1957 ppb	18:05:11
3	Ba 233.527†	-162.5	0.3	0.0006 µg/L	0.0006 ppb	18:05:11
3	Be 313.107†	-908.1	-119.1	-0.0335 µg/L	-0.0335 ppb	18:04:51
3	Cd 226.502†	-93.1	17.3	0.1188 µg/L	0.1188 ppb	18:05:11
3	Co 228.616†	-181.8	-8.7	-0.1171 µg/L	-0.1171 ppb	18:05:11
3	Cr 267.716†	129.9	-49.1	-0.4200 µg/L	-0.4200 ppb	18:05:11
3	Cu 324.752†	2666.8	-132.2	-0.5513 µg/L	-0.5513 ppb	18:04:51
3	Mn 257.610†	186.9	10.6	0.0148 µg/L	0.0148 ppb	18:05:11
3	Mo 202.031†	-35.8	-0.9	-0.0304 µg/L	-0.0304 ppb	18:05:11
3	Ni 231.604†	-74.5	3.7	0.0466 µg/L	0.0466 ppb	18:05:11
3	P 214.914†	5.9	0.9	0.2218 µg/L	0.2218 ppb	18:05:11
3	Pb 220.353†	74.9	-22.4	-1.3753 µg/L	-1.3753 ppb	18:05:11
3	S 181.975 Axial†	84.5	-3.5	-2.8453 µg/L	-2.8453 ppb	18:05:11
3	Sb 206.836†	72.9	-5.4	-0.7086 µg/L	-0.7086 ppb	18:05:11
3	Se 196.026†	13.4	-0.2	-0.085 µg/L	-0.085 ppb	18:05:11
3	SiO2†	1672.5	-86.9	-9.3016 µg/L	-9.3016 ppb	18:05:11
3	Si 251.611†	708.7	-242.6	-3.9283 µg/L	-3.9283 ppb	18:04:51
3	Sn 189.927†	1.8	4.4	0.3022 µg/L	0.3022 ppb	18:05:11
3	Ti 334.940†	729.1	-159.2	-0.1613 µg/L	-0.1613 ppb	18:04:51
3	Tl 190.801†	-107.3	10.2	1.3632 µg/L	1.3632 ppb	18:05:11
3	U 409.014†	-165.7	118.7	7.3880 µg/L	7.3880 ppb	18:04:51
3	V 292.402†	163.6	-146.8	-0.7764 µg/L	-0.7764 ppb	18:04:51
3	Zn 213.857†	510.6	-15.9	-0.0986 µg/L	-0.0986 ppb	18:05:11

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1756892.3	100.10 %	0.286			0.29%
Sc RADIAL	151483.5	102 %	0.7			0.67%
Y 371.029	1064495.3	100.04 %	0.233			0.23%
Ag 328.068†	36.1	0.1385 µg/L	0.41530	0.1385 ppb	0.41530	299.88%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	0.6	0.1131 µg/L	4.24252	0.1131 ppb	4.24252	>999.9%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	4.1	1.4155 µg/L	2.31844	1.4155 ppb	2.31844	163.79%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	-25.6	-0.4180 µg/L	0.27043	-0.4180 ppb	0.27043	64.70%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	10.8	0.0468 µg/L	0.07118	0.0468 ppb	0.07118	151.98%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	57.6	0.0167 µg/L	0.08778	0.0167 ppb	0.08778	525.94%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-29.9	-1.8004 µg/L	0.40907	-1.8004 ppb	0.40907	22.72%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	10.9	0.0750 µg/L	0.14131	0.0750 ppb	0.14131	188.36%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	-0.4	-0.0050 µg/L	0.09722	-0.0050 ppb	0.09722	>999.9%

QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-41.2	-0.3458 µg/L	0.09558	-0.3458 ppb	0.09558	27.64%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-55.2	-0.2346 µg/L	0.62400	-0.2346 ppb	0.62400	266.01%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	-2.1	-0.1413 µg/L	0.28967	-0.1413 ppb	0.28967	204.94%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	124.0	51.032 µg/L	17.7573	51.032 ppb	17.7573	34.80%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	-10.4	-4.2437 µg/L	9.36298	-4.2437 ppb	9.36298	220.63%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	-3.9	-0.0051 µg/L	0.03077	-0.0051 ppb	0.03077	603.93%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	3.4	0.1085 µg/L	0.51436	0.1085 ppb	0.51436	474.00%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	135.5	20.537 µg/L	4.5028	20.537 ppb	4.5028	21.93%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	7.2	0.0903 µg/L	0.10791	0.0903 ppb	0.10791	119.51%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	11.1	2.6597 µg/L	2.97253	2.6597 ppb	2.97253	111.76%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	-11.0	-0.6701 µg/L	0.71232	-0.6701 ppb	0.71232	106.30%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	4.4	3.5812 µg/L	8.02299	3.5812 ppb	8.02299	224.03%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	-6.7	-0.8653 µg/L	0.19019	-0.8653 ppb	0.19019	21.98%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-2.0	-0.816 µg/L	3.9132	-0.816 ppb	3.9132	479.71%	
QC value within limits for Se 196.026 Recovery = Not calculated							
SiO2†	-73.0	-7.8229 µg/L	1.51896	-7.8229 ppb	1.51896	19.42%	
QC value within limits for SiO2 Recovery = Not calculated							
Si 251.611†	-94.3	-1.5309 µg/L	2.07685	-1.5309 ppb	2.07685	135.66%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	7.3	0.5022 µg/L	0.23278	0.5022 ppb	0.23278	46.36%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	37.8	0.0872 µg/L	0.17279	0.0872 ppb	0.17279	198.10%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	-92.6	-0.0916 µg/L	0.08215	-0.0916 ppb	0.08215	89.72%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	5.7	0.7617 µg/L	0.53874	0.7617 ppb	0.53874	70.73%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	-32.0	-2.0149 µg/L	10.87474	-2.0149 ppb	10.87474	539.72%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	-38.9	-0.2081 µg/L	0.65482	-0.2081 ppb	0.65482	314.64%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	-4.9	-0.0308 µg/L	0.05967	-0.0308 ppb	0.05967	194.02%	
QC value within limits for Zn 213.857 Recovery = Not calculated							

All analyte(s) passed QC.

Sequence No.: 32

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 3/30/2010 18:22:00

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Calib. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	152022.9	152022.9	103 %			18:22:34
1	Al 396.153Radial†	25496.4	24856.1	5098.8 µg/L		5098.8 ppb	18:22:34
1	Ca 317.933Radial†	87543.5	84430.9	5080.0 µg/L		5080.0 ppb	18:22:34
1	Fe 238.204 Radial†	77294.6	75022.0	5048.1 µg/L		5048.1 ppb	18:22:34
1	K 766.490 Radial†	13921.2	12224.5	5027.0 µg/L		5027.0 ppb	18:22:34
1	Mg 279.077 IEC†	13080.9	12551.3	5156.7 µg/L		5156.7 ppb	18:22:34
1	Na 589.592 Radial†	69459.6	66337.1	10069 µg/L		10069 ppb	18:22:34
1	Sr 421.552†	227477.8	221425.1	510.75 µg/L		510.75 ppb	18:22:32
1	Sc 361.383	1763625.0	1763625.0	100.49 %			18:23:01
1	Y 371.029	1054867.8	1054867.8	99.138 %			18:23:01
1	Ag 328.068†	129454.6	125380.1	504.66 µg/L		504.66 ppb	18:23:01
1	As 188.979†	1415.8	1426.6	505.07 µg/L		505.07 ppb	18:23:21
1	B 249.677†	33989.2	30594.1	497.05 µg/L		497.05 ppb	18:23:01
1	Ba 233.527†	115735.7	115337.0	502.60 µg/L		502.60 ppb	18:23:01
1	Be 313.107†	1683988.9	1676612.7	503.31 µg/L		503.31 ppb	18:23:01
1	Cd 226.502†	73644.3	73397.4	503.65 µg/L		503.65 ppb	18:23:01
1	Co 228.616†	37472.4	37463.2	506.95 µg/L		506.95 ppb	18:23:01
1	Cr 267.716†	59994.2	59524.9	501.40 µg/L		501.40 ppb	18:23:01
1	Cu 324.752†	122028.0	118647.7	501.54 µg/L		501.54 ppb	18:23:01
1	Mn 257.610†	379073.8	377061.0	503.77 µg/L		503.77 ppb	18:23:01
1	Mo 202.031†	15803.3	15761.4	501.82 µg/L		501.82 ppb	18:23:21
1	Ni 231.604†	40212.3	40095.3	504.31 µg/L		504.31 ppb	18:23:01
1	P 214.914†	10549.5	10493.4	2494.3 µg/L		2494.3 ppb	18:23:21
1	Pb 220.353†	8356.8	8219.3	504.85 µg/L		504.85 ppb	18:23:21
1	S 181.975 Axial†	1313.0	1218.9	1003.4 µg/L		1003.4 ppb	18:23:21
1	Sb 206.836†	3928.2	3831.1	503.48 µg/L		503.48 ppb	18:23:21
1	Se 196.026†	1248.8	1229.2	494 µg/L		494 ppb	18:23:21
1	SiO2†	52239.1	50232.8	5352.6 µg/L		5352.6 ppb	18:23:01
1	Si 251.611†	157026.6	155316.8	2504.0 µg/L		2504.0 ppb	18:23:01
1	Sn 189.927†	7284.3	7251.5	503.72 µg/L		503.72 ppb	18:23:21
1	Ti 334.940†	504471.7	501141.1	501.41 µg/L		501.41 ppb	18:23:01
1	Tl 190.801†	3644.8	3744.2	510.70 µg/L		510.70 ppb	18:23:21
1	U 409.014†	7576.4	7823.4	520.45 µg/L		520.45 ppb	18:23:01
1	V 292.402†	94606.6	93838.3	504.89 µg/L		504.89 ppb	18:23:01
1	Zn 213.857†	82315.3	81391.8	500.84 µg/L		500.84 ppb	18:23:01
2	Sc RADIAL	151202.6	151202.6	102 %			18:22:38
2	Al 396.153Radial†	25369.7	24866.7	5100.8 µg/L		5100.8 ppb	18:22:38
2	Ca 317.933Radial†	87583.7	84932.1	5110.2 µg/L		5110.2 ppb	18:22:38
2	Fe 238.204 Radial†	77189.2	75326.6	5068.6 µg/L		5068.6 ppb	18:22:38
2	K 766.490 Radial†	14138.0	12509.8	5144.4 µg/L		5144.4 ppb	18:22:38
2	Mg 279.077 IEC†	13178.2	12715.5	5224.1 µg/L		5224.1 ppb	18:22:38
2	Na 589.592 Radial†	69482.0	66725.5	10127 µg/L		10127 ppb	18:22:38
2	Sr 421.552†	224799.5	220006.7	507.48 µg/L		507.48 ppb	18:22:36
2	Sc 361.383	1754923.8	1754923.8	99.991 %			18:23:24
2	Y 371.029	1049931.4	1049931.4	98.674 %			18:23:24
2	Ag 328.068†	128312.0	124876.1	502.61 µg/L		502.61 ppb	18:23:24
2	As 188.979†	1424.7	1442.6	510.62 µg/L		510.62 ppb	18:23:44
2	B 249.677†	33694.4	30467.0	494.99 µg/L		494.99 ppb	18:23:24
2	Ba 233.527†	114705.1	114877.3	500.60 µg/L		500.60 ppb	18:23:24
2	Be 313.107†	1668689.0	1669620.7	501.21 µg/L		501.21 ppb	18:23:24
2	Cd 226.502†	73008.4	73124.8	501.78 µg/L		501.78 ppb	18:23:24
2	Co 228.616†	37082.8	37258.5	504.18 µg/L		504.18 ppb	18:23:24
2	Cr 267.716†	59406.1	59232.8	498.95 µg/L		498.95 ppb	18:23:24
2	Cu 324.752†	121021.8	118243.4	499.82 µg/L		499.82 ppb	18:23:24
2	Mn 257.610†	376092.9	375950.3	502.28 µg/L		502.28 ppb	18:23:24
2	Mo 202.031†	15858.0	15894.2	506.04 µg/L		506.04 ppb	18:23:44
2	Ni 231.604†	39963.5	40044.9	503.67 µg/L		503.67 ppb	18:23:24
2	P 214.914†	10615.6	10611.5	2522.5 µg/L		2522.5 ppb	18:23:44
2	Pb 220.353†	8395.9	8299.6	509.79 µg/L		509.79 ppb	18:23:44

2	S 181.975 Axial†	1325.9	1238.3	1019.4 µg/L	1019.4 ppb	18:23:44
2	Sb 206.836†	3924.6	3846.8	505.64 µg/L	505.64 ppb	18:23:44
2	Se 196.026†	1274.0	1260.5	507 µg/L	507 ppb	18:23:44
2	SiO2†	51802.5	50053.9	5333.3 µg/L	5333.3 ppb	18:23:24
2	Si 251.611†	155688.4	154753.4	2494.8 µg/L	2494.8 ppb	18:23:24
2	Sn 189.927†	7315.9	7319.1	508.40 µg/L	508.40 ppb	18:23:44
2	Ti 334.940†	500580.0	499738.2	500.00 µg/L	500.00 ppb	18:23:24
2	Tl 190.801†	3641.0	3758.4	512.59 µg/L	512.59 ppb	18:23:44
2	U 409.014†	7245.2	7529.5	501.92 µg/L	501.92 ppb	18:23:24
2	V 292.402†	93774.0	93472.4	502.97 µg/L	502.97 ppb	18:23:24
2	Zn 213.857†	81432.9	80915.5	497.89 µg/L	497.89 ppb	18:23:24
3	Sc RADIAL	151864.6	151864.6	103 %		18:22:42
3	Al 396.153Radial†	25398.9	24787.0	5084.7 µg/L	5084.7 ppb	18:22:42
3	Ca 317.933Radial†	87549.1	84525.1	5085.7 µg/L	5085.7 ppb	18:22:42
3	Fe 238.204 Radial†	77263.5	75070.1	5051.4 µg/L	5051.4 ppb	18:22:42
3	K 766.490 Radial†	14043.0	12357.1	5081.6 µg/L	5081.6 ppb	18:22:42
3	Mg 279.077 IEC†	13106.7	12589.7	5172.4 µg/L	5172.4 ppb	18:22:42
3	Na 589.592 Radial†	69138.8	66095.3	10032 µg/L	10032 ppb	18:22:42
3	Sr 421.552†	226301.2	220510.5	508.65 µg/L	508.65 ppb	18:22:40
3	Sc 361.383	1763121.1	1763121.1	100.46 %		18:23:47
3	Y 371.029	1054400.4	1054400.4	99.094 %		18:23:47
3	Ag 328.068†	129590.7	125552.4	505.33 µg/L	505.33 ppb	18:23:47
3	As 188.979†	1421.7	1432.9	507.26 µg/L	507.26 ppb	18:24:07
3	B 249.677†	34093.4	30707.6	498.91 µg/L	498.91 ppb	18:23:47
3	Ba 233.527†	115605.9	115240.6	502.18 µg/L	502.18 ppb	18:23:47
3	Be 313.107†	1685374.2	1678470.7	503.87 µg/L	503.87 ppb	18:23:47
3	Cd 226.502†	73745.4	73519.0	504.49 µg/L	504.49 ppb	18:23:47
3	Co 228.616†	37334.8	37336.9	505.24 µg/L	505.24 ppb	18:23:47
3	Cr 267.716†	59896.5	59444.7	500.74 µg/L	500.74 ppb	18:23:47
3	Cu 324.752†	121842.9	118498.1	500.89 µg/L	500.89 ppb	18:23:47
3	Mn 257.610†	379394.8	377488.3	504.34 µg/L	504.34 ppb	18:23:47
3	Mo 202.031†	15706.1	15669.2	498.88 µg/L	498.88 ppb	18:24:07
3	Ni 231.604†	40456.4	40349.8	507.51 µg/L	507.51 ppb	18:23:47
3	P 214.914†	10509.4	10456.5	2485.5 µg/L	2485.5 ppb	18:24:07
3	Pb 220.353†	8318.8	8183.9	502.69 µg/L	502.69 ppb	18:24:07
3	S 181.975 Axial†	1309.1	1215.4	1000.5 µg/L	1000.5 ppb	18:24:07
3	Sb 206.836†	3892.4	3796.5	498.91 µg/L	498.91 ppb	18:24:07
3	Se 196.026†	1254.2	1234.9	497 µg/L	497 ppb	18:24:07
3	SiO2†	52130.0	50139.0	5342.7 µg/L	5342.7 ppb	18:23:47
3	Si 251.611†	157303.8	155637.4	2509.2 µg/L	2509.2 ppb	18:23:47
3	Sn 189.927†	7257.4	7226.8	502.02 µg/L	502.02 ppb	18:24:07
3	Ti 334.940†	505498.3	502306.5	502.58 µg/L	502.58 ppb	18:23:47
3	Tl 190.801†	3612.2	3712.8	506.50 µg/L	506.50 ppb	18:24:07
3	U 409.014†	7329.9	7580.2	505.25 µg/L	505.25 ppb	18:23:47
3	V 292.402†	94683.8	93942.0	505.39 µg/L	505.39 ppb	18:23:47
3	Zn 213.857†	82429.5	81528.9	501.67 µg/L	501.67 ppb	18:23:47

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Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1760556.6	100.31 %	0.278			0.28%
Sc RADIAL	151696.7	103 %	0.3			0.29%
Y 371.029	1053066.5	98.968 %	0.2561			0.26%
Ag 328.068†	125269.5	504.20 µg/L	1.418	504.20 ppb	1.418	0.28%
QC value within limits for Ag 328.068 Recovery = 100.84%						
Al 396.153Radial†	24836.6	5094.8 µg/L	8.77	5094.8 ppb	8.77	0.17%
QC value within limits for Al 396.153Radial Recovery = 101.90%						
As 188.979†	1434.0	507.65 µg/L	2.798	507.65 ppb	2.798	0.55%
QC value within limits for As 188.979 Recovery = 101.53%						
B 249.677†	30589.6	496.99 µg/L	1.960	496.99 ppb	1.960	0.39%
QC value within limits for B 249.677 Recovery = 99.40%						
Ba 233.527†	115151.6	501.80 µg/L	1.055	501.80 ppb	1.055	0.21%
QC value within limits for Ba 233.527 Recovery = 100.36%						
Be 313.107†	1674901.4	502.80 µg/L	1.402	502.80 ppb	1.402	0.28%
QC value within limits for Be 313.107 Recovery = 100.56%						
Ca 317.933Radial†	84629.4	5091.9 µg/L	16.03	5091.9 ppb	16.03	0.31%
QC value within limits for Ca 317.933Radial Recovery = 101.84%						
Cd 226.502†	73347.1	503.31 µg/L	1.388	503.31 ppb	1.388	0.28%
QC value within limits for Cd 226.502 Recovery = 100.66%						
Co 228.616†	37352.9	505.46 µg/L	1.399	505.46 ppb	1.399	0.28%

Cr 267.716†	QC value within limits for Co 228.616	Recovery = 101.09%	59400.8	500.36 µg/L	1.266	500.36 ppb	1.266	0.25%
Cu 324.752†	QC value within limits for Cr 267.716	Recovery = 100.07%	118463.1	500.75 µg/L	0.867	500.75 ppb	0.867	0.17%
Fe 238.204 Radial†	QC value within limits for Cu 324.752	Recovery = 100.15%	75139.6	5056.0 µg/L	11.02	5056.0 ppb	11.02	0.22%
K 766.490 Radial†	QC value within limits for Fe 238.204 Radial	Recovery = 101.12%	12363.8	5084.3 µg/L	58.76	5084.3 ppb	58.76	1.16%
Mg 279.077 IEC†	QC value within limits for K 766.490 Radial	Recovery = 101.69%	12618.8	5184.4 µg/L	35.29	5184.4 ppb	35.29	0.68%
Mn 257.610†	QC value within limits for Mg 279.077 IEC	Recovery = 103.69%	376833.2	503.46 µg/L	1.062	503.46 ppb	1.062	0.21%
Mo 202.031†	QC value within limits for Mn 257.610	Recovery = 100.69%	15774.9	502.25 µg/L	3.598	502.25 ppb	3.598	0.72%
Na 589.592 Radial†	QC value within limits for Mo 202.031	Recovery = 100.45%	66386.0	10076 µg/L	48.2	10076 ppb	48.2	0.48%
Ni 231.604†	QC value within limits for Na 589.592 Radial	Recovery = 100.76%	40163.3	505.16 µg/L	2.055	505.16 ppb	2.055	0.41%
P 214.914†	QC value within limits for Ni 231.604	Recovery = 101.03%	10520.5	2500.8 µg/L	19.31	2500.8 ppb	19.31	0.77%
Pb 220.353†	QC value within limits for P 214.914	Recovery = 100.03%	8234.3	505.78 µg/L	3.642	505.78 ppb	3.642	0.72%
S 181.975 Axial†	QC value within limits for Pb 220.353	Recovery = 101.16%	1224.2	1007.8 µg/L	10.15	1007.8 ppb	10.15	1.01%
Sb 206.836†	QC value within limits for S 181.975 Axial	Recovery = 100.78%	3824.8	502.68 µg/L	3.437	502.68 ppb	3.437	0.68%
Se 196.026†	QC value within limits for Sb 206.836	Recovery = 100.54%	1241.5	499 µg/L	6.7	499 ppb	6.7	1.34%
SiO2†	QC value within limits for Se 196.026	Recovery = 99.84%	50141.9	5342.9 µg/L	9.66	5342.9 ppb	9.66	0.18%
Si 251.611†	QC value within limits for SiO2	Recovery = 99.91%	155235.9	2502.7 µg/L	7.31	2502.7 ppb	7.31	0.29%
Sn 189.927†	QC value within limits for Si 251.611	Recovery = 100.11%	7265.8	504.71 µg/L	3.301	504.71 ppb	3.301	0.65%
Sr 421.552†	QC value within limits for Sn 189.927	Recovery = 100.94%	220647.4	508.96 µg/L	1.659	508.96 ppb	1.659	0.33%
Ti 334.940†	QC value within limits for Sr 421.552	Recovery = 101.79%	501062.0	501.33 µg/L	1.289	501.33 ppb	1.289	0.26%
Tl 190.801†	QC value within limits for Ti 334.940	Recovery = 100.27%	3738.5	509.93 µg/L	3.117	509.93 ppb	3.117	0.61%
U 409.014†	QC value within limits for Tl 190.801	Recovery = 101.99%	7644.4	509.21 µg/L	9.876	509.21 ppb	9.876	1.94%
V 292.402†	QC value within limits for U 409.014	Recovery = 101.84%	93750.9	504.42 µg/L	1.281	504.42 ppb	1.281	0.25%
Zn 213.857†	QC value within limits for V 292.402	Recovery = 100.88%	81278.7	500.13 µg/L	1.987	500.13 ppb	1.987	0.40%
QC value within limits for Zn 213.857 Recovery = 100.03%								

All analyte(s) passed QC.

Sequence No.: 33

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 3/30/2010 18:24:15

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	151481.5	151481.5	102 %		18:24:44
1	Al 396.153Radial†	-44.9	19.1	3.9141 µg/L	3.9141 ppb	18:25:04
1	Ca 317.933Radial†	703.4	-11.5	-0.6936 µg/L	-0.6936 ppb	18:25:04
1	Fe 238.204 Radial†	144.3	0.2	0.0103 µg/L	0.0103 ppb	18:25:04
1	K 766.490 Radial†	1391.8	45.4	18.695 µg/L	18.695 ppb	18:24:44
1	Mg 279.077 IEC†	155.2	-17.3	-7.0896 µg/L	-7.0896 ppb	18:25:04
1	Na 589.592 Radial†	1546.4	302.4	45.909 µg/L	45.909 ppb	18:24:44
1	Sr 421.552†	-139.8	85.3	0.1967 µg/L	0.1967 ppb	18:24:44
1	Sc 361.383	1786387.6	1786387.6	101.78 %		18:26:06
1	Y 371.029	1081565.1	1081565.1	101.65 %		18:26:06
1	Ag 328.068†	3253.7	-250.4	-0.9846 µg/L	-0.9846 ppb	18:26:08
1	As 188.979†	-20.6	-2.5	-0.8813 µg/L	-0.8813 ppb	18:26:28
1	B 249.677†	3222.1	-64.7	-1.0549 µg/L	-1.0549 ppb	18:26:28
1	Ba 233.527†	-172.2	-7.0	-0.0304 µg/L	-0.0304 ppb	18:26:28
1	Be 313.107†	-742.7	55.9	0.0186 µg/L	0.0186 ppb	18:26:08
1	Cd 226.502†	-96.4	15.3	0.1051 µg/L	0.1051 ppb	18:26:28
1	Co 228.616†	-164.3	11.0	0.1490 µg/L	0.1490 ppb	18:26:28
1	Cr 267.716†	131.5	-49.4	-0.4208 µg/L	-0.4208 ppb	18:26:28
1	Cu 324.752†	2775.2	-62.3	-0.2578 µg/L	-0.2578 ppb	18:26:08
1	Mn 257.610†	182.1	3.4	0.0048 µg/L	0.0048 ppb	18:26:28
1	Mo 202.031†	-24.2	11.0	0.3493 µg/L	0.3493 ppb	18:26:28
1	Ni 231.604†	-98.1	-18.5	-0.2326 µg/L	-0.2326 ppb	18:26:28
1	P 214.914†	18.4	13.0	3.1135 µg/L	3.1135 ppb	18:26:28
1	Pb 220.353†	78.2	-20.1	-1.2353 µg/L	-1.2353 ppb	18:26:28
1	S 181.975 Axial†	82.8	-6.4	-5.2318 µg/L	-5.2318 ppb	18:26:28
1	Sb 206.836†	53.8	-25.2	-3.2907 µg/L	-3.2907 ppb	18:26:28
1	Se 196.026†	18.0	4.1	1.64 µg/L	1.64 ppb	18:26:28
1	SiO2†	1695.5	-87.4	-9.3595 µg/L	-9.3595 ppb	18:26:28
1	Si 251.611†	801.6	-161.1	-2.6135 µg/L	-2.6135 ppb	18:26:28
1	Sn 189.927†	-0.6	2.0	0.1362 µg/L	0.1362 ppb	18:26:28
1	Ti 334.940†	733.4	-165.0	-0.1671 µg/L	-0.1671 ppb	18:26:08
1	Tl 190.801†	-99.2	19.6	2.6315 µg/L	2.6315 ppb	18:26:28
1	U 409.014†	-191.1	96.0	6.0290 µg/L	6.0290 ppb	18:26:08
1	V 292.402†	368.9	52.6	0.2853 µg/L	0.2853 ppb	18:26:08
1	Zn 213.857†	544.7	10.6	0.0675 µg/L	0.0675 ppb	18:26:28
2	Sc RADIAL	150730.3	150730.3	102 %		18:25:06
2	Al 396.153Radial†	-41.0	22.6	4.6498 µg/L	4.6498 ppb	18:25:26
2	Ca 317.933Radial†	715.4	3.6	0.2184 µg/L	0.2184 ppb	18:25:26
2	Fe 238.204 Radial†	157.4	13.6	0.9183 µg/L	0.9183 ppb	18:25:26
2	K 766.490 Radial†	1502.6	160.9	66.196 µg/L	66.196 ppb	18:25:06
2	Mg 279.077 IEC†	187.3	14.9	6.1063 µg/L	6.1063 ppb	18:25:26
2	Na 589.592 Radial†	1455.4	220.8	33.463 µg/L	33.463 ppb	18:25:06
2	Sr 421.552†	-242.3	-16.0	-0.0370 µg/L	-0.0370 ppb	18:25:06
2	Sc 361.383	1760065.9	1760065.9	100.28 %		18:26:30
2	Y 371.029	1065993.9	1065993.9	100.18 %		18:26:30
2	Ag 328.068†	3460.6	3.7	0.0060 µg/L	0.0060 ppb	18:26:32
2	As 188.979†	-7.3	10.4	3.6164 µg/L	3.6164 ppb	18:26:53
2	B 249.677†	3203.2	-36.2	-0.5899 µg/L	-0.5899 ppb	18:26:53
2	Ba 233.527†	-163.0	-0.4	-0.0017 µg/L	-0.0017 ppb	18:26:53
2	Be 313.107†	-683.2	104.3	0.0293 µg/L	0.0293 ppb	18:26:32
2	Cd 226.502†	-99.5	10.8	0.0741 µg/L	0.0741 ppb	18:26:53
2	Co 228.616†	-181.6	-8.7	-0.1175 µg/L	-0.1175 ppb	18:26:53
2	Cr 267.716†	164.1	-14.9	-0.1204 µg/L	-0.1204 ppb	18:26:53
2	Cu 324.752†	2709.5	-87.2	-0.3726 µg/L	-0.3726 ppb	18:26:32
2	Mn 257.610†	182.8	6.7	0.0087 µg/L	0.0087 ppb	18:26:53
2	Mo 202.031†	-25.1	9.7	0.3092 µg/L	0.3092 ppb	18:26:53
2	Ni 231.604†	-64.3	13.8	0.1730 µg/L	0.1730 ppb	18:26:53
2	P 214.914†	22.4	17.4	4.1462 µg/L	4.1462 ppb	18:26:53
2	Pb 220.353†	92.2	-5.0	-0.3025 µg/L	-0.3025 ppb	18:26:53



2	S 181.975 Axial†	96.5	8.5	7.0111 µg/L	7.0111 ppb	18:26:53
2	Sb 206.836†	96.6	18.3	2.4052 µg/L	2.4052 ppb	18:26:53
2	Se 196.026†	19.6	6.0	2.40 µg/L	2.40 ppb	18:26:53
2	SiO2†	1706.6	-51.4	-5.5173 µg/L	-5.5173 ppb	18:26:53
2	Si 251.611†	758.5	-192.3	-3.1211 µg/L	-3.1211 ppb	18:26:53
2	Sn 189.927†	6.8	9.3	0.6436 µg/L	0.6436 ppb	18:26:53
2	Ti 334.940†	652.1	-235.3	-0.2334 µg/L	-0.2334 ppb	18:26:32
2	Tl 190.801†	-102.4	15.0	2.0150 µg/L	2.0150 ppb	18:26:53
2	U 409.014†	-391.9	-107.0	-6.7052 µg/L	-6.7052 ppb	18:26:32
2	V 292.402†	305.8	-4.9	-0.0279 µg/L	-0.0279 ppb	18:26:32
2	Zn 213.857†	541.8	15.7	0.0964 µg/L	0.0964 ppb	18:26:53
3	Sc RADIAL	154694.6	154694.6	105 %		18:25:28
3	Al 396.153Radial†	-85.0	-18.4	-3.8087 µg/L	-3.8087 ppb	18:25:48
3	Ca 317.933Radial†	706.5	-22.8	-1.3740 µg/L	-1.3740 ppb	18:25:48
3	Fe 238.204 Radial†	167.0	18.9	1.2698 µg/L	1.2698 ppb	18:25:48
3	K 766.490 Radial†	1479.1	100.6	41.404 µg/L	41.404 ppb	18:25:28
3	Mg 279.077 IEC†	182.1	5.3	2.1693 µg/L	2.1693 ppb	18:25:48
3	Na 589.592 Radial†	1436.3	165.9	25.153 µg/L	25.153 ppb	18:25:28
3	Sr 421.552†	-303.9	-68.8	-0.1586 µg/L	-0.1586 ppb	18:25:28
3	Sc 361.383	1712455.6	1712455.6	97.572 %		18:26:55
3	Y 371.029	1037782.0	1037782.0	97.532 %		18:26:55
3	Ag 328.068†	3627.5	270.7	1.0551 µg/L	1.0551 ppb	18:26:57
3	As 188.979†	-12.1	5.3	1.8581 µg/L	1.8581 ppb	18:27:17
3	B 249.677†	3207.3	56.8	0.9250 µg/L	0.9250 ppb	18:27:17
3	Ba 233.527†	-163.0	-4.9	-0.0210 µg/L	-0.0210 ppb	18:27:17
3	Be 313.107†	-627.8	142.2	0.0374 µg/L	0.0374 ppb	18:26:57
3	Cd 226.502†	-110.6	-3.4	-0.0232 µg/L	-0.0232 ppb	18:27:17
3	Co 228.616†	-152.6	16.1	0.2173 µg/L	0.2173 ppb	18:27:17
3	Cr 267.716†	147.7	-27.2	-0.2156 µg/L	-0.2156 ppb	18:27:17
3	Cu 324.752†	2750.8	30.3	0.1136 µg/L	0.1136 ppb	18:26:57
3	Mn 257.610†	203.2	32.7	0.0436 µg/L	0.0436 ppb	18:27:17
3	Mo 202.031†	-22.3	11.9	0.3800 µg/L	0.3800 ppb	18:27:17
3	Ni 231.604†	-73.9	2.2	0.0271 µg/L	0.0271 ppb	18:27:17
3	P 214.914†	27.6	23.3	5.5673 µg/L	5.5673 ppb	18:27:17
3	Pb 220.353†	78.6	-16.5	-0.9934 µg/L	-0.9934 ppb	18:27:17
3	S 181.975 Axial†	90.8	5.4	4.3947 µg/L	4.3947 ppb	18:27:17
3	Sb 206.836†	73.4	-2.8	-0.3595 µg/L	-0.3595 ppb	18:27:17
3	Se 196.026†	22.5	9.5	3.77 µg/L	3.77 ppb	18:27:17
3	SiO2†	1702.2	-8.6	-0.9443 µg/L	-0.9443 ppb	18:27:17
3	Si 251.611†	769.7	-159.8	-2.6000 µg/L	-2.6000 ppb	18:27:17
3	Sn 189.927†	13.6	16.5	1.1444 µg/L	1.1444 ppb	18:27:17
3	Ti 334.940†	1088.6	230.1	0.2376 µg/L	0.2376 ppb	18:26:57
3	Tl 190.801†	-126.7	-12.8	-1.7146 µg/L	-1.7146 ppb	18:27:17
3	U 409.014†	-549.1	-279.0	-17.471 µg/L	-17.471 ppb	18:26:57
3	V 292.402†	310.9	8.8	0.0377 µg/L	0.0377 ppb	18:26:57
3	Zn 213.857†	548.0	37.1	0.2297 µg/L	0.2297 ppb	18:27:17

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Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1752969.7	99.880 %	2.1351			2.14%
Sc RADIAL	152302.1	103 %	1.4			1.38%
Y 371.029	1061780.3	99.787 %	2.0858			2.09%
Ag 328.068†	8.0	0.0255 µg/L	1.01998	0.0255 ppb	1.01998	>999.9%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	7.8	1.5851 µg/L	4.68558	1.5851 ppb	4.68558	295.60%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	4.4	1.5311 µg/L	2.26658	1.5311 ppb	2.26658	148.04%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	-14.7	-0.2399 µg/L	1.03530	-0.2399 ppb	1.03530	431.55%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-4.1	-0.0177 µg/L	0.01464	-0.0177 ppb	0.01464	82.75%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	100.8	0.0284 µg/L	0.00943	0.0284 ppb	0.00943	33.18%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-10.2	-0.6164 µg/L	0.79904	-0.6164 ppb	0.79904	129.63%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	7.6	0.0520 µg/L	0.06695	0.0520 ppb	0.06695	128.68%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	6.1	0.0830 µg/L	0.17691	0.0830 ppb	0.17691	213.26%

QC value within limits for Co 228.616	Recovery = Not calculated		
Cr 267.716†	-30.5 -0.2523 µg/L	0.15355 -0.2523 ppb	0.15355 60.87%
QC value within limits for Cr 267.716	Recovery = Not calculated		
Cu 324.752†	-39.7 -0.1723 µg/L	0.25414 -0.1723 ppb	0.25414 147.52%
QC value within limits for Cu 324.752	Recovery = Not calculated		
Fe 238.204 Radial†	10.9 0.7328 µg/L	0.64991 0.7328 ppb	0.64991 88.69%
QC value within limits for Fe 238.204 Radial	Recovery = Not calculated		
K 766.490 Radial†	102.3 42.098 µg/L	23.7579 42.098 ppb	23.7579 56.43%
QC value within limits for K 766.490 Radial	Recovery = Not calculated		
Mg 279.077 IEC†	0.9 0.3953 µg/L	6.77447 0.3953 ppb	6.77447 >999.9%
QC value within limits for Mg 279.077 IEC	Recovery = Not calculated		
Mn 257.610†	14.3 0.0190 µg/L	0.02134 0.0190 ppb	0.02134 112.13%
QC value within limits for Mn 257.610	Recovery = Not calculated		
Mo 202.031†	10.9 0.3462 µg/L	0.03551 0.3462 ppb	0.03551 10.26%
QC value within limits for Mo 202.031	Recovery = Not calculated		
Na 589.592 Radial†	229.7 34.842 µg/L	10.4465 34.842 ppb	10.4465 29.98%
QC value within limits for Na 589.592 Radial	Recovery = Not calculated		
Ni 231.604†	-0.9 -0.0108 µg/L	0.20546 -0.0108 ppb	0.20546 >999.9%
QC value within limits for Ni 231.604	Recovery = Not calculated		
P 214.914†	17.9 4.2757 µg/L	1.23201 4.2757 ppb	1.23201 28.81%
QC value within limits for P 214.914	Recovery = Not calculated		
Pb 220.353†	-13.9 -0.8437 µg/L	0.48412 -0.8437 ppb	0.48412 57.38%
QC value within limits for Pb 220.353	Recovery = Not calculated		
S 181.975 Axial†	2.5 2.0580 µg/L	6.44726 2.0580 ppb	6.44726 313.27%
QC value within limits for S 181.975 Axial	Recovery = Not calculated		
Sb 206.836†	-3.2 -0.4150 µg/L	2.84832 -0.4150 ppb	2.84832 686.36%
QC value within limits for Sb 206.836	Recovery = Not calculated		
Se 196.026†	6.5 2.60 µg/L	1.079 2.60 ppb	1.079 41.43%
QC value within limits for Se 196.026	Recovery = Not calculated		
SiO2†	-49.1 -5.2737 µg/L	4.21292 -5.2737 ppb	4.21292 79.89%
QC value within limits for SiO2	Recovery = Not calculated		
Si 251.611†	-171.1 -2.7782 µg/L	0.29704 -2.7782 ppb	0.29704 10.69%
QC value within limits for Si 251.611	Recovery = Not calculated		
Sn 189.927†	9.3 0.6414 µg/L	0.50410 0.6414 ppb	0.50410 78.59%
QC value within limits for Sn 189.927	Recovery = Not calculated		
Sr 421.552†	0.2 0.0004 µg/L	0.18057 0.0004 ppb	0.18057 >999.9%
QC value within limits for Sr 421.552	Recovery = Not calculated		
Ti 334.940†	-56.7 -0.0543 µg/L	0.25495 -0.0543 ppb	0.25495 469.48%
QC value within limits for Ti 334.940	Recovery = Not calculated		
Tl 190.801†	7.3 0.9773 µg/L	2.35152 0.9773 ppb	2.35152 240.62%
QC value within limits for Tl 190.801	Recovery = Not calculated		
U 409.014†	-96.7 -6.0490 µg/L	11.76353 -6.0490 ppb	11.76353 194.47%
QC value within limits for U 409.014	Recovery = Not calculated		
V 292.402†	18.8 0.0984 µg/L	0.16521 0.0984 ppb	0.16521 167.96%
QC value within limits for V 292.402	Recovery = Not calculated		
Zn 213.857†	21.1 0.1312 µg/L	0.08653 0.1312 ppb	0.08653 65.94%
QC value within limits for Zn 213.857	Recovery = Not calculated		

All analyte(s) passed QC.

Sequence No.: 40

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 3/30/2010 18:44:27

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	153942.1	153942.1	104 %		18:45:01
1	Al 396.153Radial†	25750.4	24790.9	5085.4 µg/L	5085.4 ppb	18:45:01
1	Ca 317.933Radial†	89155.5	84917.6	5109.3 µg/L	5109.3 ppb	18:45:01
1	Fe 238.204 Radial†	78433.0	75178.2	5058.6 µg/L	5058.6 ppb	18:45:01
1	K 766.490 Radial†	14298.2	12417.7	5106.5 µg/L	5106.5 ppb	18:45:01
1	Mg 279.077 IEC†	13384.2	12684.0	5211.1 µg/L	5211.1 ppb	18:45:01
1	Na 589.592 Radial†	70528.9	66522.0	10097 µg/L	10097 ppb	18:45:01
1	Sr 421.552†	231735.6	222756.2	513.83 µg/L	513.83 ppb	18:44:59
1	Sc 361.383	1762897.4	1762897.4	100.45 %		18:45:14
1	Y 371.029	1054046.0	1054046.0	99.060 %		18:45:14
1	Ag 328.068†	129110.0	125090.2	503.49 µg/L	503.49 ppb	18:45:14
1	As 188.979†	1412.3	1423.7	504.05 µg/L	504.05 ppb	18:45:34
1	B 249.677†	33946.5	30565.6	496.59 µg/L	496.59 ppb	18:45:14
1	Ba 233.527†	115682.7	115331.7	502.58 µg/L	502.58 ppb	18:45:14
1	Be 313.107†	1683720.1	1677036.9	503.43 µg/L	503.43 ppb	18:45:14
1	Cd 226.502†	73502.1	73286.1	502.89 µg/L	502.89 ppb	18:45:14
1	Co 228.616†	37398.8	37405.3	506.17 µg/L	506.17 ppb	18:45:14
1	Cr 267.716†	59818.5	59374.6	500.16 µg/L	500.16 ppb	18:45:14
1	Cu 324.752†	122128.8	118798.1	502.15 µg/L	502.15 ppb	18:45:14
1	Mn 257.610†	378582.8	376727.9	503.32 µg/L	503.32 ppb	18:45:14
1	Mo 202.031†	15819.2	15783.8	502.53 µg/L	502.53 ppb	18:45:34
1	Ni 231.604†	40263.8	40163.1	505.16 µg/L	505.16 ppb	18:45:14
1	P 214.914†	10565.6	10513.7	2499.1 µg/L	2499.1 ppb	18:45:34
1	Pb 220.353†	8380.4	8246.2	506.52 µg/L	506.52 ppb	18:45:34
1	S 181.975 Axial†	1324.7	1231.1	1013.4 µg/L	1013.4 ppb	18:45:34
1	Sb 206.836†	3897.4	3802.0	499.70 µg/L	499.70 ppb	18:45:34
1	Se 196.026†	1267.2	1248.1	502 µg/L	502 ppb	18:45:34
1	SiO2†	52107.0	50122.7	5340.8 µg/L	5340.8 ppb	18:45:14
1	Si 251.611†	157060.6	155415.3	2505.6 µg/L	2505.6 ppb	18:45:14
1	Sn 189.927†	7312.5	7282.6	505.88 µg/L	505.88 ppb	18:45:34
1	Ti 334.940†	504700.6	501576.2	501.85 µg/L	501.85 ppb	18:45:14
1	Tl 190.801†	3656.4	3757.3	512.48 µg/L	512.48 ppb	18:45:34
1	U 409.014†	7095.4	7347.7	490.74 µg/L	490.74 ppb	18:45:14
1	V 292.402†	94870.9	94140.3	506.47 µg/L	506.47 ppb	18:45:14
1	Zn 213.857†	82003.2	81114.8	499.11 µg/L	499.11 ppb	18:45:14
2	Sc RADIAL	151796.9	151796.9	103 %		18:45:05
2	Al 396.153Radial†	25698.8	25090.0	5147.1 µg/L	5147.1 ppb	18:45:05
2	Ca 317.933Radial†	87700.2	84710.3	5096.8 µg/L	5096.8 ppb	18:45:05
2	Fe 238.204 Radial†	77299.2	75138.3	5056.0 µg/L	5056.0 ppb	18:45:05
2	K 766.490 Radial†	14202.8	12518.9	5148.1 µg/L	5148.1 ppb	18:45:05
2	Mg 279.077 IEC†	13168.5	12655.6	5199.4 µg/L	5199.4 ppb	18:45:05
2	Na 589.592 Radial†	69452.7	66431.0	10083 µg/L	10083 ppb	18:45:05
2	Sr 421.552†	229145.4	223378.5	515.26 µg/L	515.26 ppb	18:45:03
2	Sc 361.383	1767775.8	1767775.8	100.72 %		18:45:37
2	Y 371.029	1057409.9	1057409.9	99.376 %		18:45:37
2	Ag 328.068†	129676.7	125298.2	504.34 µg/L	504.34 ppb	18:45:37
2	As 188.979†	1421.8	1429.3	505.98 µg/L	505.98 ppb	18:45:57
2	B 249.677†	33996.7	30522.2	495.89 µg/L	495.89 ppb	18:45:37
2	Ba 233.527†	115803.2	115133.5	501.72 µg/L	501.72 ppb	18:45:37
2	Be 313.107†	1687491.9	1676155.7	503.17 µg/L	503.17 ppb	18:45:37
2	Cd 226.502†	73686.7	73267.4	502.76 µg/L	502.76 ppb	18:45:37
2	Co 228.616†	37447.6	37351.0	505.43 µg/L	505.43 ppb	18:45:37
2	Cr 267.716†	59854.7	59246.2	499.05 µg/L	499.05 ppb	18:45:37
2	Cu 324.752†	122416.8	118748.5	501.96 µg/L	501.96 ppb	18:45:37
2	Mn 257.610†	380024.3	377118.9	503.84 µg/L	503.84 ppb	18:45:37
2	Mo 202.031†	15789.8	15711.1	500.22 µg/L	500.22 ppb	18:45:57
2	Ni 231.604†	40279.2	40067.8	503.96 µg/L	503.96 ppb	18:45:37
2	P 214.914†	10576.2	10495.2	2494.7 µg/L	2494.7 ppb	18:45:57
2	Pb 220.353†	8384.2	8227.0	505.32 µg/L	505.32 ppb	18:45:57

2	S 181.975 Axial†	1320.5	1223.3	1007.0 µg/L	1007.0 ppb	18:45:57
2	Sb 206.836†	3909.6	3803.5	499.86 µg/L	499.86 ppb	18:45:57
2	Se 196.026†	1283.2	1260.4	507 µg/L	507 ppb	18:45:57
2	SiO2†	52193.7	50065.6	5334.8 µg/L	5334.8 ppb	18:45:37
2	Si 251.611†	157453.5	155373.8	2504.9 µg/L	2504.9 ppb	18:45:37
2	Sn 189.927†	7276.0	7226.2	501.98 µg/L	501.98 ppb	18:45:57
2	Ti 334.940†	506783.4	502257.5	502.52 µg/L	502.52 ppb	18:45:37
2	Tl 190.801†	3634.1	3725.0	508.15 µg/L	508.15 ppb	18:45:57
2	U 409.014†	7555.6	7785.0	518.09 µg/L	518.09 ppb	18:45:37
2	V 292.402†	94951.1	93959.2	505.50 µg/L	505.50 ppb	18:45:37
2	Zn 213.857†	82281.7	81166.0	499.44 µg/L	499.44 ppb	18:45:37
3	Sc RADIAL	153140.8	153140.8	104 %		18:45:09
3	Al 396.153Radial†	25849.7	25016.1	5131.6 µg/L	5131.6 ppb	18:45:09
3	Ca 317.933Radial†	88696.4	84922.4	5109.6 µg/L	5109.6 ppb	18:45:09
3	Fe 238.204 Radial†	78112.2	75262.6	5064.3 µg/L	5064.3 ppb	18:45:09
3	K 766.490 Radial†	14463.6	12649.2	5201.7 µg/L	5201.7 ppb	18:45:09
3	Mg 279.077 IEC†	13342.5	12711.0	5222.3 µg/L	5222.3 ppb	18:45:09
3	Na 589.592 Radial†	70076.4	66439.5	10084 µg/L	10084 ppb	18:45:09
3	Sr 421.552†	226711.4	219070.7	505.32 µg/L	505.32 ppb	18:45:07
3	Sc 361.383	1752476.9	1752476.9	99.852 %		18:46:00
3	Y 371.029	1047833.8	1047833.8	98.477 %		18:46:00
3	Ag 328.068†	128994.2	125738.5	506.10 µg/L	506.10 ppb	18:46:00
3	As 188.979†	1420.6	1440.4	509.90 µg/L	509.90 ppb	18:46:20
3	B 249.677†	33932.3	30752.3	499.63 µg/L	499.63 ppb	18:46:00
3	Ba 233.527†	115334.5	115667.8	504.05 µg/L	504.05 ppb	18:46:00
3	Be 313.107†	1677265.1	1680539.6	504.49 µg/L	504.49 ppb	18:46:00
3	Cd 226.502†	73364.3	73583.2	504.93 µg/L	504.93 ppb	18:46:00
3	Co 228.616†	37270.7	37498.4	507.43 µg/L	507.43 ppb	18:46:00
3	Cr 267.716†	59635.6	59545.5	501.58 µg/L	501.58 ppb	18:46:00
3	Cu 324.752†	121670.1	119061.7	503.28 µg/L	503.28 ppb	18:46:00
3	Mn 257.610†	378013.6	378399.0	505.55 µg/L	505.55 ppb	18:46:00
3	Mo 202.031†	15827.9	15886.2	505.79 µg/L	505.79 ppb	18:46:20
3	Ni 231.604†	40100.4	40237.8	506.10 µg/L	506.10 ppb	18:46:00
3	P 214.914†	10588.0	10598.7	2519.4 µg/L	2519.4 ppb	18:46:20
3	Pb 220.353†	8367.6	8283.1	508.78 µg/L	508.78 ppb	18:46:20
3	S 181.975 Axial†	1315.8	1230.1	1012.6 µg/L	1012.6 ppb	18:46:20
3	Sb 206.836†	3931.0	3858.8	507.17 µg/L	507.17 ppb	18:46:20
3	Se 196.026†	1282.6	1270.9	511 µg/L	511 ppb	18:46:20
3	SiO2†	52021.3	50345.4	5364.5 µg/L	5364.5 ppb	18:46:00
3	Si 251.611†	156468.8	155752.3	2511.0 µg/L	2511.0 ppb	18:46:00
3	Sn 189.927†	7299.4	7312.8	507.97 µg/L	507.97 ppb	18:46:20
3	Ti 334.940†	503341.4	503202.7	503.47 µg/L	503.47 ppb	18:46:00
3	Tl 190.801†	3641.3	3763.8	513.36 µg/L	513.36 ppb	18:46:20
3	U 409.014†	7378.2	7672.9	511.15 µg/L	511.15 ppb	18:46:00
3	V 292.402†	94379.9	94210.1	506.89 µg/L	506.89 ppb	18:46:00
3	Zn 213.857†	82101.5	81698.8	502.73 µg/L	502.73 ppb	18:46:00

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1761050.0	100.34 %	0.445			0.44%
Sc RADIAL	152959.9	103 %	0.7			0.71%
Y 371.029	1053096.6	98.971 %	0.4566			0.46%
Ag 328.068†	125375.6	504.64 µg/L	1.329	504.64 ppb	1.329	0.26%
QC value within limits for Ag 328.068 Recovery = 100.93%						
Al 396.153Radial†	24965.7	5121.4 µg/L	32.13	5121.4 ppb	32.13	0.63%
QC value within limits for Al 396.153Radial Recovery = 102.43%						
As 188.979†	1431.1	506.64 µg/L	2.982	506.64 ppb	2.982	0.59%
QC value within limits for As 188.979 Recovery = 101.33%						
B 249.677†	30613.3	497.37 µg/L	1.990	497.37 ppb	1.990	0.40%
QC value within limits for B 249.677 Recovery = 99.47%						
Ba 233.527†	115377.7	502.78 µg/L	1.177	502.78 ppb	1.177	0.23%
QC value within limits for Ba 233.527 Recovery = 100.56%						
Be 313.107†	1677910.7	503.70 µg/L	0.696	503.70 ppb	0.696	0.14%
QC value within limits for Be 313.107 Recovery = 100.74%						
Ca 317.933Radial†	84850.1	5105.2 µg/L	7.29	5105.2 ppb	7.29	0.14%
QC value within limits for Ca 317.933Radial Recovery = 102.10%						
Cd 226.502†	73378.9	503.53 µg/L	1.217	503.53 ppb	1.217	0.24%
QC value within limits for Cd 226.502 Recovery = 100.71%						
Co 228.616†	37418.3	506.34 µg/L	1.010	506.34 ppb	1.010	0.20%

QC value within limits for Co 228.616	Recovery = 101.27%				
Cr 267.716†	59388.7	500.26 µg/L	1.267	500.26 ppb	1.267 0.25%
QC value within limits for Cr 267.716	Recovery = 100.05%				
Cu 324.752†	118869.4	502.46 µg/L	0.712	502.46 ppb	0.712 0.14%
QC value within limits for Cu 324.752	Recovery = 100.49%				
Fe 238.204 Radial†	75193.0	5059.6 µg/L	4.27	5059.6 ppb	4.27 0.08%
QC value within limits for Fe 238.204 Radial	Recovery = 101.19%				
K 766.490 Radial†	12528.6	5152.1 µg/L	47.75	5152.1 ppb	47.75 0.93%
QC value within limits for K 766.490 Radial	Recovery = 103.04%				
Mg 279.077 IEC†	12683.5	5211.0 µg/L	11.44	5211.0 ppb	11.44 0.22%
QC value within limits for Mg 279.077 IEC	Recovery = 104.22%				
Mn 257.610†	377415.2	504.24 µg/L	1.168	504.24 ppb	1.168 0.23%
QC value within limits for Mn 257.610	Recovery = 100.85%				
Mo 202.031†	15793.7	502.84 µg/L	2.799	502.84 ppb	2.799 0.56%
QC value within limits for Mo 202.031	Recovery = 100.57%				
Na 589.592 Radial†	66464.2	10088 µg/L	7.7	10088 ppb	7.7 0.08%
QC value within limits for Na 589.592 Radial	Recovery = 100.88%				
Ni 231.604†	40156.2	505.07 µg/L	1.072	505.07 ppb	1.072 0.21%
QC value within limits for Ni 231.604	Recovery = 101.01%				
P 214.914†	10535.9	2504.4 µg/L	13.15	2504.4 ppb	13.15 0.53%
QC value within limits for P 214.914	Recovery = 100.18%				
Pb 220.353†	8252.1	506.87 µg/L	1.754	506.87 ppb	1.754 0.35%
QC value within limits for Pb 220.353	Recovery = 101.37%				
S 181.975 Axial†	1228.2	1011.0 µg/L	3.50	1011.0 ppb	3.50 0.35%
QC value within limits for S 181.975 Axial	Recovery = 101.10%				
Sb 206.836†	3821.4	502.24 µg/L	4.267	502.24 ppb	4.267 0.85%
QC value within limits for Sb 206.836	Recovery = 100.45%				
Se 196.026†	1259.8	506 µg/L	4.6	506 ppb	4.6 0.91%
QC value within limits for Se 196.026	Recovery = 101.30%				
SiO2†	50177.9	5346.7 µg/L	15.70	5346.7 ppb	15.70 0.29%
QC value within limits for SiO2	Recovery = 99.98%				
Si 251.611†	155513.8	2507.2 µg/L	3.31	2507.2 ppb	3.31 0.13%
QC value within limits for Si 251.611	Recovery = 100.29%				
Sn 189.927†	7273.9	505.28 µg/L	3.042	505.28 ppb	3.042 0.60%
QC value within limits for Sn 189.927	Recovery = 101.06%				
Sr 421.552†	221735.2	511.47 µg/L	5.371	511.47 ppb	5.371 1.05%
QC value within limits for Sr 421.552	Recovery = 102.29%				
Ti 334.940†	502345.5	502.61 µg/L	0.814	502.61 ppb	0.814 0.16%
QC value within limits for Ti 334.940	Recovery = 100.52%				
Tl 190.801†	3748.7	511.33 µg/L	2.791	511.33 ppb	2.791 0.55%
QC value within limits for Tl 190.801	Recovery = 102.27%				
U 409.014†	7601.9	506.66 µg/L	14.213	506.66 ppb	14.213 2.81%
QC value within limits for U 409.014	Recovery = 101.33%				
V 292.402†	94103.2	506.29 µg/L	0.715	506.29 ppb	0.715 0.14%
QC value within limits for V 292.402	Recovery = 101.26%				
Zn 213.857†	81326.6	500.43 µg/L	2.000	500.43 ppb	2.000 0.40%
QC value within limits for Zn 213.857	Recovery = 100.09%				

All analyte(s) passed QC.

Sequence No.: 41

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 3/30/2010 18:46:28

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	152151.4	152151.4	103 %		18:46:57
1	Al 396.153Radial†	-67.1	-2.4	-0.4866 µg/L	-0.4866 ppb	18:47:17
1	Ca 317.933Radial†	723.2	4.6	0.2792 µg/L	0.2792 ppb	18:47:17
1	Fe 238.204 Radial†	139.3	-5.4	-0.3626 µg/L	-0.3626 ppb	18:47:17
1	K 766.490 Radial†	1576.7	219.1	90.185 µg/L	90.185 ppb	18:46:57
1	Mg 279.077 IEC†	162.8	-10.6	-4.3553 µg/L	-4.3553 ppb	18:47:17
1	Na 589.592 Radial†	1352.0	106.9	16.159 µg/L	16.159 ppb	18:46:57
1	Sr 421.552†	-249.3	-20.5	-0.0474 µg/L	-0.0474 ppb	18:46:57
1	Sc 361.383	1776193.8	1776193.8	101.20 %		18:48:05
1	Y 371.029	1075054.5	1075054.5	101.03 %		18:48:05
1	Ag 328.068†	3524.3	35.3	0.1446 µg/L	0.1446 ppb	18:48:07
1	As 188.979†	-20.3	-2.4	-0.8343 µg/L	-0.8343 ppb	18:48:27
1	B 249.677†	3223.3	-45.4	-0.7407 µg/L	-0.7407 ppb	18:48:27
1	Ba 233.527†	-158.9	5.2	0.0225 µg/L	0.0225 ppb	18:48:27
1	Be 313.107†	-661.4	132.0	0.0404 µg/L	0.0404 ppb	18:48:07
1	Cd 226.502†	-95.7	15.5	0.1063 µg/L	0.1063 ppb	18:48:27
1	Co 228.616†	-167.1	7.3	0.0989 µg/L	0.0989 ppb	18:48:27
1	Cr 267.716†	161.1	-19.4	-0.1655 µg/L	-0.1655 ppb	18:48:27
1	Cu 324.752†	2875.2	52.1	0.2215 µg/L	0.2215 ppb	18:48:07
1	Mn 257.610†	153.8	-23.6	-0.0314 µg/L	-0.0314 ppb	18:48:27
1	Mo 202.031†	-33.8	1.4	0.0444 µg/L	0.0444 ppb	18:48:27
1	Ni 231.604†	-77.2	1.6	0.0199 µg/L	0.0199 ppb	18:48:27
1	P 214.914†	22.8	17.6	4.1940 µg/L	4.1940 ppb	18:48:27
1	Pb 220.353†	96.4	-1.7	-0.1045 µg/L	-0.1045 ppb	18:48:27
1	S 181.975 Axial†	88.1	-0.6	-0.5041 µg/L	-0.5041 ppb	18:48:27
1	Sb 206.836†	76.5	-2.5	-0.3283 µg/L	-0.3283 ppb	18:48:27
1	Se 196.026†	13.2	-0.5	-0.208 µg/L	-0.208 ppb	18:48:27
1	SiO2†	1699.4	-74.0	-7.9264 µg/L	-7.9264 ppb	18:48:27
1	Si 251.611†	786.3	-171.7	-2.7844 µg/L	-2.7844 ppb	18:48:27
1	Sn 189.927†	7.1	9.6	0.6613 µg/L	0.6613 ppb	18:48:27
1	Ti 334.940†	700.9	-193.0	-0.1940 µg/L	-0.1940 ppb	18:48:07
1	Tl 190.801†	-115.5	2.9	0.3924 µg/L	0.3924 ppb	18:48:27
1	U 409.014†	-246.0	40.6	2.5516 µg/L	2.5516 ppb	18:48:07
1	V 292.402†	334.3	20.5	0.1104 µg/L	0.1104 ppb	18:48:07
1	Zn 213.857†	506.1	-24.5	-0.1524 µg/L	-0.1524 ppb	18:48:27
2	Sc RADIAL	152975.4	152975.4	103 %		18:47:19
2	Al 396.153Radial†	-44.1	20.3	4.1794 µg/L	4.1794 ppb	18:47:39
2	Ca 317.933Radial†	734.0	11.3	0.6795 µg/L	0.6795 ppb	18:47:39
2	Fe 238.204 Radial†	154.4	8.5	0.5744 µg/L	0.5744 ppb	18:47:39
2	K 766.490 Radial†	1543.9	179.1	73.713 µg/L	73.713 ppb	18:47:19
2	Mg 279.077 IEC†	193.7	18.4	7.5387 µg/L	7.5387 ppb	18:47:39
2	Na 589.592 Radial†	1470.0	213.9	32.411 µg/L	32.411 ppb	18:47:19
2	Sr 421.552†	-231.5	-2.1	-0.0048 µg/L	-0.0048 ppb	18:47:19
2	Sc 361.383	1767919.1	1767919.1	100.73 %		18:48:29
2	Y 371.029	1069730.4	1069730.4	100.53 %		18:48:29
2	Ag 328.068†	3557.8	84.9	0.3368 µg/L	0.3368 ppb	18:48:31
2	As 188.979†	-5.0	12.7	4.4277 µg/L	4.4277 ppb	18:48:52
2	B 249.677†	3268.3	14.2	0.2331 µg/L	0.2331 ppb	18:48:52
2	Ba 233.527†	-146.9	16.3	0.0713 µg/L	0.0713 ppb	18:48:52
2	Be 313.107†	-906.0	-113.8	-0.0363 µg/L	-0.0363 ppb	18:48:31
2	Cd 226.502†	-99.1	11.6	0.0799 µg/L	0.0799 ppb	18:48:52
2	Co 228.616†	-196.6	-22.8	-0.3079 µg/L	-0.3079 ppb	18:48:52
2	Cr 267.716†	195.1	15.2	0.1334 µg/L	0.1334 ppb	18:48:52
2	Cu 324.752†	2555.5	-252.0	-1.0674 µg/L	-1.0674 ppb	18:48:31
2	Mn 257.610†	206.5	29.4	0.0390 µg/L	0.0390 ppb	18:48:52
2	Mo 202.031†	-33.2	1.8	0.0577 µg/L	0.0577 ppb	18:48:52
2	Ni 231.604†	-77.9	0.6	0.0071 µg/L	0.0071 ppb	18:48:52
2	P 214.914†	0.4	-4.6	-1.0826 µg/L	-1.0826 ppb	18:48:52
2	Pb 220.353†	74.2	-23.3	-1.4180 µg/L	-1.4180 ppb	18:48:52

2	S 181.975 Axial†	84.8	-3.5	-2.8472 µg/L	-2.8472 ppb	18:48:52
2	Sb 206.836†	71.0	-7.6	-0.9970 µg/L	-0.9970 ppb	18:48:52
2	Se 196.026†	8.0	-5.7	-2.27 µg/L	-2.27 ppb	18:48:52
2	SiO2†	1684.6	-80.8	-8.6508 µg/L	-8.6508 ppb	18:48:52
2	Si 251.611†	813.4	-141.2	-2.2907 µg/L	-2.2907 ppb	18:48:52
2	Sn 189.927†	6.9	9.4	0.6484 µg/L	0.6484 ppb	18:48:52
2	Ti 334.940†	691.3	-199.3	-0.1974 µg/L	-0.1974 ppb	18:48:31
2	Tl 190.801†	-97.1	20.6	2.7783 µg/L	2.7783 ppb	18:48:52
2	U 409.014†	-398.1	-111.5	-6.9419 µg/L	-6.9419 ppb	18:48:31
2	V 292.402†	439.9	126.9	0.6702 µg/L	0.6702 ppb	18:48:31
2	Zn 213.857†	533.3	4.8	0.0308 µg/L	0.0308 ppb	18:48:52
3	Sc RADIAL	149946.4	149946.4	101 %		18:47:41
3	Al 396.153Radial†	-51.6	12.0	2.4586 µg/L	2.4586 ppb	18:48:01
3	Ca 317.933Radial†	728.7	20.4	1.2296 µg/L	1.2296 ppb	18:48:01
3	Fe 238.204 Radial†	139.6	-3.1	-0.2094 µg/L	-0.2094 ppb	18:48:01
3	K 766.490 Radial†	1529.8	195.4	80.397 µg/L	80.397 ppb	18:47:41
3	Mg 279.077 IEC†	170.9	-0.3	-0.1102 µg/L	-0.1102 ppb	18:48:01
3	Na 589.592 Radial†	1439.5	212.5	32.198 µg/L	32.198 ppb	18:47:41
3	Sr 421.552†	-138.5	85.1	0.1964 µg/L	0.1964 ppb	18:47:41
3	Sc 361.383	1784036.1	1784036.1	101.65 %		18:48:54
3	Y 371.029	1079647.7	1079647.7	101.47 %		18:48:54
3	Ag 328.068†	3448.6	-54.5	-0.2117 µg/L	-0.2117 ppb	18:48:56
3	As 188.979†	2.4	20.0	6.9895 µg/L	6.9895 ppb	18:49:16
3	B 249.677†	3233.0	-49.8	-0.8123 µg/L	-0.8123 ppb	18:49:16
3	Ba 233.527†	-137.1	27.3	0.1195 µg/L	0.1195 ppb	18:49:16
3	Be 313.107†	-489.6	303.9	0.0900 µg/L	0.0900 ppb	18:48:56
3	Cd 226.502†	-113.5	-1.6	-0.0113 µg/L	-0.0113 ppb	18:49:16
3	Co 228.616†	-174.8	0.5	0.0069 µg/L	0.0069 ppb	18:49:16
3	Cr 267.716†	195.3	13.5	0.1177 µg/L	0.1177 ppb	18:49:16
3	Cu 324.752†	2762.6	-71.2	-0.3033 µg/L	-0.3033 ppb	18:48:56
3	Mn 257.610†	176.9	-1.5	-0.0020 µg/L	-0.0020 ppb	18:49:16
3	Mo 202.031†	-20.5	14.6	0.4650 µg/L	0.4650 ppb	18:49:16
3	Ni 231.604†	-71.1	8.0	0.1000 µg/L	0.1000 ppb	18:49:16
3	P 214.914†	16.2	11.0	2.6159 µg/L	2.6159 ppb	18:49:16
3	Pb 220.353†	87.3	-11.1	-0.6739 µg/L	-0.6739 ppb	18:49:16
3	S 181.975 Axial†	85.3	-3.7	-3.0600 µg/L	-3.0600 ppb	18:49:16
3	Sb 206.836†	81.3	1.9	0.2513 µg/L	0.2513 ppb	18:49:16
3	Se 196.026†	9.5	-4.2	-1.68 µg/L	-1.68 ppb	18:49:16
3	SiO2†	1690.3	-90.3	-9.6793 µg/L	-9.6793 ppb	18:49:16
3	Si 251.611†	764.8	-196.3	-3.1853 µg/L	-3.1853 ppb	18:49:16
3	Sn 189.927†	2.4	4.9	0.3369 µg/L	0.3369 ppb	18:49:16
3	Ti 334.940†	691.1	-205.7	-0.2044 µg/L	-0.2044 ppb	18:48:56
3	Tl 190.801†	-116.1	2.9	0.3899 µg/L	0.3899 ppb	18:49:16
3	U 409.014†	-352.9	-63.4	-3.9241 µg/L	-3.9241 ppb	18:48:56
3	V 292.402†	470.0	152.5	0.8126 µg/L	0.8126 ppb	18:48:56
3	Zn 213.857†	527.9	-5.2	-0.0327 µg/L	-0.0327 ppb	18:49:16

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1776049.6	101.19 %	0.459			0.45%
Sc RADIAL	151691.1	103 %	1.1			1.03%
Y 371.029	1074810.9	101.01 %	0.466			0.46%
Ag 328.068†	21.9	0.0899 µg/L	0.27831	0.0899 ppb	0.27831	309.55%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	10.0	2.0504 µg/L	2.35962	2.0504 ppb	2.35962	115.08%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	10.1	3.5276 µg/L	3.98879	3.5276 ppb	3.98879	113.07%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	-27.0	-0.4400 µg/L	0.58399	-0.4400 ppb	0.58399	132.74%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	16.2	0.0711 µg/L	0.04850	0.0711 ppb	0.04850	68.21%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	107.4	0.0314 µg/L	0.06362	0.0314 ppb	0.06362	202.76%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	12.1	0.7294 µg/L	0.47719	0.7294 ppb	0.47719	65.42%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	8.5	0.0583 µg/L	0.06168	0.0583 ppb	0.06168	105.76%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	-5.0	-0.0674 µg/L	0.21331	-0.0674 ppb	0.21331	316.70%

QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	3.1	0.0285 µg/L	0.16821	0.0285 ppb	0.16821	590.04%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 324.752†	-90.4	-0.3831 µg/L	0.64818	-0.3831 ppb	0.64818	169.21%
QC value within limits for Cu 324.752 Recovery = Not calculated						
Fe 238.204 Radial†	0.0	0.0008 µg/L	0.50262	0.0008 ppb	0.50262	>999.9%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated						
K 766.490 Radial†	197.9	81.432 µg/L	8.2847	81.432 ppb	8.2847	10.17%
QC value within limits for K 766.490 Radial Recovery = Not calculated						
Mg 279.077 IEC†	2.5	1.0244 µg/L	6.02764	1.0244 ppb	6.02764	588.40%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated						
Mn 257.610†	1.4	0.0019 µg/L	0.03536	0.0019 ppb	0.03536	>999.9%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	5.9	0.1890 µg/L	0.23907	0.1890 ppb	0.23907	126.48%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Na 589.592 Radial†	177.8	26.922 µg/L	9.3225	26.922 ppb	9.3225	34.63%
QC value within limits for Na 589.592 Radial Recovery = Not calculated						
Ni 231.604†	3.4	0.0423 µg/L	0.05037	0.0423 ppb	0.05037	119.01%
QC value within limits for Ni 231.604 Recovery = Not calculated						
P 214.914†	8.0	1.9091 µg/L	2.70839	1.9091 ppb	2.70839	141.87%
QC value within limits for P 214.914 Recovery = Not calculated						
Pb 220.353†	-12.0	-0.7321 µg/L	0.65871	-0.7321 ppb	0.65871	89.97%
QC value within limits for Pb 220.353 Recovery = Not calculated						
S 181.975 Axial†	-2.6	-2.1371 µg/L	1.41821	-2.1371 ppb	1.41821	66.36%
QC value within limits for S 181.975 Axial Recovery = Not calculated						
Sb 206.836†	-2.8	-0.3580 µg/L	0.62468	-0.3580 ppb	0.62468	174.48%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-3.5	-1.39 µg/L	1.063	-1.39 ppb	1.063	76.65%
QC value within limits for Se 196.026 Recovery = Not calculated						
SiO2†	-81.7	-8.7522 µg/L	0.88086	-8.7522 ppb	0.88086	10.06%
QC value within limits for SiO2 Recovery = Not calculated						
Si 251.611†	-169.7	-2.7534 µg/L	0.44809	-2.7534 ppb	0.44809	16.27%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	7.9	0.5489 µg/L	0.18365	0.5489 ppb	0.18365	33.46%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Sr 421.552†	20.8	0.0481 µg/L	0.13019	0.0481 ppb	0.13019	270.93%
QC value within limits for Sr 421.552 Recovery = Not calculated						
Ti 334.940†	-199.3	-0.1986 µg/L	0.00533	-0.1986 ppb	0.00533	2.68%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	8.8	1.1869 µg/L	1.37822	1.1869 ppb	1.37822	116.12%
QC value within limits for Tl 190.801 Recovery = Not calculated						
U 409.014†	-44.7	-2.7715 µg/L	4.85059	-2.7715 ppb	4.85059	175.02%
QC value within limits for U 409.014 Recovery = Not calculated						
V 292.402†	100.0	0.5311 µg/L	0.37119	0.5311 ppb	0.37119	69.89%
QC value within limits for V 292.402 Recovery = Not calculated						
Zn 213.857†	-8.3	-0.0514 µg/L	0.09300	-0.0514 ppb	0.09300	180.86%
QC value within limits for Zn 213.857 Recovery = Not calculated						

All analyte(s) passed QC.



Sequence No.: 49

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 3/30/2010 19:02:24

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	154004.0	154004.0	104 %		19:02:58
1	Al 396.153Radial†	25964.7	24986.6	5125.3 µg/L	5125.3 ppb	19:02:58
1	Ca 317.933Radial†	89222.2	84947.2	5111.1 µg/L	5111.1 ppb	19:02:58
1	Fe 238.204 Radial†	78645.9	75352.2	5070.4 µg/L	5070.4 ppb	19:02:58
1	K 766.490 Radial†	14412.4	12521.8	5149.4 µg/L	5149.4 ppb	19:02:58
1	Mg 279.077 IEC†	13347.3	12643.4	5194.7 µg/L	5194.7 ppb	19:02:58
1	Na 589.592 Radial†	70330.6	66304.4	10064 µg/L	10064 ppb	19:02:58
1	Sr 421.552†	231741.9	222672.8	513.63 µg/L	513.63 ppb	19:02:56
1	Sc 361.383	1763677.6	1763677.6	100.49 %		19:03:10
1	Y 371.029	1054125.3	1054125.3	99.068 %		19:03:10
1	Ag 328.068†	130160.6	126078.8	507.48 µg/L	507.48 ppb	19:03:10
1	As 188.979†	1453.5	1464.1	518.20 µg/L	518.20 ppb	19:03:30
1	B 249.677†	34180.4	30783.4	500.13 µg/L	500.13 ppb	19:03:10
1	Ba 233.527†	116436.0	116030.4	505.63 µg/L	505.63 ppb	19:03:10
1	Be 313.107†	1697234.3	1689743.7	507.25 µg/L	507.25 ppb	19:03:10
1	Cd 226.502†	74227.4	73975.5	507.62 µg/L	507.62 ppb	19:03:10
1	Co 228.616†	37714.9	37703.4	510.20 µg/L	510.20 ppb	19:03:10
1	Cr 267.716†	60312.0	59839.3	504.06 µg/L	504.06 ppb	19:03:10
1	Cu 324.752†	122804.2	119416.4	504.78 µg/L	504.78 ppb	19:03:10
1	Mn 257.610†	381770.5	379733.3	507.34 µg/L	507.34 ppb	19:03:10
1	Mo 202.031†	16081.8	16038.1	510.62 µg/L	510.62 ppb	19:03:30
1	Ni 231.604†	40582.5	40462.5	508.93 µg/L	508.93 ppb	19:03:10
1	P 214.914†	10827.3	10769.5	2560.1 µg/L	2560.1 ppb	19:03:30
1	Pb 220.353†	8567.3	8428.6	517.70 µg/L	517.70 ppb	19:03:30
1	S 181.975 Axial†	1349.8	1255.5	1033.5 µg/L	1033.5 ppb	19:03:30
1	Sb 206.836†	3993.2	3895.7	512.06 µg/L	512.06 ppb	19:03:30
1	Se 196.026†	1316.1	1296.1	521 µg/L	521 ppb	19:03:30
1	SiO2†	52658.3	50648.4	5396.7 µg/L	5396.7 ppb	19:03:10
1	Si 251.611†	158083.3	156363.8	2520.7 µg/L	2520.7 ppb	19:03:10
1	Sn 189.927†	7449.7	7415.9	515.12 µg/L	515.12 ppb	19:03:30
1	Ti 334.940†	507688.9	504327.7	504.60 µg/L	504.60 ppb	19:03:10
1	Tl 190.801†	3728.3	3827.2	521.91 µg/L	521.91 ppb	19:03:30
1	U 409.014†	7452.4	7699.8	512.98 µg/L	512.98 ppb	19:03:10
1	V 292.402†	95444.2	94669.0	509.39 µg/L	509.39 ppb	19:03:10
1	Zn 213.857†	82729.3	81801.3	503.35 µg/L	503.35 ppb	19:03:10
2	Sc RADIAL	152206.2	152206.2	103 %		19:03:02
2	Al 396.153Radial†	25625.5	24951.5	5118.3 µg/L	5118.3 ppb	19:03:02
2	Ca 317.933Radial†	87826.6	84603.3	5090.4 µg/L	5090.4 ppb	19:03:02
2	Fe 238.204 Radial†	77648.1	75274.8	5065.1 µg/L	5065.1 ppb	19:03:02
2	K 766.490 Radial†	14302.6	12578.6	5172.7 µg/L	5172.7 ppb	19:03:02
2	Mg 279.077 IEC†	13235.3	12685.9	5212.0 µg/L	5212.0 ppb	19:03:02
2	Na 589.592 Radial†	69709.1	66498.1	10093 µg/L	10093 ppb	19:03:02
2	Sr 421.552†	227338.2	221023.3	509.83 µg/L	509.83 ppb	19:03:00
2	Sc 361.383	1776875.4	1776875.4	101.24 %		19:03:34
2	Y 371.029	1061631.9	1061631.9	99.773 %		19:03:34
2	Ag 328.068†	130998.6	125944.5	506.93 µg/L	506.93 ppb	19:03:34
2	As 188.979†	1459.7	1459.5	516.59 µg/L	516.59 ppb	19:03:54
2	B 249.677†	34518.0	30864.2	501.44 µg/L	501.44 ppb	19:03:34
2	Ba 233.527†	117636.8	116355.9	507.05 µg/L	507.05 ppb	19:03:34
2	Be 313.107†	1716424.6	1696153.7	509.17 µg/L	509.17 ppb	19:03:34
2	Cd 226.502†	74851.1	74042.9	508.09 µg/L	508.09 ppb	19:03:34
2	Co 228.616†	38147.6	37852.0	512.21 µg/L	512.21 ppb	19:03:34
2	Cr 267.716†	60842.3	59917.4	504.73 µg/L	504.73 ppb	19:03:34
2	Cu 324.752†	123942.6	119633.2	505.67 µg/L	505.67 ppb	19:03:34
2	Mn 257.610†	385004.0	380105.3	507.84 µg/L	507.84 ppb	19:03:34
2	Mo 202.031†	16082.4	15919.8	506.86 µg/L	506.86 ppb	19:03:54
2	Ni 231.604†	40885.5	40461.8	508.92 µg/L	508.92 ppb	19:03:34
2	P 214.914†	10845.5	10707.5	2545.3 µg/L	2545.3 ppb	19:03:54
2	Pb 220.353†	8540.7	8339.0	512.22 µg/L	512.22 ppb	19:03:54

2	S 181.975 Axial†	1357.6	1253.3	1031.6 µg/L	1031.6 ppb	19:03:54
2	Sb 206.836†	4001.7	3874.5	509.22 µg/L	509.22 ppb	19:03:54
2	Se 196.026†	1299.7	1270.2	511 µg/L	511 ppb	19:03:54
2	SiO2†	52899.6	50497.5	5380.7 µg/L	5380.7 ppb	19:03:34
2	Si 251.611†	159655.1	156747.9	2527.0 µg/L	2527.0 ppb	19:03:34
2	Sn 189.927†	7450.2	7361.4	511.34 µg/L	511.34 ppb	19:03:54
2	Ti 334.940†	512615.0	505440.8	505.72 µg/L	505.72 ppb	19:03:34
2	Tl 190.801†	3716.4	3787.9	516.64 µg/L	516.64 ppb	19:03:54
2	U 409.014†	7155.8	7351.8	491.24 µg/L	491.24 ppb	19:03:34
2	V 292.402†	96329.7	94838.1	510.24 µg/L	510.24 ppb	19:03:34
2	Zn 213.857†	83756.6	82204.5	505.85 µg/L	505.85 ppb	19:03:34
3	Sc RADIAL	154127.5	154127.5	104 %		19:03:06
3	Al 396.153Radial†	25892.0	24896.9	5106.9 µg/L	5106.9 ppb	19:03:06
3	Ca 317.933Radial†	88729.5	84406.1	5078.5 µg/L	5078.5 ppb	19:03:06
3	Fe 238.204 Radial†	78535.0	75185.4	5059.1 µg/L	5059.1 ppb	19:03:06
3	K 766.490 Radial†	14407.3	12505.9	5142.8 µg/L	5142.8 ppb	19:03:06
3	Mg 279.077 IEC†	13280.2	12568.7	5164.1 µg/L	5164.1 ppb	19:03:06
3	Na 589.592 Radial†	70174.3	66100.4	10033 µg/L	10033 ppb	19:03:06
3	Sr 421.552†	228056.6	218959.9	505.07 µg/L	505.07 ppb	19:03:04
3	Sc 361.383	1769199.8	1769199.8	100.80 %		19:03:57
3	Y 371.029	1057126.2	1057126.2	99.350 %		19:03:57
3	Ag 328.068†	130874.3	126382.5	508.68 µg/L	508.68 ppb	19:03:57
3	As 188.979†	1458.9	1465.0	518.53 µg/L	518.53 ppb	19:04:17
3	B 249.677†	34457.4	30952.0	502.87 µg/L	502.87 ppb	19:03:57
3	Ba 233.527†	117179.8	116406.6	507.27 µg/L	507.27 ppb	19:03:57
3	Be 313.107†	1708406.9	1695555.2	508.99 µg/L	508.99 ppb	19:03:57
3	Cd 226.502†	74904.5	74416.6	510.65 µg/L	510.65 ppb	19:03:57
3	Co 228.616†	37906.3	37776.1	511.19 µg/L	511.19 ppb	19:03:57
3	Cr 267.716†	60746.0	60082.5	506.11 µg/L	506.11 ppb	19:03:57
3	Cu 324.752†	123439.8	119665.5	505.82 µg/L	505.82 ppb	19:03:57
3	Mn 257.610†	383827.0	380587.6	508.48 µg/L	508.48 ppb	19:03:57
3	Mo 202.031†	16114.2	16020.3	510.05 µg/L	510.05 ppb	19:04:17
3	Ni 231.604†	40756.6	40509.1	509.51 µg/L	509.51 ppb	19:03:57
3	P 214.914†	10851.4	10759.8	2557.8 µg/L	2557.8 ppb	19:04:17
3	Pb 220.353†	8520.2	8355.2	513.20 µg/L	513.20 ppb	19:04:17
3	S 181.975 Axial†	1349.3	1250.8	1029.6 µg/L	1029.6 ppb	19:04:17
3	Sb 206.836†	3992.6	3882.6	510.30 µg/L	510.30 ppb	19:04:17
3	Se 196.026†	1311.9	1287.8	518 µg/L	518 ppb	19:04:17
3	SiO2†	52827.1	50652.2	5397.1 µg/L	5397.1 ppb	19:03:57
3	Si 251.611†	159256.7	157036.8	2531.7 µg/L	2531.7 ppb	19:03:57
3	Sn 189.927†	7431.5	7374.7	512.27 µg/L	512.27 ppb	19:04:17
3	Ti 334.940†	510178.1	505220.1	505.49 µg/L	505.49 ppb	19:03:57
3	Tl 190.801†	3717.0	3804.4	518.86 µg/L	518.86 ppb	19:04:17
3	U 409.014†	7438.0	7662.3	510.61 µg/L	510.61 ppb	19:03:57
3	V 292.402†	95654.4	94581.0	508.93 µg/L	508.93 ppb	19:03:57
3	Zn 213.857†	83788.4	82595.0	508.27 µg/L	508.27 ppb	19:03:57

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1769917.6	100.85 %	0.378			0.37%
Sc RADIAL	153445.9	104 %	0.7			0.70%
Y 371.029	1057627.8	99.397 %	0.3551			0.36%
Ag 328.068†	126135.3	507.70 µg/L	0.894	507.70 ppb	0.894	0.18%
QC value within limits for Ag 328.068 Recovery = 101.54%						
Al 396.153Radial†	24945.0	5116.8 µg/L	9.32	5116.8 ppb	9.32	0.18%
QC value within limits for Al 396.153Radial Recovery = 102.34%						
As 188.979†	1462.8	517.77 µg/L	1.037	517.77 ppb	1.037	0.20%
QC value within limits for As 188.979 Recovery = 103.55%						
B 249.677†	30866.5	501.48 µg/L	1.374	501.48 ppb	1.374	0.27%
QC value within limits for B 249.677 Recovery = 100.30%						
Ba 233.527†	116264.3	506.65 µg/L	0.889	506.65 ppb	0.889	0.18%
QC value within limits for Ba 233.527 Recovery = 101.33%						
Be 313.107†	1693817.5	508.47 µg/L	1.060	508.47 ppb	1.060	0.21%
QC value within limits for Be 313.107 Recovery = 101.69%						
Ca 317.933Radial†	84652.2	5093.3 µg/L	16.48	5093.3 ppb	16.48	0.32%
QC value within limits for Ca 317.933Radial Recovery = 101.87%						
Cd 226.502†	74145.0	508.79 µg/L	1.632	508.79 ppb	1.632	0.32%
QC value within limits for Cd 226.502 Recovery = 101.76%						
Co 228.616†	37777.2	511.20 µg/L	1.006	511.20 ppb	1.006	0.20%

Cr 267.716†	59946.4	504.97 µg/L	1.045	504.97 ppb	1.045	0.21%
QC value within limits for Co 228.616 Recovery = 102.24%						
Cu 324.752†	119571.7	505.42 µg/L	0.566	505.42 ppb	0.566	0.11%
QC value within limits for Cr 267.716 Recovery = 100.99%						
Fe 238.204 Radial†	75270.8	5064.9 µg/L	5.62	5064.9 ppb	5.62	0.11%
QC value within limits for Cu 324.752 Recovery = 101.08%						
K 766.490 Radial†	12535.4	5155.0 µg/L	15.72	5155.0 ppb	15.72	0.31%
QC value within limits for Fe 238.204 Radial Recovery = 101.30%						
Mg 279.077 IEC†	12632.7	5190.3 µg/L	24.30	5190.3 ppb	24.30	0.47%
QC value within limits for K 766.490 Radial Recovery = 103.10%						
Mn 257.610†	380142.1	507.89 µg/L	0.573	507.89 ppb	0.573	0.11%
QC value within limits for Mg 279.077 IEC Recovery = 103.81%						
Mo 202.031†	15992.8	509.18 µg/L	2.028	509.18 ppb	2.028	0.40%
QC value within limits for Mn 257.610 Recovery = 101.58%						
Na 589.592 Radial†	66301.0	10063 µg/L	30.2	10063 ppb	30.2	0.30%
QC value within limits for Mo 202.031 Recovery = 101.84%						
Ni 231.604†	40477.8	509.12 µg/L	0.341	509.12 ppb	0.341	0.07%
QC value within limits for Na 589.592 Radial Recovery = 100.63%						
P 214.914†	10745.6	2554.4 µg/L	7.95	2554.4 ppb	7.95	0.31%
QC value within limits for Ni 231.604 Recovery = 101.82%						
Pb 220.353†	8374.2	514.37 µg/L	2.922	514.37 ppb	2.922	0.57%
QC value within limits for P 214.914 Recovery = 102.18%						
S 181.975 Axial†	1253.2	1031.6 µg/L	1.93	1031.6 ppb	1.93	0.19%
QC value within limits for Pb 220.353 Recovery = 102.87%						
Sb 206.836†	3884.3	510.53 µg/L	1.433	510.53 ppb	1.433	0.28%
QC value within limits for S 181.975 Axial Recovery = 103.16%						
Se 196.026†	1284.7	516 µg/L	5.3	516 ppb	5.3	1.03%
QC value within limits for Sb 206.836 Recovery = 102.11%						
SiO2†	50599.4	5391.5 µg/L	9.37	5391.5 ppb	9.37	0.17%
QC value within limits for Se 196.026 Recovery = 103.29%						
Si 251.611†	156716.1	2526.5 µg/L	5.48	2526.5 ppb	5.48	0.22%
QC value within limits for SiO2 Recovery = 100.82%						
Sn 189.927†	7384.0	512.91 µg/L	1.966	512.91 ppb	1.966	0.38%
QC value within limits for Si 251.611 Recovery = 101.06%						
Sr 421.552†	220885.3	509.51 µg/L	4.291	509.51 ppb	4.291	0.84%
QC value within limits for Sn 189.927 Recovery = 102.58%						
Ti 334.940†	504996.2	505.27 µg/L	0.593	505.27 ppb	0.593	0.12%
QC value within limits for Sr 421.552 Recovery = 101.90%						
Tl 190.801†	3806.5	519.14 µg/L	2.644	519.14 ppb	2.644	0.51%
QC value within limits for Ti 334.940 Recovery = 101.05%						
U 409.014†	7571.3	504.94 µg/L	11.928	504.94 ppb	11.928	2.36%
QC value within limits for Tl 190.801 Recovery = 103.83%						
V 292.402†	94696.0	509.52 µg/L	0.665	509.52 ppb	0.665	0.13%
QC value within limits for U 409.014 Recovery = 100.99%						
Zn 213.857†	82200.3	505.82 µg/L	2.460	505.82 ppb	2.460	0.49%
QC value within limits for V 292.402 Recovery = 101.90%						
QC value within limits for Zn 213.857 Recovery = 101.16%						

All analyte(s) passed QC.

Sequence No.: 50  
 Sample ID: CCB  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 8  
 Date Collected: 3/30/2010 19:04:24  
 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	152976.9	152976.9	103 %		19:04:53
1	Al 396.153Radial†	-73.3	-8.0	-1.6446 µg/L	-1.6446 ppb	19:05:13
1	Ca 317.933Radial†	743.8	20.8	1.2536 µg/L	1.2536 ppb	19:05:13
1	Fe 238.204 Radial†	162.8	16.6	1.1166 µg/L	1.1166 ppb	19:05:13
1	K 766.490 Radial†	1635.0	267.1	109.94 µg/L	109.94 ppb	19:04:53
1	Mg 279.077 IEC†	167.0	-7.4	-3.0364 µg/L	-3.0364 ppb	19:05:13
1	Na 589.592 Radial†	1636.1	374.4	56.755 µg/L	56.755 ppb	19:04:53
1	Sr 421.552†	-225.0	4.2	0.0097 µg/L	0.0097 ppb	19:04:53
1	Sc 361.383	1770150.7	1770150.7	100.86 %		19:06:01
1	Y 371.029	1071299.4	1071299.4	100.68 %		19:06:01
1	Ag 328.068†	3396.2	-79.8	-0.3074 µg/L	-0.3074 ppb	19:06:03
1	As 188.979†	-11.7	6.1	2.1295 µg/L	2.1295 ppb	19:06:23
1	B 249.677†	3230.4	-27.5	-0.4476 µg/L	-0.4476 ppb	19:06:23
1	Ba 233.527†	-158.9	4.6	0.0203 µg/L	0.0203 ppb	19:06:23
1	Be 313.107†	-811.3	-18.8	-0.0055 µg/L	-0.0055 ppb	19:06:03
1	Cd 226.502†	-80.3	30.4	0.2086 µg/L	0.2086 ppb	19:06:23
1	Co 228.616†	-180.0	-6.0	-0.0812 µg/L	-0.0812 ppb	19:06:23
1	Cr 267.716†	176.5	-3.6	-0.0304 µg/L	-0.0304 ppb	19:06:23
1	Cu 324.752†	2909.0	95.3	0.4019 µg/L	0.4019 ppb	19:06:03
1	Mn 257.610†	181.7	4.6	0.0062 µg/L	0.0062 ppb	19:06:23
1	Mo 202.031†	-35.3	-0.2	-0.0064 µg/L	-0.0064 ppb	19:06:23
1	Ni 231.604†	-59.2	19.2	0.2421 µg/L	0.2421 ppb	19:06:23
1	P 214.914†	3.9	-1.2	-0.2898 µg/L	-0.2898 ppb	19:06:23
1	Pb 220.353†	64.4	-33.2	-2.0307 µg/L	-2.0307 ppb	19:06:23
1	S 181.975 Axial†	93.2	4.7	3.8476 µg/L	3.8476 ppb	19:06:23
1	Sb 206.836†	82.6	3.8	0.5029 µg/L	0.5029 ppb	19:06:23
1	Se 196.026†	15.5	1.8	0.722 µg/L	0.722 ppb	19:06:23
1	SiO2†	1768.1	-0.1	-0.0011 µg/L	-0.0011 ppb	19:06:23
1	Si 251.611†	767.2	-188.0	-3.0394 µg/L	-3.0394 ppb	19:06:03
1	Sn 189.927†	-9.9	-7.3	-0.5025 µg/L	-0.5025 ppb	19:06:23
1	Ti 334.940†	732.7	-159.1	-0.1593 µg/L	-0.1593 ppb	19:06:03
1	Tl 190.801†	-108.6	9.4	1.2652 µg/L	1.2652 ppb	19:06:23
1	U 409.014†	-277.3	8.8	0.5927 µg/L	0.5927 ppb	19:06:03
1	V 292.402†	456.5	142.7	0.7580 µg/L	0.7580 ppb	19:06:03
1	Zn 213.857†	560.3	31.0	0.1902 µg/L	0.1902 ppb	19:06:23
2	Sc RADIAL	154316.4	154316.4	104 %		19:05:15
2	Al 396.153Radial†	-39.2	25.3	5.2268 µg/L	5.2268 ppb	19:05:35
2	Ca 317.933Radial†	742.3	13.1	0.7893 µg/L	0.7893 ppb	19:05:35
2	Fe 238.204 Radial†	167.7	20.0	1.3436 µg/L	1.3436 ppb	19:05:35
2	K 766.490 Radial†	1646.7	264.6	108.92 µg/L	108.92 ppb	19:05:15
2	Mg 279.077 IEC†	166.6	-9.2	-3.7902 µg/L	-3.7902 ppb	19:05:35
2	Na 589.592 Radial†	1328.1	65.6	9.8647 µg/L	9.8647 ppb	19:05:15
2	Sr 421.552†	-136.1	91.3	0.2106 µg/L	0.2106 ppb	19:05:15
2	Sc 361.383	1773912.8	1773912.8	101.07 %		19:06:25
2	Y 371.029	1072888.8	1072888.8	100.83 %		19:06:25
2	Ag 328.068†	3900.2	411.7	1.6385 µg/L	1.6385 ppb	19:06:28
2	As 188.979†	-17.5	0.4	0.1424 µg/L	0.1424 ppb	19:06:48
2	B 249.677†	3248.5	-16.3	-0.2662 µg/L	-0.2662 ppb	19:06:48
2	Ba 233.527†	-179.0	-15.0	-0.0650 µg/L	-0.0650 ppb	19:06:48
2	Be 313.107†	-728.5	64.9	0.0192 µg/L	0.0192 ppb	19:06:28
2	Cd 226.502†	-95.1	16.0	0.1097 µg/L	0.1097 ppb	19:06:48
2	Co 228.616†	-171.9	2.4	0.0323 µg/L	0.0323 ppb	19:06:48
2	Cr 267.716†	171.4	-8.9	-0.0743 µg/L	-0.0743 ppb	19:06:48
2	Cu 324.752†	2770.0	-48.4	-0.2045 µg/L	-0.2045 ppb	19:06:28
2	Mn 257.610†	211.8	34.0	0.0456 µg/L	0.0456 ppb	19:06:48
2	Mo 202.031†	-41.9	-6.7	-0.2120 µg/L	-0.2120 ppb	19:06:48
2	Ni 231.604†	-50.2	28.2	0.3548 µg/L	0.3548 ppb	19:06:48
2	P 214.914†	12.9	7.8	1.8693 µg/L	1.8693 ppb	19:06:48
2	Pb 220.353†	79.1	-18.7	-1.1459 µg/L	-1.1459 ppb	19:06:48

2	S 181.975 Axial†	97.0	8.3	6.8009 µg/L	6.8009 ppb	19:06:48
2	Sb 206.836†	91.9	12.9	1.6892 µg/L	1.6892 ppb	19:06:48
2	Se 196.026†	9.6	-4.0	-1.61 µg/L	-1.61 ppb	19:06:48
2	SiO2†	1699.3	-71.8	-7.6906 µg/L	-7.6906 ppb	19:06:48
2	Si 251.611†	831.2	-126.3	-2.0452 µg/L	-2.0452 ppb	19:06:28
2	Sn 189.927†	7.4	9.9	0.6839 µg/L	0.6839 ppb	19:06:48
2	Ti 334.940†	875.2	-19.7	-0.0190 µg/L	-0.0190 ppb	19:06:28
2	Tl 190.801†	-123.5	-5.1	-0.6880 µg/L	-0.6880 ppb	19:06:48
2	U 409.014†	-303.5	-16.5	-1.0172 µg/L	-1.0172 ppb	19:06:28
2	V 292.402†	367.8	54.0	0.2835 µg/L	0.2835 ppb	19:06:28
2	Zn 213.857†	550.7	20.3	0.1237 µg/L	0.1237 ppb	19:06:48
3	Sc RADIAL	153203.8	153203.8	104 %		19:05:37
3	Al 396.153Radial†	-40.1	24.2	4.9835 µg/L	4.9835 ppb	19:05:57
3	Ca 317.933Radial†	747.3	23.1	1.3902 µg/L	1.3902 ppb	19:05:57
3	Fe 238.204 Radial†	154.9	8.8	0.5888 µg/L	0.5888 ppb	19:05:57
3	K 766.490 Radial†	1439.1	75.8	31.204 µg/L	31.204 ppb	19:05:37
3	Mg 279.077 IEC†	162.7	-11.8	-4.8227 µg/L	-4.8227 ppb	19:05:57
3	Na 589.592 Radial†	1502.1	242.7	36.833 µg/L	36.833 ppb	19:05:37
3	Sr 421.552†	-156.8	70.3	0.1623 µg/L	0.1623 ppb	19:05:37
3	Sc 361.383	1793596.2	1793596.2	102.19 %		19:06:50
3	Y 371.029	1083682.1	1083682.1	101.85 %		19:06:50
3	Ag 328.068†	3889.2	358.6	1.4425 µg/L	1.4425 ppb	19:06:52
3	As 188.979†	-19.3	-1.2	-0.4157 µg/L	-0.4157 ppb	19:07:12
3	B 249.677†	3303.6	2.3	0.0377 µg/L	0.0377 ppb	19:07:12
3	Ba 233.527†	-172.5	-6.7	-0.0290 µg/L	-0.0290 ppb	19:07:12
3	Be 313.107†	-759.4	42.5	0.0163 µg/L	0.0163 ppb	19:06:52
3	Cd 226.502†	-85.1	26.8	0.1838 µg/L	0.1838 ppb	19:07:12
3	Co 228.616†	-164.7	11.3	0.1529 µg/L	0.1529 ppb	19:07:12
3	Cr 267.716†	191.2	8.5	0.0625 µg/L	0.0625 ppb	19:07:12
3	Cu 324.752†	2946.1	93.9	0.4054 µg/L	0.4054 ppb	19:06:52
3	Mn 257.610†	188.3	8.7	0.0118 µg/L	0.0118 ppb	19:07:12
3	Mo 202.031†	-33.3	2.1	0.0676 µg/L	0.0676 ppb	19:07:12
3	Ni 231.604†	-59.1	20.0	0.2521 µg/L	0.2521 ppb	19:07:12
3	P 214.914†	16.7	11.4	2.7112 µg/L	2.7112 ppb	19:07:12
3	Pb 220.353†	77.7	-20.9	-1.2903 µg/L	-1.2903 ppb	19:07:12
3	S 181.975 Axial†	99.0	9.2	7.5066 µg/L	7.5066 ppb	19:07:12
3	Sb 206.836†	77.2	-2.6	-0.3343 µg/L	-0.3343 ppb	19:07:12
3	Se 196.026†	6.6	-7.1	-2.85 µg/L	-2.85 ppb	19:07:12
3	SiO2†	1744.1	-46.5	-4.9856 µg/L	-4.9856 ppb	19:07:12
3	Si 251.611†	864.0	-103.2	-1.6763 µg/L	-1.6763 ppb	19:06:52
3	Sn 189.927†	7.3	9.6	0.6673 µg/L	0.6673 ppb	19:07:12
3	Ti 334.940†	660.4	-239.4	-0.2443 µg/L	-0.2443 ppb	19:06:52
3	Tl 190.801†	-121.9	-2.2	-0.3034 µg/L	-0.3034 ppb	19:07:12
3	U 409.014†	-96.1	189.7	11.895 µg/L	11.895 ppb	19:06:52
3	V 292.402†	359.1	41.5	0.2296 µg/L	0.2296 ppb	19:06:52
3	Zn 213.857†	529.7	-6.2	-0.0406 µg/L	-0.0406 ppb	19:07:12

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1779219.9	101.38 %	0.717			0.71%
Sc RADIAL	153499.0	104 %	0.5			0.47%
Y 371.029	1075956.8	101.12 %	0.633			0.63%
Ag 328.068†	230.2	0.9245 µg/L	1.07140	0.9245 ppb	1.07140	115.89%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	13.8	2.8552 µg/L	3.89890	2.8552 ppb	3.89890	136.55%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	1.8	0.6187 µg/L	1.33776	0.6187 ppb	1.33776	216.21%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	-13.8	-0.2253 µg/L	0.24520	-0.2253 ppb	0.24520	108.82%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-5.7	-0.0246 µg/L	0.04284	-0.0246 ppb	0.04284	174.39%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	29.5	0.0100 µg/L	0.01349	0.0100 ppb	0.01349	134.78%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	19.0	1.1444 µg/L	0.31497	1.1444 ppb	0.31497	27.52%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	24.4	0.1674 µg/L	0.05148	0.1674 ppb	0.05148	30.76%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	2.6	0.0347 µg/L	0.11707	0.0347 ppb	0.11707	337.61%

QC value within limits for Co 228.616	Recovery = Not calculated		
Cr 267.716†	-1.4 -0.0141 µg/L	0.06983 -0.0141 ppb	0.06983 495.71%
QC value within limits for Cr 267.716	Recovery = Not calculated		
Cu 324.752†	46.9 0.2009 µg/L	0.35111 0.2009 ppb	0.35111 174.76%
QC value within limits for Cu 324.752	Recovery = Not calculated		
Fe 238.204 Radial†	15.1 1.0163 µg/L	0.38727 1.0163 ppb	0.38727 38.11%
QC value within limits for Fe 238.204 Radial	Recovery = Not calculated		
K 766.490 Radial†	202.5 83.353 µg/L	45.1647 83.353 ppb	45.1647 54.18%
QC value within limits for K 766.490 Radial	Recovery = Not calculated		
Mg 279.077 IEC†	-9.5 -3.8831 µg/L	0.89677 -3.8831 ppb	0.89677 23.09%
QC value within limits for Mg 279.077 IEC	Recovery = Not calculated		
Mn 257.610†	15.8 0.0212 µg/L	0.02131 0.0212 ppb	0.02131 100.49%
QC value within limits for Mn 257.610	Recovery = Not calculated		
Mo 202.031†	-1.6 -0.0503 µg/L	0.14489 -0.0503 ppb	0.14489 288.06%
QC value within limits for Mo 202.031	Recovery = Not calculated		
Na 589.592 Radial†	227.6 34.484 µg/L	23.5333 34.484 ppb	23.5333 68.24%
QC value within limits for Na 589.592 Radial	Recovery = Not calculated		
Ni 231.604†	22.5 0.2830 µg/L	0.06241 0.2830 ppb	0.06241 22.05%
QC value within limits for Ni 231.604	Recovery = Not calculated		
P 214.914†	6.0 1.4303 µg/L	1.54794 1.4303 ppb	1.54794 108.23%
QC value within limits for P 214.914	Recovery = Not calculated		
Pb 220.353†	-24.3 -1.4890 µg/L	0.47469 -1.4890 ppb	0.47469 31.88%
QC value within limits for Pb 220.353	Recovery = Not calculated		
S 181.975 Axial†	7.4 6.0517 µg/L	1.94115 6.0517 ppb	1.94115 32.08%
QC value within limits for S 181.975 Axial	Recovery = Not calculated		
Sb 206.836†	4.7 0.6192 µg/L	1.01675 0.6192 ppb	1.01675 164.19%
QC value within limits for Sb 206.836	Recovery = Not calculated		
Se 196.026†	-3.1 -1.25 µg/L	1.812 -1.25 ppb	1.812 145.50%
QC value within limits for Se 196.026	Recovery = Not calculated		
SiO2†	-39.5 -4.2258 µg/L	3.90063 -4.2258 ppb	3.90063 92.31%
QC value within limits for SiO2	Recovery = Not calculated		
Si 251.611†	-139.2 -2.2536 µg/L	0.70500 -2.2536 ppb	0.70500 31.28%
QC value within limits for Si 251.611	Recovery = Not calculated		
Sn 189.927†	4.1 0.2829 µg/L	0.68020 0.2829 ppb	0.68020 240.43%
QC value within limits for Sn 189.927	Recovery = Not calculated		
Sr 421.552†	55.3 0.1275 µg/L	0.10486 0.1275 ppb	0.10486 82.25%
QC value within limits for Sr 421.552	Recovery = Not calculated		
Ti 334.940†	-139.4 -0.1409 µg/L	0.11378 -0.1409 ppb	0.11378 80.78%
QC value within limits for Ti 334.940	Recovery = Not calculated		
Tl 190.801†	0.7 0.0913 µg/L	1.03467 0.0913 ppb	1.03467 >999.9%
QC value within limits for Tl 190.801	Recovery = Not calculated		
U 409.014†	60.7 3.8234 µg/L	7.03618 3.8234 ppb	7.03618 184.03%
QC value within limits for U 409.014	Recovery = Not calculated		
V 292.402†	79.4 0.4237 µg/L	0.29079 0.4237 ppb	0.29079 68.63%
QC value within limits for V 292.402	Recovery = Not calculated		
Zn 213.857†	15.0 0.0911 µg/L	0.11880 0.0911 ppb	0.11880 130.40%
QC value within limits for Zn 213.857	Recovery = Not calculated		

All analyte(s) passed QC.

Sequence No.: 58

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 3/30/2010 19:19:40

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	156286.5	156286.5	106 %		19:20:15
1	Al 396.153Radial†	26243.4	24886.3	5105.0 µg/L	5105.0 ppb	19:20:15
1	Ca 317.933Radial†	90127.3	84552.5	5087.3 µg/L	5087.3 ppb	19:20:15
1	Fe 238.204 Radial†	79817.9	75358.2	5070.8 µg/L	5070.8 ppb	19:20:15
1	K 766.490 Radial†	14699.5	12591.3	5178.0 µg/L	5178.0 ppb	19:20:15
1	Mg 279.077 IEC†	13655.8	12748.1	5237.5 µg/L	5237.5 ppb	19:20:15
1	Na 589.592 Radial†	71041.1	65990.4	10016 µg/L	10016 ppb	19:20:15
1	Sr 421.552†	230235.7	217999.3	502.85 µg/L	502.85 ppb	19:20:13
1	Sc 361.383	1767254.1	1767254.1	100.69 %		19:20:28
1	Y 371.029	1056127.6	1056127.6	99.256 %		19:20:28
1	Ag 328.068†	129150.0	124813.0	502.35 µg/L	502.35 ppb	19:20:28
1	As 188.979†	1441.8	1449.5	513.04 µg/L	513.04 ppb	19:20:48
1	B 249.677†	34042.4	30577.5	496.80 µg/L	496.80 ppb	19:20:28
1	Ba 233.527†	115383.0	114750.1	500.05 µg/L	500.05 ppb	19:20:28
1	Be 313.107†	1680728.3	1669933.3	501.30 µg/L	501.30 ppb	19:20:28
1	Cd 226.502†	73556.4	73159.7	502.02 µg/L	502.02 ppb	19:20:28
1	Co 228.616†	37215.0	37131.0	502.45 µg/L	502.45 ppb	19:20:28
1	Cr 267.716†	59784.6	59194.1	498.63 µg/L	498.63 ppb	19:20:28
1	Cu 324.752†	121975.1	118345.7	500.24 µg/L	500.24 ppb	19:20:28
1	Mn 257.610†	378077.7	375297.1	501.41 µg/L	501.41 ppb	19:20:28
1	Mo 202.031†	15890.1	15815.4	503.53 µg/L	503.53 ppb	19:20:48
1	Ni 231.604†	40101.9	39903.5	501.90 µg/L	501.90 ppb	19:20:28
1	P 214.914†	10660.2	10581.7	2515.4 µg/L	2515.4 ppb	19:20:48
1	Pb 220.353†	8433.9	8278.8	508.52 µg/L	508.52 ppb	19:20:48
1	S 181.975 Axial†	1333.5	1236.6	1018.0 µg/L	1018.0 ppb	19:20:48
1	Sb 206.836†	3931.0	3825.9	502.86 µg/L	502.86 ppb	19:20:48
1	Se 196.026†	1281.8	1259.4	506 µg/L	506 ppb	19:20:48
1	SiO2†	52030.2	49918.6	5318.9 µg/L	5318.9 ppb	19:20:28
1	Si 251.611†	156714.4	154686.0	2493.7 µg/L	2493.7 ppb	19:20:28
1	Sn 189.927†	7341.0	7293.0	506.59 µg/L	506.59 ppb	19:20:48
1	Ti 334.940†	503822.4	499465.4	499.73 µg/L	499.73 ppb	19:20:28
1	Tl 190.801†	3661.3	3753.1	511.88 µg/L	511.88 ppb	19:20:48
1	U 409.014†	7143.4	7378.0	492.41 µg/L	492.41 ppb	19:20:28
1	V 292.402†	94407.8	93447.5	502.80 µg/L	502.80 ppb	19:20:28
1	Zn 213.857†	82223.3	81132.2	499.24 µg/L	499.24 ppb	19:20:28
2	Sc RADIAL	153506.9	153506.9	104 %		19:20:19
2	Al 396.153Radial†	26020.7	25121.3	5153.5 µg/L	5153.5 ppb	19:20:19
2	Ca 317.933Radial†	88691.0	84713.0	5097.0 µg/L	5097.0 ppb	19:20:19
2	Fe 238.204 Radial†	78351.0	75312.7	5067.7 µg/L	5067.7 ppb	19:20:19
2	K 766.490 Radial†	14350.1	12506.6	5143.1 µg/L	5143.1 ppb	19:20:19
2	Mg 279.077 IEC†	13338.2	12676.1	5207.9 µg/L	5207.9 ppb	19:20:19
2	Na 589.592 Radial†	70350.0	66541.7	10100 µg/L	10100 ppb	19:20:19
2	Sr 421.552†	231308.8	222976.1	514.33 µg/L	514.33 ppb	19:20:17
2	Sc 361.383	1772730.7	1772730.7	101.01 %		19:20:51
2	Y 371.029	1059640.4	1059640.4	99.586 %		19:20:51
2	Ag 328.068†	129147.5	124414.3	500.79 µg/L	500.79 ppb	19:20:51
2	As 188.979†	1444.7	1448.0	512.52 µg/L	512.52 ppb	19:21:11
2	B 249.677†	33956.3	30387.8	493.70 µg/L	493.70 ppb	19:20:51
2	Ba 233.527†	115790.4	114799.5	500.26 µg/L	500.26 ppb	19:20:51
2	Be 313.107†	1687069.9	1671055.2	501.64 µg/L	501.64 ppb	19:20:51
2	Cd 226.502†	73654.9	73031.4	501.14 µg/L	501.14 ppb	19:20:51
2	Co 228.616†	37362.3	37162.7	502.88 µg/L	502.88 ppb	19:20:51
2	Cr 267.716†	59948.8	59173.3	498.45 µg/L	498.45 ppb	19:20:51
2	Cu 324.752†	121936.3	117933.1	498.51 µg/L	498.51 ppb	19:20:51
2	Mn 257.610†	378797.3	374849.6	500.81 µg/L	500.81 ppb	19:20:51
2	Mo 202.031†	15884.2	15760.8	501.80 µg/L	501.80 ppb	19:21:11
2	Ni 231.604†	40279.7	39956.5	502.56 µg/L	502.56 ppb	19:20:51
2	P 214.914†	10674.6	10563.3	2511.0 µg/L	2511.0 ppb	19:21:11
2	Pb 220.353†	8434.4	8253.4	506.95 µg/L	506.95 ppb	19:21:11

2	S 181.975 Axial†	1322.4	1221.5	1005.5 µg/L	1005.5 ppb	19:21:11
2	Sb 206.836†	3954.2	3836.8	504.26 µg/L	504.26 ppb	19:21:11
2	Se 196.026†	1280.7	1254.3	504 µg/L	504 ppb	19:21:11
2	SiO2†	52360.5	50086.0	5336.9 µg/L	5336.9 ppb	19:20:51
2	Si 251.611†	157189.4	154675.4	2493.6 µg/L	2493.6 ppb	19:20:51
2	Sn 189.927†	7330.2	7259.8	504.29 µg/L	504.29 ppb	19:21:11
2	Ti 334.940†	504300.3	498392.8	498.66 µg/L	498.66 ppb	19:20:51
2	Tl 190.801†	3675.4	3755.9	512.25 µg/L	512.25 ppb	19:21:11
2	U 409.014†	7294.0	7505.1	500.46 µg/L	500.46 ppb	19:20:51
2	V 292.402†	94993.4	93737.6	504.33 µg/L	504.33 ppb	19:20:51
2	Zn 213.857†	82164.6	80821.8	497.32 µg/L	497.32 ppb	19:20:51
3	Sc RADIAL	152465.5	152465.5	103 %		19:20:23
3	Al 396.153Radial†	25729.0	25009.6	5130.5 µg/L	5130.5 ppb	19:20:23
3	Ca 317.933Radial†	87628.2	84265.9	5070.1 µg/L	5070.1 ppb	19:20:23
3	Fe 238.204 Radial†	77267.8	74777.8	5031.7 µg/L	5031.7 ppb	19:20:23
3	K 766.490 Radial†	14278.7	12531.8	5153.5 µg/L	5153.5 ppb	19:20:23
3	Mg 279.077 IEC†	13121.7	12554.0	5157.8 µg/L	5157.8 ppb	19:20:23
3	Na 589.592 Radial†	69381.5	66065.3	10027 µg/L	10027 ppb	19:20:23
3	Sr 421.552†	227253.5	220565.6	508.77 µg/L	508.77 ppb	19:20:21
3	Sc 361.383	1774865.9	1774865.9	101.13 %		19:21:14
3	Y 371.029	1060441.2	1060441.2	99.661 %		19:21:14
3	Ag 328.068†	129803.0	124908.7	502.77 µg/L	502.77 ppb	19:21:14
3	As 188.979†	1438.7	1440.4	509.84 µg/L	509.84 ppb	19:21:34
3	B 249.677†	34246.4	30634.2	497.71 µg/L	497.71 ppb	19:21:14
3	Ba 233.527†	116272.3	115138.0	501.74 µg/L	501.74 ppb	19:21:14
3	Be 313.107†	1696617.6	1678487.1	503.87 µg/L	503.87 ppb	19:21:14
3	Cd 226.502†	73905.6	73191.6	502.24 µg/L	502.24 ppb	19:21:14
3	Co 228.616†	37681.5	37433.8	506.55 µg/L	506.55 ppb	19:21:14
3	Cr 267.716†	60007.5	59159.9	498.34 µg/L	498.34 ppb	19:21:14
3	Cu 324.752†	122346.4	118193.3	499.61 µg/L	499.61 ppb	19:21:14
3	Mn 257.610†	380251.1	375836.0	502.13 µg/L	502.13 ppb	19:21:14
3	Mo 202.031†	15900.8	15758.2	501.71 µg/L	501.71 ppb	19:21:34
3	Ni 231.604†	40553.3	40179.1	505.36 µg/L	505.36 ppb	19:21:14
3	P 214.914†	10653.4	10529.6	2503.0 µg/L	2503.0 ppb	19:21:34
3	Pb 220.353†	8446.7	8255.6	507.08 µg/L	507.08 ppb	19:21:34
3	S 181.975 Axial†	1325.5	1223.1	1006.8 µg/L	1006.8 ppb	19:21:34
3	Sb 206.836†	3949.1	3827.0	502.98 µg/L	502.98 ppb	19:21:34
3	Se 196.026†	1305.4	1277.3	513 µg/L	513 ppb	19:21:34
3	SiO2†	52316.9	49980.4	5325.6 µg/L	5325.6 ppb	19:21:14
3	Si 251.611†	157752.2	155044.7	2499.6 µg/L	2499.6 ppb	19:21:14
3	Sn 189.927†	7349.9	7270.5	505.03 µg/L	505.03 ppb	19:21:34
3	Ti 334.940†	506527.5	499994.5	500.26 µg/L	500.26 ppb	19:21:14
3	Tl 190.801†	3664.5	3740.7	510.22 µg/L	510.22 ppb	19:21:34
3	U 409.014†	7372.8	7574.3	504.87 µg/L	504.87 ppb	19:21:14
3	V 292.402†	95285.5	93913.3	505.26 µg/L	505.26 ppb	19:21:14
3	Zn 213.857†	82819.3	81371.4	500.71 µg/L	500.71 ppb	19:21:14

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1771616.9	100.94 %	0.224			0.22%
Sc RADIAL	154086.3	104 %	1.3			1.28%
Y 371.029	1058736.4	99.501 %	0.2156			0.22%
Ag 328.068†	124712.0	501.97 µg/L	1.043	501.97 ppb	1.043	0.21%
QC value within limits for Ag 328.068 Recovery = 100.39%						
Al 396.153Radial†	25005.7	5129.7 µg/L	24.27	5129.7 ppb	24.27	0.47%
QC value within limits for Al 396.153Radial Recovery = 102.59%						
As 188.979†	1446.0	511.80 µg/L	1.718	511.80 ppb	1.718	0.34%
QC value within limits for As 188.979 Recovery = 102.36%						
B 249.677†	30533.2	496.07 µg/L	2.099	496.07 ppb	2.099	0.42%
QC value within limits for B 249.677 Recovery = 99.21%						
Ba 233.527†	114895.9	500.68 µg/L	0.920	500.68 ppb	0.920	0.18%
QC value within limits for Ba 233.527 Recovery = 100.14%						
Be 313.107†	1673158.5	502.27 µg/L	1.397	502.27 ppb	1.397	0.28%
QC value within limits for Be 313.107 Recovery = 100.45%						
Ca 317.933Radial†	84510.5	5084.8 µg/L	13.63	5084.8 ppb	13.63	0.27%
QC value within limits for Ca 317.933Radial Recovery = 101.70%						
Cd 226.502†	73127.6	501.80 µg/L	0.584	501.80 ppb	0.584	0.12%
QC value within limits for Cd 226.502 Recovery = 100.36%						
Co 228.616†	37242.5	503.96 µg/L	2.253	503.96 ppb	2.253	0.45%



QC value within limits for Co 228.616 Recovery = 100.79%							
Cr 267.716†	59175.7	498.48 µg/L	0.150	498.48 ppb	0.150	0.03%	
QC value within limits for Cr 267.716 Recovery = 99.70%							
Cu 324.752†	118157.4	499.45 µg/L	0.877	499.45 ppb	0.877	0.18%	
QC value within limits for Cu 324.752 Recovery = 99.89%							
Fe 238.204 Radial†	75149.6	5056.7 µg/L	21.72	5056.7 ppb	21.72	0.43%	
QC value within limits for Fe 238.204 Radial Recovery = 101.13%							
K 766.490 Radial†	12543.2	5158.2 µg/L	17.91	5158.2 ppb	17.91	0.35%	
QC value within limits for K 766.490 Radial Recovery = 103.16%							
Mg 279.077 IEC†	12659.4	5201.1 µg/L	40.25	5201.1 ppb	40.25	0.77%	
QC value within limits for Mg 279.077 IEC Recovery = 104.02%							
Mn 257.610†	375327.6	501.45 µg/L	0.661	501.45 ppb	0.661	0.13%	
QC value within limits for Mn 257.610 Recovery = 100.29%							
Mo 202.031†	15778.1	502.35 µg/L	1.028	502.35 ppb	1.028	0.20%	
QC value within limits for Mo 202.031 Recovery = 100.47%							
Na 589.592 Radial†	66199.1	10048 µg/L	45.4	10048 ppb	45.4	0.45%	
QC value within limits for Na 589.592 Radial Recovery = 100.48%							
Ni 231.604†	40013.0	503.27 µg/L	1.840	503.27 ppb	1.840	0.37%	
QC value within limits for Ni 231.604 Recovery = 100.65%							
P 214.914†	10558.2	2509.8 µg/L	6.28	2509.8 ppb	6.28	0.25%	
QC value within limits for P 214.914 Recovery = 100.39%							
Pb 220.353†	8262.6	507.52 µg/L	0.869	507.52 ppb	0.869	0.17%	
QC value within limits for Pb 220.353 Recovery = 101.50%							
S 181.975 Axial†	1227.1	1010.1 µg/L	6.84	1010.1 ppb	6.84	0.68%	
QC value within limits for S 181.975 Axial Recovery = 101.01%							
Sb 206.836†	3829.9	503.37 µg/L	0.778	503.37 ppb	0.778	0.15%	
QC value within limits for Sb 206.836 Recovery = 100.67%							
Se 196.026†	1263.7	508 µg/L	4.8	508 ppb	4.8	0.95%	
QC value within limits for Se 196.026 Recovery = 101.61%							
SiO2†	49995.0	5327.1 µg/L	9.09	5327.1 ppb	9.09	0.17%	
QC value within limits for SiO2 Recovery = 99.62%							
Si 251.611†	154802.1	2495.6 µg/L	3.41	2495.6 ppb	3.41	0.14%	
QC value within limits for Si 251.611 Recovery = 99.83%							
Sn 189.927†	7274.4	505.30 µg/L	1.174	505.30 ppb	1.174	0.23%	
QC value within limits for Sn 189.927 Recovery = 101.06%							
Sr 421.552†	220513.7	508.65 µg/L	5.741	508.65 ppb	5.741	1.13%	
QC value within limits for Sr 421.552 Recovery = 101.73%							
Ti 334.940†	499284.2	499.55 µg/L	0.818	499.55 ppb	0.818	0.16%	
QC value within limits for Ti 334.940 Recovery = 99.91%							
Tl 190.801†	3749.9	511.45 µg/L	1.082	511.45 ppb	1.082	0.21%	
QC value within limits for Tl 190.801 Recovery = 102.29%							
U 409.014†	7485.8	499.25 µg/L	6.316	499.25 ppb	6.316	1.27%	
QC value within limits for U 409.014 Recovery = 99.85%							
V 292.402†	93699.5	504.13 µg/L	1.244	504.13 ppb	1.244	0.25%	
QC value within limits for V 292.402 Recovery = 100.83%							
Zn 213.857†	81108.4	499.09 µg/L	1.702	499.09 ppb	1.702	0.34%	
QC value within limits for Zn 213.857 Recovery = 99.82%							
All analyte(s) passed QC.							

Sequence No.: 59

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 3/30/2010 19:21:42

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	153790.7	153790.7	104 %		19:22:13
1	Al 396.153Radial†	-24.2	39.6	8.1551 µg/L	8.1551 ppb	19:22:33
1	Ca 317.933Radial†	665.7	-58.0	-3.4918 µg/L	-3.4918 ppb	19:22:33
1	Fe 238.204 Radial†	156.4	9.6	0.6492 µg/L	0.6492 ppb	19:22:33
1	K 766.490 Radial†	1573.5	199.7	82.198 µg/L	82.198 ppb	19:22:13
1	Mg 279.077 IEC†	180.3	4.5	1.8471 µg/L	1.8471 ppb	19:22:33
1	Na 589.592 Radial†	1488.0	223.7	33.897 µg/L	33.897 ppb	19:22:13
1	Sr 421.552†	-118.0	108.2	0.2496 µg/L	0.2496 ppb	19:22:13
1	Sc 361.383	1787033.8	1787033.8	101.82 %		19:23:34
1	Y 371.029	1081646.6	1081646.6	101.65 %		19:23:34
1	Ag 328.068†	3606.6	95.0	0.3622 µg/L	0.3622 ppb	19:23:36
1	As 188.979†	-19.5	-1.5	-0.5219 µg/L	-0.5219 ppb	19:23:56
1	B 249.677†	3260.3	-28.3	-0.4617 µg/L	-0.4617 ppb	19:23:56
1	Ba 233.527†	-145.0	19.7	0.0859 µg/L	0.0859 ppb	19:23:56
1	Be 313.107†	-380.3	412.1	0.1199 µg/L	0.1199 ppb	19:23:36
1	Cd 226.502†	-87.2	24.3	0.1671 µg/L	0.1671 ppb	19:23:56
1	Co 228.616†	-173.9	1.6	0.0220 µg/L	0.0220 ppb	19:23:56
1	Cr 267.716†	170.0	-11.6	-0.0879 µg/L	-0.0879 ppb	19:23:56
1	Cu 324.752†	2863.4	23.2	0.0877 µg/L	0.0877 ppb	19:23:36
1	Mn 257.610†	155.6	-22.8	-0.0305 µg/L	-0.0305 ppb	19:23:56
1	Mo 202.031†	-25.7	9.5	0.3034 µg/L	0.3034 ppb	19:23:56
1	Ni 231.604†	-74.3	4.9	0.0620 µg/L	0.0620 ppb	19:23:56
1	P 214.914†	1.0	-4.0	-0.9495 µg/L	-0.9495 ppb	19:23:56
1	Pb 220.353†	88.9	-9.6	-0.5776 µg/L	-0.5776 ppb	19:23:56
1	S 181.975 Axial†	85.6	-3.7	-2.9973 µg/L	-2.9973 ppb	19:23:56
1	Sb 206.836†	92.4	12.7	1.6738 µg/L	1.6738 ppb	19:23:56
1	Se 196.026†	-2.9	-16.4	-6.57 µg/L	-6.57 ppb	19:23:56
1	SiO2†	1759.1	-25.6	-2.7555 µg/L	-2.7555 ppb	19:23:56
1	Si 251.611†	913.8	-51.2	-0.8393 µg/L	-0.8393 ppb	19:23:36
1	Sn 189.927†	10.7	13.1	0.9064 µg/L	0.9064 ppb	19:23:56
1	Ti 334.940†	1016.1	112.4	0.1175 µg/L	0.1175 ppb	19:23:36
1	Tl 190.801†	-123.0	-3.7	-0.4965 µg/L	-0.4965 ppb	19:23:56
1	U 409.014†	-492.6	-200.0	-12.529 µg/L	-12.529 ppb	19:23:36
1	V 292.402†	316.1	0.6	-0.0025 µg/L	-0.0025 ppb	19:23:36
1	Zn 213.857†	565.3	30.7	0.1899 µg/L	0.1899 ppb	19:23:56
2	Sc RADIAL	151051.7	151051.7	102 %		19:22:35
2	Al 396.153Radial†	-64.7	-0.4	-0.1067 µg/L	-0.1067 ppb	19:22:55
2	Ca 317.933Radial†	659.2	-52.8	-3.1777 µg/L	-3.1777 ppb	19:22:55
2	Fe 238.204 Radial†	182.7	38.1	2.5670 µg/L	2.5670 ppb	19:22:55
2	K 766.490 Radial†	1698.8	349.7	143.92 µg/L	143.92 ppb	19:22:35
2	Mg 279.077 IEC†	179.6	7.0	2.8839 µg/L	2.8839 ppb	19:22:55
2	Na 589.592 Radial†	1481.0	242.7	36.732 µg/L	36.732 ppb	19:22:35
2	Sr 421.552†	-190.5	35.2	0.0813 µg/L	0.0813 ppb	19:22:35
2	Sc 361.383	1778422.1	1778422.1	101.33 %		19:23:58
2	Y 371.029	1076452.3	1076452.3	101.17 %		19:23:58
2	Ag 328.068†	3662.9	167.8	0.6748 µg/L	0.6748 ppb	19:24:00
2	As 188.979†	-14.0	3.9	1.3572 µg/L	1.3572 ppb	19:24:20
2	B 249.677†	3284.9	11.5	0.1861 µg/L	0.1861 ppb	19:24:20
2	Ba 233.527†	-159.5	4.7	0.0204 µg/L	0.0204 ppb	19:24:20
2	Be 313.107†	-846.3	-49.6	-0.0121 µg/L	-0.0121 ppb	19:24:00
2	Cd 226.502†	-107.7	3.7	0.0254 µg/L	0.0254 ppb	19:24:20
2	Co 228.616†	-158.7	15.8	0.2141 µg/L	0.2141 ppb	19:24:20
2	Cr 267.716†	182.0	1.1	0.0017 µg/L	0.0017 ppb	19:24:20
2	Cu 324.752†	2877.2	50.5	0.2212 µg/L	0.2212 ppb	19:24:00
2	Mn 257.610†	195.5	17.3	0.0231 µg/L	0.0231 ppb	19:24:20
2	Mo 202.031†	-23.8	11.2	0.3574 µg/L	0.3574 ppb	19:24:20
2	Ni 231.604†	-64.9	13.8	0.1737 µg/L	0.1737 ppb	19:24:20
2	P 214.914†	19.2	14.0	3.3292 µg/L	3.3292 ppb	19:24:20
2	Pb 220.353†	89.8	-8.4	-0.5195 µg/L	-0.5195 ppb	19:24:20

2	S 181.975 Axial†	90.6	1.7	1.3877 µg/L	1.3877 ppb	19:24:20
2	Sb 206.836†	69.4	-9.6	-1.2523 µg/L	-1.2523 ppb	19:24:20
2	Se 196.026†	21.5	7.6	3.06 µg/L	3.06 ppb	19:24:20
2	SiO2†	1730.8	-45.0	-4.8360 µg/L	-4.8360 ppb	19:24:20
2	Si 251.611†	933.9	-27.0	-0.4459 µg/L	-0.4459 ppb	19:24:00
2	Sn 189.927†	5.3	7.8	0.5369 µg/L	0.5369 ppb	19:24:20
2	Ti 334.940†	809.3	-86.9	-0.0912 µg/L	-0.0912 ppb	19:24:00
2	Tl 190.801†	-105.2	13.2	1.7751 µg/L	1.7751 ppb	19:24:20
2	U 409.014†	-136.3	149.3	9.3313 µg/L	9.3313 ppb	19:24:00
2	V 292.402†	255.2	-58.0	-0.2979 µg/L	-0.2979 ppb	19:24:00
2	Zn 213.857†	589.9	57.6	0.3556 µg/L	0.3556 ppb	19:24:20
3	Sc RADIAL	151949.3	151949.3	103 %		19:22:57
3	Al 396.153Radial†	-41.9	22.1	4.5594 µg/L	4.5594 ppb	19:23:17
3	Ca 317.933Radial†	655.8	-60.0	-3.6104 µg/L	-3.6104 ppb	19:23:17
3	Fe 238.204 Radial†	146.0	1.4	0.0926 µg/L	0.0926 ppb	19:23:17
3	K 766.490 Radial†	1689.3	330.7	136.11 µg/L	136.11 ppb	19:22:57
3	Mg 279.077 IEC†	174.2	0.7	0.2976 µg/L	0.2976 ppb	19:23:17
3	Na 589.592 Radial†	1427.0	181.7	27.472 µg/L	27.472 ppb	19:22:57
3	Sr 421.552†	-212.6	14.8	0.0342 µg/L	0.0342 ppb	19:22:57
3	Sc 361.383	1785827.5	1785827.5	101.75 %		19:24:23
3	Y 371.029	1080583.1	1080583.1	101.55 %		19:24:23
3	Ag 328.068†	3512.6	5.0	0.0150 µg/L	0.0150 ppb	19:24:25
3	As 188.979†	-15.8	2.1	0.7425 µg/L	0.7425 ppb	19:24:45
3	B 249.677†	3211.8	-73.8	-1.2042 µg/L	-1.2042 ppb	19:24:45
3	Ba 233.527†	-146.6	18.1	0.0791 µg/L	0.0791 ppb	19:24:45
3	Be 313.107†	-678.5	118.8	0.0332 µg/L	0.0332 ppb	19:24:25
3	Cd 226.502†	-125.8	-13.6	-0.0935 µg/L	-0.0935 ppb	19:24:45
3	Co 228.616†	-168.9	6.4	0.0872 µg/L	0.0872 ppb	19:24:45
3	Cr 267.716†	167.7	-13.7	-0.1091 µg/L	-0.1091 ppb	19:24:45
3	Cu 324.752†	2763.7	-72.8	-0.3134 µg/L	-0.3134 ppb	19:24:25
3	Mn 257.610†	214.0	34.7	0.0464 µg/L	0.0464 ppb	19:24:45
3	Mo 202.031†	-35.4	-0.0	-0.0014 µg/L	-0.0014 ppb	19:24:45
3	Ni 231.604†	-94.0	-14.5	-0.1827 µg/L	-0.1827 ppb	19:24:45
3	P 214.914†	10.4	5.2	1.2474 µg/L	1.2474 ppb	19:24:45
3	Pb 220.353†	78.2	-20.1	-1.2272 µg/L	-1.2272 ppb	19:24:45
3	S 181.975 Axial†	95.1	5.7	4.6840 µg/L	4.6840 ppb	19:24:45
3	Sb 206.836†	82.6	3.1	0.4098 µg/L	0.4098 ppb	19:24:45
3	Se 196.026†	9.2	-4.5	-1.82 µg/L	-1.82 ppb	19:24:45
3	SiO2†	1730.7	-52.2	-5.5870 µg/L	-5.5870 ppb	19:24:45
3	Si 251.611†	858.6	-104.8	-1.6952 µg/L	-1.6952 ppb	19:24:25
3	Sn 189.927†	-4.9	-2.3	-0.1604 µg/L	-0.1604 ppb	19:24:45
3	Ti 334.940†	934.6	32.9	0.0362 µg/L	0.0362 ppb	19:24:25
3	Tl 190.801†	-107.4	11.6	1.5567 µg/L	1.5567 ppb	19:24:45
3	U 409.014†	-418.9	-127.9	-7.9894 µg/L	-7.9894 ppb	19:24:25
3	V 292.402†	392.7	76.1	0.3983 µg/L	0.3983 ppb	19:24:25
3	Zn 213.857†	557.0	22.9	0.1434 µg/L	0.1434 ppb	19:24:45

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1783761.1	101.63 %	0.266			0.26%
Sc RADIAL	152263.9	103 %	0.9			0.92%
Y 371.029	1079560.7	101.46 %	0.258			0.25%
Ag 328.068†	89.3	0.3507 µg/L	0.33002	0.3507 ppb	0.33002	94.11%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	20.4	4.2026 µg/L	4.14243	4.2026 ppb	4.14243	98.57%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	1.5	0.5259 µg/L	0.95810	0.5259 ppb	0.95810	182.17%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	-30.2	-0.4933 µg/L	0.69566	-0.4933 ppb	0.69566	141.02%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	14.2	0.0618 µg/L	0.03601	0.0618 ppb	0.03601	58.26%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	160.4	0.0470 µg/L	0.06704	0.0470 ppb	0.06704	142.62%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-57.0	-3.4266 µg/L	0.22360	-3.4266 ppb	0.22360	6.53%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	4.8	0.0330 µg/L	0.13047	0.0330 ppb	0.13047	395.41%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	8.0	0.1077 µg/L	0.09768	0.1077 ppb	0.09768	90.65%

QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-8.1	-0.0651 µg/L	0.05879	-0.0651 ppb	0.05879	90.29%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	0.3	-0.0015 µg/L	0.27823	-0.0015 ppb	0.27823	>999.9%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	16.4	1.1029 µg/L	1.29810	1.1029 ppb	1.29810	117.69%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	293.4	120.74 µg/L	33.609	120.74 ppb	33.609	27.84%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	4.1	1.6762 µg/L	1.30158	1.6762 ppb	1.30158	77.65%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	9.8	0.0130 µg/L	0.03943	0.0130 ppb	0.03943	303.91%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	6.9	0.2198 µg/L	0.19348	0.2198 ppb	0.19348	88.02%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	216.1	32.700 µg/L	4.7446	32.700 ppb	4.7446	14.51%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	1.4	0.0176 µg/L	0.18229	0.0176 ppb	0.18229	>999.9%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	5.1	1.2090 µg/L	2.13959	1.2090 ppb	2.13959	176.97%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	-12.7	-0.7747 µg/L	0.39288	-0.7747 ppb	0.39288	50.71%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	1.2	1.0248 µg/L	3.85350	1.0248 ppb	3.85350	376.02%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	2.1	0.2771 µg/L	1.46753	0.2771 ppb	1.46753	529.59%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-4.4	-1.78 µg/L	4.815	-1.78 ppb	4.815	271.26%	
QC value within limits for Se 196.026 Recovery = Not calculated							
SiO2†	-40.9	-4.3928 µg/L	1.46685	-4.3928 ppb	1.46685	33.39%	
QC value within limits for SiO2 Recovery = Not calculated							
Si 251.611†	-61.0	-0.9935 µg/L	0.63878	-0.9935 ppb	0.63878	64.30%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	6.2	0.4276 µg/L	0.54176	0.4276 ppb	0.54176	126.69%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	52.7	0.1217 µg/L	0.11326	0.1217 ppb	0.11326	93.08%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	19.5	0.0208 µg/L	0.10521	0.0208 ppb	0.10521	505.16%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	7.0	0.9451 µg/L	1.25324	0.9451 ppb	1.25324	132.61%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	-59.6	-3.7291 µg/L	11.53618	-3.7291 ppb	11.53618	309.35%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	6.3	0.0327 µg/L	0.34943	0.0327 ppb	0.34943	>999.9%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	37.0	0.2296 µg/L	0.11155	0.2296 ppb	0.11155	48.58%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
All analyte(s) passed QC.							

Sequence No.: 70

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 3/30/2010 19:43:37

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	152566.0	152566.0	103 %		19:44:11
1	Al 396.153Radial†	25606.8	24874.8	5102.8 µg/L	5102.8 ppb	19:44:11
1	Ca 317.933Radial†	87089.3	83687.8	5035.3 µg/L	5035.3 ppb	19:44:11
1	Fe 238.204 Radial†	76897.0	74369.1	5004.2 µg/L	5004.2 ppb	19:44:11
1	K 766.490 Radial†	14096.9	12346.5	5077.2 µg/L	5077.2 ppb	19:44:11
1	Mg 279.077 IEC†	13148.8	12571.8	5165.1 µg/L	5165.1 ppb	19:44:11
1	Na 589.592 Radial†	69266.8	65909.9	10004 µg/L	10004 ppb	19:44:11
1	Sr 421.552†	228770.0	221889.9	511.83 µg/L	511.83 ppb	19:44:09
1	Sc 361.383	1761814.6	1761814.6	100.38 %		19:44:38
1	Y 371.029	1053404.8	1053404.8	99.000 %		19:44:38
1	Ag 328.068†	128558.3	124619.6	501.60 µg/L	501.60 ppb	19:44:38
1	As 188.979†	1411.7	1424.0	504.08 µg/L	504.08 ppb	19:44:58
1	B 249.677†	33506.8	30148.3	489.81 µg/L	489.81 ppb	19:44:38
1	Ba 233.527†	114918.9	114641.6	499.57 µg/L	499.57 ppb	19:44:38
1	Be 313.107†	1674925.7	1669306.3	501.12 µg/L	501.12 ppb	19:44:38
1	Cd 226.502†	72672.3	72504.4	497.53 µg/L	497.53 ppb	19:44:38
1	Co 228.616†	36934.5	36965.7	500.22 µg/L	500.22 ppb	19:44:38
1	Cr 267.716†	59419.2	59013.4	497.10 µg/L	497.10 ppb	19:44:38
1	Cu 324.752†	121410.8	118157.6	499.45 µg/L	499.45 ppb	19:44:38
1	Mn 257.610†	376245.0	374630.7	500.52 µg/L	500.52 ppb	19:44:38
1	Mo 202.031†	15680.1	15654.9	498.42 µg/L	498.42 ppb	19:44:58
1	Ni 231.604†	39814.8	39740.4	499.84 µg/L	499.84 ppb	19:44:38
1	P 214.914†	10503.2	10458.0	2485.9 µg/L	2485.9 ppb	19:44:58
1	Pb 220.353†	8303.5	8174.7	502.12 µg/L	502.12 ppb	19:44:58
1	S 181.975 Axial†	1302.0	1209.3	995.52 µg/L	995.52 ppb	19:44:58
1	Sb 206.836†	3900.6	3807.6	500.41 µg/L	500.41 ppb	19:44:58
1	Se 196.026†	1263.4	1245.0	501 µg/L	501 ppb	19:44:58
1	SiO2†	51906.7	49955.1	5323.1 µg/L	5323.1 ppb	19:44:38
1	Si 251.611†	155739.9	154195.7	2485.9 µg/L	2485.9 ppb	19:44:38
1	Sn 189.927†	7205.5	7180.5	498.80 µg/L	498.80 ppb	19:44:58
1	Ti 334.940†	502045.9	499240.4	499.51 µg/L	499.51 ppb	19:44:38
1	Tl 190.801†	3589.7	3693.1	503.82 µg/L	503.82 ppb	19:44:58
1	U 409.014†	7397.4	7652.8	509.62 µg/L	509.62 ppb	19:44:38
1	V 292.402†	94045.0	93375.5	502.38 µg/L	502.38 ppb	19:44:38
1	Zn 213.857†	81372.5	80536.7	495.57 µg/L	495.57 ppb	19:44:38
2	Sc RADIAL	150945.7	150945.7	102 %		19:44:15
2	Al 396.153Radial†	25340.4	24880.1	5103.4 µg/L	5103.4 ppb	19:44:15
2	Ca 317.933Radial†	86035.3	83561.3	5027.7 µg/L	5027.7 ppb	19:44:15
2	Fe 238.204 Radial†	76125.2	74413.0	5007.2 µg/L	5007.2 ppb	19:44:15
2	K 766.490 Radial†	14026.0	12423.6	5109.0 µg/L	5109.0 ppb	19:44:15
2	Mg 279.077 IEC†	12973.0	12536.4	5150.8 µg/L	5150.8 ppb	19:44:15
2	Na 589.592 Radial†	68752.2	66126.4	10037 µg/L	10037 ppb	19:44:15
2	Sr 421.552†	224288.2	219880.0	507.19 µg/L	507.19 ppb	19:44:13
2	Sc 361.383	1735634.7	1735634.7	98.892 %		19:45:01
2	Y 371.029	1039436.8	1039436.8	97.687 %		19:45:01
2	Ag 328.068†	126843.5	124817.4	502.37 µg/L	502.37 ppb	19:45:01
2	As 188.979†	1419.7	1453.3	514.36 µg/L	514.36 ppb	19:45:21
2	B 249.677†	33097.4	30237.8	491.28 µg/L	491.28 ppb	19:45:01
2	Ba 233.527†	113015.6	114443.8	498.72 µg/L	498.72 ppb	19:45:01
2	Be 313.107†	1643853.4	1663053.5	499.24 µg/L	499.24 ppb	19:45:01
2	Cd 226.502†	71236.7	72144.7	495.05 µg/L	495.05 ppb	19:45:01
2	Co 228.616†	36240.3	36818.7	498.23 µg/L	498.23 ppb	19:45:01
2	Cr 267.716†	58499.4	58976.2	496.79 µg/L	496.79 ppb	19:45:01
2	Cu 324.752†	119280.1	117827.4	498.05 µg/L	498.05 ppb	19:45:01
2	Mn 257.610†	369723.3	373689.4	499.26 µg/L	499.26 ppb	19:45:01
2	Mo 202.031†	15815.6	16027.5	510.28 µg/L	510.28 ppb	19:45:21
2	Ni 231.604†	39009.7	39524.6	497.13 µg/L	497.13 ppb	19:45:01
2	P 214.914†	10517.9	10630.8	2527.1 µg/L	2527.1 ppb	19:45:21
2	Pb 220.353†	8340.1	8336.6	512.07 µg/L	512.07 ppb	19:45:21

2	S 181.975 Axial†	1311.8	1238.8	1019.8 µg/L	1019.8 ppb	19:45:21
2	Sb 206.836†	3916.3	3882.1	510.35 µg/L	510.35 ppb	19:45:21
2	Se 196.026†	1266.7	1267.3	509 µg/L	509 ppb	19:45:21
2	SiO2†	50846.1	49662.6	5291.3 µg/L	5291.3 ppb	19:45:01
2	Si 251.611†	152986.3	153751.4	2478.5 µg/L	2478.5 ppb	19:45:01
2	Sn 189.927†	7252.2	7336.0	509.57 µg/L	509.57 ppb	19:45:21
2	Ti 334.940†	494064.0	498713.0	498.98 µg/L	498.98 ppb	19:45:01
2	Tl 190.801†	3648.8	3806.8	519.09 µg/L	519.09 ppb	19:45:21
2	U 409.014†	7183.4	7547.6	502.96 µg/L	502.96 ppb	19:45:01
2	V 292.402†	92468.1	93194.1	501.53 µg/L	501.53 ppb	19:45:01
2	Zn 213.857†	79957.4	80328.5	494.30 µg/L	494.30 ppb	19:45:01
3	Sc RADIAL	151489.6	151489.6	102 %		19:44:19
3	Al 396.153Radial†	25711.8	25153.5	5160.2 µg/L	5160.2 ppb	19:44:19
3	Ca 317.933Radial†	86682.1	83890.0	5047.5 µg/L	5047.5 ppb	19:44:19
3	Fe 238.204 Radial†	76565.6	74575.2	5018.1 µg/L	5018.1 ppb	19:44:19
3	K 766.490 Radial†	14158.1	12503.2	5141.7 µg/L	5141.7 ppb	19:44:19
3	Mg 279.077 IEC†	12873.6	12393.8	5092.1 µg/L	5092.1 ppb	19:44:19
3	Na 589.592 Radial†	68862.0	65991.8	10016 µg/L	10016 ppb	19:44:19
3	Sr 421.552†	226406.2	221158.3	510.14 µg/L	510.14 ppb	19:44:17
3	Sc 361.383	1773887.5	1773887.5	101.07 %		19:45:24
3	Y 371.029	1060251.5	1060251.5	99.644 %		19:45:24
3	Ag 328.068†	129452.8	124633.0	501.67 µg/L	501.67 ppb	19:45:24
3	As 188.979†	1431.2	1433.7	507.50 µg/L	507.50 ppb	19:45:44
3	B 249.677†	34092.9	30501.1	495.55 µg/L	495.55 ppb	19:45:24
3	Ba 233.527†	115983.7	114916.0	500.77 µg/L	500.77 ppb	19:45:24
3	Be 313.107†	1692932.3	1675766.1	503.06 µg/L	503.06 ppb	19:45:24
3	Cd 226.502†	73593.8	72923.5	500.40 µg/L	500.40 ppb	19:45:24
3	Co 228.616†	37396.7	37172.6	503.02 µg/L	503.02 ppb	19:45:24
3	Cr 267.716†	60047.7	59232.4	498.94 µg/L	498.94 ppb	19:45:24
3	Cu 324.752†	122228.1	118143.0	499.40 µg/L	499.40 ppb	19:45:24
3	Mn 257.610†	379880.6	375676.8	501.92 µg/L	501.92 ppb	19:45:24
3	Mo 202.031†	15825.9	15692.8	499.63 µg/L	499.63 ppb	19:45:44
3	Ni 231.604†	40369.0	40018.9	503.35 µg/L	503.35 ppb	19:45:24
3	P 214.914†	10636.2	10518.4	2500.3 µg/L	2500.3 ppb	19:45:44
3	Pb 220.353†	8362.2	8176.6	502.23 µg/L	502.23 ppb	19:45:44
3	S 181.975 Axial†	1322.1	1220.4	1004.6 µg/L	1004.6 ppb	19:45:44
3	Sb 206.836†	3918.4	3798.8	499.24 µg/L	499.24 ppb	19:45:44
3	Se 196.026†	1280.4	1253.2	504 µg/L	504 ppb	19:45:44
3	SiO2†	52263.9	49956.6	5323.1 µg/L	5323.1 ppb	19:45:24
3	Si 251.611†	157320.2	154703.3	2494.1 µg/L	2494.1 ppb	19:45:24
3	Sn 189.927†	7327.9	7252.8	503.81 µg/L	503.81 ppb	19:45:44
3	Ti 334.940†	505987.1	499736.1	500.01 µg/L	500.01 ppb	19:45:24
3	Tl 190.801†	3636.5	3715.0	506.77 µg/L	506.77 ppb	19:45:44
3	U 409.014†	7546.3	7750.0	515.79 µg/L	515.79 ppb	19:45:24
3	V 292.402†	94959.8	93643.0	503.82 µg/L	503.82 ppb	19:45:24
3	Zn 213.857†	82538.5	81138.7	499.28 µg/L	499.28 ppb	19:45:24

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1757112.3	100.12 %	1.114			1.11%
Sc RADIAL	151667.1	103 %	0.6			0.54%
Y 371.029	1051031.0	98.777 %	0.9970			1.01%
Ag 328.068†	124690.0	501.88 µg/L	0.423	501.88 ppb	0.423	0.08%
QC value within limits for Ag 328.068 Recovery = 100.38%						
Al 396.153Radial†	24969.5	5122.2 µg/L	32.97	5122.2 ppb	32.97	0.64%
QC value within limits for Al 396.153Radial Recovery = 102.44%						
As 188.979†	1437.0	508.65 µg/L	5.235	508.65 ppb	5.235	1.03%
QC value within limits for As 188.979 Recovery = 101.73%						
B 249.677†	30295.7	492.21 µg/L	2.983	492.21 ppb	2.983	0.61%
QC value within limits for B 249.677 Recovery = 98.44%						
Ba 233.527†	114667.1	499.69 µg/L	1.032	499.69 ppb	1.032	0.21%
QC value within limits for Ba 233.527 Recovery = 99.94%						
Be 313.107†	1669375.3	501.14 µg/L	1.910	501.14 ppb	1.910	0.38%
QC value within limits for Be 313.107 Recovery = 100.23%						
Ca 317.933Radial†	83713.0	5036.8 µg/L	9.97	5036.8 ppb	9.97	0.20%
QC value within limits for Ca 317.933Radial Recovery = 100.74%						
Cd 226.502†	72524.2	497.66 µg/L	2.677	497.66 ppb	2.677	0.54%
QC value within limits for Cd 226.502 Recovery = 99.53%						
Co 228.616†	36985.7	500.49 µg/L	2.405	500.49 ppb	2.405	0.48%

QC value within limits for Co 228.616 Recovery = 100.10%							
Cr	267.716†	59074.0	497.61 µg/L	1.163	497.61 ppb	1.163	0.23%
QC value within limits for Cr 267.716 Recovery = 99.52%							
Cu	324.752†	118042.7	498.97 µg/L	0.792	498.97 ppb	0.792	0.16%
QC value within limits for Cu 324.752 Recovery = 99.79%							
Fe	238.204 Radial†	74452.5	5009.8 µg/L	7.30	5009.8 ppb	7.30	0.15%
QC value within limits for Fe 238.204 Radial Recovery = 100.20%							
K	766.490 Radial†	12424.4	5109.3 µg/L	32.25	5109.3 ppb	32.25	0.63%
QC value within limits for K 766.490 Radial Recovery = 102.19%							
Mg	279.077 IEC†	12500.7	5136.0 µg/L	38.70	5136.0 ppb	38.70	0.75%
QC value within limits for Mg 279.077 IEC Recovery = 102.72%							
Mn	257.610†	374665.6	500.57 µg/L	1.330	500.57 ppb	1.330	0.27%
QC value within limits for Mn 257.610 Recovery = 100.11%							
Mo	202.031†	15791.7	502.78 µg/L	6.524	502.78 ppb	6.524	1.30%
QC value within limits for Mo 202.031 Recovery = 100.56%							
Na	589.592 Radial†	66009.3	10019 µg/L	16.6	10019 ppb	16.6	0.17%
QC value within limits for Na 589.592 Radial Recovery = 100.19%							
Ni	231.604†	39761.3	500.11 µg/L	3.116	500.11 ppb	3.116	0.62%
QC value within limits for Ni 231.604 Recovery = 100.02%							
P	214.914†	10535.7	2504.4 µg/L	20.89	2504.4 ppb	20.89	0.83%
QC value within limits for P 214.914 Recovery = 100.18%							
Pb	220.353†	8229.3	505.47 µg/L	5.710	505.47 ppb	5.710	1.13%
QC value within limits for Pb 220.353 Recovery = 101.09%							
S	181.975 Axial†	1222.8	1006.6 µg/L	12.25	1006.6 ppb	12.25	1.22%
QC value within limits for S 181.975 Axial Recovery = 100.66%							
Sb	206.836†	3829.5	503.33 µg/L	6.107	503.33 ppb	6.107	1.21%
QC value within limits for Sb 206.836 Recovery = 100.67%							
Se	196.026†	1255.2	505 µg/L	4.5	505 ppb	4.5	0.89%
QC value within limits for Se 196.026 Recovery = 100.93%							
SiO2†		49858.1	5312.5 µg/L	18.37	5312.5 ppb	18.37	0.35%
QC value within limits for SiO2 Recovery = 99.35%							
Si	251.611†	154216.8	2486.2 µg/L	7.80	2486.2 ppb	7.80	0.31%
QC value within limits for Si 251.611 Recovery = 99.45%							
Sn	189.927†	7256.4	504.06 µg/L	5.387	504.06 ppb	5.387	1.07%
QC value within limits for Sn 189.927 Recovery = 100.81%							
Sr	421.552†	220976.1	509.72 µg/L	2.347	509.72 ppb	2.347	0.46%
QC value within limits for Sr 421.552 Recovery = 101.94%							
Ti	334.940†	499229.8	499.50 µg/L	0.512	499.50 ppb	0.512	0.10%
QC value within limits for Ti 334.940 Recovery = 99.90%							
Tl	190.801†	3738.3	509.89 µg/L	8.100	509.89 ppb	8.100	1.59%
QC value within limits for Tl 190.801 Recovery = 101.98%							
U	409.014†	7650.2	509.46 µg/L	6.414	509.46 ppb	6.414	1.26%
QC value within limits for U 409.014 Recovery = 101.89%							
V	292.402†	93404.2	502.58 µg/L	1.157	502.58 ppb	1.157	0.23%
QC value within limits for V 292.402 Recovery = 100.52%							
Zn	213.857†	80668.0	496.38 µg/L	2.589	496.38 ppb	2.589	0.52%
QC value within limits for Zn 213.857 Recovery = 99.28%							
All analyte(s) passed QC.							

Sequence No.: 71

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 3/30/2010 19:45:52

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	152697.9	152697.9	103 %		19:46:23
1	Al 396.153Radial†	-22.5	41.0	8.4493 µg/L	8.4493 ppb	19:46:43
1	Ca 317.933Radial†	674.1	-45.4	-2.7299 µg/L	-2.7299 ppb	19:46:43
1	Fe 238.204 Radial†	153.6	8.0	0.5368 µg/L	0.5368 ppb	19:46:43
1	K 766.490 Radial†	1724.3	356.5	146.71 µg/L	146.71 ppb	19:46:23
1	Mg 279.077 IEC†	177.5	3.0	1.2396 µg/L	1.2396 ppb	19:46:43
1	Na 589.592 Radial†	1442.1	189.5	28.651 µg/L	28.651 ppb	19:46:23
1	Sr 421.552†	-300.8	-69.6	-0.1605 µg/L	-0.1605 ppb	19:46:23
1	Sc 361.383	1753607.2	1753607.2	99.916 %		19:47:44
1	Y 371.029	1062664.2	1062664.2	99.870 %		19:47:44
1	Ag 328.068†	3454.6	10.4	0.0332 µg/L	0.0332 ppb	19:47:47
1	As 188.979†	-6.6	11.1	3.8795 µg/L	3.8795 ppb	19:48:07
1	B 249.677†	3268.1	40.5	0.6600 µg/L	0.6600 ppb	19:48:07
1	Ba 233.527†	-146.4	15.6	0.0680 µg/L	0.0680 ppb	19:48:07
1	Be 313.107†	-650.8	134.3	0.0380 µg/L	0.0380 ppb	19:47:47
1	Cd 226.502†	-89.4	20.5	0.1408 µg/L	0.1408 ppb	19:48:07
1	Co 228.616†	-151.4	20.9	0.2821 µg/L	0.2821 ppb	19:48:07
1	Cr 267.716†	171.7	-6.7	-0.0505 µg/L	-0.0505 ppb	19:48:07
1	Cu 324.752†	2903.9	117.4	0.4888 µg/L	0.4888 ppb	19:47:47
1	Mn 257.610†	203.7	28.3	0.0378 µg/L	0.0378 ppb	19:48:07
1	Mo 202.031†	-28.4	6.3	0.2007 µg/L	0.2007 ppb	19:48:07
1	Ni 231.604†	-88.0	-10.2	-0.1286 µg/L	-0.1286 ppb	19:48:07
1	P 214.914†	16.5	11.5	2.7270 µg/L	2.7270 ppb	19:48:07
1	Pb 220.353†	85.2	-11.7	-0.7084 µg/L	-0.7084 ppb	19:48:07
1	S 181.975 Axial†	90.3	2.7	2.1839 µg/L	2.1839 ppb	19:48:07
1	Sb 206.836†	75.6	-2.4	-0.3124 µg/L	-0.3124 ppb	19:48:07
1	Se 196.026†	4.3	-9.3	-3.71 µg/L	-3.71 ppb	19:48:07
1	SiO2†	1732.3	-19.3	-2.0707 µg/L	-2.0707 ppb	19:48:07
1	Si 251.611†	820.3	-127.7	-2.0677 µg/L	-2.0677 ppb	19:47:47
1	Sn 189.927†	-7.1	-4.6	-0.3192 µg/L	-0.3192 ppb	19:48:07
1	Ti 334.940†	726.5	-158.5	-0.1558 µg/L	-0.1558 ppb	19:47:47
1	Tl 190.801†	-110.3	6.7	0.9024 µg/L	0.9024 ppb	19:48:07
1	U 409.014†	-405.9	-122.5	-7.6645 µg/L	-7.6645 ppb	19:47:47
1	V 292.402†	329.5	20.0	0.1029 µg/L	0.1029 ppb	19:47:47
1	Zn 213.857†	562.8	38.7	0.2403 µg/L	0.2403 ppb	19:48:07
2	Sc RADIAL	151307.7	151307.7	102 %		19:46:45
2	Al 396.153Radial†	-38.2	25.5	5.2389 µg/L	5.2389 ppb	19:47:05
2	Ca 317.933Radial†	690.3	-23.5	-1.4153 µg/L	-1.4153 ppb	19:47:05
2	Fe 238.204 Radial†	172.0	27.3	1.8389 µg/L	1.8389 ppb	19:47:05
2	K 766.490 Radial†	1548.3	199.9	82.252 µg/L	82.252 ppb	19:46:45
2	Mg 279.077 IEC†	208.1	34.5	14.177 µg/L	14.177 ppb	19:47:05
2	Na 589.592 Radial†	1453.5	213.5	32.346 µg/L	32.346 ppb	19:46:45
2	Sr 421.552†	-254.6	-27.1	-0.0624 µg/L	-0.0624 ppb	19:46:45
2	Sc 361.383	1759391.1	1759391.1	100.25 %		19:48:09
2	Y 371.029	1065998.1	1065998.1	100.18 %		19:48:09
2	Ag 328.068†	3348.6	-106.7	-0.4219 µg/L	-0.4219 ppb	19:48:11
2	As 188.979†	-13.2	4.6	1.5887 µg/L	1.5887 ppb	19:48:31
2	B 249.677†	3221.5	-16.7	-0.2733 µg/L	-0.2733 ppb	19:48:31
2	Ba 233.527†	-168.8	-6.3	-0.0273 µg/L	-0.0273 ppb	19:48:31
2	Be 313.107†	-640.0	147.2	0.0454 µg/L	0.0454 ppb	19:48:11
2	Cd 226.502†	-98.6	11.7	0.0799 µg/L	0.0799 ppb	19:48:31
2	Co 228.616†	-167.7	5.2	0.0697 µg/L	0.0697 ppb	19:48:31
2	Cr 267.716†	154.6	-24.3	-0.2086 µg/L	-0.2086 ppb	19:48:31
2	Cu 324.752†	2944.9	148.7	0.6306 µg/L	0.6306 ppb	19:48:11
2	Mn 257.610†	200.6	24.5	0.0322 µg/L	0.0322 ppb	19:48:31
2	Mo 202.031†	-17.5	17.3	0.5509 µg/L	0.5509 ppb	19:48:31
2	Ni 231.604†	-82.1	-4.0	-0.0498 µg/L	-0.0498 ppb	19:48:31
2	P 214.914†	10.1	5.1	1.1941 µg/L	1.1941 ppb	19:48:31
2	Pb 220.353†	72.7	-24.4	-1.4953 µg/L	-1.4953 ppb	19:48:31



2	S 181.975 Axial†	91.8	3.8	3.1599 µg/L	3.1599 ppb	19:48:31
2	Sb 206.836†	82.3	4.0	0.5386 µg/L	0.5386 ppb	19:48:31
2	Se 196.026†	6.6	-7.0	-2.80 µg/L	-2.80 ppb	19:48:31
2	SiO2†	1739.4	-18.0	-1.9350 µg/L	-1.9350 ppb	19:48:31
2	Si 251.611†	838.0	-112.7	-1.8291 µg/L	-1.8291 ppb	19:48:11
2	Sn 189.927†	-7.2	-4.6	-0.3186 µg/L	-0.3186 ppb	19:48:31
2	Ti 334.940†	685.9	-201.4	-0.2046 µg/L	-0.2046 ppb	19:48:11
2	Tl 190.801†	-109.7	7.6	1.0203 µg/L	1.0203 ppb	19:48:31
2	U 409.014†	-218.0	66.3	4.1377 µg/L	4.1377 ppb	19:48:11
2	V 292.402†	265.6	-44.8	-0.2305 µg/L	-0.2305 ppb	19:48:11
2	Zn 213.857†	575.4	49.5	0.3065 µg/L	0.3065 ppb	19:48:31
3	Sc RADIAL	151056.1	151056.1	102 %		19:47:07
3	Al 396.153Radial†	-63.7	0.5	0.0879 µg/L	0.0879 ppb	19:47:27
3	Ca 317.933Radial†	683.6	-29.0	-1.7456 µg/L	-1.7456 ppb	19:47:27
3	Fe 238.204 Radial†	179.1	34.6	2.3290 µg/L	2.3290 ppb	19:47:27
3	K 766.490 Radial†	1628.9	281.3	115.79 µg/L	115.79 ppb	19:47:07
3	Mg 279.077 IEC†	153.2	-18.8	-7.7192 µg/L	-7.7192 ppb	19:47:27
3	Na 589.592 Radial†	1482.1	243.9	36.925 µg/L	36.925 ppb	19:47:07
3	Sr 421.552†	-226.1	0.4	0.0009 µg/L	0.0009 ppb	19:47:07
3	Sc 361.383	1791231.6	1791231.6	102.06 %		19:48:33
3	Y 371.029	1084775.0	1084775.0	101.95 %		19:48:33
3	Ag 328.068†	3471.8	-45.3	-0.1685 µg/L	-0.1685 ppb	19:48:35
3	As 188.979†	-16.7	1.3	0.4666 µg/L	0.4666 ppb	19:48:55
3	B 249.677†	3224.2	-71.2	-1.1607 µg/L	-1.1607 ppb	19:48:55
3	Ba 233.527†	-168.2	-2.6	-0.0112 µg/L	-0.0112 ppb	19:48:55
3	Be 313.107†	-721.0	79.1	0.0259 µg/L	0.0259 ppb	19:48:35
3	Cd 226.502†	-83.2	28.5	0.1958 µg/L	0.1958 ppb	19:48:55
3	Co 228.616†	-174.9	1.0	0.0138 µg/L	0.0138 ppb	19:48:55
3	Cr 267.716†	180.6	-1.7	-0.0194 µg/L	-0.0194 ppb	19:48:55
3	Cu 324.752†	2861.8	15.1	0.0696 µg/L	0.0696 ppb	19:48:35
3	Mn 257.610†	233.2	52.9	0.0710 µg/L	0.0710 ppb	19:48:55
3	Mo 202.031†	-24.4	10.8	0.3441 µg/L	0.3441 ppb	19:48:55
3	Ni 231.604†	-45.5	33.3	0.4192 µg/L	0.4192 ppb	19:48:55
3	P 214.914†	-2.2	-7.2	-1.7214 µg/L	-1.7214 ppb	19:48:55
3	Pb 220.353†	86.2	-12.5	-0.7707 µg/L	-0.7707 ppb	19:48:55
3	S 181.975 Axial†	85.7	-3.7	-3.0674 µg/L	-3.0674 ppb	19:48:55
3	Sb 206.836†	89.9	10.0	1.3116 µg/L	1.3116 ppb	19:48:55
3	Se 196.026†	19.0	5.0	2.02 µg/L	2.02 ppb	19:48:55
3	SiO2†	1719.8	-68.0	-7.2773 µg/L	-7.2773 ppb	19:48:55
3	Si 251.611†	833.1	-132.4	-2.1429 µg/L	-2.1429 ppb	19:48:35
3	Sn 189.927†	-11.8	-9.0	-0.6249 µg/L	-0.6249 ppb	19:48:55
3	Ti 334.940†	1017.8	111.7	0.1095 µg/L	0.1095 ppb	19:48:35
3	Tl 190.801†	-106.9	12.4	1.6637 µg/L	1.6637 ppb	19:48:55
3	U 409.014†	-171.3	115.9	7.2747 µg/L	7.2747 ppb	19:48:35
3	V 292.402†	361.8	44.7	0.2453 µg/L	0.2453 ppb	19:48:35
3	Zn 213.857†	593.0	56.4	0.3471 µg/L	0.3471 ppb	19:48:55

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1768076.6	100.74 %	1.154			1.15%
Sc RADIAL	151687.2	103 %	0.6			0.58%
Y 371.029	1071145.7	100.67 %	1.120			1.11%
Ag 328.068†	-47.2	-0.1857 µg/L	0.22805	-0.1857 ppb	0.22805	122.78%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	22.4	4.5920 µg/L	4.21810	4.5920 ppb	4.21810	91.86%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	5.7	1.9783 µg/L	1.73946	1.9783 ppb	1.73946	87.93%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	-15.8	-0.2580 µg/L	0.91043	-0.2580 ppb	0.91043	352.92%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	2.2	0.0098 µg/L	0.05102	0.0098 ppb	0.05102	519.34%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	120.2	0.0364 µg/L	0.00983	0.0364 ppb	0.00983	26.97%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-32.6	-1.9636 µg/L	0.68385	-1.9636 ppb	0.68385	34.83%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	20.2	0.1388 µg/L	0.05797	0.1388 ppb	0.05797	41.76%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	9.0	0.1219 µg/L	0.14156	0.1219 ppb	0.14156	116.14%

Cr 267.716†	QC value within limits for Co 228.616	Recovery = Not calculated			
	-10.9	-0.0928 µg/L	0.10149	-0.0928 ppb	0.10149 109.33%
Cu 324.752†	QC value within limits for Cr 267.716	Recovery = Not calculated			
	93.7	0.3963 µg/L	0.29175	0.3963 ppb	0.29175 73.61%
Fe 238.204 Radial†	QC value within limits for Cu 324.752	Recovery = Not calculated			
	23.3	1.5682 µg/L	0.92624	1.5682 ppb	0.92624 59.06%
K 766.490 Radial†	QC value within limits for Fe 238.204 Radial	Recovery = Not calculated			
	279.2	114.92 µg/L	32.237	114.92 ppb	32.237 28.05%
Mg 279.077 IEC†	QC value within limits for K 766.490 Radial	Recovery = Not calculated			
	6.2	2.5659 µg/L	11.00833	2.5659 ppb	11.00833 429.02%
Mn 257.610†	QC value within limits for Mg 279.077 IEC	Recovery = Not calculated			
	35.2	0.0470 µg/L	0.02097	0.0470 ppb	0.02097 44.64%
Mo 202.031†	QC value within limits for Mn 257.610	Recovery = Not calculated			
	11.5	0.3653 µg/L	0.17604	0.3653 ppb	0.17604 48.20%
Na 589.592 Radial†	QC value within limits for Mo 202.031	Recovery = Not calculated			
	215.6	32.641 µg/L	4.1449	32.641 ppb	4.1449 12.70%
Ni 231.604†	QC value within limits for Na 589.592 Radial	Recovery = Not calculated			
	6.4	0.0803 µg/L	0.29619	0.0803 ppb	0.29619 369.00%
P 214.914†	QC value within limits for Ni 231.604	Recovery = Not calculated			
	3.1	0.7332 µg/L	2.25973	0.7332 ppb	2.25973 308.19%
Pb 220.353†	QC value within limits for P 214.914	Recovery = Not calculated			
	-16.2	-0.9915 µg/L	0.43745	-0.9915 ppb	0.43745 44.12%
S 181.975 Axial†	QC value within limits for Pb 220.353	Recovery = Not calculated			
	0.9	0.7588 µg/L	3.34932	0.7588 ppb	3.34932 441.38%
Sb 206.836†	QC value within limits for S 181.975 Axial	Recovery = Not calculated			
	3.9	0.5126 µg/L	0.81231	0.5126 ppb	0.81231 158.47%
Se 196.026†	QC value within limits for Sb 206.836	Recovery = Not calculated			
	-3.7	-1.50 µg/L	3.078	-1.50 ppb	3.078 205.57%
SiO2†	QC value within limits for Se 196.026	Recovery = Not calculated			
	-35.1	-3.7610 µg/L	3.04595	-3.7610 ppb	3.04595 80.99%
Si 251.611†	QC value within limits for SiO2	Recovery = Not calculated			
	-124.3	-2.0132 µg/L	0.16387	-2.0132 ppb	0.16387 8.14%
Sn 189.927†	QC value within limits for Si 251.611	Recovery = Not calculated			
	-6.1	-0.4209 µg/L	0.17666	-0.4209 ppb	0.17666 41.97%
Sr 421.552†	QC value within limits for Sn 189.927	Recovery = Not calculated			
	-32.1	-0.0740 µg/L	0.08130	-0.0740 ppb	0.08130 109.86%
Ti 334.940†	QC value within limits for Sr 421.552	Recovery = Not calculated			
	-82.7	-0.0836 µg/L	0.16904	-0.0836 ppb	0.16904 202.13%
Tl 190.801†	QC value within limits for Ti 334.940	Recovery = Not calculated			
	8.9	1.1955 µg/L	0.40978	1.1955 ppb	0.40978 34.28%
U 409.014†	QC value within limits for Tl 190.801	Recovery = Not calculated			
	19.9	1.2493 µg/L	7.87729	1.2493 ppb	7.87729 630.53%
V 292.402†	QC value within limits for U 409.014	Recovery = Not calculated			
	6.6	0.0392 µg/L	0.24421	0.0392 ppb	0.24421 622.47%
Zn 213.857†	QC value within limits for V 292.402	Recovery = Not calculated			
	48.2	0.2979 µg/L	0.05391	0.2979 ppb	0.05391 18.09%
	QC value within limits for Zn 213.857 Recovery = Not calculated				

All analyte(s) passed QC.

Sequence No.: 82

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 3/30/2010 20:08:26

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	152492.6	152492.6	103 %		20:09:00
1	Al 396.153Radial†	25840.7	25113.4	5151.8 µg/L	5151.8 ppb	20:09:00
1	Ca 317.933Radial†	88303.9	84905.8	5108.6 µg/L	5108.6 ppb	20:09:00
1	Fe 238.204 Radial†	78277.2	75743.0	5096.6 µg/L	5096.6 ppb	20:09:00
1	K 766.490 Radial†	14518.5	12761.8	5248.1 µg/L	5248.1 ppb	20:09:00
1	Mg 279.077 IEC†	13252.6	12678.6	5208.9 µg/L	5208.9 ppb	20:09:00
1	Na 589.592 Radial†	69908.7	66564.5	10103 µg/L	10103 ppb	20:09:00
1	Sr 421.552†	227461.7	220728.3	509.15 µg/L	509.15 ppb	20:08:58
1	Sc 361.383	1763831.7	1763831.7	100.50 %		20:09:27
1	Y 371.029	1053819.8	1053819.8	99.039 %		20:09:27
1	Ag 328.068†	129310.9	125222.0	504.02 µg/L	504.02 ppb	20:09:27
1	As 188.979†	1441.0	1451.6	513.78 µg/L	513.78 ppb	20:09:47
1	B 249.677†	34021.5	30622.3	497.52 µg/L	497.52 ppb	20:09:27
1	Ba 233.527†	115806.9	115394.3	502.85 µg/L	502.85 ppb	20:09:27
1	Be 313.107†	1689189.5	1681591.2	504.80 µg/L	504.80 ppb	20:09:27
1	Cd 226.502†	73561.3	73306.2	503.02 µg/L	503.02 ppb	20:09:27
1	Co 228.616†	37458.7	37445.2	506.70 µg/L	506.70 ppb	20:09:27
1	Cr 267.716†	59951.5	59475.4	501.00 µg/L	501.00 ppb	20:09:27
1	Cu 324.752†	122095.5	118700.5	501.75 µg/L	501.75 ppb	20:09:27
1	Mn 257.610†	379514.6	377455.4	504.29 µg/L	504.29 ppb	20:09:27
1	Mo 202.031†	15862.8	15818.8	503.65 µg/L	503.65 ppb	20:09:47
1	Ni 231.604†	40342.2	40219.9	505.87 µg/L	505.87 ppb	20:09:27
1	P 214.914†	10682.2	10624.2	2525.5 µg/L	2525.5 ppb	20:09:47
1	Pb 220.353†	8426.4	8287.7	509.05 µg/L	509.05 ppb	20:09:47
1	S 181.975 Axial†	1326.6	1232.3	1014.4 µg/L	1014.4 ppb	20:09:47
1	Sb 206.836†	3943.5	3845.8	505.45 µg/L	505.45 ppb	20:09:47
1	Se 196.026†	1270.7	1250.8	503 µg/L	503 ppb	20:09:47
1	SiO2†	52343.3	50330.3	5363.0 µg/L	5363.0 ppb	20:09:27
1	Si 251.611†	157315.3	155585.8	2508.3 µg/L	2508.3 ppb	20:09:27
1	Sn 189.927†	7334.1	7300.2	507.10 µg/L	507.10 ppb	20:09:47
1	Ti 334.940†	504695.3	501304.8	501.57 µg/L	501.57 ppb	20:09:27
1	Tl 190.801†	3658.9	3757.8	512.53 µg/L	512.53 ppb	20:09:47
1	U 409.014†	7318.8	7566.2	504.39 µg/L	504.39 ppb	20:09:27
1	V 292.402†	94796.4	94016.1	505.83 µg/L	505.83 ppb	20:09:27
1	Zn 213.857†	82412.9	81479.3	501.37 µg/L	501.37 ppb	20:09:27
2	Sc RADIAL	150694.3	150694.3	102 %		20:09:04
2	Al 396.153Radial†	25546.9	25124.1	5154.0 µg/L	5154.0 ppb	20:09:04
2	Ca 317.933Radial†	87068.1	84715.1	5097.1 µg/L	5097.1 ppb	20:09:04
2	Fe 238.204 Radial†	77031.1	75426.2	5075.3 µg/L	5075.3 ppb	20:09:04
2	K 766.490 Radial†	14222.0	12638.8	5197.5 µg/L	5197.5 ppb	20:09:04
2	Mg 279.077 IEC†	13146.7	12728.1	5229.2 µg/L	5229.2 ppb	20:09:04
2	Na 589.592 Radial†	69279.8	66756.3	10132 µg/L	10132 ppb	20:09:04
2	Sr 421.552†	230045.6	225894.4	521.06 µg/L	521.06 ppb	20:09:02
2	Sc 361.383	1769327.2	1769327.2	100.81 %		20:09:50
2	Y 371.029	1056447.6	1056447.6	99.286 %		20:09:50
2	Ag 328.068†	129737.2	125245.2	504.11 µg/L	504.11 ppb	20:09:50
2	As 188.979†	1452.7	1458.7	516.25 µg/L	516.25 ppb	20:10:10
2	B 249.677†	34069.8	30565.1	496.58 µg/L	496.58 ppb	20:09:50
2	Ba 233.527†	116125.7	115352.6	502.67 µg/L	502.67 ppb	20:09:50
2	Be 313.107†	1695092.2	1682225.8	504.99 µg/L	504.99 ppb	20:09:50
2	Cd 226.502†	73911.3	73426.0	503.85 µg/L	503.85 ppb	20:09:50
2	Co 228.616†	37638.7	37508.0	507.55 µg/L	507.55 ppb	20:09:50
2	Cr 267.716†	60063.7	59401.4	500.38 µg/L	500.38 ppb	20:09:50
2	Cu 324.752†	122333.5	118559.3	501.15 µg/L	501.15 ppb	20:09:50
2	Mn 257.610†	380219.4	376981.6	503.66 µg/L	503.66 ppb	20:09:50
2	Mo 202.031†	15898.5	15805.2	503.21 µg/L	503.21 ppb	20:10:10
2	Ni 231.604†	40395.1	40147.7	504.97 µg/L	504.97 ppb	20:09:50
2	P 214.914†	10676.9	10585.9	2516.4 µg/L	2516.4 ppb	20:10:10
2	Pb 220.353†	8430.6	8265.7	507.72 µg/L	507.72 ppb	20:10:10

2	S 181.975 Axial†	1331.8	1233.3	1015.2 µg/L	1015.2 ppb	20:10:10
2	Sb 206.836†	3938.1	3828.3	503.15 µg/L	503.15 ppb	20:10:10
2	Se 196.026†	1284.8	1260.9	507 µg/L	507 ppb	20:10:10
2	SiO2†	52247.2	50073.3	5335.5 µg/L	5335.5 ppb	20:09:50
2	Si 251.611†	157615.4	155397.4	2505.3 µg/L	2505.3 ppb	20:09:50
2	Sn 189.927†	7360.1	7303.3	507.31 µg/L	507.31 ppb	20:10:10
2	Ti 334.940†	505771.9	500812.9	501.08 µg/L	501.08 ppb	20:09:50
2	Tl 190.801†	3674.1	3761.6	513.04 µg/L	513.04 ppb	20:10:10
2	U 409.014†	7172.0	7398.0	493.88 µg/L	493.88 ppb	20:09:50
2	V 292.402†	95174.9	94098.5	506.26 µg/L	506.26 ppb	20:09:50
2	Zn 213.857†	82692.1	81501.6	501.51 µg/L	501.51 ppb	20:09:50
3	Sc RADIAL	154446.8	154446.8	104 %		20:09:08
3	Al 396.153Radial†	26003.5	24952.3	5118.6 µg/L	5118.6 ppb	20:09:08
3	Ca 317.933Radial†	88716.2	84217.4	5067.2 µg/L	5067.2 ppb	20:09:08
3	Fe 238.204 Radial†	78683.7	75172.0	5058.2 µg/L	5058.2 ppb	20:09:08
3	K 766.490 Radial†	14554.4	12618.0	5189.0 µg/L	5189.0 ppb	20:09:08
3	Mg 279.077 IEC†	13527.8	12779.4	5250.3 µg/L	5250.3 ppb	20:09:08
3	Na 589.592 Radial†	70243.3	66027.3	10021 µg/L	10021 ppb	20:09:08
3	Sr 421.552†	227262.8	217747.9	502.27 µg/L	502.27 ppb	20:09:06
3	Sc 361.383	1761651.7	1761651.7	100.37 %		20:10:13
3	Y 371.029	1051799.2	1051799.2	98.849 %		20:10:13
3	Ag 328.068†	128756.4	124828.8	502.44 µg/L	502.44 ppb	20:10:13
3	As 188.979†	1444.1	1456.4	515.43 µg/L	515.43 ppb	20:10:33
3	B 249.677†	33918.6	30561.7	496.53 µg/L	496.53 ppb	20:10:13
3	Ba 233.527†	115397.7	115129.2	501.70 µg/L	501.70 ppb	20:10:13
3	Be 313.107†	1686215.8	1680708.6	504.54 µg/L	504.54 ppb	20:10:13
3	Cd 226.502†	73410.3	73246.4	502.62 µg/L	502.62 ppb	20:10:13
3	Co 228.616†	37340.8	37373.9	505.74 µg/L	505.74 ppb	20:10:13
3	Cr 267.716†	59568.1	59167.3	498.40 µg/L	498.40 ppb	20:10:13
3	Cu 324.752†	121704.8	118461.7	500.74 µg/L	500.74 ppb	20:10:13
3	Mn 257.610†	378156.9	376570.1	503.11 µg/L	503.11 ppb	20:10:13
3	Mo 202.031†	15839.5	15815.1	503.53 µg/L	503.53 ppb	20:10:33
3	Ni 231.604†	40122.1	40050.3	503.74 µg/L	503.74 ppb	20:10:13
3	P 214.914†	10643.3	10598.6	2519.4 µg/L	2519.4 ppb	20:10:33
3	Pb 220.353†	8391.0	8262.8	507.53 µg/L	507.53 ppb	20:10:33
3	S 181.975 Axial†	1329.0	1236.3	1017.7 µg/L	1017.7 ppb	20:10:33
3	Sb 206.836†	3919.9	3827.2	503.04 µg/L	503.04 ppb	20:10:33
3	Se 196.026†	1267.8	1249.5	502 µg/L	502 ppb	20:10:33
3	SiO2†	52154.9	50207.1	5349.8 µg/L	5349.8 ppb	20:10:13
3	Si 251.611†	156268.4	154736.6	2494.6 µg/L	2494.6 ppb	20:10:13
3	Sn 189.927†	7310.8	7286.0	506.11 µg/L	506.11 ppb	20:10:33
3	Ti 334.940†	502976.1	500213.4	500.48 µg/L	500.48 ppb	20:10:13
3	Tl 190.801†	3651.0	3754.5	512.07 µg/L	512.07 ppb	20:10:33
3	U 409.014†	7246.7	7503.4	500.36 µg/L	500.36 ppb	20:10:13
3	V 292.402†	94373.8	93711.7	504.21 µg/L	504.21 ppb	20:10:13
3	Zn 213.857†	82196.7	81365.4	500.68 µg/L	500.68 ppb	20:10:13

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1764936.9	100.56 %	0.225			0.22%
Sc RADIAL	152544.6	103 %	1.3			1.23%
Y 371.029	1054022.2	99.058 %	0.2191			0.22%
Ag 328.068†	125098.7	503.52 µg/L	0.941	503.52 ppb	0.941	0.19%
QC value within limits for Ag 328.068 Recovery = 100.70%						
Al 396.153Radial†	25063.3	5141.5 µg/L	19.83	5141.5 ppb	19.83	0.39%
QC value within limits for Al 396.153Radial Recovery = 102.83%						
As 188.979†	1455.5	515.15 µg/L	1.257	515.15 ppb	1.257	0.24%
QC value within limits for As 188.979 Recovery = 103.03%						
B 249.677†	30583.0	496.87 µg/L	0.555	496.87 ppb	0.555	0.11%
QC value within limits for B 249.677 Recovery = 99.37%						
Ba 233.527†	115292.0	502.41 µg/L	0.621	502.41 ppb	0.621	0.12%
QC value within limits for Ba 233.527 Recovery = 100.48%						
Be 313.107†	1681508.5	504.78 µg/L	0.228	504.78 ppb	0.228	0.05%
QC value within limits for Be 313.107 Recovery = 100.96%						
Ca 317.933Radial†	84612.7	5090.9 µg/L	21.39	5090.9 ppb	21.39	0.42%
QC value within limits for Ca 317.933Radial Recovery = 101.82%						
Cd 226.502†	73326.2	503.16 µg/L	0.628	503.16 ppb	0.628	0.12%
QC value within limits for Cd 226.502 Recovery = 100.63%						
Co 228.616†	37442.3	506.67 µg/L	0.907	506.67 ppb	0.907	0.18%

Cr	267.716†	59348.0	499.93 µg/L	1.356	499.93 ppb	1.356	0.27%
Cu	324.752†	118573.8	501.21 µg/L	0.511	501.21 ppb	0.511	0.10%
Fe	238.204 Radial†	75447.1	5076.7 µg/L	19.25	5076.7 ppb	19.25	0.38%
K	766.490 Radial†	12672.9	5211.5 µg/L	31.96	5211.5 ppb	31.96	0.61%
Mg	279.077 IEC†	12728.7	5229.5 µg/L	20.69	5229.5 ppb	20.69	0.40%
Mn	257.610†	377002.4	503.69 µg/L	0.593	503.69 ppb	0.593	0.12%
Mo	202.031†	15813.0	503.46 µg/L	0.224	503.46 ppb	0.224	0.04%
Na	589.592 Radial†	66449.3	10086 µg/L	57.4	10086 ppb	57.4	0.57%
Ni	231.604†	40139.3	504.86 µg/L	1.070	504.86 ppb	1.070	0.21%
P	214.914†	10602.9	2520.4 µg/L	4.64	2520.4 ppb	4.64	0.18%
Pb	220.353†	8272.0	508.10 µg/L	0.831	508.10 ppb	0.831	0.16%
S	181.975 Axial†	1234.0	1015.8 µg/L	1.70	1015.8 ppb	1.70	0.17%
Sb	206.836†	3833.8	503.88 µg/L	1.359	503.88 ppb	1.359	0.27%
Se	196.026†	1253.7	504 µg/L	2.5	504 ppb	2.5	0.49%
SiO2†		50203.6	5349.4 µg/L	13.75	5349.4 ppb	13.75	0.26%
Si	251.611†	155239.9	2502.7 µg/L	7.21	2502.7 ppb	7.21	0.29%
Sn	189.927†	7296.5	506.84 µg/L	0.640	506.84 ppb	0.640	0.13%
Sr	421.552†	221456.9	510.83 µg/L	9.508	510.83 ppb	9.508	1.86%
Ti	334.940†	500777.0	501.04 µg/L	0.549	501.04 ppb	0.549	0.11%
Tl	190.801†	3758.0	512.55 µg/L	0.485	512.55 ppb	0.485	0.09%
U	409.014†	7489.2	499.54 µg/L	5.302	499.54 ppb	5.302	1.06%
V	292.402†	93942.1	505.43 µg/L	1.083	505.43 ppb	1.083	0.21%
Zn	213.857†	81448.7	501.19 µg/L	0.446	501.19 ppb	0.446	0.09%

QC value within limits for Co 228.616 Recovery = 101.33%

QC value within limits for Cr 267.716 Recovery = 99.99%

QC value within limits for Cu 324.752 Recovery = 100.24%

QC value within limits for Fe 238.204 Radial Recovery = 101.53%

QC value within limits for K 766.490 Radial Recovery = 104.23%

QC value within limits for Mg 279.077 IEC Recovery = 104.59%

QC value within limits for Mn 257.610 Recovery = 100.74%

QC value within limits for Mo 202.031 Recovery = 100.69%

QC value within limits for Na 589.592 Radial Recovery = 100.86%

QC value within limits for Ni 231.604 Recovery = 100.97%

QC value within limits for P 214.914 Recovery = 100.82%

QC value within limits for Pb 220.353 Recovery = 101.62%

QC value within limits for S 181.975 Axial Recovery = 101.58%

QC value within limits for Sb 206.836 Recovery = 100.78%

QC value within limits for Se 196.026 Recovery = 100.81%

QC value within limits for SiO2 Recovery = 100.04%

QC value within limits for Si 251.611 Recovery = 100.11%

QC value within limits for Sn 189.927 Recovery = 101.37%

QC value within limits for Sr 421.552 Recovery = 102.17%

QC value within limits for Ti 334.940 Recovery = 100.21%

QC value within limits for Tl 190.801 Recovery = 102.51%

QC value within limits for U 409.014 Recovery = 99.91%

QC value within limits for V 292.402 Recovery = 101.09%

QC value within limits for Zn 213.857 Recovery = 100.24%

All analyte(s) passed QC.

Sequence No.: 83

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 3/30/2010 20:10:41

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	150834.2	150834.2	102 %		20:11:12
1	Al 396.153Radial†	-37.7	25.9	5.3387 µg/L	5.3387 ppb	20:11:32
1	Ca 317.933Radial†	680.4	-31.1	-1.8708 µg/L	-1.8708 ppb	20:11:32
1	Fe 238.204 Radial†	186.1	41.7	2.8064 µg/L	2.8064 ppb	20:11:32
1	K 766.490 Radial†	1669.8	323.7	133.22 µg/L	133.22 ppb	20:11:12
1	Mg 279.077 IEC†	182.4	10.0	4.0902 µg/L	4.0902 ppb	20:11:32
1	Na 589.592 Radial†	1552.1	314.6	47.652 µg/L	47.652 ppb	20:11:12
1	Sr 421.552†	-113.1	110.8	0.2555 µg/L	0.2555 ppb	20:11:12
1	Sc 361.383	1792841.5	1792841.5	102.15 %		20:12:33
1	Y 371.029	1083226.4	1083226.4	101.80 %		20:12:33
1	Ag 328.068†	3399.7	-119.0	-0.4739 µg/L	-0.4739 ppb	20:12:36
1	As 188.979†	-20.7	-2.6	-0.9071 µg/L	-0.9071 ppb	20:12:56
1	B 249.677†	3315.1	14.9	0.2427 µg/L	0.2427 ppb	20:12:56
1	Ba 233.527†	-147.1	18.1	0.0793 µg/L	0.0793 ppb	20:12:56
1	Be 313.107†	-835.3	-32.2	-0.0117 µg/L	-0.0117 ppb	20:12:36
1	Cd 226.502†	-92.3	19.6	0.1345 µg/L	0.1345 ppb	20:12:56
1	Co 228.616†	-167.6	8.4	0.1131 µg/L	0.1131 ppb	20:12:56
1	Cr 267.716†	177.8	-4.6	-0.0328 µg/L	-0.0328 ppb	20:12:56
1	Cu 324.752†	2855.7	6.6	0.0228 µg/L	0.0228 ppb	20:12:36
1	Mn 257.610†	214.3	34.3	0.0456 µg/L	0.0456 ppb	20:12:56
1	Mo 202.031†	-35.7	-0.2	-0.0069 µg/L	-0.0069 ppb	20:12:56
1	Ni 231.604†	-93.1	-13.2	-0.1666 µg/L	-0.1666 ppb	20:12:56
1	P 214.914†	-2.8	-7.8	-1.8501 µg/L	-1.8501 ppb	20:12:56
1	Pb 220.353†	111.4	12.0	0.7428 µg/L	0.7428 ppb	20:12:56
1	S 181.975 Axial†	95.7	6.0	4.8882 µg/L	4.8882 ppb	20:12:56
1	Sb 206.836†	82.0	2.2	0.2877 µg/L	0.2877 ppb	20:12:56
1	Se 196.026†	4.8	-8.8	-3.55 µg/L	-3.55 ppb	20:12:56
1	SiO2†	1691.2	-97.6	-10.440 µg/L	-10.440 ppb	20:12:56
1	Si 251.611†	980.7	11.4	0.1839 µg/L	0.1839 ppb	20:12:36
1	Sn 189.927†	-0.8	1.8	0.1225 µg/L	0.1225 ppb	20:12:56
1	Ti 334.940†	890.4	-14.0	-0.0116 µg/L	-0.0116 ppb	20:12:36
1	Tl 190.801†	-114.7	4.8	0.6477 µg/L	0.6477 ppb	20:12:56
1	U 409.014†	-399.7	-107.5	-6.7011 µg/L	-6.7011 ppb	20:12:36
1	V 292.402†	435.0	116.0	0.6107 µg/L	0.6107 ppb	20:12:36
1	Zn 213.857†	611.3	73.9	0.4592 µg/L	0.4592 ppb	20:12:56
2	Sc RADIAL	153677.2	153677.2	104 %		20:11:34
2	Al 396.153Radial†	-26.4	37.5	7.6972 µg/L	7.6972 ppb	20:11:54
2	Ca 317.933Radial†	665.8	-57.5	-3.4580 µg/L	-3.4580 ppb	20:11:54
2	Fe 238.204 Radial†	197.3	49.1	3.3036 µg/L	3.3036 ppb	20:11:54
2	K 766.490 Radial†	1528.6	157.6	64.866 µg/L	64.866 ppb	20:11:34
2	Mg 279.077 IEC†	170.0	-5.2	-2.1435 µg/L	-2.1435 ppb	20:11:54
2	Na 589.592 Radial†	1500.7	237.0	35.925 µg/L	35.925 ppb	20:11:34
2	Sr 421.552†	-316.3	-82.6	-0.1906 µg/L	-0.1906 ppb	20:11:34
2	Sc 361.383	1778552.8	1778552.8	101.34 %		20:12:58
2	Y 371.029	1075613.2	1075613.2	101.09 %		20:12:58
2	Ag 328.068†	3582.9	88.5	0.3563 µg/L	0.3563 ppb	20:13:00
2	As 188.979†	-13.8	4.0	1.4098 µg/L	1.4098 ppb	20:13:20
2	B 249.677†	3317.2	43.0	0.7013 µg/L	0.7013 ppb	20:13:20
2	Ba 233.527†	-152.7	11.5	0.0504 µg/L	0.0504 ppb	20:13:20
2	Be 313.107†	-823.3	-26.8	-0.0084 µg/L	-0.0084 ppb	20:13:00
2	Cd 226.502†	-95.3	16.0	0.1093 µg/L	0.1093 ppb	20:13:20
2	Co 228.616†	-165.7	8.9	0.1202 µg/L	0.1202 ppb	20:13:20
2	Cr 267.716†	184.1	3.1	0.0273 µg/L	0.0273 ppb	20:13:20
2	Cu 324.752†	2947.6	119.8	0.5042 µg/L	0.5042 ppb	20:13:00
2	Mn 257.610†	202.4	24.2	0.0324 µg/L	0.0324 ppb	20:13:20
2	Mo 202.031†	-21.1	13.9	0.4437 µg/L	0.4437 ppb	20:13:20
2	Ni 231.604†	-81.5	-2.5	-0.0317 µg/L	-0.0317 ppb	20:13:20
2	P 214.914†	14.2	9.0	2.1486 µg/L	2.1486 ppb	20:13:20
2	Pb 220.353†	99.0	0.8	0.0485 µg/L	0.0485 ppb	20:13:20

2	S 181.975 Axial†	103.3	14.3	11.686 µg/L	11.686 ppb	20:13:20
2	Sb 206.836†	67.8	-11.2	-1.4630 µg/L	-1.4630 ppb	20:13:20
2	Se 196.026†	5.3	-8.4	-3.35 µg/L	-3.35 ppb	20:13:20
2	SiO2†	1707.2	-68.5	-7.3491 µg/L	-7.3491 ppb	20:13:20
2	Si 251.611†	898.0	-62.5	-1.0236 µg/L	-1.0236 ppb	20:13:00
2	Sn 189.927†	10.3	12.7	0.8780 µg/L	0.8780 ppb	20:13:20
2	Ti 334.940†	781.3	-114.6	-0.1143 µg/L	-0.1143 ppb	20:13:00
2	Tl 190.801†	-115.0	3.6	0.4808 µg/L	0.4808 ppb	20:13:20
2	U 409.014†	-305.2	-17.4	-1.0668 µg/L	-1.0668 ppb	20:13:00
2	V 292.402†	403.1	87.9	0.4707 µg/L	0.4707 ppb	20:13:00
2	Zn 213.857†	591.8	59.4	0.3679 µg/L	0.3679 ppb	20:13:20
3	Sc RADIAL	151772.7	151772.7	103 %		20:11:56
3	Al 396.153Radial†	-69.6	-4.9	-1.0161 µg/L	-1.0161 ppb	20:12:16
3	Ca 317.933Radial†	703.6	-12.7	-0.7618 µg/L	-0.7618 ppb	20:12:16
3	Fe 238.204 Radial†	178.1	32.8	2.2047 µg/L	2.2047 ppb	20:12:16
3	K 766.490 Radial†	1685.6	329.0	135.39 µg/L	135.39 ppb	20:11:56
3	Mg 279.077 IEC†	167.7	-5.5	-2.2359 µg/L	-2.2359 ppb	20:12:16
3	Na 589.592 Radial†	1498.7	253.1	38.314 µg/L	38.314 ppb	20:11:56
3	Sr 421.552†	-135.8	89.4	0.2062 µg/L	0.2062 ppb	20:11:56
3	Sc 361.383	1801778.5	1801778.5	102.66 %		20:13:22
3	Y 371.029	1088624.3	1088624.3	102.31 %		20:13:22
3	Ag 328.068†	3610.3	69.6	0.2878 µg/L	0.2878 ppb	20:13:24
3	As 188.979†	-16.0	2.1	0.7277 µg/L	0.7277 ppb	20:13:44
3	B 249.677†	3275.6	-39.6	-0.6459 µg/L	-0.6459 ppb	20:13:44
3	Ba 233.527†	-146.1	19.8	0.0863 µg/L	0.0863 ppb	20:13:44
3	Be 313.107†	-846.4	-38.9	-0.0087 µg/L	-0.0087 ppb	20:13:24
3	Cd 226.502†	-98.2	14.3	0.0981 µg/L	0.0981 ppb	20:13:44
3	Co 228.616†	-184.4	-7.2	-0.0973 µg/L	-0.0973 ppb	20:13:44
3	Cr 267.716†	152.2	-30.3	-0.2630 µg/L	-0.2630 ppb	20:13:44
3	Cu 324.752†	2999.8	133.1	0.5692 µg/L	0.5692 ppb	20:13:24
3	Mn 257.610†	223.9	42.6	0.0570 µg/L	0.0570 ppb	20:13:44
3	Mo 202.031†	-31.6	4.0	0.1278 µg/L	0.1278 ppb	20:13:44
3	Ni 231.604†	-99.2	-18.7	-0.2356 µg/L	-0.2356 ppb	20:13:44
3	P 214.914†	29.6	23.8	5.6651 µg/L	5.6651 ppb	20:13:44
3	Pb 220.353†	85.6	-13.6	-0.8375 µg/L	-0.8375 ppb	20:13:44
3	S 181.975 Axial†	86.4	-3.5	-2.8659 µg/L	-2.8659 ppb	20:13:44
3	Sb 206.836†	80.6	0.4	0.0622 µg/L	0.0622 ppb	20:13:44
3	Se 196.026†	11.7	-2.2	-0.870 µg/L	-0.870 ppb	20:13:44
3	SiO2†	1719.7	-78.1	-8.3558 µg/L	-8.3558 ppb	20:13:44
3	Si 251.611†	813.1	-156.6	-2.5369 µg/L	-2.5369 ppb	20:13:24
3	Sn 189.927†	-2.0	0.6	0.0443 µg/L	0.0443 ppb	20:13:44
3	Ti 334.940†	891.8	-16.9	-0.0207 µg/L	-0.0207 ppb	20:13:24
3	Tl 190.801†	-117.3	2.8	0.3762 µg/L	0.3762 ppb	20:13:44
3	U 409.014†	-132.1	155.0	9.7075 µg/L	9.7075 ppb	20:13:24
3	V 292.402†	305.2	-12.5	-0.0600 µg/L	-0.0600 ppb	20:13:24
3	Zn 213.857†	604.9	64.7	0.4022 µg/L	0.4022 ppb	20:13:44

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1791057.6	102.05 %	0.668			0.65%
Sc RADIAL	152094.7	103 %	1.0			0.95%
Y 371.029	1082488.0	101.73 %	0.614			0.60%
Ag 328.068†	13.0	0.0567 µg/L	0.46081	0.0567 ppb	0.46081	812.64%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	19.5	4.0066 µg/L	4.50680	4.0066 ppb	4.50680	112.48%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	1.2	0.4102 µg/L	1.19068	0.4102 ppb	1.19068	290.30%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	6.1	0.0994 µg/L	0.68492	0.0994 ppb	0.68492	689.27%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	16.5	0.0720 µg/L	0.01903	0.0720 ppb	0.01903	26.43%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-32.6	-0.0096 µg/L	0.00182	-0.0096 ppb	0.00182	18.96%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-33.7	-2.0302 µg/L	1.35514	-2.0302 ppb	1.35514	66.75%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	16.7	0.1140 µg/L	0.01867	0.1140 ppb	0.01867	16.39%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	3.4	0.0453 µg/L	0.12354	0.0453 ppb	0.12354	272.54%

QC value within limits for Co 228.616	Recovery = Not calculated		
Cr 267.716†	-10.6 -0.0895 µg/L	0.15323 -0.0895 ppb	0.15323 171.23%
QC value within limits for Cr 267.716	Recovery = Not calculated		
Cu 324.752†	86.5 0.3654 µg/L	0.29851 0.3654 ppb	0.29851 81.69%
QC value within limits for Cu 324.752	Recovery = Not calculated		
Fe 238.204 Radial†	41.2 2.7716 µg/L	0.55027 2.7716 ppb	0.55027 19.85%
QC value within limits for Fe 238.204 Radial	Recovery = Not calculated		
K 766.490 Radial†	270.1 111.16 µg/L	40.106 111.16 ppb	40.106 36.08%
QC value within limits for K 766.490 Radial	Recovery = Not calculated		
Mg 279.077 IEC†	-0.2 -0.0964 µg/L	3.62596 -0.0964 ppb	3.62596 >999.9%
QC value within limits for Mg 279.077 IEC	Recovery = Not calculated		
Mn 257.610†	33.7 0.0450 µg/L	0.01232 0.0450 ppb	0.01232 27.38%
QC value within limits for Mn 257.610	Recovery = Not calculated		
Mo 202.031†	5.9 0.1882 µg/L	0.23131 0.1882 ppb	0.23131 122.92%
QC value within limits for Mo 202.031	Recovery = Not calculated		
Na 589.592 Radial†	268.2 40.630 µg/L	6.1977 40.630 ppb	6.1977 15.25%
QC value within limits for Na 589.592 Radial	Recovery = Not calculated		
Ni 231.604†	-11.5 -0.1446 µg/L	0.10372 -0.1446 ppb	0.10372 71.70%
QC value within limits for Ni 231.604	Recovery = Not calculated		
P 214.914†	8.4 1.9879 µg/L	3.76019 1.9879 ppb	3.76019 189.16%
QC value within limits for P 214.914	Recovery = Not calculated		
Pb 220.353†	-0.3 -0.0154 µg/L	0.79211 -0.0154 ppb	0.79211 >999.9%
QC value within limits for Pb 220.353	Recovery = Not calculated		
S 181.975 Axial†	5.6 4.5696 µg/L	7.28135 4.5696 ppb	7.28135 159.34%
QC value within limits for S 181.975 Axial	Recovery = Not calculated		
Sb 206.836†	-2.9 -0.3710 µg/L	0.95237 -0.3710 ppb	0.95237 256.67%
QC value within limits for Sb 206.836	Recovery = Not calculated		
Se 196.026†	-6.5 -2.59 µg/L	1.491 -2.59 ppb	1.491 57.63%
QC value within limits for Se 196.026	Recovery = Not calculated		
SiO2†	-81.4 -8.7149 µg/L	1.57623 -8.7149 ppb	1.57623 18.09%
QC value within limits for SiO2	Recovery = Not calculated		
Si 251.611†	-69.2 -1.1255 µg/L	1.36327 -1.1255 ppb	1.36327 121.12%
QC value within limits for Si 251.611	Recovery = Not calculated		
Sn 189.927†	5.0 0.3483 µg/L	0.46045 0.3483 ppb	0.46045 132.21%
QC value within limits for Sn 189.927	Recovery = Not calculated		
Sr 421.552†	39.2 0.0904 µg/L	0.24455 0.0904 ppb	0.24455 270.55%
QC value within limits for Sr 421.552	Recovery = Not calculated		
Ti 334.940†	-48.5 -0.0488 µg/L	0.05684 -0.0488 ppb	0.05684 116.37%
QC value within limits for Ti 334.940	Recovery = Not calculated		
Tl 190.801†	3.7 0.5015 µg/L	0.13694 0.5015 ppb	0.13694 27.30%
QC value within limits for Tl 190.801	Recovery = Not calculated		
U 409.014†	10.0 0.6465 µg/L	8.33737 0.6465 ppb	8.33737 >999.9%
QC value within limits for U 409.014	Recovery = Not calculated		
V 292.402†	63.8 0.3404 µg/L	0.35383 0.3404 ppb	0.35383 103.93%
QC value within limits for V 292.402	Recovery = Not calculated		
Zn 213.857†	66.0 0.4098 µg/L	0.04613 0.4098 ppb	0.04613 11.26%
QC value within limits for Zn 213.857	Recovery = Not calculated		

All analyte(s) passed QC.



Sequence No.: 91  
 Sample ID: CCV  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 1  
 Date Collected: 3/30/2010 20:27:24  
 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	152409.0	152409.0	103 %		20:27:59
1	Al 396.153Radial†	25923.7	25207.7	5171.4 µg/L	5171.4 ppb	20:27:59
1	Ca 317.933Radial†	88727.2	85363.4	5136.1 µg/L	5136.1 ppb	20:27:59
1	Fe 238.204 Radial†	78597.1	76094.9	5120.3 µg/L	5120.3 ppb	20:27:59
1	K 766.490 Radial†	14275.3	12533.6	5154.1 µg/L	5154.1 ppb	20:27:59
1	Mg 279.077 IEC†	13379.2	12808.5	5262.1 µg/L	5262.1 ppb	20:27:59
1	Na 589.592 Radial†	70191.2	66875.6	10150 µg/L	10150 ppb	20:27:59
1	Sr 421.552†	230865.9	224151.2	517.04 µg/L	517.04 ppb	20:27:57
1	Sc 361.383	1792987.4	1792987.4	102.16 %		20:28:12
1	Y 371.029	1069539.9	1069539.9	100.52 %		20:28:12
1	Ag 328.068†	131663.1	125432.2	504.87 µg/L	504.87 ppb	20:28:12
1	As 188.979†	1456.2	1443.1	510.82 µg/L	510.82 ppb	20:28:32
1	B 249.677†	34668.8	30705.4	498.86 µg/L	498.86 ppb	20:28:12
1	Ba 233.527†	117870.6	115540.5	503.49 µg/L	503.49 ppb	20:28:12
1	Be 313.107†	1726095.8	1690385.7	507.44 µg/L	507.44 ppb	20:28:12
1	Cd 226.502†	75327.0	73844.4	506.72 µg/L	506.72 ppb	20:28:12
1	Co 228.616†	38190.3	37555.2	508.19 µg/L	508.19 ppb	20:28:12
1	Cr 267.716†	60948.5	59481.2	501.04 µg/L	501.04 ppb	20:28:12
1	Cu 324.752†	124054.5	118642.6	501.52 µg/L	501.52 ppb	20:28:12
1	Mn 257.610†	386800.7	378446.8	505.62 µg/L	505.62 ppb	20:28:12
1	Mo 202.031†	16000.7	15697.1	499.78 µg/L	499.78 ppb	20:28:32
1	Ni 231.604†	41022.1	40232.6	506.03 µg/L	506.03 ppb	20:28:12
1	P 214.914†	10782.0	10549.1	2507.6 µg/L	2507.6 ppb	20:28:32
1	Pb 220.353†	8479.4	8203.1	503.87 µg/L	503.87 ppb	20:28:32
1	S 181.975 Axial†	1343.9	1227.8	1010.7 µg/L	1010.7 ppb	20:28:32
1	Sb 206.836†	3982.9	3820.6	502.08 µg/L	502.08 ppb	20:28:32
1	Se 196.026†	1294.3	1253.4	504 µg/L	504 ppb	20:28:32
1	SiO2†	53179.9	50302.3	5360.1 µg/L	5360.1 ppb	20:28:12
1	Si 251.611†	160427.5	156086.9	2516.5 µg/L	2516.5 ppb	20:28:12
1	Sn 189.927†	7415.5	7261.3	504.40 µg/L	504.40 ppb	20:28:32
1	Ti 334.940†	514116.3	502360.5	502.62 µg/L	502.62 ppb	20:28:12
1	Tl 190.801†	3700.0	3738.9	510.00 µg/L	510.00 ppb	20:28:32
1	U 409.014†	7548.5	7672.7	511.09 µg/L	511.09 ppb	20:28:12
1	V 292.402†	96442.3	94093.3	506.20 µg/L	506.20 ppb	20:28:12
1	Zn 213.857†	84152.3	81848.5	503.65 µg/L	503.65 ppb	20:28:12
2	Sc RADIAL	151944.8	151944.8	103 %		20:28:03
2	Al 396.153Radial†	25588.5	24958.4	5119.9 µg/L	5119.9 ppb	20:28:03
2	Ca 317.933Radial†	87185.3	84126.1	5061.7 µg/L	5061.7 ppb	20:28:03
2	Fe 238.204 Radial†	77326.2	75091.3	5052.8 µg/L	5052.8 ppb	20:28:03
2	K 766.490 Radial†	14117.2	12422.1	5108.3 µg/L	5108.3 ppb	20:28:03
2	Mg 279.077 IEC†	13198.4	12672.2	5206.3 µg/L	5206.3 ppb	20:28:03
2	Na 589.592 Radial†	69297.5	66214.1	10050 µg/L	10050 ppb	20:28:03
2	Sr 421.552†	230978.7	224945.0	518.87 µg/L	518.87 ppb	20:28:01
2	Sc 361.383	1781700.2	1781700.2	101.52 %		20:28:35
2	Y 371.029	1063594.9	1063594.9	99.958 %		20:28:35
2	Ag 328.068†	130576.0	125177.8	503.82 µg/L	503.82 ppb	20:28:35
2	As 188.979†	1472.7	1468.3	519.60 µg/L	519.60 ppb	20:28:55
2	B 249.677†	34550.1	30803.5	500.47 µg/L	500.47 ppb	20:28:35
2	Ba 233.527†	117034.7	115448.1	503.09 µg/L	503.09 ppb	20:28:35
2	Be 313.107†	1710419.0	1685646.8	506.02 µg/L	506.02 ppb	20:28:35
2	Cd 226.502†	74722.2	73715.7	505.84 µg/L	505.84 ppb	20:28:35
2	Co 228.616†	37910.6	37516.6	507.67 µg/L	507.67 ppb	20:28:35
2	Cr 267.716†	60295.0	59215.5	498.82 µg/L	498.82 ppb	20:28:35
2	Cu 324.752†	122923.6	118297.9	500.04 µg/L	500.04 ppb	20:28:35
2	Mn 257.610†	383459.0	377553.7	504.42 µg/L	504.42 ppb	20:28:35
2	Mo 202.031†	15959.9	15756.2	501.65 µg/L	501.65 ppb	20:28:55
2	Ni 231.604†	40708.2	40177.9	505.35 µg/L	505.35 ppb	20:28:35
2	P 214.914†	10784.0	10617.9	2524.0 µg/L	2524.0 ppb	20:28:55
2	Pb 220.353†	8479.6	8255.9	507.11 µg/L	507.11 ppb	20:28:55

2	S 181.975 Axial†	1351.1	1243.2	1023.3 µg/L	1023.3 ppb	20:28:55
2	Sb 206.836†	3968.1	3830.7	503.47 µg/L	503.47 ppb	20:28:55
2	Se 196.026†	1295.5	1262.5	508 µg/L	508 ppb	20:28:55
2	SiO2†	52749.8	50208.5	5350.0 µg/L	5350.0 ppb	20:28:35
2	Si 251.611†	159079.4	155753.7	2511.0 µg/L	2511.0 ppb	20:28:35
2	Sn 189.927†	7397.8	7289.8	506.38 µg/L	506.38 ppb	20:28:55
2	Ti 334.940†	509336.8	500840.5	501.11 µg/L	501.11 ppb	20:28:35
2	Tl 190.801†	3703.3	3765.0	513.49 µg/L	513.49 ppb	20:28:55
2	U 409.014†	7192.9	7369.1	492.02 µg/L	492.02 ppb	20:28:35
2	V 292.402†	95619.3	93880.7	505.08 µg/L	505.08 ppb	20:28:35
2	Zn 213.857†	83504.1	81731.8	502.94 µg/L	502.94 ppb	20:28:35
3	Sc RADIAL	152324.9	152324.9	103 %		20:28:07
3	Al 396.153Radial†	25855.8	25155.7	5160.1 µg/L	5160.1 ppb	20:28:07
3	Ca 317.933Radial†	88015.5	84720.2	5097.4 µg/L	5097.4 ppb	20:28:07
3	Fe 238.204 Radial†	77711.0	75277.1	5065.3 µg/L	5065.3 ppb	20:28:07
3	K 766.490 Radial†	14386.2	12648.9	5201.6 µg/L	5201.6 ppb	20:28:07
3	Mg 279.077 IEC†	13147.5	12590.8	5173.1 µg/L	5173.1 ppb	20:28:07
3	Na 589.592 Radial†	69793.3	66527.1	10097 µg/L	10097 ppb	20:28:07
3	Sr 421.552†	228255.6	221741.4	511.48 µg/L	511.48 ppb	20:28:05
3	Sc 361.383	1779028.7	1779028.7	101.36 %		20:28:58
3	Y 371.029	1061186.3	1061186.3	99.731 %		20:28:58
3	Ag 328.068†	130722.7	125515.7	505.19 µg/L	505.19 ppb	20:28:58
3	As 188.979†	1495.3	1492.9	528.20 µg/L	528.20 ppb	20:29:18
3	B 249.677†	34531.2	30836.0	501.00 µg/L	501.00 ppb	20:28:58
3	Ba 233.527†	116783.4	115373.3	502.77 µg/L	502.77 ppb	20:28:58
3	Be 313.107†	1708362.5	1686148.1	506.17 µg/L	506.17 ppb	20:28:58
3	Cd 226.502†	74382.0	73490.6	504.29 µg/L	504.29 ppb	20:28:58
3	Co 228.616†	37838.6	37501.7	507.47 µg/L	507.47 ppb	20:28:58
3	Cr 267.716†	60213.5	59224.3	498.89 µg/L	498.89 ppb	20:28:58
3	Cu 324.752†	122777.4	118335.4	500.20 µg/L	500.20 ppb	20:28:58
3	Mn 257.610†	382989.2	377657.4	504.56 µg/L	504.56 ppb	20:28:58
3	Mo 202.031†	16246.6	16062.6	511.40 µg/L	511.40 ppb	20:29:18
3	Ni 231.604†	40722.7	40252.4	506.28 µg/L	506.28 ppb	20:28:58
3	P 214.914†	11006.7	10853.5	2580.2 µg/L	2580.2 ppb	20:29:18
3	Pb 220.353†	8678.1	8464.3	519.90 µg/L	519.90 ppb	20:29:18
3	S 181.975 Axial†	1365.6	1259.5	1036.8 µg/L	1036.8 ppb	20:29:18
3	Sb 206.836†	4043.5	3911.0	514.15 µg/L	514.15 ppb	20:29:18
3	Se 196.026†	1324.8	1293.4	520 µg/L	520 ppb	20:29:18
3	SiO2†	52900.5	50435.2	5373.8 µg/L	5373.8 ppb	20:28:58
3	Si 251.611†	159001.3	155911.9	2513.4 µg/L	2513.4 ppb	20:28:58
3	Sn 189.927†	7563.2	7463.9	518.43 µg/L	518.43 ppb	20:29:18
3	Ti 334.940†	508912.0	501174.9	501.45 µg/L	501.45 ppb	20:28:58
3	Tl 190.801†	3766.6	3832.9	522.64 µg/L	522.64 ppb	20:29:18
3	U 409.014†	7261.8	7447.8	497.01 µg/L	497.01 ppb	20:28:58
3	V 292.402†	95717.8	94119.3	506.45 µg/L	506.45 ppb	20:28:58
3	Zn 213.857†	83386.4	81739.2	502.98 µg/L	502.98 ppb	20:28:58

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1784572.1	101.68 %	0.422			0.42%
Sc RADIAL	152226.2	103 %	0.2			0.16%
Y 371.029	1064773.7	100.07 %	0.404			0.40%
Ag 328.068†	125375.2	504.63 µg/L	0.713	504.63 ppb	0.713	0.14%
QC value within limits for Ag 328.068 Recovery = 100.93%						
Al 396.153Radial†	25107.3	5150.5 µg/L	27.05	5150.5 ppb	27.05	0.53%
QC value within limits for Al 396.153Radial Recovery = 103.01%						
As 188.979†	1468.1	519.54 µg/L	8.694	519.54 ppb	8.694	1.67%
QC value within limits for As 188.979 Recovery = 103.91%						
B 249.677†	30781.6	500.11 µg/L	1.110	500.11 ppb	1.110	0.22%
QC value within limits for B 249.677 Recovery = 100.02%						
Ba 233.527†	115454.0	503.11 µg/L	0.363	503.11 ppb	0.363	0.07%
QC value within limits for Ba 233.527 Recovery = 100.62%						
Be 313.107†	1687393.5	506.54 µg/L	0.784	506.54 ppb	0.784	0.15%
QC value within limits for Be 313.107 Recovery = 101.31%						
Ca 317.933Radial†	84736.6	5098.4 µg/L	37.23	5098.4 ppb	37.23	0.73%
QC value within limits for Ca 317.933Radial Recovery = 101.97%						
Cd 226.502†	73683.6	505.62 µg/L	1.227	505.62 ppb	1.227	0.24%
QC value within limits for Cd 226.502 Recovery = 101.12%						
Co 228.616†	37524.5	507.78 µg/L	0.373	507.78 ppb	0.373	0.07%

QC value within limits for Co 228.616 Recovery = 101.56%							
Cr 267.716†	59307.0	499.58 µg/L	1.265	499.58 ppb	1.265	0.25%	
QC value within limits for Cr 267.716 Recovery = 99.92%							
Cu 324.752†	118425.3	500.59 µg/L	0.811	500.59 ppb	0.811	0.16%	
QC value within limits for Cu 324.752 Recovery = 100.12%							
Fe 238.204 Radial†	75487.8	5079.5 µg/L	35.93	5079.5 ppb	35.93	0.71%	
QC value within limits for Fe 238.204 Radial Recovery = 101.59%							
K 766.490 Radial†	12534.9	5154.7 µg/L	46.66	5154.7 ppb	46.66	0.91%	
QC value within limits for K 766.490 Radial Recovery = 103.09%							
Mg 279.077 IEC†	12690.5	5213.8 µg/L	44.96	5213.8 ppb	44.96	0.86%	
QC value within limits for Mg 279.077 IEC Recovery = 104.28%							
Mn 257.610†	377886.0	504.87 µg/L	0.651	504.87 ppb	0.651	0.13%	
QC value within limits for Mn 257.610 Recovery = 100.97%							
Mo 202.031†	15838.6	504.28 µg/L	6.239	504.28 ppb	6.239	1.24%	
QC value within limits for Mo 202.031 Recovery = 100.86%							
Na 589.592 Radial†	66538.9	10099 µg/L	50.2	10099 ppb	50.2	0.50%	
QC value within limits for Na 589.592 Radial Recovery = 100.99%							
Ni 231.604†	40220.9	505.89 µg/L	0.486	505.89 ppb	0.486	0.10%	
QC value within limits for Ni 231.604 Recovery = 101.18%							
P 214.914†	10673.5	2537.3 µg/L	38.11	2537.3 ppb	38.11	1.50%	
QC value within limits for P 214.914 Recovery = 101.49%							
Pb 220.353†	8307.8	510.29 µg/L	8.474	510.29 ppb	8.474	1.66%	
QC value within limits for Pb 220.353 Recovery = 102.06%							
S 181.975 Axial†	1243.5	1023.6 µg/L	13.05	1023.6 ppb	13.05	1.27%	
QC value within limits for S 181.975 Axial Recovery = 102.36%							
Sb 206.836†	3854.1	506.57 µg/L	6.607	506.57 ppb	6.607	1.30%	
QC value within limits for Sb 206.836 Recovery = 101.31%							
Se 196.026†	1269.8	510 µg/L	8.4	510 ppb	8.4	1.64%	
QC value within limits for Se 196.026 Recovery = 102.10%							
SiO2†	50315.3	5361.3 µg/L	11.95	5361.3 ppb	11.95	0.22%	
QC value within limits for SiO2 Recovery = 100.26%							
Si 251.611†	155917.5	2513.6 µg/L	2.72	2513.6 ppb	2.72	0.11%	
QC value within limits for Si 251.611 Recovery = 100.55%							
Sn 189.927†	7338.3	509.74 µg/L	7.594	509.74 ppb	7.594	1.49%	
QC value within limits for Sn 189.927 Recovery = 101.95%							
Sr 421.552†	223612.5	515.80 µg/L	3.849	515.80 ppb	3.849	0.75%	
QC value within limits for Sr 421.552 Recovery = 103.16%							
Ti 334.940†	501458.6	501.73 µg/L	0.794	501.73 ppb	0.794	0.16%	
QC value within limits for Ti 334.940 Recovery = 100.35%							
Tl 190.801†	3778.9	515.38 µg/L	6.524	515.38 ppb	6.524	1.27%	
QC value within limits for Tl 190.801 Recovery = 103.08%							
U 409.014†	7496.5	500.04 µg/L	9.889	500.04 ppb	9.889	1.98%	
QC value within limits for U 409.014 Recovery = 100.01%							
V 292.402†	94031.1	505.91 µg/L	0.730	505.91 ppb	0.730	0.14%	
QC value within limits for V 292.402 Recovery = 101.18%							
Zn 213.857†	81773.2	503.19 µg/L	0.400	503.19 ppb	0.400	0.08%	
QC value within limits for Zn 213.857 Recovery = 100.64%							
All analyte(s) passed QC.							

Sequence No.: 92  
 Sample ID: CCB  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 6  
 Date Collected: 3/30/2010 20:29:27  
 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	156281.3	156281.3	106 %		20:29:58
1	Al 396.153Radial†	-57.7	8.3	1.6560 µg/L	1.6560 ppb	20:30:18
1	Ca 317.933Radial†	686.6	-48.5	-2.9187 µg/L	-2.9187 ppb	20:30:18
1	Fe 238.204 Radial†	182.2	31.7	2.1315 µg/L	2.1315 ppb	20:30:18
1	K 766.490 Radial†	1645.2	243.5	100.19 µg/L	100.19 ppb	20:29:58
1	Mg 279.077 IEC†	178.2	-0.2	-0.0569 µg/L	-0.0569 ppb	20:30:18
1	Na 589.592 Radial†	1470.9	184.7	27.961 µg/L	27.961 ppb	20:29:58
1	Sr 421.552†	-149.4	80.4	0.1854 µg/L	0.1854 ppb	20:29:58
1	Sc 361.383	1805100.9	1805100.9	102.85 %		20:31:05
1	Y 371.029	1089064.2	1089064.2	102.35 %		20:31:05
1	Ag 328.068†	3276.4	-261.5	-1.0418 µg/L	-1.0418 ppb	20:31:08
1	As 188.979†	-15.2	2.9	1.0095 µg/L	1.0095 ppb	20:31:28
1	B 249.677†	3289.2	-32.3	-0.5268 µg/L	-0.5268 ppb	20:31:28
1	Ba 233.527†	-154.2	12.3	0.0538 µg/L	0.0538 ppb	20:31:28
1	Be 313.107†	-778.8	28.4	0.0075 µg/L	0.0075 ppb	20:31:08
1	Cd 226.502†	-106.5	6.4	0.0440 µg/L	0.0440 ppb	20:31:28
1	Co 228.616†	-186.4	-8.8	-0.1189 µg/L	-0.1189 ppb	20:31:28
1	Cr 267.716†	176.3	-7.1	-0.0573 µg/L	-0.0573 ppb	20:31:28
1	Cu 324.752†	2912.1	42.5	0.1766 µg/L	0.1766 ppb	20:31:08
1	Mn 257.610†	254.1	71.4	0.0955 µg/L	0.0955 ppb	20:31:28
1	Mo 202.031†	-4.8	30.1	0.9572 µg/L	0.9572 ppb	20:31:28
1	Ni 231.604†	-67.4	12.3	0.1551 µg/L	0.1551 ppb	20:31:28
1	P 214.914†	-4.7	-9.6	-2.2950 µg/L	-2.2950 ppb	20:31:28
1	Pb 220.353†	107.2	7.3	0.4495 µg/L	0.4495 ppb	20:31:28
1	S 181.975 Axial†	106.6	16.0	13.105 µg/L	13.105 ppb	20:31:28
1	Sb 206.836†	85.7	5.2	0.7026 µg/L	0.7026 ppb	20:31:28
1	Se 196.026†	10.2	-3.7	-1.46 µg/L	-1.46 ppb	20:31:28
1	SiO2†	1732.1	-69.1	-7.4296 µg/L	-7.4296 ppb	20:31:28
1	Si 251.611†	1128.0	148.1	2.3779 µg/L	2.3779 ppb	20:31:08
1	Sn 189.927†	10.4	12.7	0.8784 µg/L	0.8784 ppb	20:31:28
1	Ti 334.940†	1019.3	105.5	0.1070 µg/L	0.1070 ppb	20:31:08
1	Tl 190.801†	-101.3	18.6	2.5044 µg/L	2.5044 ppb	20:31:28
1	U 409.014†	-344.6	-51.3	-3.2065 µg/L	-3.2065 ppb	20:31:08
1	V 292.402†	342.4	23.1	0.1298 µg/L	0.1298 ppb	20:31:08
1	Zn 213.857†	603.3	62.0	0.3835 µg/L	0.3835 ppb	20:31:28
2	Sc RADIAL	156509.3	156509.3	106 %		20:30:20
2	Al 396.153Radial†	-84.0	-16.5	-3.4369 µg/L	-3.4369 ppb	20:30:40
2	Ca 317.933Radial†	674.0	-61.4	-3.6926 µg/L	-3.6926 ppb	20:30:40
2	Fe 238.204 Radial†	164.4	14.5	0.9786 µg/L	0.9786 ppb	20:30:40
2	K 766.490 Radial†	1677.2	271.3	111.67 µg/L	111.67 ppb	20:30:20
2	Mg 279.077 IEC†	176.3	-2.3	-0.9200 µg/L	-0.9200 ppb	20:30:40
2	Na 589.592 Radial†	1451.1	164.0	24.806 µg/L	24.806 ppb	20:30:20
2	Sr 421.552†	-179.7	51.9	0.1197 µg/L	0.1197 ppb	20:30:20
2	Sc 361.383	1832032.1	1832032.1	104.38 %		20:31:30
2	Y 371.029	1105356.7	1105356.7	103.88 %		20:31:30
2	Ag 328.068†	3652.4	51.9	0.1969 µg/L	0.1969 ppb	20:31:32
2	As 188.979†	-13.3	4.9	1.7214 µg/L	1.7214 ppb	20:31:52
2	B 249.677†	3316.8	-52.9	-0.8619 µg/L	-0.8619 ppb	20:31:52
2	Ba 233.527†	-126.9	40.6	0.1771 µg/L	0.1771 ppb	20:31:52
2	Be 313.107†	-873.6	-51.3	-0.0176 µg/L	-0.0176 ppb	20:31:32
2	Cd 226.502†	-100.5	13.7	0.0942 µg/L	0.0942 ppb	20:31:52
2	Co 228.616†	-182.8	-2.7	-0.0363 µg/L	-0.0363 ppb	20:31:52
2	Cr 267.716†	174.6	-11.3	-0.0894 µg/L	-0.0894 ppb	20:31:52
2	Cu 324.752†	2740.9	-163.1	-0.6935 µg/L	-0.6935 ppb	20:31:32
2	Mn 257.610†	231.6	46.2	0.0618 µg/L	0.0618 ppb	20:31:52
2	Mo 202.031†	-11.0	24.2	0.7699 µg/L	0.7699 ppb	20:31:52
2	Ni 231.604†	-62.0	18.5	0.2321 µg/L	0.2321 ppb	20:31:52
2	P 214.914†	3.3	-1.8	-0.4309 µg/L	-0.4309 ppb	20:31:52
2	Pb 220.353†	68.1	-31.7	-1.9328 µg/L	-1.9328 ppb	20:31:52

2	S 181.975 Axial†	96.7	4.9	4.0468 µg/L	4.0468 ppb	20:31:52
2	Sb 206.836†	71.7	-9.4	-1.2149 µg/L	-1.2149 ppb	20:31:52
2	Se 196.026†	13.1	-1.0	-0.413 µg/L	-0.413 ppb	20:31:52
2	SiO2†	1768.1	-59.3	-6.3678 µg/L	-6.3678 ppb	20:31:52
2	Si 251.611†	874.9	-110.5	-1.7986 µg/L	-1.7986 ppb	20:31:32
2	Sn 189.927†	-4.3	-1.5	-0.1063 µg/L	-0.1063 ppb	20:31:52
2	Ti 334.940†	765.1	-152.6	-0.1499 µg/L	-0.1499 ppb	20:31:32
2	Tl 190.801†	-121.0	1.1	0.1488 µg/L	0.1488 ppb	20:31:52
2	U 409.014†	-419.9	-118.5	-7.4214 µg/L	-7.4214 ppb	20:31:32
2	V 292.402†	317.8	-5.3	-0.0258 µg/L	-0.0258 ppb	20:31:32
2	Zn 213.857†	609.7	59.6	0.3683 µg/L	0.3683 ppb	20:31:52
3	Sc RADIAL	153850.3	153850.3	104 %		20:30:42
3	Al 396.153Radial†	-27.3	36.7	7.5683 µg/L	7.5683 ppb	20:31:02
3	Ca 317.933Radial†	702.8	-22.7	-1.3665 µg/L	-1.3665 ppb	20:31:02
3	Fe 238.204 Radial†	188.0	39.9	2.6870 µg/L	2.6870 ppb	20:31:02
3	K 766.490 Radial†	1580.3	205.7	84.643 µg/L	84.643 ppb	20:30:42
3	Mg 279.077 IEC†	188.3	12.2	4.9762 µg/L	4.9762 ppb	20:31:02
3	Na 589.592 Radial†	1383.6	122.8	18.577 µg/L	18.577 ppb	20:30:42
3	Sr 421.552†	-133.7	93.2	0.2150 µg/L	0.2150 ppb	20:30:42
3	Sc 361.383	1826208.7	1826208.7	104.05 %		20:31:54
3	Y 371.029	1100770.0	1100770.0	103.45 %		20:31:54
3	Ag 328.068†	3330.5	-246.4	-0.9663 µg/L	-0.9663 ppb	20:31:56
3	As 188.979†	-15.0	3.3	1.1333 µg/L	1.1333 ppb	20:32:16
3	B 249.677†	3392.4	29.9	0.4882 µg/L	0.4882 ppb	20:32:16
3	Ba 233.527†	-164.4	4.1	0.0184 µg/L	0.0184 ppb	20:32:16
3	Be 313.107†	-860.1	-41.0	-0.0113 µg/L	-0.0113 ppb	20:31:56
3	Cd 226.502†	-111.1	3.2	0.0218 µg/L	0.0218 ppb	20:32:16
3	Co 228.616†	-192.3	-12.4	-0.1672 µg/L	-0.1672 ppb	20:32:16
3	Cr 267.716†	172.7	-12.6	-0.1081 µg/L	-0.1081 ppb	20:32:16
3	Cu 324.752†	2904.7	2.6	0.0142 µg/L	0.0142 ppb	20:31:56
3	Mn 257.610†	241.0	56.0	0.0747 µg/L	0.0747 ppb	20:32:16
3	Mo 202.031†	-44.3	-7.8	-0.2467 µg/L	-0.2467 ppb	20:32:16
3	Ni 231.604†	-84.2	-3.0	-0.0381 µg/L	-0.0381 ppb	20:32:16
3	P 214.914†	15.0	9.4	2.2488 µg/L	2.2488 ppb	20:32:16
3	Pb 220.353†	80.6	-19.5	-1.1963 µg/L	-1.1963 ppb	20:32:16
3	S 181.975 Axial†	94.5	3.1	2.5499 µg/L	2.5499 ppb	20:32:16
3	Sb 206.836†	95.7	13.9	1.8159 µg/L	1.8159 ppb	20:32:16
3	Se 196.026†	9.2	-4.7	-1.88 µg/L	-1.88 ppb	20:32:16
3	SiO2†	1770.6	-51.5	-5.5066 µg/L	-5.5066 ppb	20:32:16
3	Si 251.611†	865.4	-117.0	-1.8898 µg/L	-1.8898 ppb	20:31:56
3	Sn 189.927†	-3.1	-0.5	-0.0318 µg/L	-0.0318 ppb	20:32:16
3	Ti 334.940†	1025.6	100.0	0.0984 µg/L	0.0984 ppb	20:31:56
3	Tl 190.801†	-120.1	1.6	0.2289 µg/L	0.2289 ppb	20:32:16
3	U 409.014†	-239.3	53.8	3.4109 µg/L	3.4109 ppb	20:31:56
3	V 292.402†	467.6	139.6	0.7399 µg/L	0.7399 ppb	20:31:56
3	Zn 213.857†	593.8	46.1	0.2859 µg/L	0.2859 ppb	20:32:16

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1821113.9	103.76 %		0.807			0.78%
Sc RADIAL	155547.0	105 %		1.0			0.95%
Y 371.029	1098397.0	103.23 %		0.790			0.76%
Ag 328.068†	-152.0	-0.6037 µg/L		0.69441	-0.6037 ppb	0.69441	115.02%
QC value within limits for Ag 328.068 Recovery = Not calculated							
Al 396.153Radial†	9.5	1.9291 µg/L		5.50766	1.9291 ppb	5.50766	285.50%
QC value within limits for Al 396.153Radial Recovery = Not calculated							
As 188.979†	3.7	1.2881 µg/L		0.38036	1.2881 ppb	0.38036	29.53%
QC value within limits for As 188.979 Recovery = Not calculated							
B 249.677†	-18.4	-0.3002 µg/L		0.70300	-0.3002 ppb	0.70300	234.18%
QC value within limits for B 249.677 Recovery = Not calculated							
Ba 233.527†	19.0	0.0831 µg/L		0.08332	0.0831 ppb	0.08332	100.28%
QC value within limits for Ba 233.527 Recovery = Not calculated							
Be 313.107†	-21.3	-0.0071 µg/L		0.01309	-0.0071 ppb	0.01309	183.66%
QC value within limits for Be 313.107 Recovery = Not calculated							
Ca 317.933Radial†	-44.2	-2.6593 µg/L		1.18459	-2.6593 ppb	1.18459	44.55%
QC value within limits for Ca 317.933Radial Recovery = Not calculated							
Cd 226.502†	7.8	0.0533 µg/L		0.03706	0.0533 ppb	0.03706	69.48%
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	-7.9	-0.1075 µg/L		0.06620	-0.1075 ppb	0.06620	61.61%

Cr 267.716†	QC value within limits for Co 228.616	Recovery = Not calculated				
	-10.3	-0.0849 µg/L	0.02573	-0.0849 ppb	0.02573	30.30%
Cu 324.752†	QC value within limits for Cr 267.716	Recovery = Not calculated				
	-39.4	-0.1676 µg/L	0.46265	-0.1676 ppb	0.46265	276.10%
Fe 238.204 Radial†	QC value within limits for Cu 324.752	Recovery = Not calculated				
	28.7	1.9324 µg/L	0.87141	1.9324 ppb	0.87141	45.10%
K 766.490 Radial†	QC value within limits for Fe 238.204 Radial	Recovery = Not calculated				
	240.2	98.835 µg/L	13.5645	98.835 ppb	13.5645	13.72%
Mg 279.077 IEC†	QC value within limits for K 766.490 Radial	Recovery = Not calculated				
	3.2	1.3331 µg/L	3.18442	1.3331 ppb	3.18442	238.88%
Mn 257.610†	QC value within limits for Mg 279.077 IEC	Recovery = Not calculated				
	57.9	0.0773 µg/L	0.01697	0.0773 ppb	0.01697	21.94%
Mo 202.031†	QC value within limits for Mn 257.610	Recovery = Not calculated				
	15.5	0.4935 µg/L	0.64782	0.4935 ppb	0.64782	131.28%
Na 589.592 Radial†	QC value within limits for Mo 202.031	Recovery = Not calculated				
	157.2	23.781 µg/L	4.7751	23.781 ppb	4.7751	20.08%
Ni 231.604†	QC value within limits for Na 589.592 Radial	Recovery = Not calculated				
	9.3	0.1164 µg/L	0.13923	0.1164 ppb	0.13923	119.65%
P 214.914†	QC value within limits for Ni 231.604	Recovery = Not calculated				
	-0.7	-0.1590 µg/L	2.28406	-0.1590 ppb	2.28406	>999.9%
Pb 220.353†	QC value within limits for P 214.914	Recovery = Not calculated				
	-14.6	-0.8932 µg/L	1.21977	-0.8932 ppb	1.21977	136.56%
S 181.975 Axial†	QC value within limits for Pb 220.353	Recovery = Not calculated				
	8.0	6.5673 µg/L	5.71125	6.5673 ppb	5.71125	86.96%
Sb 206.836†	QC value within limits for S 181.975 Axial	Recovery = Not calculated				
	3.2	0.4345 µg/L	1.53310	0.4345 ppb	1.53310	352.81%
Se 196.026†	QC value within limits for Sb 206.836	Recovery = Not calculated				
	-3.1	-1.25 µg/L	0.756	-1.25 ppb	0.756	60.37%
SiO2†	QC value within limits for Se 196.026	Recovery = Not calculated				
	-60.0	-6.4347 µg/L	0.96329	-6.4347 ppb	0.96329	14.97%
Si 251.611†	QC value within limits for SiO2	Recovery = Not calculated				
	-26.5	-0.4368 µg/L	2.43806	-0.4368 ppb	2.43806	558.18%
Sn 189.927†	QC value within limits for Si 251.611	Recovery = Not calculated				
	3.6	0.2467 µg/L	0.54828	0.2467 ppb	0.54828	222.22%
Sr 421.552†	QC value within limits for Sn 189.927	Recovery = Not calculated				
	75.1	0.1734 µg/L	0.04878	0.1734 ppb	0.04878	28.14%
Ti 334.940†	QC value within limits for Sr 421.552	Recovery = Not calculated				
	17.6	0.0185 µg/L	0.14588	0.0185 ppb	0.14588	788.13%
Tl 190.801†	QC value within limits for Ti 334.940	Recovery = Not calculated				
	7.1	0.9607 µg/L	1.33749	0.9607 ppb	1.33749	139.22%
U 409.014†	QC value within limits for Tl 190.801	Recovery = Not calculated				
	-38.7	-2.4056 µg/L	5.46039	-2.4056 ppb	5.46039	226.98%
V 292.402†	QC value within limits for U 409.014	Recovery = Not calculated				
	52.4	0.2813 µg/L	0.40470	0.2813 ppb	0.40470	143.85%
Zn 213.857†	QC value within limits for V 292.402	Recovery = Not calculated				
	55.9	0.3459 µg/L	0.05250	0.3459 ppb	0.05250	15.18%
	QC value within limits for Zn 213.857 Recovery = Not calculated					

All analyte(s) passed QC.

Sequence No.: 99

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 3/30/2010 20:44:50

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	151904.4	151904.4	103 %		20:45:24
1	Al 396.153Radial†	26022.0	25386.9	5208.1 µg/L	5208.1 ppb	20:45:24
1	Ca 317.933Radial†	87863.9	84809.2	5102.8 µg/L	5102.8 ppb	20:45:24
1	Fe 238.204 Radial†	77878.4	75648.7	5090.3 µg/L	5090.3 ppb	20:45:24
1	K 766.490 Radial†	14283.7	12587.7	5176.4 µg/L	5176.4 ppb	20:45:24
1	Mg 279.077 IEC†	13202.7	12679.8	5209.4 µg/L	5209.4 ppb	20:45:24
1	Na 589.592 Radial†	69951.5	66868.5	10149 µg/L	10149 ppb	20:45:24
1	Sr 421.552†	229239.9	223312.5	515.11 µg/L	515.11 ppb	20:45:22
1	Sc 361.383	1776612.5	1776612.5	101.23 %		20:45:37
1	Y 371.029	1062092.1	1062092.1	99.817 %		20:45:37
1	Ag 328.068†	130066.6	125042.9	503.30 µg/L	503.30 ppb	20:45:37
1	As 188.979†	1481.1	1480.8	523.96 µg/L	523.96 ppb	20:45:57
1	B 249.677†	33984.0	30341.7	492.95 µg/L	492.95 ppb	20:45:37
1	Ba 233.527†	116180.5	114934.4	500.85 µg/L	500.85 ppb	20:45:37
1	Be 313.107†	1697244.2	1677456.7	503.57 µg/L	503.57 ppb	20:45:37
1	Cd 226.502†	73550.9	72769.4	499.34 µg/L	499.34 ppb	20:45:37
1	Co 228.616†	37479.0	37197.1	503.35 µg/L	503.35 ppb	20:45:37
1	Cr 267.716†	59937.2	59032.1	497.25 µg/L	497.25 ppb	20:45:37
1	Cu 324.752†	122717.1	118440.7	500.67 µg/L	500.67 ppb	20:45:37
1	Mn 257.610†	380459.5	375672.2	501.91 µg/L	501.91 ppb	20:45:37
1	Mo 202.031†	16006.8	15847.5	504.56 µg/L	504.56 ppb	20:45:57
1	Ni 231.604†	40179.4	39770.3	500.22 µg/L	500.22 ppb	20:45:37
1	P 214.914†	10718.8	10583.9	2515.9 µg/L	2515.9 ppb	20:45:57
1	Pb 220.353†	8476.1	8276.4	508.36 µg/L	508.36 ppb	20:45:57
1	S 181.975 Axial†	1332.5	1228.7	1011.4 µg/L	1011.4 ppb	20:45:57
1	Sb 206.836†	3971.3	3845.1	505.41 µg/L	505.41 ppb	20:45:57
1	Se 196.026†	1291.7	1262.4	508 µg/L	508 ppb	20:45:57
1	SiO2†	52126.0	49741.0	5299.9 µg/L	5299.9 ppb	20:45:37
1	Si 251.611†	157708.2	154847.9	2496.4 µg/L	2496.4 ppb	20:45:37
1	Sn 189.927†	7362.8	7276.1	505.42 µg/L	505.42 ppb	20:45:57
1	Ti 334.940†	507885.5	500843.6	501.11 µg/L	501.11 ppb	20:45:37
1	Tl 190.801†	3680.9	3753.3	511.93 µg/L	511.93 ppb	20:45:57
1	U 409.014†	7591.8	7783.6	517.87 µg/L	517.87 ppb	20:45:37
1	V 292.402†	95074.3	93612.0	503.69 µg/L	503.69 ppb	20:45:37
1	Zn 213.857†	82578.2	81052.7	498.76 µg/L	498.76 ppb	20:45:37
2	Sc RADIAL	152557.6	152557.6	103 %		20:45:28
2	Al 396.153Radial†	26089.2	25343.6	5199.3 µg/L	5199.3 ppb	20:45:28
2	Ca 317.933Radial†	87918.2	84495.7	5083.9 µg/L	5083.9 ppb	20:45:28
2	Fe 238.204 Radial†	78018.5	75460.0	5077.6 µg/L	5077.6 ppb	20:45:28
2	K 766.490 Radial†	14139.6	12388.6	5094.5 µg/L	5094.5 ppb	20:45:28
2	Mg 279.077 IEC†	13172.5	12595.5	5174.8 µg/L	5174.8 ppb	20:45:28
2	Na 589.592 Radial†	69979.5	66604.2	10109 µg/L	10109 ppb	20:45:28
2	Sr 421.552†	228446.9	221589.0	511.13 µg/L	511.13 ppb	20:45:26
2	Sc 361.383	1775434.8	1775434.8	101.16 %		20:46:00
2	Y 371.029	1060088.9	1060088.9	99.628 %		20:46:00
2	Ag 328.068†	129577.0	124644.2	501.69 µg/L	501.69 ppb	20:46:00
2	As 188.979†	1450.8	1451.8	513.83 µg/L	513.83 ppb	20:46:20
2	B 249.677†	34050.9	30430.2	494.40 µg/L	494.40 ppb	20:46:00
2	Ba 233.527†	116070.3	114901.6	500.71 µg/L	500.71 ppb	20:46:00
2	Be 313.107†	1697454.7	1678777.0	503.95 µg/L	503.95 ppb	20:46:00
2	Cd 226.502†	73538.2	72805.0	499.58 µg/L	499.58 ppb	20:46:00
2	Co 228.616†	37354.4	37098.6	502.01 µg/L	502.01 ppb	20:46:00
2	Cr 267.716†	59751.7	58888.0	496.06 µg/L	496.06 ppb	20:46:00
2	Cu 324.752†	122514.4	118320.7	500.13 µg/L	500.13 ppb	20:46:00
2	Mn 257.610†	379767.7	375237.6	501.33 µg/L	501.33 ppb	20:46:00
2	Mo 202.031†	15933.6	15785.7	502.59 µg/L	502.59 ppb	20:46:20
2	Ni 231.604†	40274.7	39890.8	501.74 µg/L	501.74 ppb	20:46:00
2	P 214.914†	10658.6	10531.4	2503.4 µg/L	2503.4 ppb	20:46:20
2	Pb 220.353†	8413.5	8220.0	504.93 µg/L	504.93 ppb	20:46:20

2	S 181.975 Axial†	1313.3	1210.6	996.59 µg/L	996.59 ppb	20:46:20
2	Sb 206.836†	3946.8	3823.5	502.57 µg/L	502.57 ppb	20:46:20
2	Se 196.026†	1279.2	1250.9	503 µg/L	503 ppb	20:46:20
2	SiO2†	52116.5	49765.8	5302.6 µg/L	5302.6 ppb	20:46:00
2	Si 251.611†	157497.4	154742.9	2494.7 µg/L	2494.7 ppb	20:46:00
2	Sn 189.927†	7347.5	7265.8	504.71 µg/L	504.71 ppb	20:46:20
2	Ti 334.940†	506417.0	499724.7	500.00 µg/L	500.00 ppb	20:46:00
2	Tl 190.801†	3685.4	3760.3	512.86 µg/L	512.86 ppb	20:46:20
2	U 409.014†	7082.5	7285.1	486.68 µg/L	486.68 ppb	20:46:00
2	V 292.402†	95124.4	93723.9	504.24 µg/L	504.24 ppb	20:46:00
2	Zn 213.857†	82471.4	81001.2	498.43 µg/L	498.43 ppb	20:46:00
3	Sc RADIAL	152739.9	152739.9	103 %		20:45:32
3	Al 396.153Radial†	25933.9	25163.1	5161.7 µg/L	5161.7 ppb	20:45:32
3	Ca 317.933Radial†	87836.0	84314.5	5073.0 µg/L	5073.0 ppb	20:45:32
3	Fe 238.204 Radial†	77965.7	75318.7	5068.1 µg/L	5068.1 ppb	20:45:32
3	K 766.490 Radial†	14242.6	12471.9	5128.8 µg/L	5128.8 ppb	20:45:32
3	Mg 279.077 IEC†	13175.4	12583.1	5169.9 µg/L	5169.9 ppb	20:45:32
3	Na 589.592 Radial†	69905.3	66451.5	10086 µg/L	10086 ppb	20:45:32
3	Sr 421.552†	228245.6	221130.0	510.07 µg/L	510.07 ppb	20:45:30
3	Sc 361.383	1755965.5	1755965.5	100.05 %		20:46:23
3	Y 371.029	1049080.8	1049080.8	98.594 %		20:46:23
3	Ag 328.068†	129277.4	125764.9	506.20 µg/L	506.20 ppb	20:46:23
3	As 188.979†	1463.6	1480.6	523.92 µg/L	523.92 ppb	20:46:43
3	B 249.677†	34071.9	30824.4	500.80 µg/L	500.80 ppb	20:46:23
3	Ba 233.527†	115792.6	115896.2	505.04 µg/L	505.04 ppb	20:46:23
3	Be 313.107†	1689272.9	1689204.0	507.09 µg/L	507.09 ppb	20:46:23
3	Cd 226.502†	73186.1	73259.1	502.70 µg/L	502.70 ppb	20:46:23
3	Co 228.616†	37397.7	37551.2	508.14 µg/L	508.14 ppb	20:46:23
3	Cr 267.716†	59662.3	59453.6	500.81 µg/L	500.81 ppb	20:46:23
3	Cu 324.752†	121938.4	119087.7	503.39 µg/L	503.39 ppb	20:46:23
3	Mn 257.610†	378591.5	378224.5	505.32 µg/L	505.32 ppb	20:46:23
3	Mo 202.031†	15977.6	16004.3	509.54 µg/L	509.54 ppb	20:46:43
3	Ni 231.604†	40245.7	40303.3	506.92 µg/L	506.92 ppb	20:46:23
3	P 214.914†	10714.1	10703.6	2544.4 µg/L	2544.4 ppb	20:46:43
3	Pb 220.353†	8477.9	8376.7	514.52 µg/L	514.52 ppb	20:46:43
3	S 181.975 Axial†	1318.4	1230.0	1012.6 µg/L	1012.6 ppb	20:46:43
3	Sb 206.836†	3972.2	3892.1	511.61 µg/L	511.61 ppb	20:46:43
3	Se 196.026†	1305.8	1291.6	519 µg/L	519 ppb	20:46:43
3	SiO2†	52051.9	50272.4	5356.5 µg/L	5356.5 ppb	20:46:23
3	Si 251.611†	156937.6	155909.6	2513.4 µg/L	2513.4 ppb	20:46:23
3	Sn 189.927†	7375.3	7374.1	512.22 µg/L	512.22 ppb	20:46:43
3	Ti 334.940†	504954.5	503813.5	504.09 µg/L	504.09 ppb	20:46:23
3	Tl 190.801†	3693.6	3808.8	519.42 µg/L	519.42 ppb	20:46:43
3	U 409.014†	7365.5	7645.6	509.41 µg/L	509.41 ppb	20:46:23
3	V 292.402†	94493.3	94135.7	506.53 µg/L	506.53 ppb	20:46:23
3	Zn 213.857†	81979.5	81413.5	500.96 µg/L	500.96 ppb	20:46:23

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1769337.6	100.81 %	0.661			0.66%
Sc RADIAL	152400.6	103 %	0.3			0.29%
Y 371.029	1057087.2	99.346 %	0.6584			0.66%
Ag 328.068†	125150.7	503.73 µg/L	2.284	503.73 ppb	2.284	0.45%
QC value within limits for Ag 328.068 Recovery = 100.75%						
Al 396.153Radial†	25297.9	5189.7 µg/L	24.61	5189.7 ppb	24.61	0.47%
QC value within limits for Al 396.153Radial Recovery = 103.79%						
As 188.979†	1471.1	520.57 µg/L	5.841	520.57 ppb	5.841	1.12%
QC value within limits for As 188.979 Recovery = 104.11%						
B 249.677†	30532.1	496.05 µg/L	4.179	496.05 ppb	4.179	0.84%
QC value within limits for B 249.677 Recovery = 99.21%						
Ba 233.527†	115244.1	502.20 µg/L	2.462	502.20 ppb	2.462	0.49%
QC value within limits for Ba 233.527 Recovery = 100.44%						
Be 313.107†	1681812.6	504.87 µg/L	1.932	504.87 ppb	1.932	0.38%
QC value within limits for Be 313.107 Recovery = 100.97%						
Ca 317.933Radial†	84539.8	5086.6 µg/L	15.06	5086.6 ppb	15.06	0.30%
QC value within limits for Ca 317.933Radial Recovery = 101.73%						
Cd 226.502†	72944.5	500.54 µg/L	1.877	500.54 ppb	1.877	0.38%
QC value within limits for Cd 226.502 Recovery = 100.11%						
Co 228.616†	37282.3	504.50 µg/L	3.222	504.50 ppb	3.222	0.64%



QC value within limits for Co 228.616 Recovery = 100.90%							
Cr 267.716†	59124.5	498.04 µg/L	2.470	498.04 ppb	2.470	0.50%	
QC value within limits for Cr 267.716 Recovery = 99.61%							
Cu 324.752†	118616.4	501.40 µg/L	1.744	501.40 ppb	1.744	0.35%	
QC value within limits for Cu 324.752 Recovery = 100.28%							
Fe 238.204 Radial†	75475.8	5078.7 µg/L	11.14	5078.7 ppb	11.14	0.22%	
QC value within limits for Fe 238.204 Radial Recovery = 101.57%							
K 766.490 Radial†	12482.8	5133.3 µg/L	41.16	5133.3 ppb	41.16	0.80%	
QC value within limits for K 766.490 Radial Recovery = 102.67%							
Mg 279.077 IEC†	12619.5	5184.7 µg/L	21.54	5184.7 ppb	21.54	0.42%	
QC value within limits for Mg 279.077 IEC Recovery = 103.69%							
Mn 257.610†	376378.1	502.85 µg/L	2.157	502.85 ppb	2.157	0.43%	
QC value within limits for Mn 257.610 Recovery = 100.57%							
Mo 202.031†	15879.2	505.56 µg/L	3.584	505.56 ppb	3.584	0.71%	
QC value within limits for Mo 202.031 Recovery = 101.11%							
Na 589.592 Radial†	66641.4	10115 µg/L	32.0	10115 ppb	32.0	0.32%	
QC value within limits for Na 589.592 Radial Recovery = 101.15%							
Ni 231.604†	39988.1	502.96 µg/L	3.515	502.96 ppb	3.515	0.70%	
QC value within limits for Ni 231.604 Recovery = 100.59%							
P 214.914†	10606.3	2521.2 µg/L	21.04	2521.2 ppb	21.04	0.83%	
QC value within limits for P 214.914 Recovery = 100.85%							
Pb 220.353†	8291.0	509.27 µg/L	4.860	509.27 ppb	4.860	0.95%	
QC value within limits for Pb 220.353 Recovery = 101.85%							
S 181.975 Axial†	1223.1	1006.9 µg/L	8.92	1006.9 ppb	8.92	0.89%	
QC value within limits for S 181.975 Axial Recovery = 100.69%							
Sb 206.836†	3853.6	506.53 µg/L	4.624	506.53 ppb	4.624	0.91%	
QC value within limits for Sb 206.836 Recovery = 101.31%							
Se 196.026†	1268.3	510 µg/L	8.4	510 ppb	8.4	1.65%	
QC value within limits for Se 196.026 Recovery = 101.98%							
SiO2†	49926.4	5319.7 µg/L	31.93	5319.7 ppb	31.93	0.60%	
QC value within limits for SiO2 Recovery = 99.48%							
Si 251.611†	155166.8	2501.5 µg/L	10.37	2501.5 ppb	10.37	0.41%	
QC value within limits for Si 251.611 Recovery = 100.06%							
Sn 189.927†	7305.3	507.45 µg/L	4.146	507.45 ppb	4.146	0.82%	
QC value within limits for Sn 189.927 Recovery = 101.49%							
Sr 421.552†	222010.5	512.11 µg/L	2.654	512.11 ppb	2.654	0.52%	
QC value within limits for Sr 421.552 Recovery = 102.42%							
Ti 334.940†	501460.6	501.73 µg/L	2.113	501.73 ppb	2.113	0.42%	
QC value within limits for Ti 334.940 Recovery = 100.35%							
Tl 190.801†	3774.1	514.74 µg/L	4.084	514.74 ppb	4.084	0.79%	
QC value within limits for Tl 190.801 Recovery = 102.95%							
U 409.014†	7571.4	504.65 µg/L	16.129	504.65 ppb	16.129	3.20%	
QC value within limits for U 409.014 Recovery = 100.93%							
V 292.402†	93823.8	504.82 µg/L	1.507	504.82 ppb	1.507	0.30%	
QC value within limits for V 292.402 Recovery = 100.96%							
Zn 213.857†	81155.8	499.38 µg/L	1.372	499.38 ppb	1.372	0.27%	
QC value within limits for Zn 213.857 Recovery = 99.88%							
All analyte(s) passed QC.							

Sequence No.: 100

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 3/30/2010 20:46:51

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	155077.2	155077.2	105 %		20:47:22
1	Al 396.153Radial†	-58.1	7.5	1.5209 µg/L	1.5209 ppb	20:47:42
1	Ca 317.933Radial†	682.1	-47.8	-2.8761 µg/L	-2.8761 ppb	20:47:42
1	Fe 238.204 Radial†	208.3	57.9	3.8959 µg/L	3.8959 ppb	20:47:42
1	K 766.490 Radial†	1770.5	375.0	154.32 µg/L	154.32 ppb	20:47:22
1	Mg 279.077 IEC†	165.0	-11.5	-4.7125 µg/L	-4.7125 ppb	20:47:42
1	Na 589.592 Radial†	1519.0	241.4	36.520 µg/L	36.520 ppb	20:47:22
1	Sr 421.552†	-312.4	-76.1	-0.1756 µg/L	-0.1756 ppb	20:47:22
1	Sc 361.383	1772022.9	1772022.9	100.97 %		20:48:29
1	Y 371.029	1071521.3	1071521.3	100.70 %		20:48:29
1	Ag 328.068†	3631.0	149.2	0.5928 µg/L	0.5928 ppb	20:48:32
1	As 188.979†	-14.1	3.7	1.3040 µg/L	1.3040 ppb	20:48:52
1	B 249.677†	3280.1	18.4	0.2999 µg/L	0.2999 ppb	20:48:52
1	Ba 233.527†	-160.7	3.0	0.0128 µg/L	0.0128 ppb	20:48:52
1	Be 313.107†	-902.2	-108.0	-0.0316 µg/L	-0.0316 ppb	20:48:32
1	Cd 226.502†	-77.7	33.1	0.2268 µg/L	0.2268 ppb	20:48:52
1	Co 228.616†	-158.9	15.1	0.2037 µg/L	0.2037 ppb	20:48:52
1	Cr 267.716†	213.6	33.0	0.2755 µg/L	0.2755 ppb	20:48:52
1	Cu 324.752†	2902.3	85.6	0.3637 µg/L	0.3637 ppb	20:48:32
1	Mn 257.610†	294.1	115.7	0.1548 µg/L	0.1548 ppb	20:48:52
1	Mo 202.031†	-23.8	11.2	0.3560 µg/L	0.3560 ppb	20:48:52
1	Ni 231.604†	-73.5	5.1	0.0642 µg/L	0.0642 ppb	20:48:52
1	P 214.914†	-1.1	-6.1	-1.4493 µg/L	-1.4493 ppb	20:48:52
1	Pb 220.353†	78.2	-19.5	-1.1977 µg/L	-1.1977 ppb	20:48:52
1	Sb 181.975 Axial†	92.0	3.4	2.7988 µg/L	2.7988 ppb	20:48:52
1	Sb 206.836†	84.0	5.1	0.6715 µg/L	0.6715 ppb	20:48:52
1	Se 196.026†	11.3	-2.4	-0.940 µg/L	-0.940 ppb	20:48:52
1	SiO2†	1742.3	-27.5	-2.9657 µg/L	-2.9657 ppb	20:48:52
1	Si 251.611†	865.4	-91.5	-1.4930 µg/L	-1.4930 ppb	20:48:32
1	Sn 189.927†	11.7	14.1	0.9793 µg/L	0.9793 ppb	20:48:52
1	Ti 334.940†	1022.4	127.0	0.1263 µg/L	0.1263 ppb	20:48:32
1	Tl 190.801†	-122.4	-4.2	-0.5597 µg/L	-0.5597 ppb	20:48:52
1	U 409.014†	-240.6	45.5	2.8296 µg/L	2.8296 ppb	20:48:32
1	V 292.402†	253.6	-58.6	-0.3051 µg/L	-0.3051 ppb	20:48:32
1	Zn 213.857†	585.2	55.0	0.3402 µg/L	0.3402 ppb	20:48:52
2	Sc RADIAL	152322.5	152322.5	103 %		20:47:44
2	Al 396.153Radial†	-11.5	51.7	10.621 µg/L	10.621 ppb	20:48:04
2	Ca 317.933Radial†	696.5	-22.0	-1.3232 µg/L	-1.3232 ppb	20:48:04
2	Fe 238.204 Radial†	196.1	49.7	3.3411 µg/L	3.3411 ppb	20:48:04
2	K 766.490 Radial†	1418.6	63.9	26.311 µg/L	26.311 ppb	20:47:44
2	Mg 279.077 IEC†	173.2	-0.7	-0.2721 µg/L	-0.2721 ppb	20:48:04
2	Na 589.592 Radial†	1435.0	186.0	28.228 µg/L	28.228 ppb	20:47:44
2	Sr 421.552†	-126.7	98.7	0.2277 µg/L	0.2277 ppb	20:47:44
2	Sc 361.383	1783249.3	1783249.3	101.61 %		20:48:54
2	Y 371.029	1077637.1	1077637.1	101.28 %		20:48:54
2	Ag 328.068†	3498.3	-4.1	-0.0242 µg/L	-0.0242 ppb	20:48:56
2	As 188.979†	-15.3	2.7	0.9292 µg/L	0.9292 ppb	20:49:16
2	B 249.677†	3255.7	-26.0	-0.4236 µg/L	-0.4236 ppb	20:49:16
2	Ba 233.527†	-142.4	22.0	0.0962 µg/L	0.0962 ppb	20:49:16
2	Be 313.107†	-680.9	115.5	0.0327 µg/L	0.0327 ppb	20:48:56
2	Cd 226.502†	-74.6	36.6	0.2510 µg/L	0.2510 ppb	20:49:16
2	Co 228.616†	-195.5	-20.0	-0.2704 µg/L	-0.2704 ppb	20:49:16
2	Cr 267.716†	166.2	-14.9	-0.1209 µg/L	-0.1209 ppb	20:49:16
2	Cu 324.752†	2910.9	76.0	0.3154 µg/L	0.3154 ppb	20:48:56
2	Mn 257.610†	292.7	112.5	0.1503 µg/L	0.1503 ppb	20:49:16
2	Mo 202.031†	-10.4	24.5	0.7804 µg/L	0.7804 ppb	20:49:16
2	Ni 231.604†	-65.0	13.9	0.1746 µg/L	0.1746 ppb	20:49:16
2	P 214.914†	0.5	-4.6	-1.0915 µg/L	-1.0915 ppb	20:49:16
2	Pb 220.353†	77.2	-21.0	-1.2764 µg/L	-1.2764 ppb	20:49:16

2	S 181.975 Axial†	100.1	10.8	8.8962 µg/L	8.8962 ppb	20:49:16
2	Sb 206.836†	87.2	7.7	1.0243 µg/L	1.0243 ppb	20:49:16
2	Se 196.026†	22.6	8.7	3.47 µg/L	3.47 ppb	20:49:16
2	SiO2†	1742.6	-38.1	-4.1083 µg/L	-4.1083 ppb	20:49:16
2	Si 251.611†	805.5	-155.9	-2.5381 µg/L	-2.5381 ppb	20:48:56
2	Sn 189.927†	8.1	10.5	0.7301 µg/L	0.7301 ppb	20:49:16
2	Ti 334.940†	1169.5	265.5	0.2686 µg/L	0.2686 ppb	20:48:56
2	Tl 190.801†	-109.1	9.7	1.3055 µg/L	1.3055 ppb	20:49:16
2	U 409.014†	-391.1	-101.1	-6.3357 µg/L	-6.3357 ppb	20:48:56
2	V 292.402†	311.4	-3.4	-0.0153 µg/L	-0.0153 ppb	20:48:56
2	Zn 213.857†	611.1	76.9	0.4757 µg/L	0.4757 ppb	20:49:16
3	Sc RADIAL	153371.0	153371.0	104 %		20:48:06
3	Al 396.153Radial†	-41.1	23.3	4.7709 µg/L	4.7709 ppb	20:48:26
3	Ca 317.933Radial†	700.1	-23.2	-1.3951 µg/L	-1.3951 ppb	20:48:26
3	Fe 238.204 Radial†	182.7	35.4	2.3798 µg/L	2.3798 ppb	20:48:26
3	K 766.490 Radial†	1464.8	99.1	40.777 µg/L	40.777 ppb	20:48:06
3	Mg 279.077 IEC†	180.7	5.3	2.2042 µg/L	2.2042 ppb	20:48:26
3	Na 589.592 Radial†	1272.9	20.3	3.0413 µg/L	3.0413 ppb	20:48:06
3	Sr 421.552†	-226.6	3.2	0.0075 µg/L	0.0075 ppb	20:48:06
3	Sc 361.383	1779882.5	1779882.5	101.41 %		20:49:18
3	Y 371.029	1076637.8	1076637.8	101.18 %		20:49:18
3	Ag 328.068†	3679.4	181.1	0.7235 µg/L	0.7235 ppb	20:49:20
3	As 188.979†	-19.6	-1.6	-0.5633 µg/L	-0.5633 ppb	20:49:40
3	B 249.677†	3227.9	-47.4	-0.7724 µg/L	-0.7724 ppb	20:49:40
3	Ba 233.527†	-154.0	10.3	0.0450 µg/L	0.0450 ppb	20:49:40
3	Be 313.107†	-863.6	-66.0	-0.0192 µg/L	-0.0192 ppb	20:49:20
3	Cd 226.502†	-99.5	12.0	0.0820 µg/L	0.0820 ppb	20:49:40
3	Co 228.616†	-184.7	-9.7	-0.1316 µg/L	-0.1316 ppb	20:49:40
3	Cr 267.716†	177.3	-3.8	-0.0332 µg/L	-0.0332 ppb	20:49:40
3	Cu 324.752†	2897.9	68.6	0.2910 µg/L	0.2910 ppb	20:49:20
3	Mn 257.610†	280.5	101.0	0.1349 µg/L	0.1349 ppb	20:49:40
3	Mo 202.031†	-18.6	16.5	0.5237 µg/L	0.5237 ppb	20:49:40
3	Ni 231.604†	-55.7	23.0	0.2888 µg/L	0.2888 ppb	20:49:40
3	P 214.914†	24.4	19.0	4.5404 µg/L	4.5404 ppb	20:49:40
3	Pb 220.353†	93.2	-5.1	-0.3114 µg/L	-0.3114 ppb	20:49:40
3	S 181.975 Axial†	91.6	2.6	2.1670 µg/L	2.1670 ppb	20:49:40
3	Sb 206.836†	89.2	9.9	1.3093 µg/L	1.3093 ppb	20:49:40
3	Se 196.026†	19.6	5.8	2.32 µg/L	2.32 ppb	20:49:40
3	SiO2†	1709.1	-67.8	-7.2800 µg/L	-7.2800 ppb	20:49:40
3	Si 251.611†	905.8	-55.5	-0.9100 µg/L	-0.9100 ppb	20:49:20
3	Sn 189.927†	7.2	9.6	0.6647 µg/L	0.6647 ppb	20:49:40
3	Ti 334.940†	1001.0	101.5	0.1006 µg/L	0.1006 ppb	20:49:20
3	Tl 190.801†	-120.6	-1.8	-0.2389 µg/L	-0.2389 ppb	20:49:40
3	U 409.014†	-254.0	33.3	2.0917 µg/L	2.0917 ppb	20:49:20
3	V 292.402†	335.0	20.4	0.1149 µg/L	0.1149 ppb	20:49:20
3	Zn 213.857†	584.6	51.9	0.3197 µg/L	0.3197 ppb	20:49:40

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1778384.9	101.33 %	0.328			0.32%
Sc RADIAL	153590.2	104 %	0.9			0.91%
Y 371.029	1075265.4	101.05 %	0.308			0.31%
Ag 328.068†	108.7	0.4307 µg/L	0.39934	0.4307 ppb	0.39934	92.71%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	27.5	5.6376 µg/L	4.61156	5.6376 ppb	4.61156	81.80%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	1.6	0.5566 µg/L	0.98785	0.5566 ppb	0.98785	177.47%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	-18.3	-0.2987 µg/L	0.54695	-0.2987 ppb	0.54695	183.09%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	11.8	0.0513 µg/L	0.04202	0.0513 ppb	0.04202	81.86%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-19.5	-0.0060 µg/L	0.03411	-0.0060 ppb	0.03411	569.19%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-31.0	-1.8648 µg/L	0.87654	-1.8648 ppb	0.87654	47.00%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	27.2	0.1866 µg/L	0.09139	0.1866 ppb	0.09139	48.98%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	-4.9	-0.0661 µg/L	0.24377	-0.0661 ppb	0.24377	368.63%

QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	4.8	0.0405 µg/L	0.20821	0.0405 ppb	0.20821	514.29%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	76.7	0.3233 µg/L	0.03701	0.3233 ppb	0.03701	11.45%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	47.6	3.2056 µg/L	0.76707	3.2056 ppb	0.76707	23.93%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	179.3	73.803 µg/L	70.1044	73.803 ppb	70.1044	94.99%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	-2.3	-0.9268 µg/L	3.50451	-0.9268 ppb	3.50451	378.14%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	109.7	0.1467 µg/L	0.01044	0.1467 ppb	0.01044	7.12%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	17.4	0.5534 µg/L	0.21371	0.5534 ppb	0.21371	38.62%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	149.2	22.596 µg/L	17.4353	22.596 ppb	17.4353	77.16%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	14.0	0.1759 µg/L	0.11227	0.1759 ppb	0.11227	63.84%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	2.8	0.6665 µg/L	3.35962	0.6665 ppb	3.35962	504.06%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	-15.2	-0.9285 µg/L	0.53586	-0.9285 ppb	0.53586	57.71%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	5.6	4.6207 µg/L	3.71616	4.6207 ppb	3.71616	80.42%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	7.6	1.0017 µg/L	0.31946	1.0017 ppb	0.31946	31.89%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	4.0	1.62 µg/L	2.287	1.62 ppb	2.287	141.40%	
QC value within limits for Se 196.026 Recovery = Not calculated							
SiO2†	-44.5	-4.7847 µg/L	2.23526	-4.7847 ppb	2.23526	46.72%	
QC value within limits for SiO2 Recovery = Not calculated							
Si 251.611†	-101.0	-1.6470 µg/L	0.82488	-1.6470 ppb	0.82488	50.08%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	11.4	0.7913 µg/L	0.16602	0.7913 ppb	0.16602	20.98%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	8.6	0.0199 µg/L	0.20193	0.0199 ppb	0.20193	>999.9%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	164.7	0.1652 µg/L	0.09049	0.1652 ppb	0.09049	54.78%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	1.2	0.1690 µg/L	0.99728	0.1690 ppb	0.99728	590.24%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	-7.5	-0.4715 µg/L	5.09197	-0.4715 ppb	5.09197	>999.9%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	-13.9	-0.0685 µg/L	0.21499	-0.0685 ppb	0.21499	313.85%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	61.3	0.3785 µg/L	0.08473	0.3785 ppb	0.08473	22.39%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
All analyte(s) passed QC.							

Sequence No.: 108

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 3/30/2010 21:04:29

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	152250.8	152250.8	103 %		21:05:04
1	Al 396.153Radial†	25757.5	25072.5	5143.6 µg/L	5143.6 ppb	21:05:04
1	Ca 317.933Radial†	87347.2	84113.0	5060.9 µg/L	5060.9 ppb	21:05:04
1	Fe 238.204 Radial†	77578.3	75185.0	5059.1 µg/L	5059.1 ppb	21:05:04
1	K 766.490 Radial†	14103.4	12381.1	5091.4 µg/L	5091.4 ppb	21:05:04
1	Mg 279.077 IEC†	13280.7	12726.3	5228.4 µg/L	5228.4 ppb	21:05:04
1	Na 589.592 Radial†	69862.0	66626.8	10113 µg/L	10113 ppb	21:05:04
1	Sr 421.552†	229473.3	223031.7	514.46 µg/L	514.46 ppb	21:05:02
1	Sc 361.383	1785931.5	1785931.5	101.76 %		21:05:31
1	Y 371.029	1065935.1	1065935.1	100.18 %		21:05:31
1	Ag 328.068†	130784.6	125078.0	503.45 µg/L	503.45 ppb	21:05:31
1	As 188.979†	1459.8	1452.3	513.98 µg/L	513.98 ppb	21:05:51
1	B 249.677†	34479.7	30653.7	498.03 µg/L	498.03 ppb	21:05:31
1	Ba 233.527†	117298.2	115433.9	503.02 µg/L	503.02 ppb	21:05:31
1	Be 313.107†	1716488.5	1687619.6	506.61 µg/L	506.61 ppb	21:05:31
1	Cd 226.502†	74402.7	73227.3	502.49 µg/L	502.49 ppb	21:05:31
1	Co 228.616†	37892.2	37410.0	506.23 µg/L	506.23 ppb	21:05:31
1	Cr 267.716†	60425.5	59203.0	498.71 µg/L	498.71 ppb	21:05:31
1	Cu 324.752†	123299.8	118380.7	500.40 µg/L	500.40 ppb	21:05:31
1	Mn 257.610†	383700.4	376895.9	503.54 µg/L	503.54 ppb	21:05:31
1	Mo 202.031†	15863.7	15624.4	497.46 µg/L	497.46 ppb	21:05:51
1	Ni 231.604†	40730.8	40105.0	504.43 µg/L	504.43 ppb	21:05:31
1	P 214.914†	10608.0	10419.7	2476.8 µg/L	2476.8 ppb	21:05:51
1	Pb 220.353†	8405.7	8163.5	501.44 µg/L	501.44 ppb	21:05:51
1	S 181.975 Axial†	1322.8	1212.3	997.93 µg/L	997.93 ppb	21:05:51
1	Sb 206.836†	3948.9	3802.6	499.71 µg/L	499.71 ppb	21:05:51
1	Se 196.026†	1277.6	1241.9	499 µg/L	499 ppb	21:05:51
1	SiO2†	52953.2	50285.3	5358.4 µg/L	5358.4 ppb	21:05:31
1	Si 251.611†	158911.1	155217.1	2502.4 µg/L	2502.4 ppb	21:05:31
1	Sn 189.927†	7344.2	7219.9	501.53 µg/L	501.53 ppb	21:05:51
1	Ti 334.940†	510150.6	500451.5	500.72 µg/L	500.72 ppb	21:05:31
1	Tl 190.801†	3659.6	3713.5	506.57 µg/L	506.57 ppb	21:05:51
1	U 409.014†	7292.9	7450.7	497.17 µg/L	497.17 ppb	21:05:31
1	V 292.402†	96022.8	94054.1	505.96 µg/L	505.96 ppb	21:05:31
1	Zn 213.857†	83254.5	81291.6	500.22 µg/L	500.22 ppb	21:05:31
2	Sc RADIAL	152383.0	152383.0	103 %		21:05:08
2	Al 396.153Radial†	25659.2	24955.4	5119.3 µg/L	5119.3 ppb	21:05:08
2	Ca 317.933Radial†	87104.9	83804.3	5042.3 µg/L	5042.3 ppb	21:05:08
2	Fe 238.204 Radial†	77096.6	74652.3	5023.3 µg/L	5023.3 ppb	21:05:08
2	K 766.490 Radial†	14186.4	12449.7	5119.7 µg/L	5119.7 ppb	21:05:08
2	Mg 279.077 IEC†	13176.3	12613.8	5182.4 µg/L	5182.4 ppb	21:05:08
2	Na 589.592 Radial†	69373.3	66093.9	10032 µg/L	10032 ppb	21:05:08
2	Sr 421.552†	227420.0	220846.4	509.42 µg/L	509.42 ppb	21:05:06
2	Sc 361.383	1775882.2	1775882.2	101.19 %		21:05:54
2	Y 371.029	1060566.3	1060566.3	99.673 %		21:05:54
2	Ag 328.068†	130187.1	125214.9	503.98 µg/L	503.98 ppb	21:05:54
2	As 188.979†	1459.9	1460.4	516.84 µg/L	516.84 ppb	21:06:14
2	B 249.677†	34242.9	30611.4	497.35 µg/L	497.35 ppb	21:05:54
2	Ba 233.527†	116364.9	115163.8	501.85 µg/L	501.85 ppb	21:05:54
2	Be 313.107†	1701965.2	1682811.9	505.17 µg/L	505.17 ppb	21:05:54
2	Cd 226.502†	73685.9	72932.6	500.46 µg/L	500.46 ppb	21:05:54
2	Co 228.616†	37508.8	37241.8	503.96 µg/L	503.96 ppb	21:05:54
2	Cr 267.716†	60096.3	59213.6	498.79 µg/L	498.79 ppb	21:05:54
2	Cu 324.752†	122682.7	118456.5	500.71 µg/L	500.71 ppb	21:05:54
2	Mn 257.610†	380171.5	375542.1	501.74 µg/L	501.74 ppb	21:05:54
2	Mo 202.031†	15919.1	15767.4	502.01 µg/L	502.01 ppb	21:06:14
2	Ni 231.604†	40308.6	39914.3	502.03 µg/L	502.03 ppb	21:05:54
2	P 214.914†	10703.2	10572.8	2513.3 µg/L	2513.3 ppb	21:06:14
2	Pb 220.353†	8440.3	8244.4	506.40 µg/L	506.40 ppb	21:06:14

2	S 181.975 Axial†	1336.1	1232.7	1014.7 µg/L	1014.7 ppb	21:06:14
2	Sb 206.836†	3963.5	3839.0	504.56 µg/L	504.56 ppb	21:06:14
2	Se 196.026†	1275.5	1247.0	501 µg/L	501 ppb	21:06:14
2	SiO2†	52445.3	50077.7	5336.0 µg/L	5336.0 ppb	21:05:54
2	Si 251.611†	157618.5	154823.3	2496.0 µg/L	2496.0 ppb	21:05:54
2	Sn 189.927†	7354.2	7270.6	505.04 µg/L	505.04 ppb	21:06:14
2	Ti 334.940†	507231.1	500403.2	500.67 µg/L	500.67 ppb	21:05:54
2	Tl 190.801†	3683.5	3757.4	512.48 µg/L	512.48 ppb	21:06:14
2	U 409.014†	7360.2	7557.7	503.78 µg/L	503.78 ppb	21:05:54
2	V 292.402†	95210.0	93784.8	504.59 µg/L	504.59 ppb	21:05:54
2	Zn 213.857†	82476.3	80985.5	498.34 µg/L	498.34 ppb	21:05:54
3	Sc RADIAL	152054.3	152054.3	103 %		21:05:12
3	Al 396.153Radial†	25957.0	25298.7	5190.0 µg/L	5190.0 ppb	21:05:12
3	Ca 317.933Radial†	87859.0	84720.1	5097.4 µg/L	5097.4 ppb	21:05:12
3	Fe 238.204 Radial†	77827.5	75524.6	5082.0 µg/L	5082.0 ppb	21:05:12
3	K 766.490 Radial†	14288.5	12578.7	5172.7 µg/L	5172.7 ppb	21:05:12
3	Mg 279.077 IEC†	13216.7	12680.7	5209.8 µg/L	5209.8 ppb	21:05:12
3	Na 589.592 Radial†	69997.8	66846.4	10146 µg/L	10146 ppb	21:05:12
3	Sr 421.552†	228534.6	222407.0	513.02 µg/L	513.02 ppb	21:05:10
3	Sc 361.383	1774418.7	1774418.7	101.10 %		21:06:17
3	Y 371.029	1059333.3	1059333.3	99.557 %		21:06:17
3	Ag 328.068†	129903.2	125040.2	503.29 µg/L	503.29 ppb	21:06:17
3	As 188.979†	1468.6	1470.3	520.30 µg/L	520.30 ppb	21:06:37
3	B 249.677†	34264.4	30660.5	498.14 µg/L	498.14 ppb	21:06:17
3	Ba 233.527†	116526.4	115418.4	502.96 µg/L	502.96 ppb	21:06:17
3	Be 313.107†	1707296.9	1689472.8	507.17 µg/L	507.17 ppb	21:06:17
3	Cd 226.502†	74216.4	73517.5	504.48 µg/L	504.48 ppb	21:06:17
3	Co 228.616†	37578.4	37341.2	505.30 µg/L	505.30 ppb	21:06:17
3	Cr 267.716†	60098.9	59265.2	499.23 µg/L	499.23 ppb	21:06:17
3	Cu 324.752†	122854.9	118726.8	501.86 µg/L	501.86 ppb	21:06:17
3	Mn 257.610†	381315.1	376983.1	503.66 µg/L	503.66 ppb	21:06:17
3	Mo 202.031†	15906.8	15768.2	502.03 µg/L	502.03 ppb	21:06:37
3	Ni 231.604†	40397.5	40035.1	503.55 µg/L	503.55 ppb	21:06:17
3	P 214.914†	10702.5	10580.8	2515.2 µg/L	2515.2 ppb	21:06:37
3	Pb 220.353†	8443.7	8254.7	507.04 µg/L	507.04 ppb	21:06:37
3	S 181.975 Axial†	1321.3	1219.2	1003.7 µg/L	1003.7 ppb	21:06:37
3	Sb 206.836†	3947.7	3826.6	502.93 µg/L	502.93 ppb	21:06:37
3	Se 196.026†	1300.0	1272.3	511 µg/L	511 ppb	21:06:37
3	SiO2†	52544.1	50218.3	5351.0 µg/L	5351.0 ppb	21:06:17
3	Si 251.611†	158179.1	155506.3	2507.0 µg/L	2507.0 ppb	21:06:17
3	Sn 189.927†	7381.8	7303.8	507.35 µg/L	507.35 ppb	21:06:37
3	Ti 334.940†	507743.6	501323.5	501.59 µg/L	501.59 ppb	21:06:17
3	Tl 190.801†	3682.1	3759.1	512.71 µg/L	512.71 ppb	21:06:37
3	U 409.014†	7243.5	7448.3	496.99 µg/L	496.99 ppb	21:06:17
3	V 292.402†	95296.1	93947.5	505.44 µg/L	505.44 ppb	21:06:17
3	Zn 213.857†	82733.5	81307.1	500.32 µg/L	500.32 ppb	21:06:17

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1778744.1	101.35 %	0.357			0.35%
Sc RADIAL	152229.4	103 %	0.1			0.11%
Y 371.029	1061944.9	99.803 %	0.3299			0.33%
Ag 328.068†	125111.0	503.57 µg/L	0.364	503.57 ppb	0.364	0.07%
QC value within limits for Ag 328.068 Recovery = 100.71%						
Al 396.153Radial†	25108.9	5151.0 µg/L	35.94	5151.0 ppb	35.94	0.70%
QC value within limits for Al 396.153Radial Recovery = 103.02%						
As 188.979†	1461.0	517.04 µg/L	3.166	517.04 ppb	3.166	0.61%
QC value within limits for As 188.979 Recovery = 103.41%						
B 249.677†	30641.9	497.84 µg/L	0.430	497.84 ppb	0.430	0.09%
QC value within limits for B 249.677 Recovery = 99.57%						
Ba 233.527†	115338.7	502.61 µg/L	0.660	502.61 ppb	0.660	0.13%
QC value within limits for Ba 233.527 Recovery = 100.52%						
Be 313.107†	1686634.8	506.31 µg/L	1.031	506.31 ppb	1.031	0.20%
QC value within limits for Be 313.107 Recovery = 101.26%						
Ca 317.933Radial†	84212.5	5066.9 µg/L	28.03	5066.9 ppb	28.03	0.55%
QC value within limits for Ca 317.933Radial Recovery = 101.34%						
Cd 226.502†	73225.8	502.48 µg/L	2.005	502.48 ppb	2.005	0.40%
QC value within limits for Cd 226.502 Recovery = 100.50%						
Co 228.616†	37331.0	505.16 µg/L	1.144	505.16 ppb	1.144	0.23%

Cr	267.716†	59227.3	498.91 µg/L	0.282	498.91 ppb	0.282	0.06%
Cu	324.752†	118521.3	500.99 µg/L	0.768	500.99 ppb	0.768	0.15%
Fe	238.204 Radial†	75120.6	5054.8 µg/L	29.59	5054.8 ppb	29.59	0.59%
K	766.490 Radial†	12469.8	5127.9 µg/L	41.28	5127.9 ppb	41.28	0.80%
Mg	279.077 IEC†	12673.6	5206.8 µg/L	23.14	5206.8 ppb	23.14	0.44%
Mn	257.610†	376473.7	502.98 µg/L	1.079	502.98 ppb	1.079	0.21%
Mo	202.031†	15720.0	500.50 µg/L	2.633	500.50 ppb	2.633	0.53%
Na	589.592 Radial†	66522.3	10097 µg/L	58.7	10097 ppb	58.7	0.58%
Ni	231.604†	40018.1	503.34 µg/L	1.213	503.34 ppb	1.213	0.24%
P	214.914†	10524.4	2501.7 µg/L	21.65	2501.7 ppb	21.65	0.87%
Pb	220.353†	8220.9	504.96 µg/L	3.064	504.96 ppb	3.064	0.61%
S	181.975 Axial†	1221.4	1005.4 µg/L	8.54	1005.4 ppb	8.54	0.85%
Sb	206.836†	3822.7	502.40 µg/L	2.468	502.40 ppb	2.468	0.49%
Se	196.026†	1253.7	504 µg/L	6.5	504 ppb	6.5	1.29%
SiO2†		50193.8	5348.5 µg/L	11.40	5348.5 ppb	11.40	0.21%
Si	251.611†	155182.2	2501.8 µg/L	5.55	2501.8 ppb	5.55	0.22%
Sn	189.927†	7264.8	504.64 µg/L	2.929	504.64 ppb	2.929	0.58%
Sr	421.552†	222095.0	512.30 µg/L	2.596	512.30 ppb	2.596	0.51%
Ti	334.940†	500726.1	500.99 µg/L	0.520	500.99 ppb	0.520	0.10%
Tl	190.801†	3743.3	510.59 µg/L	3.479	510.59 ppb	3.479	0.68%
U	409.014†	7485.6	499.31 µg/L	3.873	499.31 ppb	3.873	0.78%
V	292.402†	93928.8	505.33 µg/L	0.694	505.33 ppb	0.694	0.14%
Zn	213.857†	81194.7	499.62 µg/L	1.115	499.62 ppb	1.115	0.22%

QC value within limits for Co 228.616 Recovery = 101.03%  
 QC value within limits for Cr 267.716 Recovery = 99.78%  
 QC value within limits for Cu 324.752 Recovery = 100.20%  
 QC value within limits for Fe 238.204 Radial Recovery = 101.10%  
 QC value within limits for K 766.490 Radial Recovery = 102.56%  
 QC value within limits for Mg 279.077 IEC Recovery = 104.14%  
 QC value within limits for Mn 257.610 Recovery = 100.60%  
 QC value within limits for Mo 202.031 Recovery = 100.10%  
 QC value within limits for Na 589.592 Radial Recovery = 100.97%  
 QC value within limits for Ni 231.604 Recovery = 100.67%  
 QC value within limits for P 214.914 Recovery = 100.07%  
 QC value within limits for Pb 220.353 Recovery = 100.99%  
 QC value within limits for S 181.975 Axial Recovery = 100.54%  
 QC value within limits for Sb 206.836 Recovery = 100.48%  
 QC value within limits for Se 196.026 Recovery = 100.81%  
 QC value within limits for SiO2 Recovery = 100.02%  
 QC value within limits for Si 251.611 Recovery = 100.07%  
 QC value within limits for Sn 189.927 Recovery = 100.93%  
 QC value within limits for Sr 421.552 Recovery = 102.46%  
 QC value within limits for Ti 334.940 Recovery = 100.20%  
 QC value within limits for Tl 190.801 Recovery = 102.12%  
 QC value within limits for U 409.014 Recovery = 99.86%  
 QC value within limits for V 292.402 Recovery = 101.07%  
 QC value within limits for Zn 213.857 Recovery = 99.92%

All analyte(s) passed QC.

Sequence No.: 109  
 Sample ID: CCB  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 6  
 Date Collected: 3/30/2010 21:06:46  
 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	153677.2	153677.2	104 %		21:07:17
1	Al 396.153Radial†	-39.4	25.0	5.1206 µg/L	5.1206 ppb	21:07:37
1	Ca 317.933Radial†	707.2	-17.7	-1.0642 µg/L	-1.0642 ppb	21:07:37
1	Fe 238.204 Radial†	183.4	35.7	2.4036 µg/L	2.4036 ppb	21:07:37
1	K 766.490 Radial†	1690.0	312.9	128.79 µg/L	128.79 ppb	21:07:17
1	Mg 279.077 IEC†	184.2	8.4	3.4622 µg/L	3.4622 ppb	21:07:37
1	Na 589.592 Radial†	1476.4	213.6	32.321 µg/L	32.321 ppb	21:07:17
1	Sr 421.552†	-214.3	15.5	0.0358 µg/L	0.0358 ppb	21:07:17
1	Sc 361.383	1796720.7	1796720.7	102.37 %		21:08:25
1	Y 371.029	1085770.1	1085770.1	102.04 %		21:08:25
1	Ag 328.068†	3720.7	187.4	0.7385 µg/L	0.7385 ppb	21:08:27
1	As 188.979†	-12.0	6.0	2.0927 µg/L	2.0927 ppb	21:08:47
1	B 249.677†	3331.3	23.8	0.3878 µg/L	0.3878 ppb	21:08:47
1	Ba 233.527†	-142.4	23.1	0.1003 µg/L	0.1003 ppb	21:08:47
1	Be 313.107†	-604.6	195.0	0.0581 µg/L	0.0581 ppb	21:08:27
1	Cd 226.502†	-94.1	18.1	0.1240 µg/L	0.1240 ppb	21:08:47
1	Co 228.616†	-178.6	-2.0	-0.0269 µg/L	-0.0269 ppb	21:08:47
1	Cr 267.716†	166.5	-15.9	-0.1329 µg/L	-0.1329 ppb	21:08:47
1	Cu 324.752†	2915.7	59.1	0.2484 µg/L	0.2484 ppb	21:08:27
1	Mn 257.610†	293.6	111.2	0.1485 µg/L	0.1485 ppb	21:08:47
1	Mo 202.031†	-19.6	15.6	0.4978 µg/L	0.4978 ppb	21:08:47
1	Ni 231.604†	-74.8	4.8	0.0608 µg/L	0.0608 ppb	21:08:47
1	P 214.914†	-7.0	-11.8	-2.8335 µg/L	-2.8335 ppb	21:08:47
1	Pb 220.353†	99.5	0.2	0.0143 µg/L	0.0143 ppb	21:08:47
1	S 181.975 Axial†	102.2	12.2	9.9786 µg/L	9.9786 ppb	21:08:47
1	Sb 206.836†	71.1	-8.6	-1.1243 µg/L	-1.1243 ppb	21:08:47
1	Se 196.026†	-2.8	-16.3	-6.51 µg/L	-6.51 ppb	21:08:47
1	SiO2†	1754.2	-39.6	-4.2460 µg/L	-4.2460 ppb	21:08:47
1	Si 251.611†	930.5	-39.8	-0.6499 µg/L	-0.6499 ppb	21:08:47
1	Sn 189.927†	-3.0	-0.4	-0.0252 µg/L	-0.0252 ppb	21:08:47
1	Ti 334.940†	1052.4	142.4	0.1430 µg/L	0.1430 ppb	21:08:27
1	Tl 190.801†	-105.0	14.5	1.9435 µg/L	1.9435 ppb	21:08:47
1	U 409.014†	-314.9	-23.9	-1.5168 µg/L	-1.5168 ppb	21:08:27
1	V 292.402†	247.0	-68.5	-0.3606 µg/L	-0.3606 ppb	21:08:27
1	Zn 213.857†	608.2	69.5	0.4306 µg/L	0.4306 ppb	21:08:47
2	Sc RADIAL	152648.1	152648.1	103 %		21:07:39
2	Al 396.153Radial†	-26.9	36.9	7.5643 µg/L	7.5643 ppb	21:07:59
2	Ca 317.933Radial†	678.5	-40.9	-2.4620 µg/L	-2.4620 ppb	21:07:59
2	Fe 238.204 Radial†	167.8	21.8	1.4696 µg/L	1.4696 ppb	21:07:59
2	K 766.490 Radial†	1592.4	229.4	94.390 µg/L	94.390 ppb	21:07:39
2	Mg 279.077 IEC†	162.4	-11.5	-4.7167 µg/L	-4.7167 ppb	21:07:59
2	Na 589.592 Radial†	1514.2	259.8	39.365 µg/L	39.365 ppb	21:07:39
2	Sr 421.552†	-268.2	-38.1	-0.0879 µg/L	-0.0879 ppb	21:07:39
2	Sc 361.383	1777695.4	1777695.4	101.29 %		21:08:49
2	Y 371.029	1073650.9	1073650.9	100.90 %		21:08:49
2	Ag 328.068†	3732.3	237.7	0.9337 µg/L	0.9337 ppb	21:08:51
2	As 188.979†	-16.1	1.8	0.6271 µg/L	0.6271 ppb	21:09:11
2	B 249.677†	3267.6	-4.3	-0.0714 µg/L	-0.0714 ppb	21:09:11
2	Ba 233.527†	-142.9	21.0	0.0917 µg/L	0.0917 ppb	21:09:11
2	Be 313.107†	-767.2	28.2	0.0062 µg/L	0.0062 ppb	21:08:51
2	Cd 226.502†	-108.1	3.3	0.0225 µg/L	0.0225 ppb	21:09:11
2	Co 228.616†	-159.8	14.6	0.1980 µg/L	0.1980 ppb	21:09:11
2	Cr 267.716†	166.7	-14.0	-0.1123 µg/L	-0.1123 ppb	21:09:11
2	Cu 324.752†	2959.4	132.8	0.5536 µg/L	0.5536 ppb	21:08:51
2	Mn 257.610†	279.3	100.1	0.1340 µg/L	0.1340 ppb	21:09:11
2	Mo 202.031†	-14.4	20.6	0.6548 µg/L	0.6548 ppb	21:09:11
2	Ni 231.604†	-66.5	12.2	0.1537 µg/L	0.1537 ppb	21:09:11
2	P 214.914†	17.2	12.0	2.8494 µg/L	2.8494 ppb	21:09:11
2	Pb 220.353†	76.0	-21.9	-1.3349 µg/L	-1.3349 ppb	21:09:11



2	S 181.975 Axial†	93.6	4.7	3.8406 µg/L	3.8406 ppb	21:09:11
2	Sb 206.836†	72.2	-6.8	-0.8788 µg/L	-0.8788 ppb	21:09:11
2	Se 196.026†	23.3	9.4	3.76 µg/L	3.76 ppb	21:09:11
2	SiO2†	1776.4	0.7	0.0519 µg/L	0.0519 ppb	21:09:11
2	Si 251.611†	867.2	-92.5	-1.5062 µg/L	-1.5062 ppb	21:09:11
2	Sn 189.927†	-1.4	1.2	0.0804 µg/L	0.0804 ppb	21:09:11
2	Ti 334.940†	1088.0	188.5	0.1923 µg/L	0.1923 ppb	21:08:51
2	Tl 190.801†	-101.8	16.6	2.2334 µg/L	2.2334 ppb	21:09:11
2	U 409.014†	-406.8	-117.9	-7.3950 µg/L	-7.3950 ppb	21:08:51
2	V 292.402†	278.6	-34.8	-0.1839 µg/L	-0.1839 ppb	21:08:51
2	Zn 213.857†	614.9	82.5	0.5103 µg/L	0.5103 ppb	21:09:11
3	Sc RADIAL	152456.9	152456.9	103 %		21:08:01
3	Al 396.153Radial†	-85.7	-20.3	-4.1941 µg/L	-4.1941 ppb	21:08:21
3	Ca 317.933Radial†	639.6	-77.8	-4.6806 µg/L	-4.6806 ppb	21:08:21
3	Fe 238.204 Radial†	172.8	26.8	1.8037 µg/L	1.8037 ppb	21:08:21
3	K 766.490 Radial†	1590.5	229.4	94.426 µg/L	94.426 ppb	21:08:01
3	Mg 279.077 IEC†	161.4	-12.3	-5.0294 µg/L	-5.0294 ppb	21:08:21
3	Na 589.592 Radial†	1356.4	108.6	16.410 µg/L	16.410 ppb	21:08:01
3	Sr 421.552†	-294.8	-64.2	-0.1481 µg/L	-0.1481 ppb	21:08:01
3	Sc 361.383	1783257.3	1783257.3	101.61 %		21:09:13
3	Y 371.029	1077364.7	1077364.7	101.25 %		21:09:13
3	Ag 328.068†	3639.8	135.2	0.5365 µg/L	0.5365 ppb	21:09:16
3	As 188.979†	-12.3	5.6	1.9533 µg/L	1.9533 ppb	21:09:36
3	B 249.677†	3242.2	-39.4	-0.6416 µg/L	-0.6416 ppb	21:09:36
3	Ba 233.527†	-147.6	16.9	0.0739 µg/L	0.0739 ppb	21:09:36
3	Be 313.107†	-702.6	94.1	0.0265 µg/L	0.0265 ppb	21:09:16
3	Cd 226.502†	-84.1	27.2	0.1867 µg/L	0.1867 ppb	21:09:36
3	Co 228.616†	-189.7	-14.3	-0.1934 µg/L	-0.1934 ppb	21:09:36
3	Cr 267.716†	160.2	-20.9	-0.1711 µg/L	-0.1711 ppb	21:09:36
3	Cu 324.752†	2874.0	39.7	0.1624 µg/L	0.1624 ppb	21:09:16
3	Mn 257.610†	263.4	83.7	0.1120 µg/L	0.1120 ppb	21:09:36
3	Mo 202.031†	-22.7	12.4	0.3941 µg/L	0.3941 ppb	21:09:36
3	Ni 231.604†	-71.7	7.4	0.0926 µg/L	0.0926 ppb	21:09:36
3	P 214.914†	3.9	-1.1	-0.2787 µg/L	-0.2787 ppb	21:09:36
3	Pb 220.353†	90.7	-7.7	-0.4644 µg/L	-0.4644 ppb	21:09:36
3	S 181.975 Axial†	83.1	-5.9	-4.8734 µg/L	-4.8734 ppb	21:09:36
3	Sb 206.836†	81.9	2.5	0.3377 µg/L	0.3377 ppb	21:09:36
3	Se 196.026†	12.4	-1.4	-0.553 µg/L	-0.553 ppb	21:09:36
3	SiO2†	1738.8	-41.8	-4.4819 µg/L	-4.4819 ppb	21:09:36
3	Si 251.611†	838.4	-123.5	-2.0026 µg/L	-2.0026 ppb	21:09:36
3	Sn 189.927†	-7.4	-4.8	-0.3301 µg/L	-0.3301 ppb	21:09:36
3	Ti 334.940†	1011.4	109.9	0.1128 µg/L	0.1128 ppb	21:09:16
3	Tl 190.801†	-102.1	16.6	2.2400 µg/L	2.2400 ppb	21:09:36
3	U 409.014†	-381.4	-91.6	-5.7066 µg/L	-5.7066 ppb	21:09:16
3	V 292.402†	413.5	97.1	0.5147 µg/L	0.5147 ppb	21:09:16
3	Zn 213.857†	583.8	50.0	0.3095 µg/L	0.3095 ppb	21:09:36

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
Sc 361.383	1785891.2	101.76 %		0.557			0.55%
Sc RADIAL	152927.4	103 %		0.4			0.43%
Y 371.029	1078928.6	101.40 %		0.584			0.58%
Ag 328.068†	186.8	0.7362 µg/L		0.19859	0.7362 ppb	0.19859	26.97%
QC value within limits for Ag 328.068 Recovery = Not calculated							
Al 396.153Radial†	13.9	2.8303 µg/L		6.20477	2.8303 ppb	6.20477	219.23%
QC value within limits for Al 396.153Radial Recovery = Not calculated							
As 188.979†	4.5	1.5577 µg/L		0.80891	1.5577 ppb	0.80891	51.93%
QC value within limits for As 188.979 Recovery = Not calculated							
B 249.677†	-6.7	-0.1084 µg/L		0.51568	-0.1084 ppb	0.51568	475.57%
QC value within limits for B 249.677 Recovery = Not calculated							
Ba 233.527†	20.3	0.0886 µg/L		0.01347	0.0886 ppb	0.01347	15.19%
QC value within limits for Ba 233.527 Recovery = Not calculated							
Be 313.107†	105.8	0.0303 µg/L		0.02613	0.0303 ppb	0.02613	86.30%
QC value within limits for Be 313.107 Recovery = Not calculated							
Ca 317.933Radial†	-45.5	-2.7356 µg/L		1.82366	-2.7356 ppb	1.82366	66.66%
QC value within limits for Ca 317.933Radial Recovery = Not calculated							
Cd 226.502†	16.2	0.1111 µg/L		0.08283	0.1111 ppb	0.08283	74.57%
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	-0.5	-0.0074 µg/L		0.19643	-0.0074 ppb	0.19643	>999.9%

Cr 267.716†	QC value within limits for Co 228.616	Recovery = Not calculated				
	-16.9	-0.1388 µg/L	0.02980	-0.1388 ppb	0.02980	21.48%
Cu 324.752†	QC value within limits for Cr 267.716	Recovery = Not calculated				
	77.2	0.3214 µg/L	0.20556	0.3214 ppb	0.20556	63.95%
Fe 238.204 Radial†	QC value within limits for Cu 324.752	Recovery = Not calculated				
	28.1	1.8923 µg/L	0.47326	1.8923 ppb	0.47326	25.01%
K 766.490 Radial†	QC value within limits for Fe 238.204 Radial	Recovery = Not calculated				
	257.2	105.87 µg/L	19.849	105.87 ppb	19.849	18.75%
Mg 279.077 IEC†	QC value within limits for K 766.490 Radial	Recovery = Not calculated				
	-5.1	-2.0946 µg/L	4.81490	-2.0946 ppb	4.81490	229.87%
Mn 257.610†	QC value within limits for Mg 279.077 IEC	Recovery = Not calculated				
	98.3	0.1315 µg/L	0.01834	0.1315 ppb	0.01834	13.95%
Mo 202.031†	QC value within limits for Mn 257.610	Recovery = Not calculated				
	16.2	0.5155 µg/L	0.13126	0.5155 ppb	0.13126	25.46%
Na 589.592 Radial†	QC value within limits for Mo 202.031	Recovery = Not calculated				
	194.0	29.365 µg/L	11.7597	29.365 ppb	11.7597	40.05%
Ni 231.604†	QC value within limits for Na 589.592 Radial	Recovery = Not calculated				
	8.1	0.1023 µg/L	0.04723	0.1023 ppb	0.04723	46.15%
P 214.914†	QC value within limits for Ni 231.604	Recovery = Not calculated				
	-0.3	-0.0876 µg/L	2.84626	-0.0876 ppb	2.84626	>999.9%
Pb 220.353†	QC value within limits for P 214.914	Recovery = Not calculated				
	-9.8	-0.5950 µg/L	0.68399	-0.5950 ppb	0.68399	114.96%
S 181.975 Axial†	QC value within limits for Pb 220.353	Recovery = Not calculated				
	3.6	2.9819 µg/L	7.46313	2.9819 ppb	7.46313	250.28%
Sb 206.836†	QC value within limits for S 181.975 Axial	Recovery = Not calculated				
	-4.3	-0.5551 µg/L	0.78291	-0.5551 ppb	0.78291	141.03%
Se 196.026†	QC value within limits for Sb 206.836	Recovery = Not calculated				
	-2.7	-1.10 µg/L	5.159	-1.10 ppb	5.159	467.91%
SiO2†	QC value within limits for Se 196.026	Recovery = Not calculated				
	-26.9	-2.8920 µg/L	2.55222	-2.8920 ppb	2.55222	88.25%
Si 251.611†	QC value within limits for SiO2	Recovery = Not calculated				
	-85.3	-1.3862 µg/L	0.68427	-1.3862 ppb	0.68427	49.36%
Sn 189.927†	QC value within limits for Si 251.611	Recovery = Not calculated				
	-1.3	-0.0916 µg/L	0.21320	-0.0916 ppb	0.21320	232.64%
Sr 421.552†	QC value within limits for Sn 189.927	Recovery = Not calculated				
	-28.9	-0.0667 µg/L	0.09371	-0.0667 ppb	0.09371	140.45%
Ti 334.940†	QC value within limits for Sr 421.552	Recovery = Not calculated				
	146.9	0.1494 µg/L	0.04013	0.1494 ppb	0.04013	26.87%
Tl 190.801†	QC value within limits for Ti 334.940	Recovery = Not calculated				
	15.9	2.1390 µg/L	0.16933	2.1390 ppb	0.16933	7.92%
U 409.014†	QC value within limits for Tl 190.801	Recovery = Not calculated				
	-77.8	-4.8728 µg/L	3.02650	-4.8728 ppb	3.02650	62.11%
V 292.402†	QC value within limits for U 409.014	Recovery = Not calculated				
	-2.1	-0.0099 µg/L	0.46286	-0.0099 ppb	0.46286	>999.9%
Zn 213.857†	QC value within limits for V 292.402	Recovery = Not calculated				
	67.4	0.4168 µg/L	0.10109	0.4168 ppb	0.10109	24.25%
	QC value within limits for Zn 213.857 Recovery = Not calculated					

All analyte(s) passed QC.

Sequence No.: 114

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 3/30/2010 21:18:10

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	151631.9	151631.9	103 %		21:18:44
1	Al 396.153Radial†	26045.3	25455.1	5222.2 µg/L	5222.2 ppb	21:18:44
1	Ca 317.933Radial†	87712.1	84814.8	5103.1 µg/L	5103.1 ppb	21:18:44
1	Fe 238.204 Radial†	77774.2	75683.3	5092.6 µg/L	5092.6 ppb	21:18:44
1	K 766.490 Radial†	14284.5	12613.5	5187.0 µg/L	5187.0 ppb	21:18:44
1	Mg 279.077 IEC†	13202.8	12703.0	5218.9 µg/L	5218.9 ppb	21:18:44
1	Na 589.592 Radial†	69863.8	66905.4	10155 µg/L	10155 ppb	21:18:44
1	Sr 421.552†	227431.6	221950.6	511.97 µg/L	511.97 ppb	21:18:42
1	Sc 361.383	1768687.5	1768687.5	100.78 %		21:18:56
1	Y 371.029	1055307.6	1055307.6	99.179 %		21:18:56
1	Ag 328.068†	129918.8	125472.0	505.03 µg/L	505.03 ppb	21:18:56
1	As 188.979†	1473.4	1479.7	523.61 µg/L	523.61 ppb	21:19:17
1	B 249.677†	34105.9	30613.1	497.36 µg/L	497.36 ppb	21:18:56
1	Ba 233.527†	116649.9	115914.4	505.12 µg/L	505.12 ppb	21:18:56
1	Be 313.107†	1706391.0	1694045.9	508.54 µg/L	508.54 ppb	21:18:56
1	Cd 226.502†	74033.0	73573.3	504.86 µg/L	504.86 ppb	21:18:56
1	Co 228.616†	37620.2	37503.1	507.49 µg/L	507.49 ppb	21:18:56
1	Cr 267.716†	60107.5	59466.4	500.93 µg/L	500.93 ppb	21:18:56
1	Cu 324.752†	122803.0	119069.1	503.30 µg/L	503.30 ppb	21:18:56
1	Mn 257.610†	381421.7	378311.1	505.44 µg/L	505.44 ppb	21:18:56
1	Mo 202.031†	15884.6	15797.1	502.95 µg/L	502.95 ppb	21:19:17
1	Ni 231.604†	40333.2	40100.8	504.38 µg/L	504.38 ppb	21:18:56
1	P 214.914†	10682.6	10595.4	2518.6 µg/L	2518.6 ppb	21:19:17
1	Pb 220.353†	8425.9	8264.1	507.62 µg/L	507.62 ppb	21:19:17
1	S 181.975 Axial†	1325.6	1227.7	1010.7 µg/L	1010.7 ppb	21:19:17
1	Sb 206.836†	3941.9	3833.5	503.82 µg/L	503.82 ppb	21:19:17
1	Se 196.026†	1280.6	1257.2	505 µg/L	505 ppb	21:19:17
1	SiO2†	52559.2	50401.6	5370.6 µg/L	5370.6 ppb	21:18:56
1	Si 251.611†	158141.9	155976.3	2514.6 µg/L	2514.6 ppb	21:18:56
1	Sn 189.927†	7349.0	7295.0	506.74 µg/L	506.74 ppb	21:19:17
1	Ti 334.940†	507861.1	503067.5	503.34 µg/L	503.34 ppb	21:18:56
1	Tl 190.801†	3670.3	3759.2	512.75 µg/L	512.75 ppb	21:19:17
1	U 409.014†	7226.1	7454.2	497.48 µg/L	497.48 ppb	21:18:56
1	V 292.402†	95390.4	94346.5	507.57 µg/L	507.57 ppb	21:18:56
1	Zn 213.857†	82673.2	81512.5	501.58 µg/L	501.58 ppb	21:18:56
2	Sc RADIAL	153903.5	153903.5	104 %		21:18:48
2	Al 396.153Radial†	26249.1	25276.1	5185.5 µg/L	5185.5 ppb	21:18:48
2	Ca 317.933Radial†	88603.1	84408.5	5078.7 µg/L	5078.7 ppb	21:18:48
2	Fe 238.204 Radial†	78669.5	75424.2	5075.2 µg/L	5075.2 ppb	21:18:48
2	K 766.490 Radial†	14378.2	12498.0	5139.5 µg/L	5139.5 ppb	21:18:48
2	Mg 279.077 IEC†	13395.8	12698.4	5216.9 µg/L	5216.9 ppb	21:18:48
2	Na 589.592 Radial†	70515.1	66525.7	10097 µg/L	10097 ppb	21:18:48
2	Sr 421.552†	230265.8	221400.2	510.70 µg/L	510.70 ppb	21:18:46
2	Sc 361.383	1789061.4	1789061.4	101.94 %		21:19:20
2	Y 371.029	1067477.1	1067477.1	100.32 %		21:19:20
2	Ag 328.068†	131095.7	125158.4	503.76 µg/L	503.76 ppb	21:19:20
2	As 188.979†	1470.4	1460.2	516.75 µg/L	516.75 ppb	21:19:40
2	B 249.677†	34557.8	30671.0	498.32 µg/L	498.32 ppb	21:19:20
2	Ba 233.527†	117502.5	115432.7	503.02 µg/L	503.02 ppb	21:19:20
2	Be 313.107†	1722107.7	1690181.1	507.38 µg/L	507.38 ppb	21:19:20
2	Cd 226.502†	74669.3	73360.9	503.40 µg/L	503.40 ppb	21:19:20
2	Co 228.616†	37839.0	37292.7	504.64 µg/L	504.64 ppb	21:19:20
2	Cr 267.716†	60469.3	59142.1	498.19 µg/L	498.19 ppb	21:19:20
2	Cu 324.752†	123402.0	118269.0	499.93 µg/L	499.93 ppb	21:19:20
2	Mn 257.610†	383781.4	376315.8	502.77 µg/L	502.77 ppb	21:19:20
2	Mo 202.031†	15949.3	15681.1	499.26 µg/L	499.26 ppb	21:19:40
2	Ni 231.604†	40697.1	40001.9	503.13 µg/L	503.13 ppb	21:19:20
2	P 214.914†	10762.9	10553.5	2508.7 µg/L	2508.7 ppb	21:19:40
2	Pb 220.353†	8485.8	8227.7	505.37 µg/L	505.37 ppb	21:19:40

2	S 181.975 Axial†	1340.7	1227.6	1010.5 µg/L	1010.5 ppb	21:19:40
2	Sb 206.836†	3958.8	3805.5	500.14 µg/L	500.14 ppb	21:19:40
2	Se 196.026†	1301.5	1263.2	508 µg/L	508 ppb	21:19:40
2	SiO2†	52800.7	50044.6	5332.5 µg/L	5332.5 ppb	21:19:20
2	Si 251.611†	159073.2	155102.9	2500.6 µg/L	2500.6 ppb	21:19:20
2	Sn 189.927†	7411.4	7273.1	505.22 µg/L	505.22 ppb	21:19:40
2	Ti 334.940†	511242.0	500645.1	500.91 µg/L	500.91 ppb	21:19:20
2	Tl 190.801†	3687.1	3734.1	509.35 µg/L	509.35 ppb	21:19:40
2	U 409.014†	7333.2	7477.6	498.80 µg/L	498.80 ppb	21:19:20
2	V 292.402†	96018.4	93884.7	505.08 µg/L	505.08 ppb	21:19:20
2	Zn 213.857†	83458.6	81348.7	500.58 µg/L	500.58 ppb	21:19:20
3	Sc RADIAL	154073.4	154073.4	104 %		21:18:52
3	Al 396.153Radial†	26145.6	25149.0	5159.2 µg/L	5159.2 ppb	21:18:52
3	Ca 317.933Radial†	88246.9	83972.9	5052.4 µg/L	5052.4 ppb	21:18:52
3	Fe 238.204 Radial†	78381.5	75064.5	5051.0 µg/L	5051.0 ppb	21:18:52
3	K 766.490 Radial†	14455.2	12556.6	5163.7 µg/L	5163.7 ppb	21:18:52
3	Mg 279.077 IEC†	13385.3	12674.1	5207.1 µg/L	5207.1 ppb	21:18:52
3	Na 589.592 Radial†	70201.9	66150.5	10040 µg/L	10040 ppb	21:18:52
3	Sr 421.552†	230383.3	221269.1	510.40 µg/L	510.40 ppb	21:18:50
3	Sc 361.383	1774253.6	1774253.6	101.09 %		21:19:43
3	Y 371.029	1057800.0	1057800.0	99.413 %		21:19:43
3	Ag 328.068†	130220.5	125365.9	504.59 µg/L	504.59 ppb	21:19:43
3	As 188.979†	1457.4	1459.3	516.48 µg/L	516.48 ppb	21:20:03
3	B 249.677†	34468.1	30865.3	501.47 µg/L	501.47 ppb	21:19:43
3	Ba 233.527†	116797.3	115697.1	504.17 µg/L	504.17 ppb	21:19:43
3	Be 313.107†	1711330.3	1693619.7	508.41 µg/L	508.41 ppb	21:19:43
3	Cd 226.502†	74370.4	73676.7	505.57 µg/L	505.57 ppb	21:19:43
3	Co 228.616†	37728.8	37493.5	507.36 µg/L	507.36 ppb	21:19:43
3	Cr 267.716†	60198.9	59369.7	500.11 µg/L	500.11 ppb	21:19:43
3	Cu 324.752†	122728.4	118613.0	501.38 µg/L	501.38 ppb	21:19:43
3	Mn 257.610†	381598.4	377298.5	504.08 µg/L	504.08 ppb	21:19:43
3	Mo 202.031†	15887.1	15750.2	501.46 µg/L	501.46 ppb	21:20:03
3	Ni 231.604†	40432.0	40072.9	504.03 µg/L	504.03 ppb	21:19:43
3	P 214.914†	10710.5	10589.8	2517.3 µg/L	2517.3 ppb	21:20:03
3	Pb 220.353†	8465.4	8276.9	508.39 µg/L	508.39 ppb	21:20:03
3	S 181.975 Axial†	1317.3	1215.3	1000.5 µg/L	1000.5 ppb	21:20:03
3	Sb 206.836†	3935.2	3814.6	501.34 µg/L	501.34 ppb	21:20:03
3	Se 196.026†	1290.6	1263.1	508 µg/L	508 ppb	21:20:03
3	SiO2†	52664.6	50342.3	5364.3 µg/L	5364.3 ppb	21:19:43
3	Si 251.611†	158392.5	155731.9	2510.7 µg/L	2510.7 ppb	21:19:43
3	Sn 189.927†	7362.2	7285.1	506.05 µg/L	506.05 ppb	21:20:03
3	Ti 334.940†	508369.1	501989.0	502.26 µg/L	502.26 ppb	21:19:43
3	Tl 190.801†	3659.0	3736.5	509.68 µg/L	509.68 ppb	21:20:03
3	U 409.014†	7329.8	7534.3	502.39 µg/L	502.39 ppb	21:19:43
3	V 292.402†	95311.3	93971.3	505.57 µg/L	505.57 ppb	21:19:43
3	Zn 213.857†	83007.1	81585.4	502.04 µg/L	502.04 ppb	21:19:43

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1777334.1	101.27 %	0.600			0.59%
Sc RADIAL	153202.9	104 %	0.9			0.89%
Y 371.029	1060194.9	99.638 %	0.6042			0.61%
Ag 328.068†	125332.1	504.46 µg/L	0.647	504.46 ppb	0.647	0.13%
QC value within limits for Ag 328.068 Recovery = 100.89%						
Al 396.153Radial†	25293.4	5189.0 µg/L	31.66	5189.0 ppb	31.66	0.61%
QC value within limits for Al 396.153Radial Recovery = 103.78%						
As 188.979†	1466.4	518.95 µg/L	4.042	518.95 ppb	4.042	0.78%
QC value within limits for As 188.979 Recovery = 103.79%						
B 249.677†	30716.5	499.05 µg/L	2.152	499.05 ppb	2.152	0.43%
QC value within limits for B 249.677 Recovery = 99.81%						
Ba 233.527†	115681.4	504.10 µg/L	1.052	504.10 ppb	1.052	0.21%
QC value within limits for Ba 233.527 Recovery = 100.82%						
Be 313.107†	1692615.6	508.11 µg/L	0.636	508.11 ppb	0.636	0.13%
QC value within limits for Be 313.107 Recovery = 101.62%						
Ca 317.933Radial†	84398.7	5078.1 µg/L	25.33	5078.1 ppb	25.33	0.50%
QC value within limits for Ca 317.933Radial Recovery = 101.56%						
Cd 226.502†	73537.0	504.61 µg/L	1.106	504.61 ppb	1.106	0.22%
QC value within limits for Cd 226.502 Recovery = 100.92%						
Co 228.616†	37429.8	506.50 µg/L	1.608	506.50 ppb	1.608	0.32%

QC value within limits for Co 228.616 Recovery = 101.30%							
Cr 267.716†	59326.0	499.74 µg/L	1.404	499.74 ppb	1.404	0.28%	
QC value within limits for Cr 267.716 Recovery = 99.95%							
Cu 324.752†	118650.3	501.54 µg/L	1.693	501.54 ppb	1.693	0.34%	
QC value within limits for Cu 324.752 Recovery = 100.31%							
Fe 238.204 Radial†	75390.7	5072.9 µg/L	20.91	5072.9 ppb	20.91	0.41%	
QC value within limits for Fe 238.204 Radial Recovery = 101.46%							
K 766.490 Radial†	12556.0	5163.4 µg/L	23.76	5163.4 ppb	23.76	0.46%	
QC value within limits for K 766.490 Radial Recovery = 103.27%							
Mg 279.077 IEC†	12691.8	5214.3 µg/L	6.35	5214.3 ppb	6.35	0.12%	
QC value within limits for Mg 279.077 IEC Recovery = 104.29%							
Mn 257.610†	377308.4	504.10 µg/L	1.333	504.10 ppb	1.333	0.26%	
QC value within limits for Mn 257.610 Recovery = 100.82%							
Mo 202.031†	15742.8	501.23 µg/L	1.857	501.23 ppb	1.857	0.37%	
QC value within limits for Mo 202.031 Recovery = 100.25%							
Na 589.592 Radial†	66527.2	10097 µg/L	57.3	10097 ppb	57.3	0.57%	
QC value within limits for Na 589.592 Radial Recovery = 100.97%							
Ni 231.604†	40058.5	503.85 µg/L	0.641	503.85 ppb	0.641	0.13%	
QC value within limits for Ni 231.604 Recovery = 100.77%							
P 214.914†	10579.6	2514.9 µg/L	5.40	2514.9 ppb	5.40	0.21%	
QC value within limits for P 214.914 Recovery = 100.59%							
Pb 220.353†	8256.2	507.13 µg/L	1.569	507.13 ppb	1.569	0.31%	
QC value within limits for Pb 220.353 Recovery = 101.43%							
S 181.975 Axial†	1223.5	1007.2 µg/L	5.82	1007.2 ppb	5.82	0.58%	
QC value within limits for S 181.975 Axial Recovery = 100.72%							
Sb 206.836†	3817.9	501.77 µg/L	1.877	501.77 ppb	1.877	0.37%	
QC value within limits for Sb 206.836 Recovery = 100.35%							
Se 196.026†	1261.2	507 µg/L	1.4	507 ppb	1.4	0.27%	
QC value within limits for Se 196.026 Recovery = 101.41%							
SiO2†	50262.8	5355.8 µg/L	20.40	5355.8 ppb	20.40	0.38%	
QC value within limits for SiO2 Recovery = 100.16%							
Si 251.611†	155603.7	2508.6 µg/L	7.26	2508.6 ppb	7.26	0.29%	
QC value within limits for Si 251.611 Recovery = 100.35%							
Sn 189.927†	7284.4	506.00 µg/L	0.761	506.00 ppb	0.761	0.15%	
QC value within limits for Sn 189.927 Recovery = 101.20%							
Sr 421.552†	221540.0	511.02 µg/L	0.834	511.02 ppb	0.834	0.16%	
QC value within limits for Sr 421.552 Recovery = 102.20%							
Ti 334.940†	501900.6	502.17 µg/L	1.216	502.17 ppb	1.216	0.24%	
QC value within limits for Ti 334.940 Recovery = 100.43%							
Tl 190.801†	3743.3	510.59 µg/L	1.876	510.59 ppb	1.876	0.37%	
QC value within limits for Tl 190.801 Recovery = 102.12%							
U 409.014†	7488.7	499.56 µg/L	2.538	499.56 ppb	2.538	0.51%	
QC value within limits for U 409.014 Recovery = 99.91%							
V 292.402†	94067.5	506.07 µg/L	1.322	506.07 ppb	1.322	0.26%	
QC value within limits for V 292.402 Recovery = 101.21%							
Zn 213.857†	81482.2	501.40 µg/L	0.749	501.40 ppb	0.749	0.15%	
QC value within limits for Zn 213.857 Recovery = 100.28%							
All analyte(s) passed QC.							

Sequence No.: 115  
 Sample ID: CCB  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 6  
 Date Collected: 3/30/2010 21:20:10  
 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	152696.6	152696.6	103 %		21:20:41
1	Al 396.153Radial†	-30.7	33.2	6.8400 µg/L	6.8400 ppb	21:21:01
1	Ca 317.933Radial†	683.4	-36.3	-2.1859 µg/L	-2.1859 ppb	21:21:01
1	Fe 238.204 Radial†	180.7	34.2	2.3025 µg/L	2.3025 ppb	21:21:01
1	K 766.490 Radial†	1568.6	205.8	84.677 µg/L	84.677 ppb	21:20:41
1	Mg 279.077 IEC†	186.3	11.6	4.7428 µg/L	4.7428 ppb	21:21:01
1	Na 589.592 Radial†	1531.6	276.2	41.863 µg/L	41.863 ppb	21:20:41
1	Sr 421.552†	-202.7	25.4	0.0587 µg/L	0.0587 ppb	21:20:41
1	Sc 361.383	1776337.0	1776337.0	101.21 %		21:21:48
1	Y 371.029	1071521.2	1071521.2	100.70 %		21:21:48
1	Ag 328.068†	3644.4	153.7	0.5936 µg/L	0.5936 ppb	21:21:51
1	As 188.979†	-8.6	9.1	3.1890 µg/L	3.1890 ppb	21:22:11
1	B 249.677†	3320.3	50.2	0.8180 µg/L	0.8180 ppb	21:22:11
1	Ba 233.527†	-154.6	9.4	0.0409 µg/L	0.0409 ppb	21:22:11
1	Be 313.107†	-702.4	91.6	0.0234 µg/L	0.0234 ppb	21:21:51
1	Cd 226.502†	-127.2	-15.7	-0.1077 µg/L	-0.1077 ppb	21:22:11
1	Co 228.616†	-172.0	2.5	0.0332 µg/L	0.0332 ppb	21:22:11
1	Cr 267.716†	137.8	-42.5	-0.3472 µg/L	-0.3472 ppb	21:22:11
1	Cu 324.752†	3007.5	182.5	0.7585 µg/L	0.7585 ppb	21:21:51
1	Mn 257.610†	281.6	102.6	0.1370 µg/L	0.1370 ppb	21:22:11
1	Mo 202.031†	-35.6	-0.4	-0.0121 µg/L	-0.0121 ppb	21:22:11
1	Ni 231.604†	-83.8	-4.9	-0.0620 µg/L	-0.0620 ppb	21:22:11
1	P 214.914†	-9.3	-14.2	-3.4052 µg/L	-3.4052 ppb	21:22:11
1	Pb 220.353†	70.2	-27.6	-1.6779 µg/L	-1.6779 ppb	21:22:11
1	S 181.975 Axial†	99.1	10.2	8.3793 µg/L	8.3793 ppb	21:22:11
1	Sb 206.836†	83.0	3.9	0.5207 µg/L	0.5207 ppb	21:22:11
1	Se 196.026†	17.2	3.4	1.36 µg/L	1.36 ppb	21:22:11
1	SiO2†	1762.0	-12.2	-1.3038 µg/L	-1.3038 ppb	21:22:11
1	Si 251.611†	906.5	-53.0	-0.8574 µg/L	-0.8574 ppb	21:21:51
1	Sn 189.927†	-4.5	-1.9	-0.1326 µg/L	-0.1326 ppb	21:22:11
1	Ti 334.940†	985.7	88.3	0.0937 µg/L	0.0937 ppb	21:21:51
1	Tl 190.801†	-102.8	15.6	2.0909 µg/L	2.0909 ppb	21:22:11
1	U 409.014†	-505.2	-215.4	-13.495 µg/L	-13.495 ppb	21:21:51
1	V 292.402†	301.0	-12.5	-0.0774 µg/L	-0.0774 ppb	21:21:51
1	Zn 213.857†	609.8	78.0	0.4833 µg/L	0.4833 ppb	21:22:11
2	Sc RADIAL	152475.3	152475.3	103 %		21:21:03
2	Al 396.153Radial†	-50.1	14.4	2.9305 µg/L	2.9305 ppb	21:21:23
2	Ca 317.933Radial†	636.2	-81.2	-4.8839 µg/L	-4.8839 ppb	21:21:23
2	Fe 238.204 Radial†	179.6	33.4	2.2506 µg/L	2.2506 ppb	21:21:23
2	K 766.490 Radial†	1565.5	205.0	84.362 µg/L	84.362 ppb	21:21:03
2	Mg 279.077 IEC†	157.9	-15.7	-6.4417 µg/L	-6.4417 ppb	21:21:23
2	Na 589.592 Radial†	1374.9	126.4	19.111 µg/L	19.111 ppb	21:21:03
2	Sr 421.552†	-301.4	-70.6	-0.1628 µg/L	-0.1628 ppb	21:21:03
2	Sc 361.383	1806321.5	1806321.5	102.92 %		21:22:13
2	Y 371.029	1089292.1	1089292.1	102.37 %		21:22:13
2	Ag 328.068†	3427.5	-116.9	-0.4503 µg/L	-0.4503 ppb	21:22:15
2	As 188.979†	-10.5	7.5	2.6258 µg/L	2.6258 ppb	21:22:35
2	B 249.677†	3351.1	25.7	0.4185 µg/L	0.4185 ppb	21:22:35
2	Ba 233.527†	-180.7	-13.4	-0.0578 µg/L	-0.0578 ppb	21:22:35
2	Be 313.107†	-951.9	-139.3	-0.0396 µg/L	-0.0396 ppb	21:22:15
2	Cd 226.502†	-96.5	16.3	0.1114 µg/L	0.1114 ppb	21:22:35
2	Co 228.616†	-169.0	8.2	0.1107 µg/L	0.1107 ppb	21:22:35
2	Cr 267.716†	171.1	-12.3	-0.1092 µg/L	-0.1092 ppb	21:22:35
2	Cu 324.752†	2902.5	31.2	0.1378 µg/L	0.1378 ppb	21:22:15
2	Mn 257.610†	258.5	75.6	0.1013 µg/L	0.1013 ppb	21:22:35
2	Mo 202.031†	-17.0	18.2	0.5803 µg/L	0.5803 ppb	21:22:35
2	Ni 231.604†	-101.1	-20.4	-0.2564 µg/L	-0.2564 ppb	21:22:35
2	P 214.914†	-6.7	-11.5	-2.7538 µg/L	-2.7538 ppb	21:22:35
2	Pb 220.353†	73.8	-25.3	-1.5512 µg/L	-1.5512 ppb	21:22:35

2	S 181.975 Axial†	86.2	-4.0	-3.2454 µg/L	-3.2454 ppb	21:22:35
2	Sb 206.836†	77.6	-2.7	-0.3378 µg/L	-0.3378 ppb	21:22:35
2	Se 196.026†	21.8	7.6	3.05 µg/L	3.05 ppb	21:22:35
2	Si02†	1795.6	-8.5	-0.9269 µg/L	-0.9269 ppb	21:22:35
2	Si 251.611†	825.8	-146.3	-2.3766 µg/L	-2.3766 ppb	21:22:15
2	Sn 189.927†	-1.7	0.9	0.0615 µg/L	0.0615 ppb	21:22:35
2	Ti 334.940†	908.5	-2.8	-0.0054 µg/L	-0.0054 ppb	21:22:15
2	Tl 190.801†	-112.2	8.0	1.0825 µg/L	1.0825 ppb	21:22:35
2	U 409.014†	-170.5	118.1	7.4210 µg/L	7.4210 ppb	21:22:15
2	V 292.402†	400.8	79.5	0.4326 µg/L	0.4326 ppb	21:22:15
2	Zn 213.857†	582.6	41.5	0.2591 µg/L	0.2591 ppb	21:22:35
3	Sc RADIAL	153938.4	153938.4	104 %		21:21:25
3	Al 396.153Radial†	-92.7	-26.2	-5.4070 µg/L	-5.4070 ppb	21:21:45
3	Ca 317.933Radial†	646.7	-76.9	-4.6271 µg/L	-4.6271 ppb	21:21:45
3	Fe 238.204 Radial†	168.4	21.0	1.4158 µg/L	1.4158 ppb	21:21:45
3	K 766.490 Radial†	1549.2	174.9	72.000 µg/L	72.000 ppb	21:21:25
3	Mg 279.077 IEC†	179.9	4.0	1.6306 µg/L	1.6306 ppb	21:21:45
3	Na 589.592 Radial†	1364.7	103.9	15.716 µg/L	15.716 ppb	21:21:25
3	Sr 421.552†	-222.9	7.6	0.0177 µg/L	0.0177 ppb	21:21:25
3	Sc 361.383	1775538.2	1775538.2	101.17 %		21:22:37
3	Y 371.029	1072315.6	1072315.6	100.78 %		21:22:37
3	Ag 328.068†	3608.1	119.5	0.4897 µg/L	0.4897 ppb	21:22:39
3	As 188.979†	-10.5	7.4	2.5654 µg/L	2.5654 ppb	21:22:59
3	B 249.677†	3330.9	62.2	1.0138 µg/L	1.0138 ppb	21:22:59
3	Ba 233.527†	-161.3	2.7	0.0122 µg/L	0.0122 ppb	21:22:59
3	Be 313.107†	-1046.4	-248.8	-0.0732 µg/L	-0.0732 ppb	21:22:39
3	Cd 226.502†	-109.7	1.5	0.0106 µg/L	0.0106 ppb	21:22:59
3	Co 228.616†	-170.3	4.1	0.0555 µg/L	0.0555 ppb	21:22:59
3	Cr 267.716†	165.2	-15.3	-0.1324 µg/L	-0.1324 ppb	21:22:59
3	Cu 324.752†	2825.6	4.1	0.0218 µg/L	0.0218 ppb	21:22:39
3	Mn 257.610†	247.7	69.3	0.0925 µg/L	0.0925 ppb	21:22:59
3	Mo 202.031†	-26.8	8.3	0.2644 µg/L	0.2644 ppb	21:22:59
3	Ni 231.604†	-60.4	18.2	0.2293 µg/L	0.2293 ppb	21:22:59
3	P 214.914†	-40.5	-45.1	-10.746 µg/L	-10.746 ppb	21:22:59
3	Pb 220.353†	62.5	-35.1	-2.1545 µg/L	-2.1545 ppb	21:22:59
3	S 181.975 Axial†	88.3	-0.4	-0.3563 µg/L	-0.3563 ppb	21:22:59
3	Sb 206.836†	84.1	5.0	0.6686 µg/L	0.6686 ppb	21:22:59
3	Se 196.026†	7.9	-5.8	-2.32 µg/L	-2.32 ppb	21:22:59
3	Si02†	1788.7	15.0	1.5853 µg/L	1.5853 ppb	21:22:59
3	Si 251.611†	855.5	-103.0	-1.6750 µg/L	-1.6750 ppb	21:22:39
3	Sn 189.927†	6.6	9.0	0.6261 µg/L	0.6261 ppb	21:22:59
3	Ti 334.940†	1070.7	172.8	0.1709 µg/L	0.1709 ppb	21:22:39
3	Tl 190.801†	-103.9	14.4	1.9412 µg/L	1.9412 ppb	21:22:59
3	U 409.014†	-208.0	78.2	4.9397 µg/L	4.9397 ppb	21:22:39
3	V 292.402†	452.0	136.9	0.7322 µg/L	0.7322 ppb	21:22:39
3	Zn 213.857†	610.2	78.6	0.4858 µg/L	0.4858 ppb	21:22:59

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1786065.6	101.77 %	1.000			0.98%
Sc RADIAL	153036.8	104 %	0.5			0.52%
Y 371.029	1077709.6	101.28 %	0.943			0.93%
Ag 328.068†	52.1	0.2110 µg/L	0.57507	0.2110 ppb	0.57507	272.55%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	7.1	1.4545 µg/L	6.25546	1.4545 ppb	6.25546	430.08%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	8.0	2.7934 µg/L	0.34392	2.7934 ppb	0.34392	12.31%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	46.0	0.7501 µg/L	0.30341	0.7501 ppb	0.30341	40.45%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-0.4	-0.0016 µg/L	0.05080	-0.0016 ppb	0.05080	>999.9%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-98.8	-0.0298 µg/L	0.04903	-0.0298 ppb	0.04903	164.68%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-64.8	-3.8990 µg/L	1.48915	-3.8990 ppb	1.48915	38.19%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	0.7	0.0047 µg/L	0.10969	0.0047 ppb	0.10969	>999.9%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	4.9	0.0664 µg/L	0.03989	0.0664 ppb	0.03989	60.04%

QC value within limits for Co 228.616	Recovery = Not calculated		
Cr 267.716†	-23.4	-0.1963 µg/L	0.13125 -0.1963 ppb 0.13125 66.87%
QC value within limits for Cr 267.716	Recovery = Not calculated		
Cu 324.752†	72.6	0.3060 µg/L	0.39613 0.3060 ppb 0.39613 129.44%
QC value within limits for Cu 324.752	Recovery = Not calculated		
Fe 238.204 Radial†	29.6	1.9896 µg/L	0.49762 1.9896 ppb 0.49762 25.01%
QC value within limits for Fe 238.204 Radial	Recovery = Not calculated		
K 766.490 Radial†	195.2	80.347 µg/L	7.2297 80.347 ppb 7.2297 9.00%
QC value within limits for K 766.490 Radial	Recovery = Not calculated		
Mg 279.077 IEC†	-0.1	-0.0228 µg/L	5.77268 -0.0228 ppb 5.77268 >999.9%
QC value within limits for Mg 279.077 IEC	Recovery = Not calculated		
Mn 257.610†	82.5	0.1103 µg/L	0.02354 0.1103 ppb 0.02354 21.35%
QC value within limits for Mn 257.610	Recovery = Not calculated		
Mo 202.031†	8.7	0.2775 µg/L	0.29646 0.2775 ppb 0.29646 106.82%
QC value within limits for Mo 202.031	Recovery = Not calculated		
Na 589.592 Radial†	168.8	25.563 µg/L	14.2178 25.563 ppb 14.2178 55.62%
QC value within limits for Na 589.592 Radial	Recovery = Not calculated		
Ni 231.604†	-2.4	-0.0297 µg/L	0.24443 -0.0297 ppb 0.24443 822.71%
QC value within limits for Ni 231.604	Recovery = Not calculated		
P 214.914†	-23.6	-5.6348 µg/L	4.43796 -5.6348 ppb 4.43796 78.76%
QC value within limits for P 214.914	Recovery = Not calculated		
Pb 220.353†	-29.3	-1.7945 µg/L	0.31809 -1.7945 ppb 0.31809 17.73%
QC value within limits for Pb 220.353	Recovery = Not calculated		
S 181.975 Axial†	1.9	1.5925 µg/L	6.05244 1.5925 ppb 6.05244 380.05%
QC value within limits for S 181.975 Axial	Recovery = Not calculated		
Sb 206.836†	2.1	0.2838 µg/L	0.54341 0.2838 ppb 0.54341 191.48%
QC value within limits for Sb 206.836	Recovery = Not calculated		
Se 196.026†	1.7	0.698 µg/L	2.7434 0.698 ppb 2.7434 393.13%
QC value within limits for Se 196.026	Recovery = Not calculated		
SiO2†	-1.9	-0.2152 µg/L	1.57055 -0.2152 ppb 1.57055 729.96%
QC value within limits for SiO2	Recovery = Not calculated		
Si 251.611†	-100.8	-1.6363 µg/L	0.76037 -1.6363 ppb 0.76037 46.47%
QC value within limits for Si 251.611	Recovery = Not calculated		
Sn 189.927†	2.7	0.1850 µg/L	0.39414 0.1850 ppb 0.39414 213.03%
QC value within limits for Sn 189.927	Recovery = Not calculated		
Sr 421.552†	-12.5	-0.0288 µg/L	0.11780 -0.0288 ppb 0.11780 408.90%
QC value within limits for Sr 421.552	Recovery = Not calculated		
Ti 334.940†	86.1	0.0864 µg/L	0.08836 0.0864 ppb 0.08836 102.31%
QC value within limits for Ti 334.940	Recovery = Not calculated		
Tl 190.801†	12.7	1.7048 µg/L	0.54419 1.7048 ppb 0.54419 31.92%
QC value within limits for Tl 190.801	Recovery = Not calculated		
U 409.014†	-6.4	-0.3781 µg/L	11.42697 -0.3781 ppb 11.42697 >999.9%
QC value within limits for U 409.014	Recovery = Not calculated		
V 292.402†	68.0	0.3625 µg/L	0.40932 0.3625 ppb 0.40932 112.92%
QC value within limits for V 292.402	Recovery = Not calculated		
Zn 213.857†	66.0	0.4094 µg/L	0.13019 0.4094 ppb 0.13019 31.80%
QC value within limits for Zn 213.857	Recovery = Not calculated		

All analyte(s) passed QC.



Sequence No.: 124  
 Sample ID: CCV  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 7  
 Date Collected: 3/30/2010 21:37:49  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	155735.7	155735.7	105 %			21:38:23
1	Al 396.153Radial†	26455.5	25175.3	5164.1 µg/L		5164.1 ppb	21:38:23
1	Ca 317.933Radial†	89784.1	84528.3	5085.9 µg/L		5085.9 ppb	21:38:23
1	Fe 238.204 Radial†	79588.2	75407.3	5074.1 µg/L		5074.1 ppb	21:38:23
1	K 766.490 Radial†	14482.6	12434.6	5113.4 µg/L		5113.4 ppb	21:38:23
1	Mg 279.077 IEC†	13566.6	12709.1	5221.7 µg/L		5221.7 ppb	21:38:23
1	Na 589.592 Radial†	71159.0	66340.0	10069 µg/L		10069 ppb	21:38:23
1	Sr 421.552†	233554.7	221920.1	511.90 µg/L		511.90 ppb	21:38:21
1	Sc 361.383	1774505.8	1774505.8	101.11 %			21:38:36
1	Y 371.029	1058192.5	1058192.5	99.450 %			21:38:36
1	Ag 328.068†	130627.3	125750.0	506.13 µg/L		506.13 ppb	21:38:36
1	As 188.979†	1530.1	1531.1	541.56 µg/L		541.56 ppb	21:38:56
1	B 249.677†	34306.6	30700.6	498.78 µg/L		498.78 ppb	21:38:36
1	Ba 233.527†	117582.7	116457.5	507.49 µg/L		507.49 ppb	21:38:36
1	Be 313.107†	1725175.2	1707072.4	512.44 µg/L		512.44 ppb	21:38:36
1	Cd 226.502†	74496.9	73791.3	506.36 µg/L		506.36 ppb	21:38:36
1	Co 228.616†	37908.7	37666.1	509.70 µg/L		509.70 ppb	21:38:36
1	Cr 267.716†	60512.5	59671.4	502.67 µg/L		502.67 ppb	21:38:36
1	Cu 324.752†	123549.7	119408.0	504.71 µg/L		504.71 ppb	21:38:36
1	Mn 257.610†	383802.8	379425.1	506.93 µg/L		506.93 ppb	21:38:36
1	Mo 202.031†	16253.5	16110.3	512.92 µg/L		512.92 ppb	21:38:56
1	Ni 231.604†	40678.4	40310.9	507.02 µg/L		507.02 ppb	21:38:36
1	P 214.914†	10958.5	10833.5	2575.4 µg/L		2575.4 ppb	21:38:56
1	Pb 220.353†	8590.9	8399.9	515.97 µg/L		515.97 ppb	21:38:56
1	S 181.975 Axial†	1363.8	1261.2	1038.1 µg/L		1038.1 ppb	21:38:56
1	Sb 206.836†	4031.9	3909.6	513.95 µg/L		513.95 ppb	21:38:56
1	Se 196.026†	1318.0	1290.0	519 µg/L		519 ppb	21:38:56
1	SiO2†	52866.2	50534.2	5384.3 µg/L		5384.3 ppb	21:38:36
1	Si 251.611†	159054.7	156364.6	2520.7 µg/L		2520.7 ppb	21:38:36
1	Sn 189.927†	7536.9	7456.9	517.95 µg/L		517.95 ppb	21:38:56
1	Ti 334.940†	510712.3	504235.1	504.52 µg/L		504.52 ppb	21:38:36
1	Tl 190.801†	3764.0	3839.8	523.61 µg/L		523.61 ppb	21:38:56
1	U 409.014†	6927.0	7135.0	477.59 µg/L		477.59 ppb	21:38:36
1	V 292.402†	95996.0	94635.1	509.20 µg/L		509.20 ppb	21:38:36
1	Zn 213.857†	83459.4	82021.0	504.72 µg/L		504.72 ppb	21:38:36
2	Sc RADIAL	155041.9	155041.9	105 %			21:38:27
2	Al 396.153Radial†	26439.8	25272.8	5184.4 µg/L		5184.4 ppb	21:38:27
2	Ca 317.933Radial†	89541.1	84677.9	5094.9 µg/L		5094.9 ppb	21:38:27
2	Fe 238.204 Radial†	79278.2	75449.7	5076.9 µg/L		5076.9 ppb	21:38:27
2	K 766.490 Radial†	14371.1	12389.8	5095.0 µg/L		5095.0 ppb	21:38:27
2	Mg 279.077 IEC†	13629.4	12826.7	5269.8 µg/L		5269.8 ppb	21:38:27
2	Na 589.592 Radial†	70921.4	66415.8	10081 µg/L		10081 ppb	21:38:27
2	Sr 421.552†	231205.0	220671.8	509.02 µg/L		509.02 ppb	21:38:25
2	Sc 361.383	1782336.8	1782336.8	101.55 %			21:38:59
2	Y 371.029	1062229.9	1062229.9	99.829 %			21:38:59
2	Ag 328.068†	131409.1	125952.2	506.96 µg/L		506.96 ppb	21:38:59
2	As 188.979†	1515.6	1510.1	534.25 µg/L		534.25 ppb	21:39:19
2	B 249.677†	34746.5	30984.7	503.41 µg/L		503.41 ppb	21:38:59
2	Ba 233.527†	118240.5	116594.2	508.08 µg/L		508.08 ppb	21:38:59
2	Be 313.107†	1734884.9	1709136.7	513.07 µg/L		513.07 ppb	21:38:59
2	Cd 226.502†	74952.3	73916.0	507.21 µg/L		507.21 ppb	21:38:59
2	Co 228.616†	38256.0	37843.3	512.09 µg/L		512.09 ppb	21:38:59
2	Cr 267.716†	60885.4	59775.6	503.53 µg/L		503.53 ppb	21:38:59
2	Cu 324.752†	123997.9	119312.5	504.33 µg/L		504.33 ppb	21:38:59
2	Mn 257.610†	385847.6	379770.8	507.39 µg/L		507.39 ppb	21:38:59
2	Mo 202.031†	16207.6	15994.5	509.23 µg/L		509.23 ppb	21:39:19
2	Ni 231.604†	40972.6	40423.8	508.44 µg/L		508.44 ppb	21:38:59
2	P 214.914†	10934.2	10762.0	2558.4 µg/L		2558.4 ppb	21:39:19
2	Pb 220.353†	8605.8	8377.2	514.57 µg/L		514.57 ppb	21:39:19

2	S 181.975 Axial†	1353.8	1245.4	1025.2 µg/L	1025.2 ppb	21:39:19
2	Sb 206.836†	4039.9	3900.0	512.61 µg/L	512.61 ppb	21:39:19
2	Se 196.026†	1294.9	1261.6	507 µg/L	507 ppb	21:39:19
2	SiO2†	53037.1	50472.8	5377.9 µg/L	5377.9 ppb	21:38:59
2	Si 251.611†	159953.2	156558.2	2523.9 µg/L	2523.9 ppb	21:38:59
2	Sn 189.927†	7521.9	7409.4	514.67 µg/L	514.67 ppb	21:39:19
2	Ti 334.940†	513507.3	504768.0	505.04 µg/L	505.04 ppb	21:38:59
2	Tl 190.801†	3788.2	3847.3	524.61 µg/L	524.61 ppb	21:39:19
2	U 409.014†	7265.3	7438.0	496.58 µg/L	496.58 ppb	21:38:59
2	V 292.402†	96459.1	94674.0	509.39 µg/L	509.39 ppb	21:38:59
2	Zn 213.857†	83907.6	82099.7	505.20 µg/L	505.20 ppb	21:38:59
3	Sc RADIAL	154159.8	154159.8	104 %		21:38:31
3	Al 396.153Radial†	26383.6	25363.1	5203.0 µg/L	5203.0 ppb	21:38:31
3	Ca 317.933Radial†	88957.8	84607.2	5090.6 µg/L	5090.6 ppb	21:38:31
3	Fe 238.204 Radial†	79038.6	75652.5	5090.6 µg/L	5090.6 ppb	21:38:31
3	K 766.490 Radial†	14471.9	12564.8	5167.0 µg/L	5167.0 ppb	21:38:31
3	Mg 279.077 IEC†	13429.6	12709.4	5221.7 µg/L	5221.7 ppb	21:38:31
3	Na 589.592 Radial†	70531.1	66428.3	10082 µg/L	10082 ppb	21:38:31
3	Sr 421.552†	234744.2	225327.0	519.76 µg/L	519.76 ppb	21:38:29
3	Sc 361.383	1781093.9	1781093.9	101.48 %		21:39:22
3	Y 371.029	1062049.8	1062049.8	99.813 %		21:39:22
3	Ag 328.068†	131409.2	126042.6	507.32 µg/L	507.32 ppb	21:39:22
3	As 188.979†	1511.6	1507.2	533.24 µg/L	533.24 ppb	21:39:42
3	B 249.677†	34741.3	31003.5	503.72 µg/L	503.72 ppb	21:39:22
3	Ba 233.527†	117890.9	116331.0	506.94 µg/L	506.94 ppb	21:39:22
3	Be 313.107†	1732769.0	1708243.9	512.80 µg/L	512.80 ppb	21:39:22
3	Cd 226.502†	74929.0	73944.5	507.41 µg/L	507.41 ppb	21:39:22
3	Co 228.616†	38060.0	37676.5	509.84 µg/L	509.84 ppb	21:39:22
3	Cr 267.716†	60819.3	59752.4	503.33 µg/L	503.33 ppb	21:39:22
3	Cu 324.752†	124074.4	119473.1	505.01 µg/L	505.01 ppb	21:39:22
3	Mn 257.610†	385191.5	379389.4	506.88 µg/L	506.88 ppb	21:39:22
3	Mo 202.031†	16174.4	15972.9	508.55 µg/L	508.55 ppb	21:39:42
3	Ni 231.604†	40856.7	40337.8	507.36 µg/L	507.36 ppb	21:39:22
3	P 214.914†	10914.7	10750.3	2555.5 µg/L	2555.5 ppb	21:39:42
3	Pb 220.353†	8564.4	8342.3	512.42 µg/L	512.42 ppb	21:39:42
3	S 181.975 Axial†	1337.8	1230.6	1013.0 µg/L	1013.0 ppb	21:39:42
3	Sb 206.836†	4017.7	3880.9	510.10 µg/L	510.10 ppb	21:39:42
3	Se 196.026†	1323.8	1290.9	519 µg/L	519 ppb	21:39:42
3	SiO2†	53114.6	50585.6	5390.0 µg/L	5390.0 ppb	21:39:22
3	Si 251.611†	160007.2	156721.3	2526.6 µg/L	2526.6 ppb	21:39:22
3	Sn 189.927†	7519.2	7411.9	514.84 µg/L	514.84 ppb	21:39:42
3	Ti 334.940†	512393.0	504022.8	504.29 µg/L	504.29 ppb	21:39:22
3	Tl 190.801†	3733.3	3795.8	517.69 µg/L	517.69 ppb	21:39:42
3	U 409.014†	7355.4	7531.7	502.41 µg/L	502.41 ppb	21:39:22
3	V 292.402†	96255.9	94540.0	508.67 µg/L	508.67 ppb	21:39:22
3	Zn 213.857†	83891.6	82141.6	505.47 µg/L	505.47 ppb	21:39:22

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1779312.2	101.38 %	0.240			0.24%
Sc RADIAL	154979.1	105 %	0.5			0.51%
Y 371.029	1060824.1	99.697 %	0.2144			0.22%
Ag 328.068†	125914.9	506.80 µg/L	0.609	506.80 ppb	0.609	0.12%
QC value within limits for Ag 328.068 Recovery = 101.36%						
Al 396.153Radial†	25270.4	5183.8 µg/L	19.45	5183.8 ppb	19.45	0.38%
QC value within limits for Al 396.153Radial Recovery = 103.68%						
As 188.979†	1516.1	536.35 µg/L	4.542	536.35 ppb	4.542	0.85%
QC value within limits for As 188.979 Recovery = 107.27%						
B 249.677†	30896.3	501.97 µg/L	2.765	501.97 ppb	2.765	0.55%
QC value within limits for B 249.677 Recovery = 100.39%						
Ba 233.527†	116460.9	507.50 µg/L	0.574	507.50 ppb	0.574	0.11%
QC value within limits for Ba 233.527 Recovery = 101.50%						
Be 313.107†	1708151.0	512.77 µg/L	0.314	512.77 ppb	0.314	0.06%
QC value within limits for Be 313.107 Recovery = 102.55%						
Ca 317.933Radial†	84604.5	5090.4 µg/L	4.50	5090.4 ppb	4.50	0.09%
QC value within limits for Ca 317.933Radial Recovery = 101.81%						
Cd 226.502†	73883.9	506.99 µg/L	0.559	506.99 ppb	0.559	0.11%
QC value within limits for Cd 226.502 Recovery = 101.40%						
Co 228.616†	37728.6	510.54 µg/L	1.345	510.54 ppb	1.345	0.26%

QC value within limits for Co 228.616 Recovery = 102.11%							
Cr 267.716†	59733.1	503.18 µg/L	0.451	503.18 ppb	0.451	0.09%	
QC value within limits for Cr 267.716 Recovery = 100.64%							
Cu 324.752†	119397.9	504.68 µg/L	0.341	504.68 ppb	0.341	0.07%	
QC value within limits for Cu 324.752 Recovery = 100.94%							
Fe 238.204 Radial†	75503.2	5080.5 µg/L	8.82	5080.5 ppb	8.82	0.17%	
QC value within limits for Fe 238.204 Radial Recovery = 101.61%							
K 766.490 Radial†	12463.1	5125.2 µg/L	37.42	5125.2 ppb	37.42	0.73%	
QC value within limits for K 766.490 Radial Recovery = 102.50%							
Mg 279.077 IEC†	12748.4	5237.7 µg/L	27.78	5237.7 ppb	27.78	0.53%	
QC value within limits for Mg 279.077 IEC Recovery = 104.75%							
Mn 257.610†	379528.4	507.06 µg/L	0.280	507.06 ppb	0.280	0.06%	
QC value within limits for Mn 257.610 Recovery = 101.41%							
Mo 202.031†	16025.9	510.23 µg/L	2.350	510.23 ppb	2.350	0.46%	
QC value within limits for Mo 202.031 Recovery = 102.05%							
Na 589.592 Radial†	66394.7	10077 µg/L	7.2	10077 ppb	7.2	0.07%	
QC value within limits for Na 589.592 Radial Recovery = 100.77%							
Ni 231.604†	40357.5	507.61 µg/L	0.742	507.61 ppb	0.742	0.15%	
QC value within limits for Ni 231.604 Recovery = 101.52%							
P 214.914†	10781.9	2563.1 µg/L	10.74	2563.1 ppb	10.74	0.42%	
QC value within limits for P 214.914 Recovery = 102.52%							
Pb 220.353†	8373.1	514.32 µg/L	1.790	514.32 ppb	1.790	0.35%	
QC value within limits for Pb 220.353 Recovery = 102.86%							
S 181.975 Axial†	1245.7	1025.4 µg/L	12.55	1025.4 ppb	12.55	1.22%	
QC value within limits for S 181.975 Axial Recovery = 102.54%							
Sb 206.836†	3896.8	512.22 µg/L	1.954	512.22 ppb	1.954	0.38%	
QC value within limits for Sb 206.836 Recovery = 102.44%							
Se 196.026†	1280.8	515 µg/L	6.7	515 ppb	6.7	1.30%	
QC value within limits for Se 196.026 Recovery = 102.98%							
SiO2†	50530.9	5384.1 µg/L	6.05	5384.1 ppb	6.05	0.11%	
QC value within limits for SiO2 Recovery = 100.68%							
Si 251.611†	156548.1	2523.7 µg/L	2.93	2523.7 ppb	2.93	0.12%	
QC value within limits for Si 251.611 Recovery = 100.95%							
Sn 189.927†	7426.1	515.82 µg/L	1.848	515.82 ppb	1.848	0.36%	
QC value within limits for Sn 189.927 Recovery = 103.16%							
Sr 421.552†	222639.6	513.56 µg/L	5.558	513.56 ppb	5.558	1.08%	
QC value within limits for Sr 421.552 Recovery = 102.71%							
Ti 334.940†	504342.0	504.62 µg/L	0.382	504.62 ppb	0.382	0.08%	
QC value within limits for Ti 334.940 Recovery = 100.92%							
Tl 190.801†	3827.7	521.97 µg/L	3.742	521.97 ppb	3.742	0.72%	
QC value within limits for Tl 190.801 Recovery = 104.39%							
U 409.014†	7368.2	492.19 µg/L	12.978	492.19 ppb	12.978	2.64%	
QC value within limits for U 409.014 Recovery = 98.44%							
V 292.402†	94616.4	509.09 µg/L	0.372	509.09 ppb	0.372	0.07%	
QC value within limits for V 292.402 Recovery = 101.82%							
Zn 213.857†	82087.5	505.13 µg/L	0.377	505.13 ppb	0.377	0.07%	
QC value within limits for Zn 213.857 Recovery = 101.03%							
All analyte(s) passed QC.							

Sequence No.: 125  
 Sample ID: CCB  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 8  
 Date Collected: 3/30/2010 21:39:51  
 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	156639.7	156639.7	106 %		21:40:20
1	Al 396.153Radial†	-58.5	7.7	1.5743 µg/L	1.5743 ppb	21:40:40
1	Ca 317.933Radial†	759.4	18.7	1.1262 µg/L	1.1262 ppb	21:40:40
1	Fe 238.204 Radial†	194.7	43.1	2.8986 µg/L	2.8986 ppb	21:40:40
1	K 766.490 Radial†	1490.5	93.8	38.618 µg/L	38.618 ppb	21:40:20
1	Mg 279.077 IEC†	190.8	11.2	4.6159 µg/L	4.6159 ppb	21:40:40
1	Na 589.592 Radial†	1311.9	31.5	4.7498 µg/L	4.7498 ppb	21:40:20
1	Sr 421.552†	-198.8	34.0	0.0784 µg/L	0.0784 ppb	21:40:20
1	Sc 361.383	1802513.8	1802513.8	102.70 %		21:41:28
1	Y 371.029	1087508.1	1087508.1	102.21 %		21:41:28
1	Ag 328.068†	3555.0	14.3	0.0735 µg/L	0.0735 ppb	21:41:30
1	As 188.979†	-17.5	0.6	0.2149 µg/L	0.2149 ppb	21:41:50
1	B 249.677†	3344.4	26.0	0.4240 µg/L	0.4240 ppb	21:41:50
1	Ba 233.527†	-131.2	34.4	0.1496 µg/L	0.1496 ppb	21:41:50
1	Be 313.107†	-1013.8	-201.5	-0.0559 µg/L	-0.0559 ppb	21:41:30
1	Cd 226.502†	-76.9	35.2	0.2413 µg/L	0.2413 ppb	21:41:50
1	Co 228.616†	-176.5	0.6	0.0084 µg/L	0.0084 ppb	21:41:50
1	Cr 267.716†	162.0	-20.8	-0.1878 µg/L	-0.1878 ppb	21:41:50
1	Cu 324.752†	2902.6	37.3	0.1702 µg/L	0.1702 ppb	21:41:30
1	Mn 257.610†	251.1	68.9	0.0920 µg/L	0.0920 ppb	21:41:50
1	Mo 202.031†	-30.4	5.2	0.1640 µg/L	0.1640 ppb	21:41:50
1	Ni 231.604†	-85.9	-5.7	-0.0718 µg/L	-0.0718 ppb	21:41:50
1	P 214.914†	8.1	2.9	0.6926 µg/L	0.6926 ppb	21:41:50
1	Pb 220.353†	80.9	-18.2	-1.1250 µg/L	-1.1250 ppb	21:41:50
1	S 181.975 Axial†	99.3	9.0	7.3721 µg/L	7.3721 ppb	21:41:50
1	Sb 206.836†	74.8	-5.2	-0.6785 µg/L	-0.6785 ppb	21:41:50
1	Se 196.026†	11.2	-2.7	-1.06 µg/L	-1.06 ppb	21:41:50
1	SiO2†	1816.5	15.5	1.6465 µg/L	1.6465 ppb	21:41:50
1	Si 251.611†	956.9	-16.9	-0.2814 µg/L	-0.2814 ppb	21:41:30
1	Sn 189.927†	10.0	12.3	0.8523 µg/L	0.8523 ppb	21:41:50
1	Ti 334.940†	1083.5	169.4	0.1631 µg/L	0.1631 ppb	21:41:30
1	Tl 190.801†	-120.6	-0.3	-0.0456 µg/L	-0.0456 ppb	21:41:50
1	U 409.014†	-40.8	244.0	15.274 µg/L	15.274 ppb	21:41:30
1	V 292.402†	284.0	-33.3	-0.1660 µg/L	-0.1660 ppb	21:41:30
1	Zn 213.857†	618.4	77.6	0.4813 µg/L	0.4813 ppb	21:41:50
2	Sc RADIAL	154442.3	154442.3	104 %		21:40:42
2	Al 396.153Radial†	-52.6	12.5	2.5703 µg/L	2.5703 ppb	21:41:02
2	Ca 317.933Radial†	769.8	38.8	2.3356 µg/L	2.3356 ppb	21:41:02
2	Fe 238.204 Radial†	179.2	30.9	2.0764 µg/L	2.0764 ppb	21:41:02
2	K 766.490 Radial†	1688.5	303.4	124.87 µg/L	124.87 ppb	21:40:42
2	Mg 279.077 IEC†	185.5	8.8	3.6051 µg/L	3.6051 ppb	21:41:02
2	Na 589.592 Radial†	1499.9	229.0	34.668 µg/L	34.668 ppb	21:40:42
2	Sr 421.552†	-72.3	152.5	0.3517 µg/L	0.3517 ppb	21:40:42
2	Sc 361.383	1820695.7	1820695.7	103.74 %		21:41:52
2	Y 371.029	1097572.0	1097572.0	103.15 %		21:41:52
2	Ag 328.068†	3794.3	210.4	0.8494 µg/L	0.8494 ppb	21:41:54
2	As 188.979†	-9.3	8.7	3.0329 µg/L	3.0329 ppb	21:42:15
2	B 249.677†	3355.0	3.7	0.0606 µg/L	0.0606 ppb	21:42:15
2	Ba 233.527†	-140.4	26.8	0.1170 µg/L	0.1170 ppb	21:42:15
2	Be 313.107†	-980.0	-159.1	-0.0454 µg/L	-0.0454 ppb	21:41:54
2	Cd 226.502†	-107.8	6.1	0.0414 µg/L	0.0414 ppb	21:42:15
2	Co 228.616†	-176.7	2.1	0.0288 µg/L	0.0288 ppb	21:42:15
2	Cr 267.716†	181.7	-3.4	-0.0350 µg/L	-0.0350 ppb	21:42:15
2	Cu 324.752†	2791.5	-98.1	-0.4063 µg/L	-0.4063 ppb	21:41:54
2	Mn 257.610†	250.8	66.2	0.0883 µg/L	0.0883 ppb	21:42:15
2	Mo 202.031†	-27.8	7.9	0.2520 µg/L	0.2520 ppb	21:42:15
2	Ni 231.604†	-83.9	-3.0	-0.0373 µg/L	-0.0373 ppb	21:42:15
2	P 214.914†	-20.6	-24.9	-5.9289 µg/L	-5.9289 ppb	21:42:15
2	Pb 220.353†	110.2	9.3	0.5644 µg/L	0.5644 ppb	21:42:15

2	S 181.975 Axial†	95.9	4.8	3.9289 µg/L	3.9289 ppb	21:42:15
2	Sb 206.836†	84.9	3.7	0.4967 µg/L	0.4967 ppb	21:42:15
2	Se 196.026†	21.6	7.2	2.89 µg/L	2.89 ppb	21:42:15
2	SiO2†	1786.9	-30.6	-3.2933 µg/L	-3.2933 ppb	21:42:15
2	Si 251.611†	920.4	-61.4	-1.0032 µg/L	-1.0032 ppb	21:41:54
2	Sn 189.927†	9.7	11.9	0.8219 µg/L	0.8219 ppb	21:42:15
2	Ti 334.940†	1029.8	107.2	0.1039 µg/L	0.1039 ppb	21:41:54
2	Tl 190.801†	-110.9	10.2	1.3683 µg/L	1.3683 ppb	21:42:15
2	U 409.014†	-164.2	125.5	7.8759 µg/L	7.8759 ppb	21:41:54
2	V 292.402†	377.1	53.7	0.2925 µg/L	0.2925 ppb	21:41:54
2	Zn 213.857†	598.4	52.3	0.3246 µg/L	0.3246 ppb	21:42:15
3	Sc RADIAL	153682.3	153682.3	104 %		21:41:04
3	Al 396.153Radial†	-46.3	18.3	3.7304 µg/L	3.7304 ppb	21:41:24
3	Ca 317.933Radial†	784.4	56.6	3.4031 µg/L	3.4031 ppb	21:41:24
3	Fe 238.204 Radial†	185.0	37.2	2.5062 µg/L	2.5062 ppb	21:41:24
3	K 766.490 Radial†	1677.2	300.5	123.67 µg/L	123.67 ppb	21:41:04
3	Mg 279.077 IEC†	179.8	4.2	1.7326 µg/L	1.7326 ppb	21:41:24
3	Na 589.592 Radial†	1394.0	134.3	20.284 µg/L	20.284 ppb	21:41:04
3	Sr 421.552†	-217.5	12.4	0.0286 µg/L	0.0286 ppb	21:41:04
3	Sc 361.383	1802159.9	1802159.9	102.68 %		21:42:17
3	Y 371.029	1086924.1	1086924.1	102.15 %		21:42:17
3	Ag 328.068†	3659.8	117.1	0.4739 µg/L	0.4739 ppb	21:42:19
3	As 188.979†	-13.8	4.2	1.4795 µg/L	1.4795 ppb	21:42:39
3	B 249.677†	3323.9	6.7	0.1078 µg/L	0.1078 ppb	21:42:39
3	Ba 233.527†	-184.0	-17.1	-0.0741 µg/L	-0.0741 ppb	21:42:39
3	Be 313.107†	-772.4	33.4	0.0119 µg/L	0.0119 ppb	21:42:19
3	Cd 226.502†	-83.4	28.8	0.1976 µg/L	0.1976 ppb	21:42:39
3	Co 228.616†	-141.3	34.9	0.4711 µg/L	0.4711 ppb	21:42:39
3	Cr 267.716†	153.9	-28.7	-0.2464 µg/L	-0.2464 ppb	21:42:39
3	Cu 324.752†	2875.3	11.3	0.0532 µg/L	0.0532 ppb	21:42:19
3	Mn 257.610†	229.4	47.8	0.0638 µg/L	0.0638 ppb	21:42:39
3	Mo 202.031†	-8.4	26.5	0.8446 µg/L	0.8446 ppb	21:42:39
3	Ni 231.604†	-73.6	6.2	0.0781 µg/L	0.0781 ppb	21:42:39
3	P 214.914†	-10.6	-15.3	-3.6491 µg/L	-3.6491 ppb	21:42:39
3	Pb 220.353†	101.2	1.6	0.0954 µg/L	0.0954 ppb	21:42:39
3	S 181.975 Axial†	89.8	-0.3	-0.2028 µg/L	-0.2028 ppb	21:42:39
3	Sb 206.836†	70.2	-9.8	-1.2620 µg/L	-1.2620 ppb	21:42:39
3	Se 196.026†	7.0	-6.7	-2.68 µg/L	-2.68 ppb	21:42:39
3	SiO2†	1769.9	-29.5	-3.1976 µg/L	-3.1976 ppb	21:42:39
3	Si 251.611†	828.7	-141.6	-2.3098 µg/L	-2.3098 ppb	21:42:19
3	Sn 189.927†	11.8	14.0	0.9698 µg/L	0.9698 ppb	21:42:39
3	Ti 334.940†	874.2	-34.2	-0.0367 µg/L	-0.0367 ppb	21:42:19
3	Tl 190.801†	-111.1	8.9	1.1939 µg/L	1.1939 ppb	21:42:39
3	U 409.014†	-191.5	97.3	6.0989 µg/L	6.0989 ppb	21:42:19
3	V 292.402†	334.2	15.6	0.0944 µg/L	0.0944 ppb	21:42:19
3	Zn 213.857†	588.3	48.4	0.2995 µg/L	0.2995 ppb	21:42:39

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1808456.5	103.04 %	0.604			0.59%
Sc RADIAL	154921.4	105 %	1.0			0.99%
Y 371.029	1090668.1	102.50 %	0.563			0.55%
Ag 328.068†	113.9	0.4656 µg/L	0.38802	0.4656 ppb	0.38802	83.34%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	12.8	2.6250 µg/L	1.07912	2.6250 ppb	1.07912	41.11%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	4.5	1.5757 µg/L	1.41147	1.5757 ppb	1.41147	89.58%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	12.1	0.1975 µg/L	0.19759	0.1975 ppb	0.19759	100.06%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	14.7	0.0642 µg/L	0.12083	0.0642 ppb	0.12083	188.35%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-109.1	-0.0298 µg/L	0.03646	-0.0298 ppb	0.03646	122.38%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	38.0	2.2883 µg/L	1.13918	2.2883 ppb	1.13918	49.78%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	23.4	0.1601 µg/L	0.10506	0.1601 ppb	0.10506	65.62%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	12.5	0.1694 µg/L	0.26142	0.1694 ppb	0.26142	154.29%

QC value within limits for Co 228.616	Recovery = Not calculated		
Cr 267.716†	-17.7	-0.1564 µg/L	0.10911 -0.1564 ppb 0.10911 69.77%
QC value within limits for Cr 267.716	Recovery = Not calculated		
Cu 324.752†	-16.5	-0.0610 µg/L	0.30473 -0.0610 ppb 0.30473 499.81%
QC value within limits for Cu 324.752	Recovery = Not calculated		
Fe 238.204 Radial†	37.1	2.4938 µg/L	0.41124 2.4938 ppb 0.41124 16.49%
QC value within limits for Fe 238.204 Radial	Recovery = Not calculated		
K 766.490 Radial†	232.6	95.721 µg/L	49.4567 95.721 ppb 49.4567 51.67%
QC value within limits for K 766.490 Radial	Recovery = Not calculated		
Mg 279.077 IEC†	8.1	3.3179 µg/L	1.46292 3.3179 ppb 1.46292 44.09%
QC value within limits for Mg 279.077 IEC	Recovery = Not calculated		
Mn 257.610†	61.0	0.0814 µg/L	0.01529 0.0814 ppb 0.01529 18.79%
QC value within limits for Mn 257.610	Recovery = Not calculated		
Mo 202.031†	13.2	0.4202 µg/L	0.37018 0.4202 ppb 0.37018 88.09%
QC value within limits for Mo 202.031	Recovery = Not calculated		
Na 589.592 Radial†	131.6	19.901 µg/L	14.9630 19.901 ppb 14.9630 75.19%
QC value within limits for Na 589.592 Radial	Recovery = Not calculated		
Ni 231.604†	-0.8	-0.0103 µg/L	0.07850 -0.0103 ppb 0.07850 759.31%
QC value within limits for Ni 231.604	Recovery = Not calculated		
P 214.914†	-12.4	-2.9618 µg/L	3.36384 -2.9618 ppb 3.36384 113.57%
QC value within limits for P 214.914	Recovery = Not calculated		
Pb 220.353†	-2.4	-0.1551 µg/L	0.87212 -0.1551 ppb 0.87212 562.37%
QC value within limits for Pb 220.353	Recovery = Not calculated		
S 181.975 Axial†	4.5	3.6994 µg/L	3.79266 3.6994 ppb 3.79266 102.52%
QC value within limits for S 181.975 Axial	Recovery = Not calculated		
Sb 206.836†	-3.7	-0.4813 µg/L	0.89576 -0.4813 ppb 0.89576 186.12%
QC value within limits for Sb 206.836	Recovery = Not calculated		
Se 196.026†	-0.7	-0.283 µg/L	2.8667 -0.283 ppb 2.8667 >999.9%
QC value within limits for Se 196.026	Recovery = Not calculated		
SiO2†	-14.9	-1.6148 µg/L	2.82478 -1.6148 ppb 2.82478 174.93%
QC value within limits for SiO2	Recovery = Not calculated		
Si 251.611†	-73.3	-1.1981 µg/L	1.02817 -1.1981 ppb 1.02817 85.81%
QC value within limits for Si 251.611	Recovery = Not calculated		
Sn 189.927†	12.7	0.8813 µg/L	0.07810 0.8813 ppb 0.07810 8.86%
QC value within limits for Sn 189.927	Recovery = Not calculated		
Sr 421.552†	66.3	0.1529 µg/L	0.17395 0.1529 ppb 0.17395 113.77%
QC value within limits for Sr 421.552	Recovery = Not calculated		
Ti 334.940†	80.8	0.0768 µg/L	0.10266 0.0768 ppb 0.10266 133.71%
QC value within limits for Ti 334.940	Recovery = Not calculated		
Tl 190.801†	6.2	0.8389 µg/L	0.77090 0.8389 ppb 0.77090 91.90%
QC value within limits for Tl 190.801	Recovery = Not calculated		
U 409.014†	155.6	9.7495 µg/L	4.86586 9.7495 ppb 4.86586 49.91%
QC value within limits for U 409.014	Recovery = Not calculated		
V 292.402†	12.0	0.0736 µg/L	0.22999 0.0736 ppb 0.22999 312.44%
QC value within limits for V 292.402	Recovery = Not calculated		
Zn 213.857†	59.4	0.3685 µg/L	0.09853 0.3685 ppb 0.09853 26.74%
QC value within limits for Zn 213.857	Recovery = Not calculated		

All analyte(s) passed QC.

Sequence No.: 126

Sample ID: 1202065045|962575|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 312

Date Collected: 3/30/2010 21:42:47

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202065045|962575|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	155504.4	155504.4	105 %			21:43:20
1	Al 396.153Radial†	-27.0	37.2	7.6611 µg/L		7.6611 ppb	21:43:40
1	Ca 317.933Radial†	910.1	167.2	10.059 µg/L		10.059 ppb	21:43:40
1	Fe 238.204 Radial†	926.1	739.7	49.774 µg/L		49.774 ppb	21:43:40
1	K 766.490 Radial†	1667.9	272.7	112.24 µg/L		112.24 ppb	21:43:20
1	Mg 279.077 IEC†	190.9	12.6	5.1458 µg/L		5.1458 ppb	21:43:40
1	Na 589.592 Radial†	1548.7	265.7	40.240 µg/L		40.240 ppb	21:43:20
1	Sr 421.552†	-118.1	109.3	0.2522 µg/L		0.2522 ppb	21:43:20
1	Sc 361.383	1775389.4	1775389.4	101.16 %			21:44:28
1	Y 371.029	1067330.3	1067330.3	100.31 %			21:44:28
1	Ag 328.068†	3835.0	344.0	1.3590 µg/L		1.3590 ppb	21:44:30
1	As 188.979†	-12.4	5.4	1.8987 µg/L		1.8987 ppb	21:44:50
1	B 249.677†	3414.3	144.9	2.3613 µg/L		2.3613 ppb	21:44:50
1	Ba 233.527†	-122.9	40.7	0.1770 µg/L		0.1770 ppb	21:44:50
1	Be 313.107†	-600.4	192.1	0.0538 µg/L		0.0538 ppb	21:44:30
1	Cd 226.502†	-79.7	31.2	0.2095 µg/L		0.2095 ppb	21:44:50
1	Co 228.616†	-158.2	16.0	0.2144 µg/L		0.2144 ppb	21:44:50
1	Cr 267.716†	327.4	145.1	1.2345 µg/L		1.2345 ppb	21:44:50
1	Cu 324.752†	2814.7	-6.5	-0.0303 µg/L		-0.0303 ppb	21:44:30
1	Mn 257.610†	868.7	683.2	0.9128 µg/L		0.9128 ppb	21:44:50
1	Mo 202.031†	-35.2	-0.0	0.0019 µg/L		0.0019 ppb	21:44:50
1	Ni 231.604†	-26.0	52.2	0.6569 µg/L		0.6569 ppb	21:44:50
1	P 214.914†	-0.2	-5.2	-1.2550 µg/L		-1.2550 ppb	21:44:50
1	Pb 220.353†	73.9	-24.0	-1.4578 µg/L		-1.4578 ppb	21:44:50
1	S 181.975 Axial†	104.3	15.4	12.604 µg/L		12.604 ppb	21:44:50
1	Sb 206.836†	82.8	3.8	0.4802 µg/L		0.4802 ppb	21:44:50
1	Se 196.026†	18.2	4.4	1.77 µg/L		1.77 ppb	21:44:50
1	SiO2†	2336.8	556.9	59.571 µg/L		59.571 ppb	21:44:50
1	Si 251.611†	2591.9	1613.6	26.112 µg/L		26.112 ppb	21:44:30
1	Sn 189.927†	11.6	14.0	0.9706 µg/L		0.9706 ppb	21:44:50
1	Ti 334.940†	1254.6	354.6	0.3600 µg/L		0.3600 ppb	21:44:30
1	Tl 190.801†	-108.8	9.5	1.2879 µg/L		1.2879 ppb	21:44:50
1	U 409.014†	-493.9	-204.5	-12.779 µg/L		-12.779 ppb	21:44:30
1	V 292.402†	442.9	128.0	0.6704 µg/L		0.6704 ppb	21:44:30
1	Zn 213.857†	854.7	320.4	1.9778 µg/L		1.9778 ppb	21:44:50
2	Sc RADIAL	153097.6	153097.6	104 %			21:43:42
2	Al 396.153Radial†	-22.5	41.2	8.4892 µg/L		8.4892 ppb	21:44:02
2	Ca 317.933Radial†	922.9	193.2	11.624 µg/L		11.624 ppb	21:44:02
2	Fe 238.204 Radial†	917.8	745.5	50.162 µg/L		50.162 ppb	21:44:02
2	K 766.490 Radial†	1593.5	225.8	92.928 µg/L		92.928 ppb	21:43:42
2	Mg 279.077 IEC†	189.7	14.4	5.8747 µg/L		5.8747 ppb	21:44:02
2	Na 589.592 Radial†	1487.4	229.6	34.784 µg/L		34.784 ppb	21:43:42
2	Sr 421.552†	-207.6	21.2	0.0487 µg/L		0.0487 ppb	21:43:42
2	Sc 361.383	1778838.1	1778838.1	101.35 %			21:44:52
2	Y 371.029	1069781.8	1069781.8	100.54 %			21:44:52
2	Ag 328.068†	3744.4	247.3	0.9880 µg/L		0.9880 ppb	21:44:54
2	As 188.979†	-13.0	4.9	1.7304 µg/L		1.7304 ppb	21:45:14
2	B 249.677†	3361.2	85.9	1.4013 µg/L		1.4013 ppb	21:45:14
2	Ba 233.527†	-118.3	45.5	0.1976 µg/L		0.1976 ppb	21:45:14
2	Be 313.107†	-858.3	-61.2	-0.0183 µg/L		-0.0183 ppb	21:44:54
2	Cd 226.502†	-109.5	2.0	0.0087 µg/L		0.0087 ppb	21:45:14
2	Co 228.616†	-173.5	1.3	0.0153 µg/L		0.0153 ppb	21:45:14
2	Cr 267.716†	335.6	152.6	1.2869 µg/L		1.2869 ppb	21:45:14
2	Cu 324.752†	3084.3	254.1	1.0785 µg/L		1.0785 ppb	21:44:54
2	Mn 257.610†	872.7	685.5	0.9159 µg/L		0.9159 ppb	21:45:14
2	Mo 202.031†	-37.0	-1.7	-0.0528 µg/L		-0.0528 ppb	21:45:14
2	Ni 231.604†	-24.9	53.3	0.6708 µg/L		0.6708 ppb	21:45:14
2	P 214.914†	-4.2	-9.2	-2.2150 µg/L		-2.2150 ppb	21:45:14
2	Pb 220.353†	74.1	-23.9	-1.4630 µg/L		-1.4630 ppb	21:45:14

2	S 181.975 Axial†	102.2	13.1	10.736 µg/L	10.736 ppb	21:45:14
2	Sb 206.836†	71.3	-7.8	-1.0330 µg/L	-1.0330 ppb	21:45:14
2	Se 196.026†	-1.3	-14.8	-5.92 µg/L	-5.92 ppb	21:45:14
2	SiO2†	2321.1	537.0	57.421 µg/L	57.421 ppb	21:45:14
2	Si 251.611†	2643.8	1659.9	26.855 µg/L	26.855 ppb	21:44:54
2	Sn 189.927†	24.8	27.0	1.8687 µg/L	1.8687 ppb	21:45:14
2	Ti 334.940†	1208.1	306.4	0.3063 µg/L	0.3063 ppb	21:44:54
2	Tl 190.801†	-107.8	10.8	1.4556 µg/L	1.4556 ppb	21:45:14
2	U 409.014†	-284.4	3.1	0.2154 µg/L	0.2154 ppb	21:44:54
2	V 292.402†	400.4	85.2	0.4518 µg/L	0.4518 ppb	21:44:54
2	Zn 213.857†	816.0	280.5	1.7295 µg/L	1.7295 ppb	21:45:14
3	Sc RADIAL	153854.2	153854.2	104 %		21:44:04
3	Al 396.153Radial†	-43.4	21.1	4.3368 µg/L	4.3368 ppb	21:44:24
3	Ca 317.933Radial†	914.5	180.7	10.874 µg/L	10.874 ppb	21:44:24
3	Fe 238.204 Radial†	919.7	743.0	49.997 µg/L	49.997 ppb	21:44:24
3	K 766.490 Radial†	1802.8	419.4	172.60 µg/L	172.60 ppb	21:44:04
3	Mg 279.077 IEC†	174.0	-1.6	-0.6882 µg/L	-0.6882 ppb	21:44:24
3	Na 589.592 Radial†	1374.9	114.4	17.218 µg/L	17.218 ppb	21:44:04
3	Sr 421.552†	-121.2	105.2	0.2427 µg/L	0.2427 ppb	21:44:04
3	Sc 361.383	1765733.4	1765733.4	100.61 %		21:45:16
3	Y 371.029	1062137.9	1062137.9	99.821 %		21:45:16
3	Ag 328.068†	3424.1	-43.7	-0.1740 µg/L	-0.1740 ppb	21:45:19
3	As 188.979†	-20.1	-2.3	-0.7720 µg/L	-0.7720 ppb	21:45:39
3	B 249.677†	3388.9	138.1	2.2517 µg/L	2.2517 ppb	21:45:39
3	Ba 233.527†	-134.3	28.6	0.1245 µg/L	0.1245 ppb	21:45:39
3	Be 313.107†	-886.2	-95.3	-0.0302 µg/L	-0.0302 ppb	21:45:19
3	Cd 226.502†	-97.2	13.4	0.0867 µg/L	0.0867 ppb	21:45:39
3	Co 228.616†	-188.2	-14.6	-0.2003 µg/L	-0.2003 ppb	21:45:39
3	Cr 267.716†	338.0	157.4	1.3324 µg/L	1.3324 ppb	21:45:39
3	Cu 324.752†	2867.7	61.5	0.2619 µg/L	0.2619 ppb	21:45:19
3	Mn 257.610†	856.6	675.8	0.9032 µg/L	0.9032 ppb	21:45:39
3	Mo 202.031†	-22.8	12.1	0.3863 µg/L	0.3863 ppb	21:45:39
3	Ni 231.604†	-44.7	33.5	0.4213 µg/L	0.4213 ppb	21:45:39
3	P 214.914†	4.2	-0.8	-0.2161 µg/L	-0.2161 ppb	21:45:39
3	Pb 220.353†	87.0	-10.5	-0.6401 µg/L	-0.6401 ppb	21:45:39
3	S 181.975 Axial†	85.6	-2.6	-2.1598 µg/L	-2.1598 ppb	21:45:39
3	Sb 206.836†	88.2	9.6	1.2517 µg/L	1.2517 ppb	21:45:39
3	Se 196.026†	6.1	-7.5	-3.01 µg/L	-3.01 ppb	21:45:39
3	SiO2†	2371.2	603.7	64.553 µg/L	64.553 ppb	21:45:39
3	Si 251.611†	2680.8	1716.0	27.758 µg/L	27.758 ppb	21:45:19
3	Sn 189.927†	23.0	25.4	1.7596 µg/L	1.7596 ppb	21:45:39
3	Ti 334.940†	1336.7	443.1	0.4459 µg/L	0.4459 ppb	21:45:19
3	Tl 190.801†	-109.0	8.8	1.1902 µg/L	1.1902 ppb	21:45:39
3	U 409.014†	-370.2	-84.2	-5.2473 µg/L	-5.2473 ppb	21:45:19
3	V 292.402†	419.8	107.4	0.5709 µg/L	0.5709 ppb	21:45:19
3	Zn 213.857†	873.5	343.7	2.1238 µg/L	2.1238 ppb	21:45:39

Mean Data: 1202065045|962575|1

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample	Std.Dev.	RSD
Sc 361.383	1773320.3	101.04 %		0.387				0.38%
Sc RADIAL	154152.1	104 %		0.8				0.80%
Y 371.029	1066416.7	100.22 %		0.367				0.37%
Ag 328.068†	182.6	0.7243 µg/L		0.79976	0.7243 ppb		0.79976	110.42%
Al 396.153Radial†	33.2	6.8290 µg/L		2.19769	6.8290 ppb		2.19769	32.18%
As 188.979†	2.7	0.9524 µg/L		1.49568	0.9524 ppb		1.49568	157.05%
B 249.677†	123.0	2.0048 µg/L		0.52551	2.0048 ppb		0.52551	26.21%
Ba 233.527†	38.3	0.1664 µg/L		0.03768	0.1664 ppb		0.03768	22.65%
Be 313.107†	11.9	0.0018 µg/L		0.04544	0.0018 ppb		0.04544	>999.9%
Ca 317.933Radial†	180.4	10.853 µg/L		0.7826	10.853 ppb		0.7826	7.21%
Cd 226.502†	15.5	0.1016 µg/L		0.10123	0.1016 ppb		0.10123	99.62%
Co 228.616†	0.9	0.0098 µg/L		0.20736	0.0098 ppb		0.20736	>999.9%
Cr 267.716†	151.7	1.2846 µg/L		0.04896	1.2846 ppb		0.04896	3.81%
Cu 324.752†	103.1	0.4367 µg/L		0.57471	0.4367 ppb		0.57471	131.60%
Fe 238.204 Radial†	742.7	49.978 µg/L		0.1951	49.978 ppb		0.1951	0.39%
K 766.490 Radial†	306.0	125.92 µg/L		41.564	125.92 ppb		41.564	33.01%
Mg 279.077 IEC†	8.5	3.4441 µg/L		3.59720	3.4441 ppb		3.59720	104.45%
Mn 257.610†	681.5	0.9106 µg/L		0.00663	0.9106 ppb		0.00663	0.73%
Mo 202.031†	3.4	0.1118 µg/L		0.23928	0.1118 ppb		0.23928	214.04%
Na 589.592 Radial†	203.2	30.747 µg/L		12.0302	30.747 ppb		12.0302	39.13%



Ni 231.604†	46.4	0.5830 µg/L	0.14020	0.5830 ppb	0.14020	24.05%
P 214.914†	-5.0	-1.2287 µg/L	0.99967	-1.2287 ppb	0.99967	81.36%
Pb 220.353†	-19.5	-1.1870 µg/L	0.47360	-1.1870 ppb	0.47360	39.90%
S 181.975 Axial†	8.6	7.0599 µg/L	8.03900	7.0599 ppb	8.03900	113.87%
Sb 206.836†	1.9	0.2330 µg/L	1.16220	0.2330 ppb	1.16220	498.88%
Se 196.026†	-6.0	-2.39 µg/L	3.882	-2.39 ppb	3.882	162.69%
SiO2†	565.9	60.515 µg/L	3.6587	60.515 ppb	3.6587	6.05%
Si 251.611†	1663.1	26.908 µg/L	0.8246	26.908 ppb	0.8246	3.06%
Sn 189.927†	22.1	1.5329 µg/L	0.49007	1.5329 ppb	0.49007	31.97%
Sr 421.552†	78.6	0.1812 µg/L	0.11480	0.1812 ppb	0.11480	63.36%
Ti 334.940†	368.0	0.3707 µg/L	0.07043	0.3707 ppb	0.07043	19.00%
Tl 190.801†	9.7	1.3112 µg/L	0.13419	1.3112 ppb	0.13419	10.23%
U 409.014†	-95.2	-5.9368 µg/L	6.52438	-5.9368 ppb	6.52438	109.90%
V 292.402†	106.9	0.5644 µg/L	0.10946	0.5644 ppb	0.10946	19.39%
Zn 213.857†	314.9	1.9437 µg/L	0.19934	1.9437 ppb	0.19934	10.26%

Sequence No.: 127

Sample ID: 1202065046|962575|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 313

Date Collected: 3/30/2010 21:45:46

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202065046|962575|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	157055.5	157055.5	106 %		21:46:18
1	Al 396.153Radial†	471633.2	443991.7	91472 µg/L	91472 ppb	21:46:18
1	Ca 317.933Radial†	1778057.6	1672914.1	100660 µg/L	100660 ppb	21:46:16
1	Fe 238.204 Radial†	3017404.2	2840017.1	191100 µg/L	191100 ppb	21:46:16
1	K 766.490 Radial†	108902.2	101192.3	41603 µg/L	41603 ppb	21:46:18
1	Mg 279.077 IEC†	100663.1	94581.2	38647 µg/L	38647 ppb	21:46:18
1	Na 589.592 Radial†	72511.3	67045.3	10144 µg/L	10144 ppb	21:46:18
1	Sr 421.552†	1103550.9	1038948.5	2395.9 µg/L	2395.9 ppb	21:46:16
1	Sc 361.383	1782400.0	1782400.0	101.56 %		21:46:33
1	Y 371.029	1134957.3	1134957.3	106.66 %		21:46:33
1	Ag 328.068†	80193.7	75517.3	309.49 µg/L	309.49 ppb	21:46:33
1	As 188.979†	3146.3	3115.8	1153.2 µg/L	1153.2 ppb	21:46:35
1	B 249.677†	95142.9	90454.1	1471.6 µg/L	1471.6 ppb	21:46:33
1	Ba 233.527†	487153.5	479848.0	2087.8 µg/L	2087.8 ppb	21:46:33
1	Be 313.107†	2695490.9	2654956.9	796.69 µg/L	796.69 ppb	21:46:33
1	Cd 226.502†	90622.4	89343.3	593.97 µg/L	593.97 ppb	21:46:33
1	Co 228.616†	69346.1	68455.5	918.26 µg/L	918.26 ppb	21:46:33
1	Cr 267.716†	277636.6	273202.1	2307.6 µg/L	2307.6 ppb	21:46:33
1	Cu 324.752†	439607.7	430080.0	1841.5 µg/L	1841.5 ppb	21:46:33
1	Mn 257.610†	4166302.4	4102261.0	5481.1 µg/L	5481.1 ppb	21:46:33
1	Mo 202.031†	15403.9	15202.5	492.26 µg/L	492.26 ppb	21:46:35
1	Ni 231.604†	107181.0	105615.9	1328.4 µg/L	1328.4 ppb	21:46:33
1	P 214.914†	33647.1	33126.3	7776.1 µg/L	7776.1 ppb	21:46:35
1	Pb 220.353†	14035.0	13722.9	848.25 µg/L	848.25 ppb	21:46:35
1	S 181.975 Axial†	4757.9	4597.2	3772.6 µg/L	3772.6 ppb	21:46:35
1	Sb 206.836†	9079.1	8861.9	1135.2 µg/L	1135.2 ppb	21:46:35
1	Se 196.026†	7229.3	7104.9	2910 µg/L	2910 ppb	21:46:35
1	SiO2†	851943.3	837130.6	89531 µg/L	89531 ppb	21:46:33
1	Si 251.611†	2619813.9	2578705.7	41726 µg/L	41726 ppb	21:46:33
1	Sn 189.927†	15577.2	15341.0	1081.7 µg/L	1081.7 ppb	21:46:35
1	Ti 334.940†	5889494.3	5798327.8	5807.8 µg/L	5807.8 ppb	21:46:33
1	Tl 190.801†	8638.9	8623.5	1236.0 µg/L	1236.0 ppb	21:46:35
1	U 409.014†	-4657.6	-4302.4	-204.42 µg/L	-204.42 ppb	21:46:33
1	V 292.402†	237439.3	233489.7	1228.8 µg/L	1228.8 ppb	21:46:33
1	Zn 213.857†	958943.0	943718.7	5826.7 µg/L	5826.7 ppb	21:46:33
2	Sc RADIAL	154319.3	154319.3	104 %		21:46:23
2	Al 396.153Radial†	466733.4	447169.1	92126 µg/L	92126 ppb	21:46:23
2	Ca 317.933Radial†	1753400.8	1678968.3	101020 µg/L	101020 ppb	21:46:20
2	Fe 238.204 Radial†	2974945.1	2849701.1	191750 µg/L	191750 ppb	21:46:20
2	K 766.490 Radial†	107766.5	101921.9	41903 µg/L	41903 ppb	21:46:23
2	Mg 279.077 IEC†	99112.4	94775.7	38726 µg/L	38726 ppb	21:46:23
2	Na 589.592 Radial†	71669.1	67448.6	10205 µg/L	10205 ppb	21:46:23
2	Sr 421.552†	1092732.6	1047002.3	2414.5 µg/L	2414.5 ppb	21:46:20
2	Sc 361.383	1780226.7	1780226.7	101.43 %		21:46:39
2	Y 371.029	1133393.6	1133393.6	106.52 %		21:46:39
2	Ag 328.068†	80020.7	75443.1	309.22 µg/L	309.22 ppb	21:46:39
2	As 188.979†	3200.2	3172.7	1173.2 µg/L	1173.2 ppb	21:46:41
2	B 249.677†	95107.5	90533.5	1472.9 µg/L	1472.9 ppb	21:46:39
2	Ba 233.527†	486827.8	480112.5	2089.0 µg/L	2089.0 ppb	21:46:39
2	Be 313.107†	2692808.6	2655552.8	796.87 µg/L	796.87 ppb	21:46:39
2	Cd 226.502†	90149.2	88985.7	591.45 µg/L	591.45 ppb	21:46:39
2	Co 228.616†	69278.3	68472.0	918.45 µg/L	918.45 ppb	21:46:39
2	Cr 267.716†	277231.7	273136.7	2307.1 µg/L	2307.1 ppb	21:46:39
2	Cu 324.752†	439048.9	430057.5	1841.5 µg/L	1841.5 ppb	21:46:39
2	Mn 257.610†	4159661.6	4100722.4	5479.0 µg/L	5479.0 ppb	21:46:39
2	Mo 202.031†	15440.8	15257.4	494.04 µg/L	494.04 ppb	21:46:41
2	Ni 231.604†	107011.2	105577.4	1327.9 µg/L	1327.9 ppb	21:46:39
2	P 214.914†	33982.9	33497.8	7864.5 µg/L	7864.5 ppb	21:46:41
2	Pb 220.353†	14338.5	14039.0	867.62 µg/L	867.62 ppb	21:46:41

2	S 181.975 Axial†	4824.3	4668.5	3831.0 µg/L	3831.0 ppb	21:46:41
2	Sb 206.836†	9174.1	8966.5	1148.9 µg/L	1148.9 ppb	21:46:41
2	Se 196.026†	7309.2	7192.3	2950 µg/L	2950 ppb	21:46:41
2	SiO2†	850174.3	836410.7	89454 µg/L	89454 ppb	21:46:39
2	Si 251.611†	2613574.6	2575703.9	41677 µg/L	41677 ppb	21:46:39
2	Sn 189.927†	15736.2	15516.4	1093.8 µg/L	1093.8 ppb	21:46:41
2	Ti 334.940†	5884990.8	5800967.8	5810.4 µg/L	5810.4 ppb	21:46:39
2	Tl 190.801†	8661.8	8656.5	1240.5 µg/L	1240.5 ppb	21:46:41
2	U 409.014†	-4449.5	-4102.9	-191.97 µg/L	-191.97 ppb	21:46:39
2	V 292.402†	237474.2	233809.5	1230.5 µg/L	1230.5 ppb	21:46:39
2	Zn 213.857†	956766.7	942725.8	5820.4 µg/L	5820.4 ppb	21:46:39
3	Sc RADIAL	155239.8	155239.8	105 %		21:46:27
3	Al 396.153Radial†	470048.5	447674.9	92230 µg/L	92230 ppb	21:46:27
3	Ca 317.933Radial†	1755245.0	1670765.0	100530 µg/L	100530 ppb	21:46:25
3	Fe 238.204 Radial†	2977644.7	2835374.0	190790 µg/L	190790 ppb	21:46:25
3	K 766.490 Radial†	108451.5	101962.1	41919 µg/L	41919 ppb	21:46:27
3	Mg 279.077 IEC†	99944.6	95005.2	38821 µg/L	38821 ppb	21:46:27
3	Na 589.592 Radial†	72368.8	67707.8	10244 µg/L	10244 ppb	21:46:27
3	Sr 421.552†	1093529.5	1041554.4	2401.9 µg/L	2401.9 ppb	21:46:25
3	Sc 361.383	1778519.6	1778519.6	101.34 %		21:46:45
3	Y 371.029	1132206.3	1132206.3	106.41 %		21:46:45
3	Ag 328.068†	80163.5	75659.8	310.07 µg/L	310.07 ppb	21:46:45
3	As 188.979†	3196.3	3171.8	1172.7 µg/L	1172.7 ppb	21:46:47
3	B 249.677†	94916.0	90434.6	1471.3 µg/L	1471.3 ppb	21:46:45
3	Ba 233.527†	486216.7	479970.2	2088.3 µg/L	2088.3 ppb	21:46:45
3	Be 313.107†	2686580.5	2651955.0	795.79 µg/L	795.79 ppb	21:46:45
3	Cd 226.502†	90148.3	89070.1	592.13 µg/L	592.13 ppb	21:46:45
3	Co 228.616†	69014.0	68276.8	915.86 µg/L	915.86 ppb	21:46:45
3	Cr 267.716†	276541.0	272717.5	2303.5 µg/L	2303.5 ppb	21:46:45
3	Cu 324.752†	438474.5	429906.1	1840.7 µg/L	1840.7 ppb	21:46:45
3	Mn 257.610†	4152660.1	4097749.4	5475.1 µg/L	5475.1 ppb	21:46:45
3	Mo 202.031†	15452.2	15283.3	494.82 µg/L	494.82 ppb	21:46:47
3	Ni 231.604†	106819.4	105489.3	1326.8 µg/L	1326.8 ppb	21:46:45
3	P 214.914†	34130.2	33675.3	7907.6 µg/L	7907.6 ppb	21:46:47
3	Pb 220.353†	14362.5	14076.2	869.96 µg/L	869.96 ppb	21:46:47
3	S 181.975 Axial†	4797.5	4646.6	3813.1 µg/L	3813.1 ppb	21:46:47
3	Sb 206.836†	9228.9	9029.2	1157.3 µg/L	1157.3 ppb	21:46:47
3	Se 196.026†	7373.7	7263.0	2970 µg/L	2970 ppb	21:46:47
3	SiO2†	849161.7	836216.0	89433 µg/L	89433 ppb	21:46:45
3	Si 251.611†	2610514.2	2575157.0	41668 µg/L	41668 ppb	21:46:45
3	Sn 189.927†	15809.7	15603.9	1099.9 µg/L	1099.9 ppb	21:46:47
3	Ti 334.940†	5882728.8	5804304.5	5813.8 µg/L	5813.8 ppb	21:46:45
3	Tl 190.801†	8715.2	8717.4	1248.7 µg/L	1248.7 ppb	21:46:47
3	U 409.014†	-4816.5	-4469.3	-214.72 µg/L	-214.72 ppb	21:46:45
3	V 292.402†	237321.9	233884.0	1231.0 µg/L	1231.0 ppb	21:46:45
3	Zn 213.857†	954496.8	941391.3	5812.3 µg/L	5812.3 ppb	21:46:45

Mean Data: 1202065046|962575|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1780382.1	101.44 %	0.111			0.11%
Sc RADIAL	155538.2	105 %	0.9			0.90%
Y 371.029	1133519.1	106.53 %	0.130			0.12%
Ag 328.068†	75540.1	309.59 µg/L	0.438	309.59 ppb	0.438	0.14%
Al 396.153Radial†	446278.6	91943 µg/L	411.4	91943 ppb	411.4	0.45%
As 188.979†	3153.4	1166.4 µg/L	11.39	1166.4 ppb	11.39	0.98%
B 249.677†	90474.1	1471.9 µg/L	0.85	1471.9 ppb	0.85	0.06%
Ba 233.527†	479976.9	2088.4 µg/L	0.57	2088.4 ppb	0.57	0.03%
Be 313.107†	2654154.9	796.45 µg/L	0.582	796.45 ppb	0.582	0.07%
Ca 317.933Radial†	1674215.8	100730 µg/L	255.9	100730 ppb	255.9	0.25%
Cd 226.502†	89133.0	592.52 µg/L	1.306	592.52 ppb	1.306	0.22%
Co 228.616†	68401.4	917.52 µg/L	1.444	917.52 ppb	1.444	0.16%
Cr 267.716†	273018.7	2306.1 µg/L	2.22	2306.1 ppb	2.22	0.10%
Cu 324.752†	430014.5	1841.2 µg/L	0.46	1841.2 ppb	0.46	0.02%
Fe 238.204 Radial†	2841697.4	191210 µg/L	491.9	191210 ppb	491.9	0.26%
K 766.490 Radial†	101692.1	41808 µg/L	178.2	41808 ppb	178.2	0.43%
Mg 279.077 IEC†	94787.4	38731 µg/L	87.3	38731 ppb	87.3	0.23%
Mn 257.610†	4100244.2	5478.4 µg/L	3.07	5478.4 ppb	3.07	0.06%
Mo 202.031†	15247.7	493.71 µg/L	1.311	493.71 ppb	1.311	0.27%
Na 589.592 Radial†	67400.6	10197 µg/L	50.5	10197 ppb	50.5	0.50%

Ni 231.604†	105560.9	1327.7 µg/L	0.82	1327.7 ppb	0.82	0.06%
P 214.914†	33433.2	7849.4 µg/L	67.02	7849.4 ppb	67.02	0.85%
Pb 220.353†	13946.0	861.94 µg/L	11.915	861.94 ppb	11.915	1.38%
S 181.975 Axial†	4637.4	3805.6 µg/L	29.92	3805.6 ppb	29.92	0.79%
Sb 206.836†	8952.5	1147.1 µg/L	11.15	1147.1 ppb	11.15	0.97%
Se 196.026†	7186.8	2940 µg/L	31.6	2940 ppb	31.6	1.08%
SiO2†	836585.8	89473 µg/L	51.7	89473 ppb	51.7	0.06%
Si 251.611†	2576522.2	41691 µg/L	31.0	41691 ppb	31.0	0.07%
Sn 189.927†	15487.1	1091.8 µg/L	9.28	1091.8 ppb	9.28	0.85%
Sr 421.552†	1042501.7	2404.1 µg/L	9.48	2404.1 ppb	9.48	0.39%
Ti 334.940†	5801200.0	5810.7 µg/L	2.99	5810.7 ppb	2.99	0.05%
Tl 190.801†	8665.8	1241.7 µg/L	6.43	1241.7 ppb	6.43	0.52%
U 409.014†	-4291.5	-203.70 µg/L	11.390	-203.70 ppb	11.390	5.59%
Concentration less than lower limit for U 409.014.						
V 292.402†	233727.7	1230.1 µg/L	1.11	1230.1 ppb	1.11	0.09%
Zn 213.857†	942611.9	5819.8 µg/L	7.21	5819.8 ppb	7.21	0.12%

Sequence No.: 129

Sample ID: 1202065047|962575|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 315

Date Collected: 3/30/2010 21:48:52

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202065047|962575|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	154380.9	154380.9	104 %		21:49:24
1	Al 396.153Radial†	121332.3	116246.6	23955 µg/L	23955 ppb	21:49:24
1	Ca 317.933Radial†	77413.2	73430.3	4418.1 µg/L	4418.1 ppb	21:49:24
1	Fe 238.204 Radial†	1218150.3	1166318.4	78480 µg/L	78480 ppb	21:49:22
1	K 766.490 Radial†	27662.3	25175.7	10352 µg/L	10352 ppb	21:49:24
1	Mg 279.077 IEC†	10380.6	9771.3	3941.2 µg/L	3941.2 ppb	21:49:24
1	Na 589.592 Radial†	117632.6	111434.4	16912 µg/L	16912 ppb	21:49:24
1	Sr 421.552†	17221.3	16712.2	38.518 µg/L	38.518 ppb	21:49:24
1	Sc 361.383	1796024.4	1796024.4	102.33 %		21:49:37
1	Y 371.029	1297311.4	1297311.4	121.92 %		21:49:37
1	Ag 328.068†	3988.7	450.7	1.1392 µg/L	1.1392 ppb	21:49:37
1	As 188.979†	-7.8	10.1	22.310 µg/L	22.310 ppb	21:49:57
1	B 249.677†	3676.4	362.3	5.8352 µg/L	5.8352 ppb	21:49:37
1	Ba 233.527†	71781.7	70307.3	305.18 µg/L	305.18 ppb	21:49:37
1	Be 313.107†	22461.0	22734.5	6.7203 µg/L	6.7203 ppb	21:49:37
1	Cd 226.502†	1121.8	1206.3	0.0671 µg/L	0.0671 ppb	21:49:57
1	Co 228.616†	1369.8	1511.0	16.663 µg/L	16.663 ppb	21:49:57
1	Cr 267.716†	15021.0	14500.0	124.52 µg/L	124.52 ppb	21:49:57
1	Cu 324.752†	8361.2	5381.6	33.947 µg/L	33.947 ppb	21:49:37
1	Mn 257.610†	1944278.6	1899776.0	2538.9 µg/L	2538.9 ppb	21:49:37
1	Mo 202.031†	179.5	210.2	9.8926 µg/L	9.8926 ppb	21:49:57
1	Ni 231.604†	6277.5	6212.3	78.137 µg/L	78.137 ppb	21:49:57
1	P 214.914†	4532.2	4423.8	1006.8 µg/L	1006.8 ppb	21:49:57
1	Pb 220.353†	827.0	711.2	46.700 µg/L	46.700 ppb	21:49:57
1	S 181.975 Axial†	1379.7	1260.5	1033.3 µg/L	1033.3 ppb	21:49:57
1	Sb 206.836†	81.9	2.0	-2.4808 µg/L	-2.4808 ppb	21:49:57
1	Se 196.026†	-47.6	-60.1	2.85 µg/L	2.85 ppb	21:49:57
1	SiO2†	493536.7	480531.6	51410 µg/L	51410 ppb	21:49:37
1	Si 251.611†	1514423.2	1478947.6	23938 µg/L	23938 ppb	21:49:37
1	Sn 189.927†	-33.0	-29.7	7.9534 µg/L	7.9534 ppb	21:49:57
1	Ti 334.940†	3033411.9	2963368.5	2968.7 µg/L	2968.7 ppb	21:49:37
1	Tl 190.801†	-432.7	-305.8	-4.1605 µg/L	-4.1605 ppb	21:49:57
1	U 409.014†	-5828.7	-5412.0	-335.11 µg/L	-335.11 ppb	21:49:37
1	V 292.402†	17752.0	17037.4	79.790 µg/L	79.790 ppb	21:49:57
1	Zn 213.857†	62922.1	60963.0	371.18 µg/L	371.18 ppb	21:49:37
2	Sc RADIAL	157858.5	157858.5	107 %		21:49:28
2	Al 396.153Radial†	124019.7	116203.7	23946 µg/L	23946 ppb	21:49:28
2	Ca 317.933Radial†	78878.3	73169.2	4402.4 µg/L	4402.4 ppb	21:49:28
2	Fe 238.204 Radial†	1213398.9	1136171.6	76452 µg/L	76452 ppb	21:49:26
2	K 766.490 Radial†	28097.1	24999.3	10280 µg/L	10280 ppb	21:49:28
2	Mg 279.077 IEC†	10671.1	9824.4	3964.7 µg/L	3964.7 ppb	21:49:28
2	Na 589.592 Radial†	119491.2	110693.4	16799 µg/L	16799 ppb	21:49:28
2	Sr 421.552†	17529.2	16637.3	38.345 µg/L	38.345 ppb	21:49:28
2	Sc 361.383	1786091.7	1786091.7	101.77 %		21:50:00
2	Y 371.029	1290612.9	1290612.9	121.29 %		21:50:00
2	Ag 328.068†	3630.4	120.3	-0.1641 µg/L	-0.1641 ppb	21:50:00
2	As 188.979†	-1.9	15.9	23.869 µg/L	23.869 ppb	21:50:20
2	B 249.677†	3652.3	358.5	5.7738 µg/L	5.7738 ppb	21:50:00
2	Ba 233.527†	71599.5	70518.4	306.13 µg/L	306.13 ppb	21:50:00
2	Be 313.107†	22564.8	22958.5	6.7873 µg/L	6.7873 ppb	21:50:00
2	Cd 226.502†	1120.9	1211.4	0.3158 µg/L	0.3158 ppb	21:50:20
2	Co 228.616†	1368.5	1517.1	16.853 µg/L	16.853 ppb	21:50:20
2	Cr 267.716†	15035.6	14596.0	125.26 µg/L	125.26 ppb	21:50:20
2	Cu 324.752†	8283.0	5350.2	33.519 µg/L	33.519 ppb	21:50:00
2	Mn 257.610†	1941160.4	1907277.8	2548.9 µg/L	2548.9 ppb	21:50:00
2	Mo 202.031†	166.3	198.1	9.4303 µg/L	9.4303 ppb	21:50:20
2	Ni 231.604†	6255.2	6224.4	78.289 µg/L	78.289 ppb	21:50:20
2	P 214.914†	4493.4	4410.4	1005.0 µg/L	1005.0 ppb	21:50:20
2	Pb 220.353†	812.2	701.1	46.165 µg/L	46.165 ppb	21:50:20

2	S 181.975 Axial†	1365.1	1253.6	1027.7 µg/L	1027.7 ppb	21:50:20
2	Sb 206.836†	73.1	-6.2	-3.5468 µg/L	-3.5468 ppb	21:50:20
2	Se 196.026†	-43.6	-56.4	3.61 µg/L	3.61 ppb	21:50:20
2	SiO2†	493280.6	482962.0	51670 µg/L	51670 ppb	21:50:00
2	Si 251.611†	1512790.9	1485573.6	24046 µg/L	24046 ppb	21:50:00
2	Sn 189.927†	-26.2	-23.2	8.4521 µg/L	8.4521 ppb	21:50:20
2	Ti 334.940†	3029720.1	2976225.4	2981.6 µg/L	2981.6 ppb	21:50:00
2	Tl 190.801†	-423.8	-299.3	-3.1409 µg/L	-3.1409 ppb	21:50:20
2	U 409.014†	-5813.2	-5428.6	-335.62 µg/L	-335.62 ppb	21:50:00
2	V 292.402†	17667.7	17051.1	80.063 µg/L	80.063 ppb	21:50:20
2	Zn 213.857†	62890.4	61273.8	373.33 µg/L	373.33 ppb	21:50:00
3	Sc RADIAL	156319.5	156319.5	106 %		21:49:32
3	Al 396.153Radial†	122786.6	116180.9	23941 µg/L	23941 ppb	21:49:32
3	Ca 317.933Radial†	78128.4	73187.3	4403.5 µg/L	4403.5 ppb	21:49:32
3	Fe 238.204 Radial†	1207706.7	1141975.9	76842 µg/L	76842 ppb	21:49:30
3	K 766.490 Radial†	27836.3	25011.7	10285 µg/L	10285 ppb	21:49:32
3	Mg 279.077 IEC†	10482.7	9744.6	3931.6 µg/L	3931.6 ppb	21:49:32
3	Na 589.592 Radial†	118624.3	110975.2	16842 µg/L	16842 ppb	21:49:32
3	Sr 421.552†	17295.0	16577.4	38.207 µg/L	38.207 ppb	21:49:32
3	Sc 361.383	1777475.5	1777475.5	101.28 %		21:50:22
3	Y 371.029	1286718.9	1286718.9	120.93 %		21:50:22
3	Ag 328.068†	3664.1	170.8	0.0287 µg/L	0.0287 ppb	21:50:22
3	As 188.979†	-6.8	11.0	22.265 µg/L	22.265 ppb	21:50:43
3	B 249.677†	3664.9	388.4	6.2610 µg/L	6.2610 ppb	21:50:22
3	Ba 233.527†	71761.0	71018.9	308.30 µg/L	308.30 ppb	21:50:22
3	Be 313.107†	22451.6	22954.3	6.7833 µg/L	6.7833 ppb	21:50:22
3	Cd 226.502†	1111.6	1207.6	0.2486 µg/L	0.2486 ppb	21:50:43
3	Co 228.616†	1371.9	1527.0	16.969 µg/L	16.969 ppb	21:50:43
3	Cr 267.716†	15059.7	14691.3	126.08 µg/L	126.08 ppb	21:50:43
3	Cu 324.752†	8397.4	5502.7	34.210 µg/L	34.210 ppb	21:50:22
3	Mn 257.610†	1937474.8	1912884.9	2556.4 µg/L	2556.4 ppb	21:50:22
3	Mo 202.031†	159.7	192.4	9.2635 µg/L	9.2635 ppb	21:50:43
3	Ni 231.604†	6240.1	6239.3	78.476 µg/L	78.476 ppb	21:50:43
3	P 214.914†	4529.5	4467.5	1018.3 µg/L	1018.3 ppb	21:50:43
3	Pb 220.353†	824.9	717.6	47.178 µg/L	47.178 ppb	21:50:43
3	S 181.975 Axial†	1392.8	1287.6	1055.5 µg/L	1055.5 ppb	21:50:43
3	Sb 206.836†	76.2	-2.9	-3.1287 µg/L	-3.1287 ppb	21:50:43
3	Se 196.026†	-48.9	-61.8	1.58 µg/L	1.58 ppb	21:50:43
3	SiO2†	491466.8	483520.6	51729 µg/L	51729 ppb	21:50:22
3	Si 251.611†	1508015.6	1488064.3	24086 µg/L	24086 ppb	21:50:22
3	Sn 189.927†	-29.7	-26.8	8.2443 µg/L	8.2443 ppb	21:50:43
3	Ti 334.940†	3027694.1	2988656.3	2994.0 µg/L	2994.0 ppb	21:50:22
3	Tl 190.801†	-423.5	-301.1	-3.2288 µg/L	-3.2288 ppb	21:50:43
3	U 409.014†	-5931.3	-5572.8	-344.66 µg/L	-344.66 ppb	21:50:22
3	V 292.402†	17704.1	17171.1	80.643 µg/L	80.643 ppb	21:50:43
3	Zn 213.857†	62690.7	61376.1	373.93 µg/L	373.93 ppb	21:50:22

Mean Data: 1202065047|962575|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1786530.5	101.79 %	0.529			0.52%
Sc RADIAL	156186.3	106 %	1.2			1.12%
Y 371.029	1291547.7	121.38 %	0.504			0.41%
Ag 328.068†	247.2	0.3346 µg/L	0.70340	0.3346 ppb	0.70340	210.22%
Al 396.153Radial†	116210.4	23947 µg/L	6.9	23947 ppb	6.9	0.03%
As 188.979†	12.3	22.814 µg/L	0.9132	22.814 ppb	0.9132	4.00%
B 249.677†	369.7	5.9567 µg/L	0.26536	5.9567 ppb	0.26536	4.45%
Ba 233.527†	70614.8	306.54 µg/L	1.600	306.54 ppb	1.600	0.52%
Be 313.107†	22882.4	6.7636 µg/L	0.03754	6.7636 ppb	0.03754	0.56%
Ca 317.933Radial†	73262.3	4408.0 µg/L	8.77	4408.0 ppb	8.77	0.20%
Cd 226.502†	1208.4	0.2105 µg/L	0.12869	0.2105 ppb	0.12869	61.13%
Co 228.616†	1518.4	16.829 µg/L	0.1546	16.829 ppb	0.1546	0.92%
Cr 267.716†	14595.8	125.29 µg/L	0.780	125.29 ppb	0.780	0.62%
Cu 324.752†	5411.5	33.892 µg/L	0.3487	33.892 ppb	0.3487	1.03%
Fe 238.204 Radial†	1148155.3	77258 µg/L	1076.3	77258 ppb	1076.3	1.39%
K 766.490 Radial†	25062.3	10305 µg/L	40.5	10305 ppb	40.5	0.39%
Mg 279.077 IEC†	9780.1	3945.9 µg/L	17.03	3945.9 ppb	17.03	0.43%
Mn 257.610†	1906646.2	2548.1 µg/L	8.79	2548.1 ppb	8.79	0.35%
Mo 202.031†	200.3	9.5288 µg/L	0.32594	9.5288 ppb	0.32594	3.42%
Na 589.592 Radial†	111034.3	16851 µg/L	56.8	16851 ppb	56.8	0.34%

Ni 231.604†	6225.3	78.301 µg/L	0.1703	78.301 ppb	0.1703	0.22%
P 214.914†	4433.9	1010.0 µg/L	7.23	1010.0 ppb	7.23	0.72%
Pb 220.353†	710.0	46.681 µg/L	0.5072	46.681 ppb	0.5072	1.09%
S 181.975 Axial†	1267.2	1038.9 µg/L	14.70	1038.9 ppb	14.70	1.41%
Sb 206.836†	-2.4	-3.0521 µg/L	0.53709	-3.0521 ppb	0.53709	17.60%
Se 196.026†	-59.4	2.68 µg/L	1.025	2.68 ppb	1.025	38.24%
SiO2†	482338.1	51603 µg/L	170.0	51603 ppb	170.0	0.33%
Si 251.611†	1484195.2	24023 µg/L	76.3	24023 ppb	76.3	0.32%
Sn 189.927†	-26.6	8.2166 µg/L	0.25050	8.2166 ppb	0.25050	3.05%
Sr 421.552†	16642.3	38.357 µg/L	0.1558	38.357 ppb	0.1558	0.41%
Ti 334.940†	2976083.4	2981.4 µg/L	12.67	2981.4 ppb	12.67	0.42%
Tl 190.801†	-302.1	-3.5100 µg/L	0.56498	-3.5100 ppb	0.56498	16.10%
U 409.014†	-5471.1	-338.46 µg/L	5.370	-338.46 ppb	5.370	1.59%
Concentration less than lower limit for U 409.014.						
V 292.402†	17086.6	80.165 µg/L	0.4358	80.165 ppb	0.4358	0.54%
Zn 213.857†	61204.3	372.81 µg/L	1.444	372.81 ppb	1.444	0.39%

Sequence No.: 130

Sample ID: 1202065048|962575|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 316

Date Collected: 3/30/2010 21:50:50

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202065048|962575|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	154731.4	154731.4	105 %		21:51:22
1	Al 396.153Radial†	448496.1	428554.5	88291 µg/L	88291 ppb	21:51:22
1	Ca 317.933Radial†	200540.9	190898.1	11486 µg/L	11486 ppb	21:51:22
1	Fe 238.204 Radial†	1910965.0	1825588.9	122840 µg/L	122840 ppb	21:51:20
1	K 766.490 Radial†	99080.0	93347.9	38391 µg/L	38391 ppb	21:51:22
1	Mg 279.077 IEC†	98555.1	93990.5	38463 µg/L	38463 ppb	21:51:22
1	Na 589.592 Radial†	133959.2	126777.5	19217 µg/L	19217 ppb	21:51:22
1	Sr 421.552†	260243.5	248857.5	573.99 µg/L	573.99 ppb	21:51:22
1	Sc 361.383	1784235.6	1784235.6	101.66 %		21:51:36
1	Y 371.029	1444584.8	1444584.8	135.76 %		21:51:36
1	Ag 328.068†	124776.9	119290.7	479.95 µg/L	479.95 ppb	21:51:36
1	As 188.979†	1526.2	1519.0	564.28 µg/L	564.28 ppb	21:51:38
1	B 249.677†	35628.0	31815.4	516.92 µg/L	516.92 ppb	21:51:36
1	Ba 233.527†	323917.7	318786.3	1387.0 µg/L	1387.0 ppb	21:51:36
1	Be 313.107†	1739171.1	1711534.9	513.70 µg/L	513.70 ppb	21:51:36
1	Cd 226.502†	73864.8	72767.7	486.99 µg/L	486.99 ppb	21:51:36
1	Co 228.616†	38999.1	38534.2	516.17 µg/L	516.17 ppb	21:51:38
1	Cr 267.716†	68605.7	67306.0	569.68 µg/L	569.68 ppb	21:51:36
1	Cu 324.752†	131139.6	126207.6	551.21 µg/L	551.21 ppb	21:51:36
1	Mn 257.610†	4315612.3	4244910.4	5672.0 µg/L	5672.0 ppb	21:51:36
1	Mo 202.031†	15280.3	15065.4	485.01 µg/L	485.01 ppb	21:51:38
1	Ni 231.604†	47704.2	47002.5	591.18 µg/L	591.18 ppb	21:51:38
1	P 214.914†	12623.7	12412.4	2890.5 µg/L	2890.5 ppb	21:51:38
1	Pb 220.353†	14170.2	13841.6	855.86 µg/L	855.86 ppb	21:51:38
1	S 181.975 Axial†	7548.0	7336.9	6018.4 µg/L	6018.4 ppb	21:51:38
1	Sb 206.836†	3574.8	3438.3	449.00 µg/L	449.00 ppb	21:51:38
1	Se 196.026†	1129.9	1097.9	482 µg/L	482 ppb	21:51:38
1	SiO2†	484840.8	475164.3	50814 µg/L	50814 ppb	21:51:36
1	Si 251.611†	1491259.8	1465940.8	23718 µg/L	23718 ppb	21:51:36
1	Sn 189.927†	7790.2	7665.5	545.82 µg/L	545.82 ppb	21:51:38
1	Ti 334.940†	4552055.8	4476779.9	4481.9 µg/L	4481.9 ppb	21:51:36
1	Tl 190.801†	3036.2	3103.7	479.26 µg/L	479.26 ppb	21:51:38
1	U 409.014†	2713.8	2953.2	233.06 µg/L	233.06 ppb	21:51:36
1	V 292.402†	131384.4	128927.5	674.91 µg/L	674.91 ppb	21:51:36
1	Zn 213.857†	453668.7	445730.2	2751.0 µg/L	2751.0 ppb	21:51:36
2	Sc RADIAL	155976.0	155976.0	106 %		21:51:26
2	Al 396.153Radial†	450392.9	426933.2	87957 µg/L	87957 ppb	21:51:26
2	Ca 317.933Radial†	201717.1	190484.0	11461 µg/L	11461 ppb	21:51:26
2	Fe 238.204 Radial†	1905844.5	1806167.6	121530 µg/L	121530 ppb	21:51:24
2	K 766.490 Radial†	99386.3	92882.9	38199 µg/L	38199 ppb	21:51:26
2	Mg 279.077 IEC†	98842.5	93511.5	38267 µg/L	38267 ppb	21:51:26
2	Na 589.592 Radial†	134785.8	126539.7	19181 µg/L	19181 ppb	21:51:26
2	Sr 421.552†	261411.4	247980.3	571.96 µg/L	571.96 ppb	21:51:26
2	Sc 361.383	1795443.4	1795443.4	102.30 %		21:51:42
2	Y 371.029	1453015.3	1453015.3	136.56 %		21:51:42
2	Ag 328.068†	125280.0	119016.3	478.86 µg/L	478.86 ppb	21:51:42
2	As 188.979†	1469.5	1454.1	541.33 µg/L	541.33 ppb	21:51:44
2	B 249.677†	35813.2	31777.7	516.32 µg/L	516.32 ppb	21:51:42
2	Ba 233.527†	325796.7	318634.2	1386.4 µg/L	1386.4 ppb	21:51:42
2	Be 313.107†	1749551.1	1711002.4	513.54 µg/L	513.54 ppb	21:51:42
2	Cd 226.502†	74482.1	72917.6	488.15 µg/L	488.15 ppb	21:51:42
2	Co 228.616†	38883.8	38182.1	511.48 µg/L	511.48 ppb	21:51:44
2	Cr 267.716†	69024.8	67294.4	569.53 µg/L	569.53 ppb	21:51:42
2	Cu 324.752†	131917.7	126162.9	550.82 µg/L	550.82 ppb	21:51:42
2	Mn 257.610†	4340626.7	4242862.9	5669.2 µg/L	5669.2 ppb	21:51:42
2	Mo 202.031†	15096.1	14791.4	476.24 µg/L	476.24 ppb	21:51:44
2	Ni 231.604†	47511.1	46520.8	585.13 µg/L	585.13 ppb	21:51:44
2	P 214.914†	12520.1	12233.6	2848.7 µg/L	2848.7 ppb	21:51:44
2	Pb 220.353†	14167.6	13752.1	850.37 µg/L	850.37 ppb	21:51:44



2	S 181.975 Axial†	7538.5	7281.3	5972.7 µg/L	5972.7 ppb	21:51:44
2	Sb 206.836†	3555.6	3397.6	443.54 µg/L	443.54 ppb	21:51:44
2	Se 196.026†	1146.8	1107.4	486 µg/L	486 ppb	21:51:44
2	SiO2†	487660.4	474943.4	50791 µg/L	50791 ppb	21:51:42
2	Si 251.611†	1500921.4	1466228.3	23723 µg/L	23723 ppb	21:51:42
2	Sn 189.927†	7718.0	7547.1	537.61 µg/L	537.61 ppb	21:51:44
2	Ti 334.940†	4577212.7	4473419.9	4478.5 µg/L	4478.5 ppb	21:51:42
2	Tl 190.801†	3025.6	3074.7	475.34 µg/L	475.34 ppb	21:51:44
2	U 409.014†	2757.6	2979.3	234.94 µg/L	234.94 ppb	21:51:42
2	V 292.402†	132107.6	128827.6	674.43 µg/L	674.43 ppb	21:51:42
2	Zn 213.857†	456940.3	446142.6	2753.7 µg/L	2753.7 ppb	21:51:42
3	Sc RADIAL	155353.4	155353.4	105 %		21:51:31
3	Al 396.153Radial†	448576.9	426915.9	87953 µg/L	87953 ppb	21:51:31
3	Ca 317.933Radial†	200159.6	189768.2	11418 µg/L	11418 ppb	21:51:31
3	Fe 238.204 Radial†	1909222.4	1816621.1	122240 µg/L	122240 ppb	21:51:29
3	K 766.490 Radial†	98874.8	92773.6	38154 µg/L	38154 ppb	21:51:31
3	Mg 279.077 IEC†	98070.0	93151.9	38119 µg/L	38119 ppb	21:51:31
3	Na 589.592 Radial†	133667.7	125987.8	19097 µg/L	19097 ppb	21:51:31
3	Sr 421.552†	259625.5	247273.9	570.33 µg/L	570.33 ppb	21:51:31
3	Sc 361.383	1790911.9	1790911.9	102.04 %		21:51:48
3	Y 371.029	1448725.1	1448725.1	136.15 %		21:51:48
3	Ag 328.068†	125263.4	119309.9	480.04 µg/L	480.04 ppb	21:51:48
3	As 188.979†	1527.2	1514.4	562.53 µg/L	562.53 ppb	21:51:50
3	B 249.677†	35673.5	31729.4	515.51 µg/L	515.51 ppb	21:51:48
3	Ba 233.527†	325503.1	319152.2	1388.6 µg/L	1388.6 ppb	21:51:48
3	Be 313.107†	1748094.1	1713901.9	514.41 µg/L	514.41 ppb	21:51:48
3	Cd 226.502†	74282.0	72905.7	488.00 µg/L	488.00 ppb	21:51:48
3	Co 228.616†	39211.5	38599.3	517.09 µg/L	517.09 ppb	21:51:50
3	Cr 267.716†	68916.3	67358.8	570.10 µg/L	570.10 ppb	21:51:48
3	Cu 324.752†	131795.7	126369.6	551.80 µg/L	551.80 ppb	21:51:48
3	Mn 257.610†	4337698.3	4250729.4	5679.8 µg/L	5679.8 ppb	21:51:48
3	Mo 202.031†	15281.9	15010.9	483.24 µg/L	483.24 ppb	21:51:50
3	Ni 231.604†	48167.4	47281.5	594.69 µg/L	594.69 ppb	21:51:50
3	P 214.914†	12725.2	12465.6	2903.5 µg/L	2903.5 ppb	21:51:50
3	Pb 220.353†	14331.6	13947.9	862.36 µg/L	862.36 ppb	21:51:50
3	S 181.975 Axial†	7591.7	7352.1	6030.8 µg/L	6030.8 ppb	21:51:50
3	Sb 206.836†	3548.7	3399.6	443.91 µg/L	443.91 ppb	21:51:50
3	Se 196.026†	1120.2	1084.2	477 µg/L	477 ppb	21:51:50
3	SiO2†	486955.6	475458.9	50846 µg/L	50846 ppb	21:51:48
3	Si 251.611†	1498346.8	1467417.6	23742 µg/L	23742 ppb	21:51:48
3	Sn 189.927†	7815.4	7661.6	545.56 µg/L	545.56 ppb	21:51:50
3	Ti 334.940†	4574038.9	4481631.0	4486.8 µg/L	4486.8 ppb	21:51:48
3	Tl 190.801†	3080.7	3136.1	483.69 µg/L	483.69 ppb	21:51:50
3	U 409.014†	2857.9	3084.5	241.49 µg/L	241.49 ppb	21:51:48
3	V 292.402†	131965.9	129015.5	675.43 µg/L	675.43 ppb	21:51:48
3	Zn 213.857†	456985.7	447317.3	2760.8 µg/L	2760.8 ppb	21:51:48

Mean Data: 1202065048|962575|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1790197.0	102.00 %	0.321			0.31%
Sc RADIAL	155353.6	105 %	0.4			0.40%
Y 371.029	1448775.1	136.16 %	0.396			0.29%
Ag 328.068†	119205.6	479.62 µg/L	0.656	479.62 ppb	0.656	0.14%
Al 396.153Radial†	427467.9	88067 µg/L	193.8	88067 ppb	193.8	0.22%
As 188.979†	1495.8	556.05 µg/L	12.775	556.05 ppb	12.775	2.30%
B 249.677†	31774.1	516.25 µg/L	0.705	516.25 ppb	0.705	0.14%
Ba 233.527†	318857.6	1387.4 µg/L	1.16	1387.4 ppb	1.16	0.08%
Be 313.107†	1712146.4	513.89 µg/L	0.464	513.89 ppb	0.464	0.09%
Ca 317.933Radial†	190383.5	11455 µg/L	34.4	11455 ppb	34.4	0.30%
Cd 226.502†	72863.7	487.71 µg/L	0.633	487.71 ppb	0.633	0.13%
Co 228.616†	38438.5	514.91 µg/L	3.009	514.91 ppb	3.009	0.58%
Cr 267.716†	67319.7	569.77 µg/L	0.292	569.77 ppb	0.292	0.05%
Cu 324.752†	126246.7	551.28 µg/L	0.493	551.28 ppb	0.493	0.09%
Fe 238.204 Radial†	1816125.9	122200 µg/L	654.1	122200 ppb	654.1	0.54%
K 766.490 Radial†	93001.5	38248 µg/L	125.4	38248 ppb	125.4	0.33%
Mg 279.077 IEC†	93551.3	38283 µg/L	172.3	38283 ppb	172.3	0.45%
Mn 257.610†	4246167.6	5673.7 µg/L	5.46	5673.7 ppb	5.46	0.10%
Mo 202.031†	14955.9	481.50 µg/L	4.639	481.50 ppb	4.639	0.96%
Na 589.592 Radial†	126435.0	19165 µg/L	61.4	19165 ppb	61.4	0.32%

Ni 231.604†	46934.9	590.33 µg/L	4.840	590.33 ppb	4.840	0.82%
P 214.914†	12370.6	2880.9 µg/L	28.65	2880.9 ppb	28.65	0.99%
Pb 220.353†	13847.2	856.19 µg/L	6.001	856.19 ppb	6.001	0.70%
S 181.975 Axial†	7323.4	6007.3 µg/L	30.59	6007.3 ppb	30.59	0.51%
Sb 206.836†	3411.8	445.48 µg/L	3.050	445.48 ppb	3.050	0.68%
Se 196.026†	1096.5	482 µg/L	4.6	482 ppb	4.6	0.95%
SiO2†	475188.9	50817 µg/L	27.5	50817 ppb	27.5	0.05%
Si 251.611†	1466528.9	23728 µg/L	12.7	23728 ppb	12.7	0.05%
Sn 189.927†	7624.7	542.99 µg/L	4.668	542.99 ppb	4.668	0.86%
Sr 421.552†	248037.2	572.10 µg/L	1.830	572.10 ppb	1.830	0.32%
Ti 334.940†	4477276.9	4482.4 µg/L	4.14	4482.4 ppb	4.14	0.09%
Tl 190.801†	3104.8	479.43 µg/L	4.177	479.43 ppb	4.177	0.87%
U 409.014†	3005.7	236.50 µg/L	4.428	236.50 ppb	4.428	1.87%
V 292.402†	128923.5	674.93 µg/L	0.498	674.93 ppb	0.498	0.07%
Zn 213.857†	446396.7	2755.2 µg/L	5.10	2755.2 ppb	5.10	0.19%

Sequence No.: 131

Sample ID: 1202065050|962575|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 317

Date Collected: 3/30/2010 21:51:58

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202065050|962575|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	153618.0	153618.0	104 %		21:52:30
1	Al 396.153Radial†	187298.8	180304.4	37133 µg/L	37133 ppb	21:52:30
1	Ca 317.933Radial†	139126.1	133186.0	8013.5 µg/L	8013.5 ppb	21:52:30
1	Fe 238.204 Radial†	1141421.7	1098273.5	73901 µg/L	73901 ppb	21:52:28
1	K 766.490 Radial†	41462.2	38587.1	15867 µg/L	15867 ppb	21:52:30
1	Mg 279.077 IEC†	24448.6	23358.6	9530.9 µg/L	9530.9 ppb	21:52:30
1	Na 589.592 Radial†	144137.2	137499.7	20865 µg/L	20865 ppb	21:52:30
1	Sr 421.552†	237367.9	228645.8	527.39 µg/L	527.39 ppb	21:52:28
1	Sc 361.383	1778308.8	1778308.8	101.32 %		21:52:43
1	Y 371.029	1318847.5	1318847.5	123.95 %		21:52:43
1	Ag 328.068†	125163.1	120080.9	482.74 µg/L	482.74 ppb	21:52:43
1	As 188.979†	1471.1	1469.6	537.07 µg/L	537.07 ppb	21:52:45
1	B 249.677†	34643.6	30960.7	503.01 µg/L	503.01 ppb	21:52:43
1	Ba 233.527†	180195.3	178003.4	774.62 µg/L	774.62 ppb	21:52:43
1	Be 313.107†	1745657.6	1723638.3	517.32 µg/L	517.32 ppb	21:52:43
1	Cd 226.502†	74181.8	73322.7	495.95 µg/L	495.95 ppb	21:52:43
1	Co 228.616†	38281.6	37953.9	510.29 µg/L	510.29 ppb	21:52:45
1	Cr 267.716†	80535.8	79305.1	670.12 µg/L	670.12 ppb	21:52:43
1	Cu 324.752†	131310.0	126805.6	545.77 µg/L	545.77 ppb	21:52:43
1	Mn 257.610†	2160019.1	2131625.5	2848.6 µg/L	2848.6 ppb	21:52:43
1	Mo 202.031†	15741.3	15570.4	498.56 µg/L	498.56 ppb	21:52:45
1	Ni 231.604†	48953.1	48391.5	608.65 µg/L	608.65 ppb	21:52:45
1	P 214.914†	4773.8	4706.5	1073.9 µg/L	1073.9 ppb	21:52:45
1	Pb 220.353†	9053.9	8838.7	546.39 µg/L	546.39 ppb	21:52:45
1	S 181.975 Axial†	7695.3	7507.1	6158.0 µg/L	6158.0 ppb	21:52:45
1	Sb 206.836†	3709.0	3582.5	467.31 µg/L	467.31 ppb	21:52:45
1	Se 196.026†	1224.2	1194.7	504 µg/L	504 ppb	21:52:45
1	SiO2†	620178.5	610323.5	65274 µg/L	65274 ppb	21:52:43
1	Si 251.611†	1900560.2	1874783.0	30336 µg/L	30336 ppb	21:52:43
1	Sn 189.927†	7322.7	7229.6	511.41 µg/L	511.41 ppb	21:52:45
1	Ti 334.940†	3269233.9	3225639.8	3230.7 µg/L	3230.7 ppb	21:52:43
1	Tl 190.801†	3296.8	3370.8	494.39 µg/L	494.39 ppb	21:52:45
1	U 409.014†	1939.0	2197.4	171.06 µg/L	171.06 ppb	21:52:43
1	V 292.402†	107049.9	105341.6	556.58 µg/L	556.58 ppb	21:52:43
1	Zn 213.857†	136873.1	134560.4	824.54 µg/L	824.54 ppb	21:52:43
2	Sc RADIAL	153849.6	153849.6	104 %		21:52:34
2	Al 396.153Radial†	185990.2	178775.8	36818 µg/L	36818 ppb	21:52:34
2	Ca 317.933Radial†	138326.2	132215.9	7955.1 µg/L	7955.1 ppb	21:52:34
2	Fe 238.204 Radial†	1154712.3	1109390.9	74649 µg/L	74649 ppb	21:52:32
2	K 766.490 Radial†	41217.9	38292.3	15746 µg/L	15746 ppb	21:52:34
2	Mg 279.077 IEC†	24213.6	23097.4	9422.8 µg/L	9422.8 ppb	21:52:34
2	Na 589.592 Radial†	143498.0	136676.7	20740 µg/L	20740 ppb	21:52:34
2	Sr 421.552†	240011.3	230841.9	532.46 µg/L	532.46 ppb	21:52:32
2	Sc 361.383	1783042.6	1783042.6	101.59 %		21:52:48
2	Y 371.029	1325506.3	1325506.3	124.57 %		21:52:48
2	Ag 328.068†	126829.8	121393.5	488.01 µg/L	488.01 ppb	21:52:48
2	As 188.979†	1495.5	1489.7	544.32 µg/L	544.32 ppb	21:52:50
2	B 249.677†	35151.7	31370.0	509.72 µg/L	509.72 ppb	21:52:48
2	Ba 233.527†	182660.3	179957.6	783.12 µg/L	783.12 ppb	21:52:48
2	Be 313.107†	1773241.2	1746215.3	524.10 µg/L	524.10 ppb	21:52:48
2	Cd 226.502†	75360.9	74288.9	502.50 µg/L	502.50 ppb	21:52:48
2	Co 228.616†	37639.6	37221.7	500.36 µg/L	500.36 ppb	21:52:50
2	Cr 267.716†	81929.5	80466.0	679.92 µg/L	679.92 ppb	21:52:48
2	Cu 324.752†	133402.6	128521.4	553.10 µg/L	553.10 ppb	21:52:48
2	Mn 257.610†	2190999.5	2156460.3	2881.8 µg/L	2881.8 ppb	21:52:48
2	Mo 202.031†	15451.5	15243.9	488.21 µg/L	488.21 ppb	21:52:50
2	Ni 231.604†	48113.1	47436.4	596.64 µg/L	596.64 ppb	21:52:50
2	P 214.914†	4588.4	4511.4	1026.7 µg/L	1026.7 ppb	21:52:50
2	Pb 220.353†	8904.0	8667.4	535.88 µg/L	535.88 ppb	21:52:50

2	S 181.975 Axial†	7499.3	7293.9	5983.2 µg/L	5983.2 ppb	21:52:50
2	Sb 206.836†	3617.3	3482.5	453.88 µg/L	453.88 ppb	21:52:50
2	Se 196.026†	1214.5	1181.9	499 µg/L	499 ppb	21:52:50
2	SiO2†	630367.2	618727.4	66174 µg/L	66174 ppb	21:52:48
2	Si 251.611†	1929778.8	1898563.5	30721 µg/L	30721 ppb	21:52:48
2	Sn 189.927†	7108.9	7000.0	495.64 µg/L	495.64 ppb	21:52:50
2	Ti 334.940†	3316226.1	3263328.8	3268.5 µg/L	3268.5 ppb	21:52:48
2	Tl 190.801†	3245.0	3311.2	486.94 µg/L	486.94 ppb	21:52:50
2	U 409.014†	1989.0	2241.6	174.19 µg/L	174.19 ppb	21:52:48
2	V 292.402†	108453.3	106442.5	562.25 µg/L	562.25 ppb	21:52:48
2	Zn 213.857†	139111.1	136404.7	835.98 µg/L	835.98 ppb	21:52:48
3	Sc RADIAL	151802.2	151802.2	103 %		21:52:38
3	Al 396.153Radial†	184514.0	179748.6	37018 µg/L	37018 ppb	21:52:38
3	Ca 317.933Radial†	136943.7	132662.2	7982.0 µg/L	7982.0 ppb	21:52:38
3	Fe 238.204 Radial†	1147473.6	1117306.0	75182 µg/L	75182 ppb	21:52:36
3	K 766.490 Radial†	40810.0	38429.3	15802 µg/L	15802 ppb	21:52:38
3	Mg 279.077 IEC†	23981.6	23185.3	9458.5 µg/L	9458.5 ppb	21:52:38
3	Na 589.592 Radial†	142348.9	137417.3	20852 µg/L	20852 ppb	21:52:38
3	Sr 421.552†	238684.1	232659.9	536.65 µg/L	536.65 ppb	21:52:36
3	Sc 361.383	1787040.9	1787040.9	101.82 %		21:52:53
3	Y 371.029	1326923.6	1326923.6	124.71 %		21:52:53
3	Ag 328.068†	127147.7	121426.4	488.14 µg/L	488.14 ppb	21:52:53
3	As 188.979†	1463.1	1454.6	532.21 µg/L	532.21 ppb	21:52:55
3	B 249.677†	35309.1	31447.2	510.96 µg/L	510.96 ppb	21:52:53
3	Ba 233.527†	183450.5	180331.4	784.74 µg/L	784.74 ppb	21:52:53
3	Be 313.107†	1776448.0	1745459.5	523.87 µg/L	523.87 ppb	21:52:53
3	Cd 226.502†	75510.2	74269.7	502.32 µg/L	502.32 ppb	21:52:53
3	Co 228.616†	38048.3	37540.2	504.64 µg/L	504.64 ppb	21:52:55
3	Cr 267.716†	82247.2	80597.5	681.05 µg/L	681.05 ppb	21:52:53
3	Cu 324.752†	133758.1	128576.7	553.41 µg/L	553.41 ppb	21:52:53
3	Mn 257.610†	2197931.6	2158443.1	2884.4 µg/L	2884.4 ppb	21:52:53
3	Mo 202.031†	15620.8	15376.2	492.44 µg/L	492.44 ppb	21:52:55
3	Ni 231.604†	48598.5	47807.1	601.31 µg/L	601.31 ppb	21:52:55
3	P 214.914†	4759.8	4669.6	1064.2 µg/L	1064.2 ppb	21:52:55
3	Pb 220.353†	8970.2	8712.8	538.67 µg/L	538.67 ppb	21:52:55
3	S 181.975 Axial†	7576.6	7353.4	6032.0 µg/L	6032.0 ppb	21:52:55
3	Sb 206.836†	3674.7	3530.9	460.28 µg/L	460.28 ppb	21:52:55
3	Se 196.026†	1235.3	1199.7	506 µg/L	506 ppb	21:52:55
3	SiO2†	631627.2	618576.6	66157 µg/L	66157 ppb	21:52:53
3	Si 251.611†	1934868.7	1899312.4	30733 µg/L	30733 ppb	21:52:53
3	Sn 189.927†	7286.4	7158.7	506.63 µg/L	506.63 ppb	21:52:55
3	Ti 334.940†	3323922.9	3263584.7	3268.7 µg/L	3268.7 ppb	21:52:53
3	Tl 190.801†	3301.1	3359.2	493.38 µg/L	493.38 ppb	21:52:55
3	U 409.014†	1910.7	2160.3	169.02 µg/L	169.02 ppb	21:52:53
3	V 292.402†	108785.8	106530.1	562.71 µg/L	562.71 ppb	21:52:53
3	Zn 213.857†	139547.8	136527.3	836.66 µg/L	836.66 ppb	21:52:53

Mean Data: 1202065050|962575|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1782797.4	101.58 %	0.249			0.25%
Sc RADIAL	153089.9	104 %	0.8			0.73%
Y 371.029	1323759.1	124.41 %	0.405			0.33%
Ag 328.068†	120967.0	486.30 µg/L	3.084	486.30 ppb	3.084	0.63%
Al 396.153Radial†	179609.6	36990 µg/L	159.2	36990 ppb	159.2	0.43%
As 188.979†	1471.3	537.87 µg/L	6.096	537.87 ppb	6.096	1.13%
B 249.677†	31259.3	507.89 µg/L	4.277	507.89 ppb	4.277	0.84%
Ba 233.527†	179430.8	780.82 µg/L	5.436	780.82 ppb	5.436	0.70%
Be 313.107†	1738437.7	521.76 µg/L	3.848	521.76 ppb	3.848	0.74%
Ca 317.933Radial†	132688.0	7983.5 µg/L	29.22	7983.5 ppb	29.22	0.37%
Cd 226.502†	73960.4	500.26 µg/L	3.729	500.26 ppb	3.729	0.75%
Co 228.616†	37571.9	505.10 µg/L	4.982	505.10 ppb	4.982	0.99%
Cr 267.716†	80122.9	677.03 µg/L	6.012	677.03 ppb	6.012	0.89%
Cu 324.752†	127967.9	550.76 µg/L	4.326	550.76 ppb	4.326	0.79%
Fe 238.204 Radial†	1108323.5	74578 µg/L	643.4	74578 ppb	643.4	0.86%
K 766.490 Radial†	38436.2	15805 µg/L	60.7	15805 ppb	60.7	0.38%
Mg 279.077 IEC†	23213.8	9470.7 µg/L	55.05	9470.7 ppb	55.05	0.58%
Mn 257.610†	2148843.0	2871.6 µg/L	19.97	2871.6 ppb	19.97	0.70%
Mo 202.031†	15396.8	493.07 µg/L	5.207	493.07 ppb	5.207	1.06%
Na 589.592 Radial†	137197.9	20819 µg/L	68.8	20819 ppb	68.8	0.33%

Ni 231.604†	47878.3	602.20 µg/L	6.056	602.20 ppb	6.056	1.01%
P 214.914†	4629.2	1054.9 µg/L	24.93	1054.9 ppb	24.93	2.36%
Pb 220.353†	8739.6	540.31 µg/L	5.446	540.31 ppb	5.446	1.01%
S 181.975 Axial†	7384.8	6057.7 µg/L	90.21	6057.7 ppb	90.21	1.49%
Sb 206.836†	3532.0	460.49 µg/L	6.720	460.49 ppb	6.720	1.46%
Se 196.026†	1192.1	503 µg/L	3.7	503 ppb	3.7	0.74%
SiO2†	615875.8	65868 µg/L	514.7	65868 ppb	514.7	0.78%
Si 251.611†	1890886.3	30597 µg/L	225.9	30597 ppb	225.9	0.74%
Sn 189.927†	7129.4	504.56 µg/L	8.086	504.56 ppb	8.086	1.60%
Sr 421.552†	230715.9	532.16 µg/L	4.637	532.16 ppb	4.637	0.87%
Ti 334.940†	3250851.1	3256.0 µg/L	21.88	3256.0 ppb	21.88	0.67%
Tl 190.801†	3347.0	491.57 µg/L	4.043	491.57 ppb	4.043	0.82%
U 409.014†	2199.8	171.42 µg/L	2.603	171.42 ppb	2.603	1.52%
V 292.402†	106104.7	560.51 µg/L	3.411	560.51 ppb	3.411	0.61%
Zn 213.857†	135830.8	832.39 µg/L	6.813	832.39 ppb	6.813	0.82%

Sequence No.: 132

Sample ID: 1202065049|962575|5

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 318

Date Collected: 3/30/2010 21:53:03

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202065049|962575|5

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	158050.1	158050.1	107 %		21:53:33
1	Al 396.153Radial†	21255.0	19943.4	4109.7 µg/L	4109.7 ppb	21:53:35
1	Ca 317.933Radial†	11212.3	9789.3	589.00 µg/L	589.00 ppb	21:53:35
1	Fe 238.204 Radial†	220500.5	206101.3	13868 µg/L	13868 ppb	21:53:33
1	K 766.490 Radial†	6639.0	4896.9	2013.8 µg/L	2013.8 ppb	21:53:35
1	Mg 279.077 IEC†	2009.5	1710.8	689.94 µg/L	689.94 ppb	21:53:35
1	Na 589.592 Radial†	23944.6	21189.6	3215.8 µg/L	3215.8 ppb	21:53:35
1	Sr 421.552†	2527.6	2585.8	5.9604 µg/L	5.9604 ppb	21:53:35
1	Sc 361.383	1804309.0	1804309.0	102.81 %		21:53:47
1	Y 371.029	1125402.6	1125402.6	105.77 %		21:53:47
1	Ag 328.068†	3788.3	237.8	0.7849 µg/L	0.7849 ppb	21:53:49
1	As 188.979†	-9.8	8.2	6.2669 µg/L	6.2669 ppb	21:54:09
1	B 249.677†	3471.1	146.0	2.3677 µg/L	2.3677 ppb	21:53:49
1	Ba 233.527†	16630.8	16339.2	70.975 µg/L	70.975 ppb	21:53:49
1	Be 313.107†	3548.3	4237.1	1.2511 µg/L	1.2511 ppb	21:53:49
1	Cd 226.502†	105.7	212.8	0.0119 µg/L	0.0119 ppb	21:54:09
1	Co 228.616†	104.8	274.3	3.0621 µg/L	3.0621 ppb	21:54:09
1	Cr 267.716†	3962.7	3676.0	31.368 µg/L	31.368 ppb	21:53:49
1	Cu 324.752†	3766.4	874.7	5.6708 µg/L	5.6708 ppb	21:53:49
1	Mn 257.610†	427917.7	416066.1	556.06 µg/L	556.06 ppb	21:53:47
1	Mo 202.031†	2.5	37.2	1.7493 µg/L	1.7493 ppb	21:54:09
1	Ni 231.604†	1438.3	1477.0	18.577 µg/L	18.577 ppb	21:54:09
1	P 214.914†	550.7	530.7	118.01 µg/L	118.01 ppb	21:54:09
1	Pb 220.353†	211.9	109.1	7.2308 µg/L	7.2308 ppb	21:54:09
1	S 181.975 Axial†	323.3	226.8	185.92 µg/L	185.92 ppb	21:54:09
1	Sb 206.836†	77.8	-2.4	-0.9439 µg/L	-0.9439 ppb	21:54:09
1	Se 196.026†	11.7	-2.2	3.87 µg/L	3.87 ppb	21:54:09
1	SiO2†	93903.5	89588.2	9584.6 µg/L	9584.6 ppb	21:53:49
1	Si 251.611†	282835.2	274169.2	4437.7 µg/L	4437.7 ppb	21:53:49
1	Sn 189.927†	5.9	8.3	2.3283 µg/L	2.3283 ppb	21:54:09
1	Ti 334.940†	534673.2	519198.8	520.13 µg/L	520.13 ppb	21:53:47
1	Tl 190.801†	-174.9	-53.1	-0.3803 µg/L	-0.3803 ppb	21:54:09
1	U 409.014†	-1402.2	-1080.2	-66.350 µg/L	-66.350 ppb	21:53:49
1	V 292.402†	3231.6	2833.5	13.198 µg/L	13.198 ppb	21:53:49
1	Zn 213.857†	12420.6	11557.1	70.415 µg/L	70.415 ppb	21:53:49
2	Sc RADIAL	157067.7	157067.7	106 %		21:53:37
2	Al 396.153Radial†	21374.4	20180.2	4158.5 µg/L	4158.5 ppb	21:53:39
2	Ca 317.933Radial†	11140.0	9786.8	588.85 µg/L	588.85 ppb	21:53:39
2	Fe 238.204 Radial†	222892.1	209642.1	14107 µg/L	14107 ppb	21:53:37
2	K 766.490 Radial†	6581.0	4881.1	2007.2 µg/L	2007.2 ppb	21:53:39
2	Mg 279.077 IEC†	2079.6	1788.5	721.60 µg/L	721.60 ppb	21:53:39
2	Na 589.592 Radial†	23872.8	21262.1	3226.8 µg/L	3226.8 ppb	21:53:39
2	Sr 421.552†	2410.4	2490.3	5.7402 µg/L	5.7402 ppb	21:53:39
2	Sc 361.383	1822348.0	1822348.0	103.83 %		21:54:11
2	Y 371.029	1135423.0	1135423.0	106.71 %		21:54:11
2	Ag 328.068†	3420.3	-153.0	-0.7795 µg/L	-0.7795 ppb	21:54:13
2	As 188.979†	-6.0	11.9	7.6017 µg/L	7.6017 ppb	21:54:34
2	B 249.677†	3418.7	62.1	0.9992 µg/L	0.9992 ppb	21:54:13
2	Ba 233.527†	16650.0	16197.5	70.355 µg/L	70.355 ppb	21:54:13
2	Be 313.107†	3698.6	4347.6	1.2820 µg/L	1.2820 ppb	21:54:13
2	Cd 226.502†	107.6	213.6	-0.0075 µg/L	-0.0075 ppb	21:54:34
2	Co 228.616†	123.5	291.3	3.2791 µg/L	3.2791 ppb	21:54:34
2	Cr 267.716†	3998.0	3671.8	31.347 µg/L	31.347 ppb	21:54:13
2	Cu 324.752†	3992.5	1056.2	6.4650 µg/L	6.4650 ppb	21:54:13
2	Mn 257.610†	429865.7	413821.9	553.05 µg/L	553.05 ppb	21:54:11
2	Mo 202.031†	-9.4	25.7	1.3934 µg/L	1.3934 ppb	21:54:34
2	Ni 231.604†	1476.8	1500.1	18.868 µg/L	18.868 ppb	21:54:34
2	P 214.914†	549.6	524.3	116.34 µg/L	116.34 ppb	21:54:34
2	Pb 220.353†	242.7	136.8	8.9203 µg/L	8.9203 ppb	21:54:34

2	S 181.975 Axial†	321.7	222.1	182.06 µg/L	182.06 ppb	21:54:34
2	Sb 206.836†	58.3	-22.0	-3.5120 µg/L	-3.5120 ppb	21:54:34
2	Se 196.026†	5.9	-7.9	1.65 µg/L	1.65 ppb	21:54:34
2	SiO2†	94168.4	88939.1	9515.1 µg/L	9515.1 ppb	21:54:13
2	Si 251.611†	284024.4	272591.2	4412.2 µg/L	4412.2 ppb	21:54:13
2	Sn 189.927†	1.8	4.3	2.0458 µg/L	2.0458 ppb	21:54:34
2	Ti 334.940†	537668.4	516935.2	517.86 µg/L	517.86 ppb	21:54:11
2	Tl 190.801†	-157.2	-34.3	2.1077 µg/L	2.1077 ppb	21:54:34
2	U 409.014†	-1540.8	-1200.2	-73.944 µg/L	-73.944 ppb	21:54:13
2	V 292.402†	3249.2	2819.4	13.091 µg/L	13.091 ppb	21:54:13
2	Zn 213.857†	12446.4	11462.4	69.799 µg/L	69.799 ppb	21:54:13
3	Sc RADIAL	155061.8	155061.8	105 %		21:53:41
3	Al 396.153Radial†	21558.6	20616.0	4248.3 µg/L	4248.3 ppb	21:53:43
3	Ca 317.933Radial†	11368.2	10140.0	610.10 µg/L	610.10 ppb	21:53:43
3	Fe 238.204 Radial†	219538.8	209159.0	14074 µg/L	14074 ppb	21:53:41
3	K 766.490 Radial†	6636.4	5014.1	2061.9 µg/L	2061.9 ppb	21:53:43
3	Mg 279.077 IEC†	2054.9	1790.3	722.36 µg/L	722.36 ppb	21:53:43
3	Na 589.592 Radial†	24164.8	21831.2	3313.2 µg/L	3313.2 ppb	21:53:43
3	Sr 421.552†	2413.9	2522.9	5.8152 µg/L	5.8152 ppb	21:53:43
3	Sc 361.383	1816825.2	1816825.2	103.52 %		21:54:36
3	Y 371.029	1132872.1	1132872.1	106.47 %		21:54:36
3	Ag 328.068†	3845.0	267.2	0.9095 µg/L	0.9095 ppb	21:54:38
3	As 188.979†	-9.9	8.1	6.3078 µg/L	6.3078 ppb	21:54:58
3	B 249.677†	3398.7	52.8	0.8482 µg/L	0.8482 ppb	21:54:38
3	Ba 233.527†	16355.7	15962.0	69.330 µg/L	69.330 ppb	21:54:38
3	Be 313.107†	3627.9	4290.2	1.2692 µg/L	1.2692 ppb	21:54:38
3	Cd 226.502†	134.0	239.4	0.1731 µg/L	0.1731 ppb	21:54:58
3	Co 228.616†	109.0	277.8	3.0965 µg/L	3.0965 ppb	21:54:58
3	Cr 267.716†	4137.7	3818.6	32.571 µg/L	32.571 ppb	21:54:38
3	Cu 324.752†	3863.6	943.4	5.9967 µg/L	5.9967 ppb	21:54:38
3	Mn 257.610†	429301.4	414535.3	554.01 µg/L	554.01 ppb	21:54:36
3	Mo 202.031†	13.1	47.4	2.0834 µg/L	2.0834 ppb	21:54:58
3	Ni 231.604†	1461.8	1490.0	18.741 µg/L	18.741 ppb	21:54:58
3	P 214.914†	562.5	538.4	119.74 µg/L	119.74 ppb	21:54:58
3	Pb 220.353†	201.4	97.6	6.5182 µg/L	6.5182 ppb	21:54:58
3	S 181.975 Axial†	323.3	224.6	184.15 µg/L	184.15 ppb	21:54:58
3	Sb 206.836†	77.9	-2.8	-1.0096 µg/L	-1.0096 ppb	21:54:58
3	Se 196.026†	-3.5	-17.0	-1.97 µg/L	-1.97 ppb	21:54:58
3	SiO2†	93227.6	88306.0	9447.4 µg/L	9447.4 ppb	21:54:38
3	Si 251.611†	280769.2	270278.1	4374.8 µg/L	4374.8 ppb	21:54:38
3	Sn 189.927†	-5.2	-2.5	1.5777 µg/L	1.5777 ppb	21:54:58
3	Ti 334.940†	536695.8	517569.7	518.49 µg/L	518.49 ppb	21:54:36
3	Tl 190.801†	-185.5	-62.1	-1.6208 µg/L	-1.6208 ppb	21:54:58
3	U 409.014†	-1297.1	-969.2	-59.459 µg/L	-59.459 ppb	21:54:38
3	V 292.402†	3263.1	2842.4	13.238 µg/L	13.238 ppb	21:54:38
3	Zn 213.857†	12268.7	11327.2	68.967 µg/L	68.967 ppb	21:54:38

Mean Data: 1202065049|962575|5

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
Sc 361.383	1814494.1	103.39 %		0.527			0.51%
Sc RADIAL	156726.5	106 %		1.0			0.97%
Y 371.029	1131232.6	106.31 %		0.489			0.46%
Ag 328.068†	117.4	0.3050 µg/L		0.94125	0.3050 ppb	0.94125	308.65%
Al 396.153Radial†	20246.5	4172.2 µg/L		70.30	4172.2 ppb	70.30	1.68%
As 188.979†	9.4	6.7255 µg/L		0.75913	6.7255 ppb	0.75913	11.29%
B 249.677†	87.0	1.4050 µg/L		0.83708	1.4050 ppb	0.83708	59.58%
Ba 233.527†	16166.3	70.220 µg/L		0.8307	70.220 ppb	0.8307	1.18%
Be 313.107†	4291.6	1.2674 µg/L		0.01552	1.2674 ppb	0.01552	1.22%
Ca 317.933Radial†	9905.4	595.98 µg/L		12.227	595.98 ppb	12.227	2.05%
Cd 226.502†	222.0	0.0591 µg/L		0.09915	0.0591 ppb	0.09915	167.65%
Co 228.616†	281.1	3.1459 µg/L		0.11666	3.1459 ppb	0.11666	3.71%
Cr 267.716†	3722.1	31.762 µg/L		0.7006	31.762 ppb	0.7006	2.21%
Cu 324.752†	958.1	6.0442 µg/L		0.39920	6.0442 ppb	0.39920	6.60%
Fe 238.204 Radial†	208300.8	14016 µg/L		129.2	14016 ppb	129.2	0.92%
K 766.490 Radial†	4930.7	2027.7 µg/L		29.87	2027.7 ppb	29.87	1.47%
Mg 279.077 IEC†	1763.2	711.30 µg/L		18.505	711.30 ppb	18.505	2.60%
Mn 257.610†	414807.8	554.37 µg/L		1.534	554.37 ppb	1.534	0.28%
Mo 202.031†	36.8	1.7420 µg/L		0.34504	1.7420 ppb	0.34504	19.81%
Na 589.592 Radial†	21427.6	3251.9 µg/L		53.33	3251.9 ppb	53.33	1.64%

Ni 231.604†	1489.1	18.729 µg/L	0.1461	18.729 ppb	0.1461	0.78%
P 214.914†	531.1	118.03 µg/L	1.697	118.03 ppb	1.697	1.44%
Pb 220.353†	114.5	7.5564 µg/L	1.23368	7.5564 ppb	1.23368	16.33%
S 181.975 Axial†	224.5	184.04 µg/L	1.930	184.04 ppb	1.930	1.05%
Sb 206.836†	-9.1	-1.8218 µg/L	1.46411	-1.8218 ppb	1.46411	80.37%
Se 196.026†	-9.0	1.18 µg/L	2.945	1.18 ppb	2.945	248.77%
SiO2†	88944.4	9515.7 µg/L	68.59	9515.7 ppb	68.59	0.72%
Si 251.611†	272346.2	4408.2 µg/L	31.68	4408.2 ppb	31.68	0.72%
Sn 189.927†	3.4	1.9839 µg/L	0.37907	1.9839 ppb	0.37907	19.11%
Sr 421.552†	2533.0	5.8386 µg/L	0.11195	5.8386 ppb	0.11195	1.92%
Ti 334.940†	517901.2	518.83 µg/L	1.170	518.83 ppb	1.170	0.23%
Tl 190.801†	-49.8	0.0355 µg/L	1.89874	0.0355 ppb	1.89874	>999.9%
U 409.014†	-1083.2	-66.584 µg/L	7.2453	-66.584 ppb	7.2453	10.88%
Concentration less than lower limit for U 409.014.						
V 292.402†	2831.8	13.176 µg/L	0.0760	13.176 ppb	0.0760	0.58%
Zn 213.857†	11448.9	69.727 µg/L	0.7267	69.727 ppb	0.7267	1.04%



Sequence No.: 133

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 3/30/2010 21:55:06

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	154294.4	154294.4	104 %		21:55:40
1	Al 396.153Radial†	26574.6	25524.1	5236.2 µg/L	5236.2 ppb	21:55:40
1	Ca 317.933Radial†	90160.3	85684.9	5155.5 µg/L	5155.5 ppb	21:55:40
1	Fe 238.204 Radial†	80085.7	76589.6	5153.6 µg/L	5153.6 ppb	21:55:40
1	K 766.490 Radial†	14897.8	12960.8	5330.0 µg/L	5330.0 ppb	21:55:40
1	Mg 279.077 IEC†	13634.4	12894.4	5297.5 µg/L	5297.5 ppb	21:55:40
1	Na 589.592 Radial†	71334.3	67139.0	10190 µg/L	10190 ppb	21:55:40
1	Sr 421.552†	235175.0	225543.4	520.25 µg/L	520.25 ppb	21:55:38
1	Sc 361.383	1792145.7	1792145.7	102.11 %		21:55:53
1	Y 371.029	1068183.7	1068183.7	100.39 %		21:55:53
1	Ag 328.068†	132552.1	126363.3	508.64 µg/L	508.64 ppb	21:55:53
1	As 188.979†	1527.0	1513.1	535.33 µg/L	535.33 ppb	21:56:13
1	B 249.677†	35050.4	31095.1	505.20 µg/L	505.20 ppb	21:55:53
1	Ba 233.527†	119544.3	117233.9	510.87 µg/L	510.87 ppb	21:55:53
1	Be 313.107†	1756115.8	1720578.3	516.50 µg/L	516.50 ppb	21:55:53
1	Cd 226.502†	75932.7	74472.1	511.03 µg/L	511.03 ppb	21:55:53
1	Co 228.616†	38617.1	37990.8	514.09 µg/L	514.09 ppb	21:55:53
1	Cr 267.716†	61641.6	60188.1	507.00 µg/L	507.00 ppb	21:55:53
1	Cu 324.752†	125845.2	120453.3	509.16 µg/L	509.16 ppb	21:55:53
1	Mn 257.610†	390378.0	382128.0	510.53 µg/L	510.53 ppb	21:55:53
1	Mo 202.031†	16239.9	15938.7	507.47 µg/L	507.47 ppb	21:56:13
1	Ni 231.604†	41512.7	40732.0	512.32 µg/L	512.32 ppb	21:55:53
1	P 214.914†	10995.9	10763.5	2558.6 µg/L	2558.6 ppb	21:56:13
1	Pb 220.353†	8635.9	8360.3	513.52 µg/L	513.52 ppb	21:56:13
1	S 181.975 Axial†	1346.6	1231.0	1013.4 µg/L	1013.4 ppb	21:56:13
1	Sb 206.836†	4054.4	3892.5	511.55 µg/L	511.55 ppb	21:56:13
1	Se 196.026†	1328.8	1287.7	518 µg/L	518 ppb	21:56:13
1	SiO2†	53950.7	51081.6	5443.1 µg/L	5443.1 ppb	21:55:53
1	Si 251.611†	162151.2	157848.7	2544.8 µg/L	2544.8 ppb	21:55:53
1	Sn 189.927†	7541.5	7388.0	513.20 µg/L	513.20 ppb	21:56:13
1	Ti 334.940†	519676.7	508042.3	508.31 µg/L	508.31 ppb	21:55:53
1	Tl 190.801†	3761.7	3801.0	518.43 µg/L	518.43 ppb	21:56:13
1	U 409.014†	7489.4	7618.2	508.04 µg/L	508.04 ppb	21:55:53
1	V 292.402†	97565.2	95237.4	512.37 µg/L	512.37 ppb	21:55:53
1	Zn 213.857†	84987.9	82705.5	508.92 µg/L	508.92 ppb	21:55:53
2	Sc RADIAL	154139.5	154139.5	104 %		21:55:44
2	Al 396.153Radial†	26526.1	25503.2	5231.9 µg/L	5231.9 ppb	21:55:44
2	Ca 317.933Radial†	89656.4	85288.4	5131.6 µg/L	5131.6 ppb	21:55:44
2	Fe 238.204 Radial†	79647.8	76246.8	5130.5 µg/L	5130.5 ppb	21:55:44
2	K 766.490 Radial†	14618.0	12706.8	5225.4 µg/L	5225.4 ppb	21:55:44
2	Mg 279.077 IEC†	13611.1	12885.1	5293.7 µg/L	5293.7 ppb	21:55:44
2	Na 589.592 Radial†	71149.5	67030.4	10174 µg/L	10174 ppb	21:55:44
2	Sr 421.552†	232703.2	223399.3	515.31 µg/L	515.31 ppb	21:55:42
2	Sc 361.383	1789464.7	1789464.7	101.96 %		21:56:16
2	Y 371.029	1066488.4	1066488.4	100.23 %		21:56:16
2	Ag 328.068†	131940.0	125957.5	507.00 µg/L	507.00 ppb	21:56:16
2	As 188.979†	1528.6	1517.0	536.65 µg/L	536.65 ppb	21:56:36
2	B 249.677†	34895.7	30994.8	503.58 µg/L	503.58 ppb	21:56:16
2	Ba 233.527†	118628.2	116510.7	507.72 µg/L	507.72 ppb	21:56:16
2	Be 313.107†	1741511.1	1708830.8	512.98 µg/L	512.98 ppb	21:56:16
2	Cd 226.502†	75549.6	74207.8	509.21 µg/L	509.21 ppb	21:56:16
2	Co 228.616†	38163.0	37602.1	508.83 µg/L	508.83 ppb	21:56:16
2	Cr 267.716†	61122.9	59769.8	503.48 µg/L	503.48 ppb	21:56:16
2	Cu 324.752†	124496.0	119314.7	504.35 µg/L	504.35 ppb	21:56:16
2	Mn 257.610†	386970.3	379358.5	506.83 µg/L	506.83 ppb	21:56:16
2	Mo 202.031†	16233.9	15956.7	508.04 µg/L	508.04 ppb	21:56:36
2	Ni 231.604†	41119.4	40407.1	508.23 µg/L	508.23 ppb	21:56:16
2	P 214.914†	10989.2	10773.1	2561.0 µg/L	2561.0 ppb	21:56:36
2	Pb 220.353†	8643.0	8380.0	514.72 µg/L	514.72 ppb	21:56:36

2	S 181.975 Axial†	1359.5	1245.7	1025.4 µg/L	1025.4 ppb	21:56:36
2	Sb 206.836†	4049.0	3893.1	511.69 µg/L	511.69 ppb	21:56:36
2	Se 196.026†	1317.3	1278.4	514 µg/L	514 ppb	21:56:36
2	SiO2†	53326.2	50548.3	5386.0 µg/L	5386.0 ppb	21:56:16
2	Si 251.611†	160608.9	156573.9	2524.2 µg/L	2524.2 ppb	21:56:16
2	Sn 189.927†	7551.9	7409.3	514.66 µg/L	514.66 ppb	21:56:36
2	Ti 334.940†	515547.5	504754.9	505.02 µg/L	505.02 ppb	21:56:16
2	Tl 190.801†	3776.5	3821.0	521.10 µg/L	521.10 ppb	21:56:36
2	U 409.014†	7429.3	7570.3	504.91 µg/L	504.91 ppb	21:56:16
2	V 292.402†	97037.7	94863.1	510.38 µg/L	510.38 ppb	21:56:16
2	Zn 213.857†	84147.1	82005.5	504.61 µg/L	504.61 ppb	21:56:16
3	Sc RADIAL	153182.2	153182.2	104 %		21:55:48
3	Al 396.153Radial†	26522.7	25658.8	5263.8 µg/L	5263.8 ppb	21:55:48
3	Ca 317.933Radial†	90065.7	86220.7	5187.7 µg/L	5187.7 ppb	21:55:48
3	Fe 238.204 Radial†	79830.0	76899.9	5174.5 µg/L	5174.5 ppb	21:55:48
3	K 766.490 Radial†	14760.3	12931.8	5318.0 µg/L	5318.0 ppb	21:55:48
3	Mg 279.077 IEC†	13641.7	12996.2	5339.4 µg/L	5339.4 ppb	21:55:48
3	Na 589.592 Radial†	71622.4	67913.2	10308 µg/L	10308 ppb	21:55:48
3	Sr 421.552†	234112.5	226154.0	521.66 µg/L	521.66 ppb	21:55:46
3	Sc 361.383	1790915.2	1790915.2	102.04 %		21:56:39
3	Y 371.029	1067138.2	1067138.2	100.29 %		21:56:39
3	Ag 328.068†	132157.3	126065.6	507.41 µg/L	507.41 ppb	21:56:39
3	As 188.979†	1529.3	1516.4	536.49 µg/L	536.49 ppb	21:56:59
3	B 249.677†	35023.2	31092.0	505.16 µg/L	505.16 ppb	21:56:39
3	Ba 233.527†	118905.2	116687.9	508.49 µg/L	508.49 ppb	21:56:39
3	Be 313.107†	1746224.0	1712066.0	513.94 µg/L	513.94 ppb	21:56:39
3	Cd 226.502†	75563.2	74161.2	508.89 µg/L	508.89 ppb	21:56:39
3	Co 228.616†	38347.2	37752.2	510.86 µg/L	510.86 ppb	21:56:39
3	Cr 267.716†	61374.6	59967.8	505.16 µg/L	505.16 ppb	21:56:39
3	Cu 324.752†	125155.9	119862.5	506.66 µg/L	506.66 ppb	21:56:39
3	Mn 257.610†	388423.1	380474.8	508.32 µg/L	508.32 ppb	21:56:39
3	Mo 202.031†	16392.1	16098.9	512.56 µg/L	512.56 ppb	21:56:59
3	Ni 231.604†	41216.2	40469.3	509.01 µg/L	509.01 ppb	21:56:39
3	P 214.914†	11074.5	10847.9	2578.8 µg/L	2578.8 ppb	21:56:59
3	Pb 220.353†	8704.5	8433.3	518.01 µg/L	518.01 ppb	21:56:59
3	S 181.975 Axial†	1382.5	1267.2	1043.1 µg/L	1043.1 ppb	21:56:59
3	Sb 206.836†	4054.0	3894.8	511.96 µg/L	511.96 ppb	21:56:59
3	Se 196.026†	1328.3	1288.2	518 µg/L	518 ppb	21:56:59
3	SiO2†	53621.5	50795.3	5412.3 µg/L	5412.3 ppb	21:56:39
3	Si 251.611†	161322.3	157145.5	2533.3 µg/L	2533.3 ppb	21:56:39
3	Sn 189.927†	7628.0	7477.9	519.41 µg/L	519.41 ppb	21:56:59
3	Ti 334.940†	516862.6	505634.1	505.90 µg/L	505.90 ppb	21:56:39
3	Tl 190.801†	3783.5	3824.8	521.61 µg/L	521.61 ppb	21:56:59
3	U 409.014†	7250.6	7389.2	493.55 µg/L	493.55 ppb	21:56:39
3	V 292.402†	97042.2	94790.5	510.03 µg/L	510.03 ppb	21:56:39
3	Zn 213.857†	84564.3	82347.5	506.72 µg/L	506.72 ppb	21:56:39

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1790841.9	102.04 %	0.076			0.07%
Sc RADIAL	153872.0	104 %	0.4			0.39%
Y 371.029	1067270.1	100.30 %	0.080			0.08%
Ag 328.068†	126128.8	507.68 µg/L	0.853	507.68 ppb	0.853	0.17%
QC value within limits for Ag 328.068 Recovery = 101.54%						
Al 396.153Radial†	25562.0	5244.0 µg/L	17.28	5244.0 ppb	17.28	0.33%
QC value within limits for Al 396.153Radial Recovery = 104.88%						
As 188.979†	1515.5	536.15 µg/L	0.721	536.15 ppb	0.721	0.13%
QC value within limits for As 188.979 Recovery = 107.23%						
B 249.677†	31060.6	504.65 µg/L	0.922	504.65 ppb	0.922	0.18%
QC value within limits for B 249.677 Recovery = 100.93%						
Ba 233.527†	116810.8	509.03 µg/L	1.641	509.03 ppb	1.641	0.32%
QC value within limits for Ba 233.527 Recovery = 101.81%						
Be 313.107†	1713825.0	514.47 µg/L	1.822	514.47 ppb	1.822	0.35%
QC value within limits for Be 313.107 Recovery = 102.89%						
Ca 317.933Radial†	85731.3	5158.2 µg/L	28.15	5158.2 ppb	28.15	0.55%
QC value within limits for Ca 317.933Radial Recovery = 103.16%						
Cd 226.502†	74280.4	509.71 µg/L	1.153	509.71 ppb	1.153	0.23%
QC value within limits for Cd 226.502 Recovery = 101.94%						
Co 228.616†	37781.7	511.26 µg/L	2.652	511.26 ppb	2.652	0.52%

QC value within limits for Co 228.616 Recovery = 102.25%							
Cr 267.716†	59975.2	505.21 µg/L	1.762	505.21 ppb	1.762	0.35%	
QC value within limits for Cr 267.716 Recovery = 101.04%							
Cu 324.752†	119876.8	506.72 µg/L	2.404	506.72 ppb	2.404	0.47%	
QC value within limits for Cu 324.752 Recovery = 101.34%							
Fe 238.204 Radial†	76578.7	5152.9 µg/L	21.98	5152.9 ppb	21.98	0.43%	
QC value within limits for Fe 238.204 Radial Recovery = 103.06%							
K 766.490 Radial†	12866.5	5291.1 µg/L	57.22	5291.1 ppb	57.22	1.08%	
QC value within limits for K 766.490 Radial Recovery = 105.82%							
Mg 279.077 IEC†	12925.2	5310.2 µg/L	25.34	5310.2 ppb	25.34	0.48%	
QC value within limits for Mg 279.077 IEC Recovery = 106.20%							
Mn 257.610†	380653.8	508.56 µg/L	1.862	508.56 ppb	1.862	0.37%	
QC value within limits for Mn 257.610 Recovery = 101.71%							
Mo 202.031†	15998.1	509.35 µg/L	2.791	509.35 ppb	2.791	0.55%	
QC value within limits for Mo 202.031 Recovery = 101.87%							
Na 589.592 Radial†	67360.9	10224 µg/L	73.1	10224 ppb	73.1	0.71%	
QC value within limits for Na 589.592 Radial Recovery = 102.24%							
Ni 231.604†	40536.1	509.85 µg/L	2.169	509.85 ppb	2.169	0.43%	
QC value within limits for Ni 231.604 Recovery = 101.97%							
P 214.914†	10794.8	2566.1 µg/L	11.01	2566.1 ppb	11.01	0.43%	
QC value within limits for P 214.914 Recovery = 102.64%							
Pb 220.353†	8391.2	515.42 µg/L	2.326	515.42 ppb	2.326	0.45%	
QC value within limits for Pb 220.353 Recovery = 103.08%							
S 181.975 Axial†	1248.0	1027.3 µg/L	14.93	1027.3 ppb	14.93	1.45%	
QC value within limits for S 181.975 Axial Recovery = 102.73%							
Sb 206.836†	3893.5	511.74 µg/L	0.208	511.74 ppb	0.208	0.04%	
QC value within limits for Sb 206.836 Recovery = 102.35%							
Se 196.026†	1284.8	517 µg/L	2.2	517 ppb	2.2	0.43%	
QC value within limits for Se 196.026 Recovery = 103.31%							
SiO2†	50808.4	5413.8 µg/L	28.58	5413.8 ppb	28.58	0.53%	
QC value within limits for SiO2 Recovery = 101.24%							
Si 251.611†	157189.4	2534.1 µg/L	10.35	2534.1 ppb	10.35	0.41%	
QC value within limits for Si 251.611 Recovery = 101.36%							
Sn 189.927†	7425.1	515.76 µg/L	3.247	515.76 ppb	3.247	0.63%	
QC value within limits for Sn 189.927 Recovery = 103.15%							
Sr 421.552†	225032.2	519.08 µg/L	3.337	519.08 ppb	3.337	0.64%	
QC value within limits for Sr 421.552 Recovery = 103.82%							
Ti 334.940†	506143.8	506.41 µg/L	1.704	506.41 ppb	1.704	0.34%	
QC value within limits for Ti 334.940 Recovery = 101.28%							
Tl 190.801†	3815.6	520.38 µg/L	1.706	520.38 ppb	1.706	0.33%	
QC value within limits for Tl 190.801 Recovery = 104.08%							
U 409.014†	7525.9	502.17 µg/L	7.627	502.17 ppb	7.627	1.52%	
QC value within limits for U 409.014 Recovery = 100.43%							
V 292.402†	94963.7	510.93 µg/L	1.262	510.93 ppb	1.262	0.25%	
QC value within limits for V 292.402 Recovery = 102.19%							
Zn 213.857†	82352.8	506.75 µg/L	2.155	506.75 ppb	2.155	0.43%	
QC value within limits for Zn 213.857 Recovery = 101.35%							
All analyte(s) passed QC.							

Sequence No.: 134

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 3/30/2010 21:57:07

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	152056.8	152056.8	103 %		21:57:36
1	Al 396.153Radial†	-29.9	33.8	6.9443 µg/L	6.9443 ppb	21:57:56
1	Ca 317.933Radial†	728.9	10.7	0.6431 µg/L	0.6431 ppb	21:57:56
1	Fe 238.204 Radial†	173.0	27.5	1.8476 µg/L	1.8476 ppb	21:57:56
1	K 766.490 Radial†	1690.6	330.8	136.12 µg/L	136.12 ppb	21:57:36
1	Mg 279.077 IEC†	175.4	1.8	0.7410 µg/L	0.7410 ppb	21:57:56
1	Na 589.592 Radial†	1561.5	311.5	47.179 µg/L	47.179 ppb	21:57:36
1	Sr 421.552†	-179.5	47.1	0.1087 µg/L	0.1087 ppb	21:57:36
1	Sc 361.383	1783992.4	1783992.4	101.65 %		21:58:44
1	Y 371.029	1075751.3	1075751.3	101.10 %		21:58:44
1	Ag 328.068†	3576.6	71.6	0.2901 µg/L	0.2901 ppb	21:58:46
1	As 188.979†	-3.5	14.3	4.9795 µg/L	4.9795 ppb	21:59:06
1	B 249.677†	3336.2	51.8	0.8450 µg/L	0.8450 ppb	21:59:06
1	Ba 233.527†	-151.1	13.5	0.0588 µg/L	0.0588 ppb	21:59:06
1	Be 313.107†	-810.4	-11.7	-0.0019 µg/L	-0.0019 ppb	21:58:46
1	Cd 226.502†	-94.0	17.5	0.1202 µg/L	0.1202 ppb	21:59:06
1	Co 228.616†	-181.2	-5.8	-0.0786 µg/L	-0.0786 ppb	21:59:06
1	Cr 267.716†	172.7	-8.6	-0.0768 µg/L	-0.0768 ppb	21:59:06
1	Cu 324.752†	2938.4	101.9	0.4338 µg/L	0.4338 ppb	21:58:46
1	Mn 257.610†	246.2	66.6	0.0890 µg/L	0.0890 ppb	21:59:06
1	Mo 202.031†	-16.1	18.9	0.6011 µg/L	0.6011 ppb	21:59:06
1	Ni 231.604†	-57.5	21.3	0.2681 µg/L	0.2681 ppb	21:59:06
1	P 214.914†	-9.8	-14.6	-3.4917 µg/L	-3.4917 ppb	21:59:06
1	Pb 220.353†	55.0	-42.9	-2.6271 µg/L	-2.6271 ppb	21:59:06
1	S 181.975 Axial†	78.3	-10.6	-8.7149 µg/L	-8.7149 ppb	21:59:06
1	Sb 206.836†	87.8	8.3	1.1028 µg/L	1.1028 ppb	21:59:06
1	Se 196.026†	17.9	4.0	1.63 µg/L	1.63 ppb	21:59:06
1	SiO2†	1752.7	-28.9	-3.1230 µg/L	-3.1230 ppb	21:59:06
1	Si 251.611†	848.4	-114.0	-1.8602 µg/L	-1.8602 ppb	21:58:46
1	Sn 189.927†	14.2	16.5	1.1416 µg/L	1.1416 ppb	21:59:06
1	Ti 334.940†	919.4	18.9	0.0168 µg/L	0.0168 ppb	21:58:46
1	Tl 190.801†	-119.2	-0.2	-0.0269 µg/L	-0.0269 ppb	21:59:06
1	U 409.014†	-203.1	83.9	5.2519 µg/L	5.2519 ppb	21:58:46
1	V 292.402†	303.0	-11.8	-0.0533 µg/L	-0.0533 ppb	21:58:46
1	Zn 213.857†	586.9	52.9	0.3258 µg/L	0.3258 ppb	21:59:06
2	Sc RADIAL	149157.8	149157.8	101 %		21:57:58
2	Al 396.153Radial†	-53.4	9.9	2.0434 µg/L	2.0434 ppb	21:58:18
2	Ca 317.933Radial†	740.8	36.2	2.1810 µg/L	2.1810 ppb	21:58:18
2	Fe 238.204 Radial†	179.0	36.7	2.4679 µg/L	2.4679 ppb	21:58:18
2	K 766.490 Radial†	1759.9	431.4	177.54 µg/L	177.54 ppb	21:57:58
2	Mg 279.077 IEC†	166.5	-3.8	-1.5602 µg/L	-1.5602 ppb	21:58:18
2	Na 589.592 Radial†	1389.5	170.5	25.735 µg/L	25.735 ppb	21:57:58
2	Sr 421.552†	-302.3	-77.9	-0.1798 µg/L	-0.1798 ppb	21:57:58
2	Sc 361.383	1768634.3	1768634.3	100.77 %		21:59:08
2	Y 371.029	1068016.6	1068016.6	100.37 %		21:59:08
2	Ag 328.068†	3393.0	-80.1	-0.3250 µg/L	-0.3250 ppb	21:59:10
2	As 188.979†	-22.6	-4.8	-1.6666 µg/L	-1.6666 ppb	21:59:31
2	B 249.677†	3321.8	66.0	1.0763 µg/L	1.0763 ppb	21:59:31
2	Ba 233.527†	-143.0	20.3	0.0883 µg/L	0.0883 ppb	21:59:31
2	Be 313.107†	-926.5	-133.8	-0.0420 µg/L	-0.0420 ppb	21:59:10
2	Cd 226.502†	-96.6	14.1	0.0966 µg/L	0.0966 ppb	21:59:31
2	Co 228.616†	-179.8	-6.0	-0.0814 µg/L	-0.0814 ppb	21:59:31
2	Cr 267.716†	192.8	12.7	0.1124 µg/L	0.1124 ppb	21:59:31
2	Cu 324.752†	2968.1	156.5	0.6544 µg/L	0.6544 ppb	21:59:10
2	Mn 257.610†	225.2	47.9	0.0641 µg/L	0.0641 ppb	21:59:31
2	Mo 202.031†	-32.4	2.6	0.0821 µg/L	0.0821 ppb	21:59:31
2	Ni 231.604†	-93.5	-14.9	-0.1869 µg/L	-0.1869 ppb	21:59:31
2	P 214.914†	-2.6	-7.6	-1.8058 µg/L	-1.8058 ppb	21:59:31
2	Pb 220.353†	74.4	-23.1	-1.4090 µg/L	-1.4090 ppb	21:59:31

2	S 181.975 Axial†	96.1	7.7	6.3073 µg/L	6.3073 ppb	21:59:31
2	Sb 206.836†	67.9	-10.7	-1.3991 µg/L	-1.3991 ppb	21:59:31
2	Se 196.026†	9.1	-4.5	-1.82 µg/L	-1.82 ppb	21:59:31
2	SiO2†	1786.4	19.5	2.0764 µg/L	2.0764 ppb	21:59:31
2	Si 251.611†	937.8	-18.0	-0.2973 µg/L	-0.2973 ppb	21:59:10
2	Sn 189.927†	8.2	10.7	0.7412 µg/L	0.7412 ppb	21:59:31
2	Ti 334.940†	999.7	106.4	0.1093 µg/L	0.1093 ppb	21:59:10
2	Tl 190.801†	-98.4	19.4	2.6160 µg/L	2.6160 ppb	21:59:31
2	U 409.014†	-386.0	-99.3	-6.2147 µg/L	-6.2147 ppb	21:59:10
2	V 292.402†	332.4	20.1	0.1032 µg/L	0.1032 ppb	21:59:10
2	Zn 213.857†	564.1	35.2	0.2187 µg/L	0.2187 ppb	21:59:31
3	Sc RADIAL	150317.5	150317.5	102 %		21:58:20
3	Al 396.153Radial†	-48.6	15.0	3.0684 µg/L	3.0684 ppb	21:58:40
3	Ca 317.933Radial†	737.1	26.9	1.6183 µg/L	1.6183 ppb	21:58:40
3	Fe 238.204 Radial†	188.3	44.5	2.9921 µg/L	2.9921 ppb	21:58:40
3	K 766.490 Radial†	1747.3	405.6	166.92 µg/L	166.92 ppb	21:58:20
3	Mg 279.077 IEC†	188.8	16.9	6.9519 µg/L	6.9519 ppb	21:58:40
3	Na 589.592 Radial†	1477.3	246.3	37.246 µg/L	37.246 ppb	21:58:20
3	Sr 421.552†	-146.6	77.4	0.1786 µg/L	0.1786 ppb	21:58:20
3	Sc 361.383	1780838.0	1780838.0	101.47 %		21:59:33
3	Y 371.029	1073829.1	1073829.1	100.92 %		21:59:33
3	Ag 328.068†	3636.3	136.6	0.5514 µg/L	0.5514 ppb	21:59:35
3	As 188.979†	-6.2	11.6	4.0574 µg/L	4.0574 ppb	21:59:55
3	B 249.677†	3378.4	99.2	1.6177 µg/L	1.6177 ppb	21:59:55
3	Ba 233.527†	-126.5	37.5	0.1638 µg/L	0.1638 ppb	21:59:55
3	Be 313.107†	-979.5	-179.7	-0.0545 µg/L	-0.0545 ppb	21:59:35
3	Cd 226.502†	-100.9	10.5	0.0720 µg/L	0.0720 ppb	21:59:55
3	Co 228.616†	-189.5	-14.4	-0.1944 µg/L	-0.1944 ppb	21:59:55
3	Cr 267.716†	181.5	0.3	0.0043 µg/L	0.0043 ppb	21:59:55
3	Cu 324.752†	2830.7	0.9	0.0026 µg/L	0.0026 ppb	21:59:35
3	Mn 257.610†	207.6	29.1	0.0386 µg/L	0.0386 ppb	21:59:55
3	Mo 202.031†	-14.4	20.6	0.6561 µg/L	0.6561 ppb	21:59:55
3	Ni 231.604†	-95.8	-16.5	-0.2080 µg/L	-0.2080 ppb	21:59:55
3	P 214.914†	-9.9	-14.8	-3.5355 µg/L	-3.5355 ppb	21:59:55
3	Pb 220.353†	99.1	0.7	0.0486 µg/L	0.0486 ppb	21:59:55
3	S 181.975 Axial†	98.6	9.5	7.8064 µg/L	7.8064 ppb	21:59:55
3	Sb 206.836†	84.6	5.3	0.7039 µg/L	0.7039 ppb	21:59:55
3	Se 196.026†	16.0	2.2	0.890 µg/L	0.890 ppb	21:59:55
3	SiO2†	1752.1	-26.4	-2.8434 µg/L	-2.8434 ppb	21:59:55
3	Si 251.611†	917.9	-44.1	-0.7218 µg/L	-0.7218 ppb	21:59:35
3	Sn 189.927†	-3.6	-1.0	-0.0693 µg/L	-0.0693 ppb	21:59:55
3	Ti 334.940†	874.2	-24.0	-0.0239 µg/L	-0.0239 ppb	21:59:35
3	Tl 190.801†	-119.4	-0.6	-0.0688 µg/L	-0.0688 ppb	21:59:55
3	U 409.014†	-316.7	-28.4	-1.7258 µg/L	-1.7258 ppb	21:59:35
3	V 292.402†	487.5	170.7	0.9114 µg/L	0.9114 ppb	21:59:35
3	Zn 213.857†	553.0	20.5	0.1281 µg/L	0.1281 ppb	21:59:55

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1777821.6	101.30 %	0.462			0.46%
Sc RADIAL	150510.7	102 %	1.0			0.97%
Y 371.029	1072532.3	100.80 %	0.378			0.38%
Ag 328.068†	42.7	0.1722 µg/L	0.44996	0.1722 ppb	0.44996	261.32%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	19.6	4.0187 µg/L	2.58499	4.0187 ppb	2.58499	64.32%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	7.0	2.4567 µg/L	3.60055	2.4567 ppb	3.60055	146.56%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	72.3	1.1797 µg/L	0.39657	1.1797 ppb	0.39657	33.62%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	23.7	0.1036 µg/L	0.05417	0.1036 ppb	0.05417	52.27%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-108.4	-0.0328 µg/L	0.02747	-0.0328 ppb	0.02747	83.72%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	24.6	1.4808 µg/L	0.77812	1.4808 ppb	0.77812	52.55%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	14.1	0.0963 µg/L	0.02414	0.0963 ppb	0.02414	25.08%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	-8.7	-0.1181 µg/L	0.06603	-0.1181 ppb	0.06603	55.89%

Cr 267.716†	QC value within limits for Co 228.616	Recovery = Not calculated			
	1.5	0.0133 µg/L	0.09493	0.0133 ppb	0.09493 713.03%
Cu 324.752†	QC value within limits for Cr 267.716	Recovery = Not calculated			
	86.4	0.3636 µg/L	0.33149	0.3636 ppb	0.33149 91.17%
Fe 238.204 Radial†	QC value within limits for Cu 324.752	Recovery = Not calculated			
	36.2	2.4359 µg/L	0.57293	2.4359 ppb	0.57293 23.52%
K 766.490 Radial†	QC value within limits for Fe 238.204 Radial	Recovery = Not calculated			
	389.2	160.19 µg/L	21.514	160.19 ppb	21.514 13.43%
Mg 279.077 IEC†	QC value greater than the upper limit for K 766.490 Radial	Recovery = Not calculated			
	5.0	2.0442 µg/L	4.40314	2.0442 ppb	4.40314 215.40%
Mn 257.610†	QC value within limits for Mg 279.077 IEC	Recovery = Not calculated			
	47.9	0.0639 µg/L	0.02524	0.0639 ppb	0.02524 39.50%
Mo 202.031†	QC value within limits for Mn 257.610	Recovery = Not calculated			
	14.0	0.4465 µg/L	0.31673	0.4465 ppb	0.31673 70.94%
Na 589.592 Radial†	QC value within limits for Mo 202.031	Recovery = Not calculated			
	242.8	36.720 µg/L	10.7316	36.720 ppb	10.7316 29.23%
Ni 231.604†	QC value within limits for Na 589.592 Radial	Recovery = Not calculated			
	-3.4	-0.0422 µg/L	0.26900	-0.0422 ppb	0.26900 636.81%
P 214.914†	QC value within limits for Ni 231.604	Recovery = Not calculated			
	-12.3	-2.9443 µg/L	0.98621	-2.9443 ppb	0.98621 33.50%
Pb 220.353†	QC value within limits for P 214.914	Recovery = Not calculated			
	-21.7	-1.3292 µg/L	1.33966	-1.3292 ppb	1.33966 100.79%
S 181.975 Axial†	QC value within limits for Pb 220.353	Recovery = Not calculated			
	2.2	1.7996 µg/L	9.13661	1.7996 ppb	9.13661 507.70%
Sb 206.836†	QC value within limits for S 181.975 Axial	Recovery = Not calculated			
	1.0	0.1358 µg/L	1.34421	0.1358 ppb	1.34421 989.58%
Se 196.026†	QC value within limits for Sb 206.836	Recovery = Not calculated			
	0.6	0.233 µg/L	1.8134	0.233 ppb	1.8134 779.80%
SiO2†	QC value within limits for Se 196.026	Recovery = Not calculated			
	-11.9	-1.2967 µg/L	2.92449	-1.2967 ppb	2.92449 225.53%
Si 251.611†	QC value within limits for SiO2	Recovery = Not calculated			
	-58.7	-0.9598 µg/L	0.80819	-0.9598 ppb	0.80819 84.21%
Sn 189.927†	QC value within limits for Si 251.611	Recovery = Not calculated			
	8.7	0.6045 µg/L	0.61693	0.6045 ppb	0.61693 102.05%
Sr 421.552†	QC value within limits for Sn 189.927	Recovery = Not calculated			
	15.6	0.0359 µg/L	0.19001	0.0359 ppb	0.19001 529.85%
Ti 334.940†	QC value within limits for Sr 421.552	Recovery = Not calculated			
	33.8	0.0341 µg/L	0.06826	0.0341 ppb	0.06826 200.24%
Tl 190.801†	QC value within limits for Ti 334.940	Recovery = Not calculated			
	6.2	0.8401 µg/L	1.53814	0.8401 ppb	1.53814 183.09%
U 409.014†	QC value within limits for Tl 190.801	Recovery = Not calculated			
	-14.6	-0.8962 µg/L	5.77816	-0.8962 ppb	5.77816 644.74%
V 292.402†	QC value within limits for U 409.014	Recovery = Not calculated			
	59.6	0.3204 µg/L	0.51772	0.3204 ppb	0.51772 161.57%
Zn 213.857†	QC value within limits for V 292.402	Recovery = Not calculated			
	36.2	0.2242 µg/L	0.09897	0.2242 ppb	0.09897 44.15%
	QC Failed. Continue with analysis.				

Sequence No.: 135

Sample ID: 248515001|962575|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 319

Date Collected: 3/30/2010 22:00:03

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 248515001|962575|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	151691.5	151691.5	103 %		22:00:37
1	Al 396.153Radial†	147574.9	143880.9	29650 µg/L	29650 ppb	22:00:37
1	Ca 317.933Radial†	255378.3	248179.1	14932 µg/L	14932 ppb	22:00:37
1	Fe 238.204 Radial†	984461.1	959258.8	64547 µg/L	64547 ppb	22:00:35
1	K 766.490 Radial†	17888.7	16120.5	6624.5 µg/L	6624.5 ppb	22:00:37
1	Mg 279.077 IEC†	18767.8	18121.2	7378.3 µg/L	7378.3 ppb	22:00:37
1	Na 589.592 Radial†	6889.2	5507.2	830.35 µg/L	830.35 ppb	22:00:37
1	Sr 421.552†	59519.4	58225.8	134.20 µg/L	134.20 ppb	22:00:37
1	Sc 361.383	1755155.5	1755155.5	100.00 %		22:00:50
1	Y 371.029	1154892.2	1154892.2	108.54 %		22:00:50
1	Ag 328.068†	3812.1	364.9	1.2141 µg/L	1.2141 ppb	22:00:50
1	As 188.979†	-1.2	16.4	20.906 µg/L	20.906 ppb	22:01:10
1	B 249.677†	4731.9	1501.4	24.417 µg/L	24.417 ppb	22:00:50
1	Ba 233.527†	78085.4	78244.1	339.92 µg/L	339.92 ppb	22:00:50
1	Be 313.107†	17784.4	18569.2	5.4938 µg/L	5.4938 ppb	22:00:50
1	Cd 226.502†	899.4	1009.4	0.1632 µg/L	0.1632 ppb	22:01:10
1	Co 228.616†	1141.3	1313.7	14.746 µg/L	14.746 ppb	22:01:10
1	Cr 267.716†	8791.1	8612.1	74.691 µg/L	74.691 ppb	22:01:10
1	Cu 324.752†	6340.7	3551.5	24.361 µg/L	24.361 ppb	22:00:50
1	Mn 257.610†	816511.6	816299.6	1090.6 µg/L	1090.6 ppb	22:00:50
1	Mo 202.031†	-43.6	-8.8	2.4402 µg/L	2.4402 ppb	22:01:10
1	Ni 231.604†	3296.8	3374.6	42.444 µg/L	42.444 ppb	22:01:10
1	P 214.914†	1975.2	1970.1	432.44 µg/L	432.44 ppb	22:01:10
1	Pb 220.353†	848.4	751.4	48.921 µg/L	48.921 ppb	22:01:10
1	S 181.975 Axial†	987.7	900.0	737.76 µg/L	737.76 ppb	22:01:10
1	Sb 206.836†	84.6	6.6	-1.0791 µg/L	-1.0791 ppb	22:01:10
1	Se 196.026†	-33.6	-47.1	3.27 µg/L	3.27 ppb	22:01:10
1	SiO2†	491132.3	489357.3	52354 µg/L	52354 ppb	22:00:50
1	Si 251.611†	1507216.0	1506200.2	24380 µg/L	24380 ppb	22:00:50
1	Sn 189.927†	13.7	16.2	8.6889 µg/L	8.6889 ppb	22:01:10
1	Ti 334.940†	2240543.9	2239558.6	2243.5 µg/L	2243.5 ppb	22:00:50
1	Tl 190.801†	-321.5	-204.4	-1.4897 µg/L	-1.4897 ppb	22:01:10
1	U 409.014†	-4453.5	-4169.5	-262.52 µg/L	-262.52 ppb	22:00:50
1	V 292.402†	18908.8	18598.1	89.985 µg/L	89.985 ppb	22:00:50
1	Zn 213.857†	44487.8	43961.2	267.12 µg/L	267.12 ppb	22:00:50
2	Sc RADIAL	152150.1	152150.1	103 %		22:00:41
2	Al 396.153Radial†	149129.8	144958.2	29872 µg/L	29872 ppb	22:00:41
2	Ca 317.933Radial†	258306.8	250274.3	15058 µg/L	15058 ppb	22:00:41
2	Fe 238.204 Radial†	984158.1	956072.8	64333 µg/L	64333 ppb	22:00:39
2	K 766.490 Radial†	18006.3	16182.2	6649.8 µg/L	6649.8 ppb	22:00:41
2	Mg 279.077 IEC†	18874.7	18170.0	7398.5 µg/L	7398.5 ppb	22:00:41
2	Na 589.592 Radial†	6889.4	5487.1	827.28 µg/L	827.28 ppb	22:00:41
2	Sr 421.552†	59972.0	58490.8	134.81 µg/L	134.81 ppb	22:00:41
2	Sc 361.383	1758064.2	1758064.2	100.17 %		22:01:13
2	Y 371.029	1155869.7	1155869.7	108.63 %		22:01:13
2	Ag 328.068†	3423.1	-29.8	-0.3109 µg/L	-0.3109 ppb	22:01:13
2	As 188.979†	5.3	23.0	23.135 µg/L	23.135 ppb	22:01:33
2	B 249.677†	4698.3	1459.9	23.740 µg/L	23.740 ppb	22:01:13
2	Ba 233.527†	78387.9	78416.9	340.68 µg/L	340.68 ppb	22:01:13
2	Be 313.107†	17924.4	18679.6	5.5350 µg/L	5.5350 ppb	22:01:13
2	Cd 226.502†	878.2	986.8	0.0305 µg/L	0.0305 ppb	22:01:33
2	Co 228.616†	1187.3	1357.7	15.355 µg/L	15.355 ppb	22:01:33
2	Cr 267.716†	8821.9	8628.4	74.799 µg/L	74.799 ppb	22:01:33
2	Cu 324.752†	6638.9	3838.7	25.563 µg/L	25.563 ppb	22:01:13
2	Mn 257.610†	820479.1	818909.6	1094.1 µg/L	1094.1 ppb	22:01:13
2	Mo 202.031†	-26.2	8.6	2.9889 µg/L	2.9889 ppb	22:01:33
2	Ni 231.604†	3305.0	3377.3	42.478 µg/L	42.478 ppb	22:01:33
2	P 214.914†	1980.6	1972.2	433.11 µg/L	433.11 ppb	22:01:33
2	Pb 220.353†	876.1	777.6	50.544 µg/L	50.544 ppb	22:01:33

2	S 181.975 Axial†	989.3	899.9	737.67 µg/L	737.67 ppb	22:01:33
2	Sb 206.836†	93.5	15.3	0.0744 µg/L	0.0744 ppb	22:01:33
2	Se 196.026†	-31.3	-44.8	4.18 µg/L	4.18 ppb	22:01:33
2	SiO2†	492586.9	489996.9	52422 µg/L	52422 ppb	22:01:13
2	Si 251.611†	1511815.3	1508298.2	24414 µg/L	24414 ppb	22:01:13
2	Sn 189.927†	0.5	3.1	7.8087 µg/L	7.8087 ppb	22:01:33
2	Ti 334.940†	2253319.4	2248605.6	2252.6 µg/L	2252.6 ppb	22:01:13
2	Tl 190.801†	-310.9	-193.2	0.1214 µg/L	0.1214 ppb	22:01:33
2	U 409.014†	-4034.2	-3743.6	-235.70 µg/L	-235.70 ppb	22:01:13
2	V 292.402†	19158.6	18816.3	91.182 µg/L	91.182 ppb	22:01:13
2	Zn 213.857†	44832.5	44231.7	268.83 µg/L	268.83 ppb	22:01:13
3	Sc RADIAL	152358.5	152358.5	103 %		22:00:46
3	Al 396.153Radial†	149480.3	145100.1	29901 µg/L	29901 ppb	22:00:46
3	Ca 317.933Radial†	259359.4	250952.4	15099 µg/L	15099 ppb	22:00:46
3	Fe 238.204 Radial†	982943.2	953586.0	64166 µg/L	64166 ppb	22:00:43
3	K 766.490 Radial†	18196.5	16342.8	6715.8 µg/L	6715.8 ppb	22:00:46
3	Mg 279.077 IEC†	19069.6	18334.0	7465.9 µg/L	7465.9 ppb	22:00:46
3	Na 589.592 Radial†	6856.5	5446.1	820.99 µg/L	820.99 ppb	22:00:46
3	Sr 421.552†	60378.8	58805.8	135.54 µg/L	135.54 ppb	22:00:46
3	Sc 361.383	1781345.3	1781345.3	101.50 %		22:01:36
3	Y 371.029	1171044.8	1171044.8	110.06 %		22:01:36
3	Ag 328.068†	3567.4	67.7	0.0490 µg/L	0.0490 ppb	22:01:36
3	As 188.979†	10.9	28.4	24.993 µg/L	24.993 ppb	22:01:56
3	B 249.677†	4735.9	1435.7	23.346 µg/L	23.346 ppb	22:01:36
3	Ba 233.527†	78786.5	77786.8	337.93 µg/L	337.93 ppb	22:01:36
3	Be 313.107†	18013.9	18533.8	5.4868 µg/L	5.4868 ppb	22:01:36
3	Cd 226.502†	891.9	988.7	0.0611 µg/L	0.0611 ppb	22:01:56
3	Co 228.616†	1167.0	1322.3	14.881 µg/L	14.881 ppb	22:01:56
3	Cr 267.716†	8761.9	8454.1	73.337 µg/L	73.337 ppb	22:01:56
3	Cu 324.752†	6526.1	3640.9	24.695 µg/L	24.695 ppb	22:01:36
3	Mn 257.610†	823380.2	811063.0	1083.6 µg/L	1083.6 ppb	22:01:36
3	Mo 202.031†	-16.5	18.5	3.2964 µg/L	3.2964 ppb	22:01:56
3	Ni 231.604†	3283.7	3313.1	41.672 µg/L	41.672 ppb	22:01:56
3	P 214.914†	1973.0	1938.9	425.29 µg/L	425.29 ppb	22:01:56
3	Pb 220.353†	848.0	738.5	48.143 µg/L	48.143 ppb	22:01:56
3	S 181.975 Axial†	988.8	886.5	726.71 µg/L	726.71 ppb	22:01:56
3	Sb 206.836†	78.2	-1.0	-2.0382 µg/L	-2.0382 ppb	22:01:56
3	Se 196.026†	-32.3	-45.4	3.86 µg/L	3.86 ppb	22:01:56
3	SiO2†	493983.1	484945.6	51882 µg/L	51882 ppb	22:01:36
3	Si 251.611†	1516836.3	1493520.2	24174 µg/L	24174 ppb	22:01:36
3	Sn 189.927†	-7.6	-4.9	7.1922 µg/L	7.1922 ppb	22:01:56
3	Ti 334.940†	2263891.0	2229621.7	2233.6 µg/L	2233.6 ppb	22:01:36
3	Tl 190.801†	-311.4	-189.7	0.3709 µg/L	0.3709 ppb	22:01:56
3	U 409.014†	-4326.0	-3978.4	-250.50 µg/L	-250.50 ppb	22:01:36
3	V 292.402†	19210.6	18617.5	90.149 µg/L	90.149 ppb	22:01:36
3	Zn 213.857†	44872.3	43686.1	265.45 µg/L	265.45 ppb	22:01:36

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Mean Data: 248515001|962575|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1764855.0	100.56 %	0.818			0.81%
Sc RADIAL	152066.7	103 %	0.2			0.22%
Y 371.029	1160602.2	109.07 %	0.851			0.78%
Ag 328.068†	134.3	0.3174 µg/L	0.79716	0.3174 ppb	0.79716	251.17%
Al 396.153Radial†	144646.4	29807 µg/L	137.4	29807 ppb	137.4	0.46%
As 188.979†	22.6	23.012 µg/L	2.0462	23.012 ppb	2.0462	8.89%
B 249.677†	1465.7	23.834 µg/L	0.5419	23.834 ppb	0.5419	2.27%
Ba 233.527†	78149.3	339.51 µg/L	1.416	339.51 ppb	1.416	0.42%
Be 313.107†	18594.2	5.5052 µg/L	0.02604	5.5052 ppb	0.02604	0.47%
Ca 317.933Radial†	249801.9	15030 µg/L	87.0	15030 ppb	87.0	0.58%
Cd 226.502†	995.0	0.0849 µg/L	0.06949	0.0849 ppb	0.06949	81.83%
Co 228.616†	1331.2	14.994 µg/L	0.3195	14.994 ppb	0.3195	2.13%
Cr 267.716†	8564.9	74.276 µg/L	0.8144	74.276 ppb	0.8144	1.10%
Cu 324.752†	3677.0	24.873 µg/L	0.6205	24.873 ppb	0.6205	2.49%
Fe 238.204 Radial†	956305.9	64349 µg/L	191.3	64349 ppb	191.3	0.30%
K 766.490 Radial†	16215.2	6663.4 µg/L	47.19	6663.4 ppb	47.19	0.71%
Mg 279.077 IEC†	18208.4	7414.2 µg/L	45.89	7414.2 ppb	45.89	0.62%
Mn 257.610†	815424.1	1089.4 µg/L	5.34	1089.4 ppb	5.34	0.49%
Mo 202.031†	6.1	2.9085 µg/L	0.43374	2.9085 ppb	0.43374	14.91%
Na 589.592 Radial†	5480.1	826.21 µg/L	4.772	826.21 ppb	4.772	0.58%



Ni 231.604†	3355.0	42.198 µg/L	0.4562	42.198 ppb	0.4562	1.08%
P 214.914†	1960.4	430.28 µg/L	4.334	430.28 ppb	4.334	1.01%
Pb 220.353†	755.8	49.203 µg/L	1.2253	49.203 ppb	1.2253	2.49%
S 181.975 Axial†	895.5	734.05 µg/L	6.355	734.05 ppb	6.355	0.87%
Sb 206.836†	7.0	-1.0143 µg/L	1.05778	-1.0143 ppb	1.05778	104.29%
Se 196.026†	-45.8	3.77 µg/L	0.458	3.77 ppb	0.458	12.16%
SiO2†	488100.0	52219 µg/L	294.3	52219 ppb	294.3	0.56%
Si 251.611†	1502672.9	24323 µg/L	129.4	24323 ppb	129.4	0.53%
Sn 189.927†	4.8	7.8966 µg/L	0.75223	7.8966 ppb	0.75223	9.53%
Sr 421.552†	58507.5	134.85 µg/L	0.669	134.85 ppb	0.669	0.50%
Ti 334.940†	2239262.0	2243.2 µg/L	9.51	2243.2 ppb	9.51	0.42%
Tl 190.801†	-195.8	-0.3325 µg/L	1.00993	-0.3325 ppb	1.00993	303.75%
U 409.014†	-3963.9	-249.58 µg/L	13.434	-249.58 ppb	13.434	5.38%
Concentration less than lower limit for U 409.014.						
V 292.402†	18677.3	90.439 µg/L	0.6487	90.439 ppb	0.6487	0.72%
Zn 213.857†	43959.7	267.13 µg/L	1.686	267.13 ppb	1.686	0.63%

Sequence No.: 136

Sample ID: 248515002|962575|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 320

Date Collected: 3/30/2010 22:02:04

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 248515002|962575|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	146987.2	146987.2	99.4 %		22:02:36
1	Al 396.153Radial†	203049.1	204276.1	42095 µg/L	42095 ppb	22:02:36
1	Ca 317.933Radial†	706194.3	709544.9	42692 µg/L	42692 ppb	22:02:34
1	Fe 238.204 Radial†	1077413.0	1083449.1	72904 µg/L	72904 ppb	22:02:34
1	K 766.490 Radial†	26457.7	25296.5	10393 µg/L	10393 ppb	22:02:36
1	Mg 279.077 IEC†	28350.6	28344.4	11565 µg/L	11565 ppb	22:02:36
1	Na 589.592 Radial†	4788.1	3608.9	538.75 µg/L	538.75 ppb	22:02:36
1	Sr 421.552†	103341.3	104155.4	239.94 µg/L	239.94 ppb	22:02:36
1	Sc 361.383	1695089.7	1695089.7	96.582 %		22:02:49
1	Y 371.029	1155075.8	1155075.8	108.56 %		22:02:49
1	Ag 328.068†	3918.1	609.7	-0.2272 µg/L	-0.2272 ppb	22:02:51
1	As 188.979†	22.7	41.2	31.219 µg/L	31.219 ppb	22:03:11
1	B 249.677†	9556.2	6664.0	108.57 µg/L	108.57 ppb	22:02:51
1	Ba 233.527†	151431.5	156952.7	682.52 µg/L	682.52 ppb	22:02:51
1	Be 313.107†	25997.9	27703.5	8.2199 µg/L	8.2199 ppb	22:02:51
1	Cd 226.502†	1093.1	1241.8	0.8835 µg/L	0.8835 ppb	22:03:11
1	Co 228.616†	1429.6	1652.6	19.227 µg/L	19.227 ppb	22:03:11
1	Cr 267.716†	6223.5	6265.2	53.843 µg/L	53.843 ppb	22:03:11
1	Cu 324.752†	13285.4	10966.6	56.899 µg/L	56.899 ppb	22:02:51
1	Mn 257.610†	4694951.5	4860925.9	6496.5 µg/L	6496.5 ppb	22:02:49
1	Mo 202.031†	-2.0	32.7	4.1679 µg/L	4.1679 ppb	22:03:11
1	Ni 231.604†	3731.1	3941.1	49.570 µg/L	49.570 ppb	22:03:11
1	P 214.914†	7377.1	7633.2	1780.0 µg/L	1780.0 ppb	22:03:11
1	Pb 220.353†	1740.5	1705.1	107.86 µg/L	107.86 ppb	22:03:11
1	S 181.975 Axial†	2772.1	2782.5	2280.9 µg/L	2280.9 ppb	22:03:11
1	Sb 206.836†	86.0	10.9	-0.3849 µg/L	-0.3849 ppb	22:03:11
1	Se 196.026†	-40.4	-55.4	2.84 µg/L	2.84 ppb	22:03:11
1	SiO2†	568384.2	586745.7	62773 µg/L	62773 ppb	22:02:51
1	Si 251.611†	1743561.7	1804316.1	29205 µg/L	29205 ppb	22:02:49
1	Sn 189.927†	39.1	43.0	10.596 µg/L	10.596 ppb	22:03:11
1	Ti 334.940†	2178835.0	2255056.4	2259.5 µg/L	2259.5 ppb	22:02:49
1	Tl 190.801†	-457.0	-356.1	-7.8368 µg/L	-7.8368 ppb	22:03:11
1	U 409.014†	-5074.3	-4970.2	-278.65 µg/L	-278.65 ppb	22:02:51
1	V 292.402†	17161.1	17458.6	82.934 µg/L	82.934 ppb	22:03:11
1	Zn 213.857†	57984.0	59511.5	362.20 µg/L	362.20 ppb	22:02:51
2	Sc RADIAL	147533.6	147533.6	99.8 %		22:02:40
2	Al 396.153Radial†	205912.9	206389.3	42531 µg/L	42531 ppb	22:02:40
2	Ca 317.933Radial†	706361.4	707082.0	42543 µg/L	42543 ppb	22:02:38
2	Fe 238.204 Radial†	1077158.3	1079180.8	72617 µg/L	72617 ppb	22:02:38
2	K 766.490 Radial†	26727.4	25468.3	10463 µg/L	10463 ppb	22:02:40
2	Mg 279.077 IEC†	28905.7	28795.0	11750 µg/L	11750 ppb	22:02:40
2	Na 589.592 Radial†	4969.5	3772.9	563.57 µg/L	563.57 ppb	22:02:40
2	Sr 421.552†	105002.3	105434.8	242.89 µg/L	242.89 ppb	22:02:40
2	Sc 361.383	1726396.4	1726396.4	98.366 %		22:03:14
2	Y 371.029	1175288.5	1175288.5	110.45 %		22:03:14
2	Ag 328.068†	3638.7	252.0	-1.6652 µg/L	-1.6652 ppb	22:03:16
2	As 188.979†	29.2	47.3	33.298 µg/L	33.298 ppb	22:03:36
2	B 249.677†	9604.2	6533.4	106.45 µg/L	106.45 ppb	22:03:16
2	Ba 233.527†	152179.0	154869.3	673.45 µg/L	673.45 ppb	22:03:16
2	Be 313.107†	26119.0	27338.5	8.1058 µg/L	8.1058 ppb	22:03:16
2	Cd 226.502†	1080.0	1207.9	0.6808 µg/L	0.6808 ppb	22:03:36
2	Co 228.616†	1428.6	1624.8	18.857 µg/L	18.857 ppb	22:03:36
2	Cr 267.716†	6161.8	6085.6	52.348 µg/L	52.348 ppb	22:03:36
2	Cu 324.752†	13370.0	10803.2	56.160 µg/L	56.160 ppb	22:03:16
2	Mn 257.610†	4724891.8	4803211.7	6419.4 µg/L	6419.4 ppb	22:03:14
2	Mo 202.031†	7.5	42.4	4.4674 µg/L	4.4674 ppb	22:03:36
2	Ni 231.604†	3732.0	3871.9	48.700 µg/L	48.700 ppb	22:03:36
2	P 214.914†	7329.3	7446.0	1735.6 µg/L	1735.6 ppb	22:03:36
2	Pb 220.353†	1691.4	1622.6	102.83 µg/L	102.83 ppb	22:03:36

2	S 181.975 Axial†	2761.6	2719.7	2229.5	µg/L	2229.5	ppb	22:03:36
2	Sb 206.836†	94.2	17.7	0.5218	µg/L	0.5218	ppb	22:03:36
2	Se 196.026†	-27.3	-41.4	8.32	µg/L	8.32	ppb	22:03:36
2	SiO2†	573000.0	580766.2	62133	µg/L	62133	ppb	22:03:16
2	Si 251.611†	1754636.0	1782837.4	28857	µg/L	28857	ppb	22:03:14
2	Sn 189.927†	31.7	34.8	9.9569	µg/L	9.9569	ppb	22:03:36
2	Ti 334.940†	2198325.1	2233960.7	2238.3	µg/L	2238.3	ppb	22:03:14
2	Tl 190.801†	-444.2	-334.5	-5.3532	µg/L	-5.3532	ppb	22:03:36
2	U 409.014†	-5408.9	-5215.0	-294.54	µg/L	-294.54	ppb	22:03:16
2	V 292.402†	17096.6	17070.8	80.912	µg/L	80.912	ppb	22:03:36
2	Zn 213.857†	58370.0	58815.1	357.91	µg/L	357.91	ppb	22:03:16
3	Sc RADIAL	147864.3	147864.3	100	%			22:02:44
3	Al 396.153Radial†	207535.6	207550.1	42770	µg/L	42770	ppb	22:02:44
3	Ca 317.933Radial†	705426.1	704563.9	42392	µg/L	42392	ppb	22:02:42
3	Fe 238.204 Radial†	1075730.1	1075338.9	72358	µg/L	72358	ppb	22:02:42
3	K 766.490 Radial†	26626.4	25307.4	10397	µg/L	10397	ppb	22:02:44
3	Mg 279.077 IEC†	28902.7	28727.2	11722	µg/L	11722	ppb	22:02:44
3	Na 589.592 Radial†	4988.7	3781.0	564.86	µg/L	564.86	ppb	22:02:44
3	Sr 421.552†	105859.8	106056.8	244.33	µg/L	244.33	ppb	22:02:44
3	Sc 361.383	1701682.1	1701682.1	96.958	%			22:03:39
3	Y 371.029	1161370.2	1161370.2	109.15	%			22:03:39
3	Ag 328.068†	4005.5	684.1	0.0644	µg/L	0.0644	ppb	22:03:41
3	As 188.979†	25.7	44.1	32.133	µg/L	32.133	ppb	22:04:01
3	B 249.677†	9482.7	6550.0	106.72	µg/L	106.72	ppb	22:03:41
3	Ba 233.527†	152551.9	157500.8	684.91	µg/L	684.91	ppb	22:03:41
3	Be 313.107†	26401.4	28015.4	8.3100	µg/L	8.3100	ppb	22:03:41
3	Cd 226.502†	1115.9	1260.9	1.0718	µg/L	1.0718	ppb	22:04:01
3	Co 228.616†	1406.7	1623.3	18.862	µg/L	18.862	ppb	22:04:01
3	Cr 267.716†	6188.7	6204.4	53.328	µg/L	53.328	ppb	22:04:01
3	Cu 324.752†	13338.7	10968.3	56.820	µg/L	56.820	ppb	22:03:41
3	Mn 257.610†	4688683.8	4835629.3	6462.7	µg/L	6462.7	ppb	22:03:39
3	Mo 202.031†	-4.1	30.6	4.0799	µg/L	4.0799	ppb	22:04:01
3	Ni 231.604†	3695.8	3889.6	48.923	µg/L	48.923	ppb	22:04:01
3	P 214.914†	7317.7	7542.3	1758.8	µg/L	1758.8	ppb	22:04:01
3	Pb 220.353†	1720.4	1677.5	106.24	µg/L	106.24	ppb	22:04:01
3	S 181.975 Axial†	2775.1	2774.5	2274.3	µg/L	2274.3	ppb	22:04:01
3	Sb 206.836†	86.0	10.6	-0.4212	µg/L	-0.4212	ppb	22:04:01
3	Se 196.026†	-22.4	-36.7	10.1	µg/L	10.1	ppb	22:04:01
3	SiO2†	573148.4	589379.5	63055	µg/L	63055	ppb	22:03:41
3	Si 251.611†	1741275.2	1794964.1	29054	µg/L	29054	ppb	22:03:39
3	Sn 189.927†	29.3	32.8	9.8795	µg/L	9.8795	ppb	22:04:01
3	Ti 334.940†	2185292.7	2252977.0	2257.4	µg/L	2257.4	ppb	22:03:39
3	Tl 190.801†	-454.6	-351.8	-7.3673	µg/L	-7.3673	ppb	22:04:01
3	U 409.014†	-5276.8	-5158.6	-290.61	µg/L	-290.61	ppb	22:03:41
3	V 292.402†	17072.5	17298.4	82.132	µg/L	82.132	ppb	22:04:01
3	Zn 213.857†	58161.1	59461.5	361.96	µg/L	361.96	ppb	22:03:41

Mean Data: 248515002|962575|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1707722.8	97.302 %	0.9404			0.97%
Sc RADIAL	147461.7	99.8 %	0.30			0.30%
Y 371.029	1163911.5	109.39 %	0.972			0.89%
Ag 328.068†	515.3	-0.6093 µg/L	0.92593	-0.6093 ppb	0.92593	151.96%
Al 396.153Radial†	206071.8	42465 µg/L	342.1	42465 ppb	342.1	0.81%
As 188.979†	44.2	32.217 µg/L	1.0420	32.217 ppb	1.0420	3.23%
B 249.677†	6582.5	107.25 µg/L	1.159	107.25 ppb	1.159	1.08%
Ba 233.527†	156440.9	680.29 µg/L	6.046	680.29 ppb	6.046	0.89%
Be 313.107†	27685.8	8.2119 µg/L	0.10234	8.2119 ppb	0.10234	1.25%
Ca 317.933Radial†	707063.6	42542 µg/L	149.9	42542 ppb	149.9	0.35%
Cd 226.502†	1236.9	0.8787 µg/L	0.19559	0.8787 ppb	0.19559	22.26%
Co 228.616†	1633.6	18.982 µg/L	0.2125	18.982 ppb	0.2125	1.12%
Cr 267.716†	6185.0	53.173 µg/L	0.7595	53.173 ppb	0.7595	1.43%
Cu 324.752†	10912.7	56.626 µg/L	0.4056	56.626 ppb	0.4056	0.72%
Fe 238.204 Radial†	1079322.9	72626 µg/L	273.0	72626 ppb	273.0	0.38%
K 766.490 Radial†	25357.4	10418 µg/L	39.6	10418 ppb	39.6	0.38%
Mg 279.077 IEC†	28622.2	11679 µg/L	99.9	11679 ppb	99.9	0.86%
Mn 257.610†	4833255.7	6459.5 µg/L	38.67	6459.5 ppb	38.67	0.60%
Mo 202.031†	35.2	4.2384 µg/L	0.20311	4.2384 ppb	0.20311	4.79%
Na 589.592 Radial†	3720.9	555.73 µg/L	14.720	555.73 ppb	14.720	2.65%

Ni 231.604†	3900.9	49.064 µg/L	0.4518	49.064 ppb	0.4518	0.92%
P 214.914†	7540.5	1758.1 µg/L	22.18	1758.1 ppb	22.18	1.26%
Pb 220.353†	1668.4	105.64 µg/L	2.567	105.64 ppb	2.567	2.43%
S 181.975 Axial†	2758.9	2261.6 µg/L	28.00	2261.6 ppb	28.00	1.24%
Sb 206.836†	13.1	-0.0948 µg/L	0.53423	-0.0948 ppb	0.53423	563.76%
Se 196.026†	-44.5	7.09 µg/L	3.794	7.09 ppb	3.794	53.48%
SiO2†	585630.4	62654 µg/L	472.2	62654 ppb	472.2	0.75%
Si 251.611†	1794039.2	29039 µg/L	174.3	29039 ppb	174.3	0.60%
Sn 189.927†	36.9	10.144 µg/L	0.3931	10.144 ppb	0.3931	3.88%
Sr 421.552†	105215.7	242.38 µg/L	2.237	242.38 ppb	2.237	0.92%
Ti 334.940†	2247331.4	2251.7 µg/L	11.65	2251.7 ppb	11.65	0.52%
Tl 190.801†	-347.5	-6.8524 µg/L	1.31943	-6.8524 ppb	1.31943	19.25%
U 409.014†	-5114.6	-287.94 µg/L	8.277	-287.94 ppb	8.277	2.87%
Concentration less than lower limit for U 409.014.						
V 292.402†	17275.9	81.993 µg/L	1.0185	81.993 ppb	1.0185	1.24%
Zn 213.857†	59262.7	360.69 µg/L	2.407	360.69 ppb	2.407	0.67%

Sequence No.: 137

Sample ID: 248515003|962575|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 321

Date Collected: 3/30/2010 22:04:09

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 248515003|962575|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	149582.0	149582.0	101 %		22:04:42
1	Al 396.153Radial†	237749.4	235027.5	48433 µg/L	48433 ppb	22:04:39
1	Ca 317.933Radial†	536558.7	529575.8	31863 µg/L	31863 ppb	22:04:39
1	Fe 238.204 Radial†	1253374.2	1238552.2	83341 µg/L	83341 ppb	22:04:39
1	K 766.490 Radial†	29723.5	28062.5	11532 µg/L	11532 ppb	22:04:42
1	Mg 279.077 IEC†	31834.5	31292.8	12765 µg/L	12765 ppb	22:04:42
1	Na 589.592 Radial†	4840.0	3576.7	532.84 µg/L	532.84 ppb	22:04:42
1	Sr 421.552†	95589.8	94691.8	218.19 µg/L	218.19 ppb	22:04:42
1	Sc 361.383	1732865.4	1732865.4	98.734 %		22:04:54
1	Y 371.029	1119666.5	1119666.5	105.23 %		22:04:54
1	Ag 328.068†	3347.8	-56.4	-0.6479 µg/L	-0.6479 ppb	22:04:54
1	As 188.979†	6.5	24.3	27.671 µg/L	27.671 ppb	22:05:14
1	B 249.677†	5937.2	2783.0	45.270 µg/L	45.270 ppb	22:04:54
1	Ba 233.527†	146313.3	148350.9	644.97 µg/L	644.97 ppb	22:04:54
1	Be 313.107†	21804.5	22869.6	6.7962 µg/L	6.7962 ppb	22:04:54
1	Cd 226.502†	1189.7	1314.9	0.2831 µg/L	0.2831 ppb	22:05:14
1	Co 228.616†	2038.0	2236.5	26.543 µg/L	26.543 ppb	22:05:14
1	Cr 267.716†	6292.4	6194.5	54.541 µg/L	54.541 ppb	22:05:14
1	Cu 324.752†	11217.0	8571.8	48.438 µg/L	48.438 ppb	22:04:54
1	Mn 257.610†	1876894.6	1900777.1	2539.9 µg/L	2539.9 ppb	22:04:54
1	Mo 202.031†	-89.4	-55.8	1.8100 µg/L	1.8100 ppb	22:05:14
1	Ni 231.604†	3011.3	3127.8	39.340 µg/L	39.340 ppb	22:05:14
1	P 214.914†	8776.7	8884.2	2072.8 µg/L	2072.8 ppb	22:05:14
1	Pb 220.353†	1341.3	1261.5	81.445 µg/L	81.445 ppb	22:05:14
1	S 181.975 Axial†	2031.4	1969.8	1614.7 µg/L	1614.7 ppb	22:05:14
1	Sb 206.836†	70.9	-6.3	-2.7507 µg/L	-2.7507 ppb	22:05:14
1	Se 196.026†	-40.7	-54.8	6.75 µg/L	6.75 ppb	22:05:14
1	SiO2†	596104.8	601992.5	64404 µg/L	64404 ppb	22:04:54
1	Si 251.611†	1825794.3	1848248.8	29916 µg/L	29916 ppb	22:04:54
1	Sn 189.927†	-14.3	-11.9	8.7042 µg/L	8.7042 ppb	22:05:14
1	Ti 334.940†	2786301.3	2821130.7	2826.2 µg/L	2826.2 ppb	22:04:54
1	Tl 190.801†	-398.5	-286.6	-2.5463 µg/L	-2.5463 ppb	22:05:14
1	U 409.014†	-3783.2	-3548.0	-214.22 µg/L	-214.22 ppb	22:04:54
1	V 292.402†	29969.8	30044.1	148.16 µg/L	148.16 ppb	22:04:54
1	Zn 213.857†	45897.9	45961.7	277.93 µg/L	277.93 ppb	22:04:54
2	Sc RADIAL	149719.0	149719.0	101 %		22:04:46
2	Al 396.153Radial†	238397.4	235452.2	48520 µg/L	48520 ppb	22:04:44
2	Ca 317.933Radial†	538397.3	530905.9	31943 µg/L	31943 ppb	22:04:44
2	Fe 238.204 Radial†	1256654.2	1240657.2	83482 µg/L	83482 ppb	22:04:44
2	K 766.490 Radial†	29766.8	28078.4	11538 µg/L	11538 ppb	22:04:46
2	Mg 279.077 IEC†	31940.0	31368.2	12796 µg/L	12796 ppb	22:04:46
2	Na 589.592 Radial†	4947.1	3678.0	548.22 µg/L	548.22 ppb	22:04:46
2	Sr 421.552†	95106.6	94128.2	216.89 µg/L	216.89 ppb	22:04:46
2	Sc 361.383	1739669.9	1739669.9	99.122 %		22:05:17
2	Y 371.029	1122793.9	1122793.9	105.52 %		22:05:17
2	Ag 328.068†	3479.6	63.3	-0.1734 µg/L	-0.1734 ppb	22:05:17
2	As 188.979†	4.9	22.6	27.114 µg/L	27.114 ppb	22:05:37
2	B 249.677†	5973.4	2796.0	45.483 µg/L	45.483 ppb	22:05:17
2	Ba 233.527†	147689.5	149159.7	648.49 µg/L	648.49 ppb	22:05:17
2	Be 313.107†	22402.7	23386.7	6.9486 µg/L	6.9486 ppb	22:05:17
2	Cd 226.502†	1232.3	1353.2	0.5314 µg/L	0.5314 ppb	22:05:37
2	Co 228.616†	2025.3	2215.6	26.257 µg/L	26.257 ppb	22:05:37
2	Cr 267.716†	6330.7	6208.2	54.666 µg/L	54.666 ppb	22:05:37
2	Cu 324.752†	11653.5	8967.8	50.120 µg/L	50.120 ppb	22:05:17
2	Mn 257.610†	1894448.7	1911051.4	2553.6 µg/L	2553.6 ppb	22:05:17
2	Mo 202.031†	-58.0	-23.7	2.8363 µg/L	2.8363 ppb	22:05:37
2	Ni 231.604†	3042.7	3147.6	39.589 µg/L	39.589 ppb	22:05:37
2	P 214.914†	8800.1	8873.0	2070.0 µg/L	2070.0 ppb	22:05:37
2	Pb 220.353†	1357.0	1272.1	82.119 µg/L	82.119 ppb	22:05:37

2	S 181.975 Axial†	2032.3	1962.6	1608.8 µg/L	1608.8 ppb	22:05:37
2	Sb 206.836†	79.9	2.6	-1.5741 µg/L	-1.5741 ppb	22:05:37
2	Se 196.026†	-53.8	-67.8	1.58 µg/L	1.58 ppb	22:05:37
2	SiO2†	601484.1	605058.0	64732 µg/L	64732 ppb	22:05:17
2	Si 251.611†	1842596.3	1857966.7	30073 µg/L	30073 ppb	22:05:17
2	Sn 189.927†	-19.5	-17.1	8.3914 µg/L	8.3914 ppb	22:05:37
2	Ti 334.940†	2809920.7	2833921.3	2839.0 µg/L	2839.0 ppb	22:05:17
2	Tl 190.801†	-393.8	-280.2	-1.5183 µg/L	-1.5183 ppb	22:05:37
2	U 409.014†	-3944.5	-3695.6	-223.32 µg/L	-223.32 ppb	22:05:17
2	V 292.402†	30352.0	30311.0	149.55 µg/L	149.55 ppb	22:05:17
2	Zn 213.857†	46300.5	46186.0	279.31 µg/L	279.31 ppb	22:05:17
3	Sc RADIAL	149892.0	149892.0	101 %		22:04:50
3	Al 396.153Radial†	239440.1	236208.9	48676 µg/L	48676 ppb	22:04:48
3	Ca 317.933Radial†	540647.1	532511.1	32040 µg/L	32040 ppb	22:04:48
3	Fe 238.204 Radial†	1261618.2	1244120.7	83715 µg/L	83715 ppb	22:04:48
3	K 766.490 Radial†	29959.2	28234.2	11602 µg/L	11602 ppb	22:04:50
3	Mg 279.077 IEC†	32041.7	31432.1	12822 µg/L	12822 ppb	22:04:50
3	Na 589.592 Radial†	4963.4	3688.5	549.75 µg/L	549.75 ppb	22:04:50
3	Sr 421.552†	95659.7	94565.3	217.90 µg/L	217.90 ppb	22:04:50
3	Sc 361.383	1764399.7	1764399.7	100.53 %		22:05:40
3	Y 371.029	1138622.3	1138622.3	107.01 %		22:05:40
3	Ag 328.068†	3441.1	-24.1	-0.5228 µg/L	-0.5228 ppb	22:05:40
3	As 188.979†	20.0	37.6	32.374 µg/L	32.374 ppb	22:06:00
3	B 249.677†	6127.8	2865.1	46.609 µg/L	46.609 ppb	22:05:40
3	Ba 233.527†	150626.5	149992.8	652.12 µg/L	652.12 ppb	22:05:40
3	Be 313.107†	22865.1	23529.8	6.9903 µg/L	6.9903 ppb	22:05:40
3	Cd 226.502†	1204.2	1307.9	0.1952 µg/L	0.1952 ppb	22:06:00
3	Co 228.616†	2050.7	2212.3	26.202 µg/L	26.202 ppb	22:06:00
3	Cr 267.716†	6331.3	6119.2	53.923 µg/L	53.923 ppb	22:06:00
3	Cu 324.752†	11601.8	8751.6	49.241 µg/L	49.241 ppb	22:05:40
3	Mn 257.610†	1934133.4	1923738.6	2570.6 µg/L	2570.6 ppb	22:05:40
3	Mo 202.031†	-90.8	-55.5	1.8346 µg/L	1.8346 ppb	22:06:00
3	Ni 231.604†	3037.8	3099.7	38.987 µg/L	38.987 ppb	22:06:00
3	P 214.914†	8810.4	8758.9	2042.7 µg/L	2042.7 ppb	22:06:00
3	Pb 220.353†	1347.8	1243.7	80.405 µg/L	80.405 ppb	22:06:00
3	S 181.975 Axial†	2045.0	1946.5	1595.6 µg/L	1595.6 ppb	22:06:00
3	Sb 206.836†	83.7	5.2	-1.2406 µg/L	-1.2406 ppb	22:06:00
3	Se 196.026†	-69.3	-82.5	-4.22 µg/L	-4.22 ppb	22:06:00
3	SiO2†	615259.8	610255.9	65288 µg/L	65288 ppb	22:05:40
3	Si 251.611†	1883519.4	1872619.0	30311 µg/L	30311 ppb	22:05:40
3	Sn 189.927†	-34.5	-31.7	7.4280 µg/L	7.4280 ppb	22:06:00
3	Ti 334.940†	2865099.0	2849075.3	2854.2 µg/L	2854.2 ppb	22:05:40
3	Tl 190.801†	-396.4	-277.2	-0.9088 µg/L	-0.9088 ppb	22:06:00
3	U 409.014†	-4064.0	-3758.7	-227.16 µg/L	-227.16 ppb	22:05:40
3	V 292.402†	30971.4	30497.9	150.49 µg/L	150.49 ppb	22:05:40
3	Zn 213.857†	47180.1	46406.2	280.66 µg/L	280.66 ppb	22:05:40

Mean Data: 248515003|962575|1

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Sample Units	Std.Dev.	RSD
Sc 361.383	1745645.0	99.463 %		0.9455			0.95%
Sc RADIAL	149731.0	101 %		0.1			0.10%
Y 371.029	1127027.6	105.92 %		0.955			0.90%
Ag 328.068†	-5.7	-0.4480 µg/L		0.24593	-0.4480 ppb	0.24593	54.90%
Al 396.153Radial†	235562.9	48543 µg/L		123.3	48543 ppb	123.3	0.25%
As 188.979†	28.2	29.053 µg/L		2.8891	29.053 ppb	2.8891	9.94%
B 249.677†	2814.7	45.787 µg/L		0.7197	45.787 ppb	0.7197	1.57%
Ba 233.527†	149167.8	648.53 µg/L		3.573	648.53 ppb	3.573	0.55%
Be 313.107†	23262.0	6.9117 µg/L		0.10220	6.9117 ppb	0.10220	1.48%
Ca 317.933Radial†	530997.6	31949 µg/L		88.4	31949 ppb	88.4	0.28%
Cd 226.502†	1325.3	0.3366 µg/L		0.17434	0.3366 ppb	0.17434	51.80%
Co 228.616†	2221.5	26.334 µg/L		0.1831	26.334 ppb	0.1831	0.70%
Cr 267.716†	6174.0	54.377 µg/L		0.3976	54.377 ppb	0.3976	0.73%
Cu 324.752†	8763.7	49.267 µg/L		0.8413	49.267 ppb	0.8413	1.71%
Fe 238.204 Radial†	1241110.0	83513 µg/L		189.2	83513 ppb	189.2	0.23%
K 766.490 Radial†	28125.0	11557 µg/L		39.0	11557 ppb	39.0	0.34%
Mg 279.077 IEC†	31364.4	12795 µg/L		28.4	12795 ppb	28.4	0.22%
Mn 257.610†	1911855.7	2554.7 µg/L		15.37	2554.7 ppb	15.37	0.60%
Mo 202.031†	-45.0	2.1603 µg/L		0.58556	2.1603 ppb	0.58556	27.10%
Na 589.592 Radial†	3647.7	543.60 µg/L		9.351	543.60 ppb	9.351	1.72%

Ni 231.604†	3125.0	39.305 µg/L	0.3027	39.305 ppb	0.3027	0.77%
P 214.914†	8838.7	2061.8 µg/L	16.65	2061.8 ppb	16.65	0.81%
Pb 220.353†	1259.1	81.323 µg/L	0.8635	81.323 ppb	0.8635	1.06%
S 181.975 Axial†	1959.6	1606.3 µg/L	9.77	1606.3 ppb	9.77	0.61%
Sb 206.836†	0.5	-1.8551 µg/L	0.79329	-1.8551 ppb	0.79329	42.76%
Se 196.026†	-68.4	1.37 µg/L	5.488	1.37 ppb	5.488	399.82%
SiO2†	605768.8	64808 µg/L	446.9	64808 ppb	446.9	0.69%
Si 251.611†	1859611.5	30100 µg/L	198.6	30100 ppb	198.6	0.66%
Sn 189.927†	-20.3	8.1745 µg/L	0.66515	8.1745 ppb	0.66515	8.14%
Sr 421.552†	94461.8	217.66 µg/L	0.682	217.66 ppb	0.682	0.31%
Ti 334.940†	2834709.1	2839.8 µg/L	14.02	2839.8 ppb	14.02	0.49%
Tl 190.801†	-281.3	-1.6578 µg/L	0.82761	-1.6578 ppb	0.82761	49.92%
U 409.014†	-3667.4	-221.57 µg/L	6.647	-221.57 ppb	6.647	3.00%
Concentration less than lower limit for U 409.014.						
V 292.402†	30284.4	149.40 µg/L	1.174	149.40 ppb	1.174	0.79%
Zn 213.857†	46184.6	279.30 µg/L	1.368	279.30 ppb	1.368	0.49%

Sequence No.: 143  
 Sample ID: CCV  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 7  
 Date Collected: 3/30/2010 22:16:16  
 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	153386.5	153386.5	104 %		22:16:49
1	Al 396.153Radial†	26166.3	25281.2	5186.5 µg/L	5186.5 ppb	22:16:49
1	Ca 317.933Radial†	87661.0	83787.3	5041.3 µg/L	5041.3 ppb	22:16:49
1	Fe 238.204 Radial†	77783.3	74824.8	5034.9 µg/L	5034.9 ppb	22:16:49
1	K 766.490 Radial†	14448.5	12612.3	5186.6 µg/L	5186.6 ppb	22:16:49
1	Mg 279.077 IEC†	13279.4	12629.5	5188.8 µg/L	5188.8 ppb	22:16:49
1	Na 589.592 Radial†	70102.1	66355.9	10071 µg/L	10071 ppb	22:16:49
1	Sr 421.552†	232426.3	224227.9	517.22 µg/L	517.22 ppb	22:16:47
1	Sc 361.383	1789411.9	1789411.9	101.96 %		22:17:16
1	Y 371.029	1067372.2	1067372.2	100.31 %		22:17:16
1	Ag 328.068†	131124.6	125161.6	503.79 µg/L	503.79 ppb	22:17:16
1	As 188.979†	1488.9	1478.0	522.97 µg/L	522.97 ppb	22:17:36
1	B 249.677†	34367.9	30478.1	495.18 µg/L	495.18 ppb	22:17:16
1	Ba 233.527†	117525.4	115432.5	503.02 µg/L	503.02 ppb	22:17:16
1	Be 313.107†	1725757.8	1693430.2	508.35 µg/L	508.35 ppb	22:17:16
1	Cd 226.502†	74008.2	72698.2	498.85 µg/L	498.85 ppb	22:17:16
1	Co 228.616†	37721.0	37169.6	502.98 µg/L	502.98 ppb	22:17:16
1	Cr 267.716†	60484.6	59145.5	498.22 µg/L	498.22 ppb	22:17:16
1	Cu 324.752†	123978.4	118810.6	502.21 µg/L	502.21 ppb	22:17:16
1	Mn 257.610†	383491.1	375957.2	502.29 µg/L	502.29 ppb	22:17:16
1	Mo 202.031†	15993.3	15721.1	500.54 µg/L	500.54 ppb	22:17:36
1	Ni 231.604†	40612.6	39911.2	501.99 µg/L	501.99 ppb	22:17:16
1	P 214.914†	10735.3	10524.4	2501.7 µg/L	2501.7 ppb	22:17:36
1	Pb 220.353†	8483.1	8223.4	505.11 µg/L	505.11 ppb	22:17:36
1	S 181.975 Axial†	1318.3	1205.3	992.26 µg/L	992.26 ppb	22:17:36
1	Sb 206.836†	3970.5	3816.3	501.57 µg/L	501.57 ppb	22:17:36
1	Se 196.026†	1273.6	1235.6	497 µg/L	497 ppb	22:17:36
1	SiO2†	52864.5	50097.0	5338.1 µg/L	5338.1 ppb	22:17:16
1	Si 251.611†	159097.3	155096.0	2500.4 µg/L	2500.4 ppb	22:17:16
1	Sn 189.927†	7390.1	7250.8	503.67 µg/L	503.67 ppb	22:17:36
1	Ti 334.940†	511162.0	500468.4	500.74 µg/L	500.74 ppb	22:17:16
1	Tl 190.801†	3680.1	3726.6	508.35 µg/L	508.35 ppb	22:17:36
1	U 409.014†	7417.0	7558.4	503.92 µg/L	503.92 ppb	22:17:16
1	V 292.402†	96216.0	94060.0	506.03 µg/L	506.03 ppb	22:17:16
1	Zn 213.857†	83161.9	81041.7	498.69 µg/L	498.69 ppb	22:17:16
2	Sc RADIAL	151970.3	151970.3	103 %		22:16:53
2	Al 396.153Radial†	26199.9	25549.0	5241.4 µg/L	5241.4 ppb	22:16:53
2	Ca 317.933Radial†	87623.8	84538.5	5086.5 µg/L	5086.5 ppb	22:16:53
2	Fe 238.204 Radial†	77437.6	75187.1	5059.2 µg/L	5059.2 ppb	22:16:53
2	K 766.490 Radial†	14358.5	12654.5	5203.9 µg/L	5203.9 ppb	22:16:53
2	Mg 279.077 IEC†	13165.8	12638.3	5192.5 µg/L	5192.5 ppb	22:16:53
2	Na 589.592 Radial†	69968.0	66855.1	10147 µg/L	10147 ppb	22:16:53
2	Sr 421.552†	230034.1	223988.5	516.67 µg/L	516.67 ppb	22:16:51
2	Sc 361.383	1773354.2	1773354.2	101.04 %		22:17:39
2	Y 371.029	1057681.3	1057681.3	99.402 %		22:17:39
2	Ag 328.068†	130825.7	126030.3	507.28 µg/L	507.28 ppb	22:17:39
2	As 188.979†	1499.0	1501.2	531.11 µg/L	531.11 ppb	22:17:59
2	B 249.677†	34413.4	30828.3	500.87 µg/L	500.87 ppb	22:17:39
2	Ba 233.527†	117336.6	116289.4	506.75 µg/L	506.75 ppb	22:17:39
2	Be 313.107†	1720066.1	1703124.0	511.27 µg/L	511.27 ppb	22:17:39
2	Cd 226.502†	74154.2	73500.0	504.36 µg/L	504.36 ppb	22:17:39
2	Co 228.616†	37853.2	37635.5	509.28 µg/L	509.28 ppb	22:17:39
2	Cr 267.716†	60261.5	59461.9	500.88 µg/L	500.88 ppb	22:17:39
2	Cu 324.752†	123208.7	119150.0	503.65 µg/L	503.65 ppb	22:17:39
2	Mn 257.610†	383009.1	378886.1	506.21 µg/L	506.21 ppb	22:17:39
2	Mo 202.031†	16034.3	15903.8	506.35 µg/L	506.35 ppb	22:17:59
2	Ni 231.604†	40672.3	40331.0	507.27 µg/L	507.27 ppb	22:17:39
2	P 214.914†	10800.9	10684.6	2539.9 µg/L	2539.9 ppb	22:17:59
2	Pb 220.353†	8498.0	8313.4	510.64 µg/L	510.64 ppb	22:17:59



2	S 181.975 Axial†	1332.7	1231.3	1013.6 µg/L	1013.6 ppb	22:17:59
2	Sb 206.836†	3982.8	3863.7	507.84 µg/L	507.84 ppb	22:17:59
2	Se 196.026†	1296.1	1269.2	510 µg/L	510 ppb	22:17:59
2	SiO2†	52738.1	50441.4	5374.7 µg/L	5374.7 ppb	22:17:39
2	Si 251.611†	158937.6	156350.9	2520.6 µg/L	2520.6 ppb	22:17:39
2	Sn 189.927†	7465.8	7391.4	513.41 µg/L	513.41 ppb	22:17:59
2	Ti 334.940†	509890.4	503749.7	504.02 µg/L	504.02 ppb	22:17:39
2	Tl 190.801†	3715.5	3794.2	517.48 µg/L	517.48 ppb	22:17:59
2	U 409.014†	7490.6	7697.2	512.79 µg/L	512.79 ppb	22:17:39
2	V 292.402†	95893.6	94595.5	508.94 µg/L	508.94 ppb	22:17:39
2	Zn 213.857†	82969.2	81589.5	502.05 µg/L	502.05 ppb	22:17:39
3	Sc RADIAL	151337.6	151337.6	102 %		22:16:57
3	Al 396.153Radial†	26042.6	25501.9	5231.5 µg/L	5231.5 ppb	22:16:57
3	Ca 317.933Radial†	86977.7	84263.7	5069.9 µg/L	5069.9 ppb	22:16:57
3	Fe 238.204 Radial†	77075.6	75148.4	5056.6 µg/L	5056.6 ppb	22:16:57
3	K 766.490 Radial†	14359.4	12713.8	5228.3 µg/L	5228.3 ppb	22:16:57
3	Mg 279.077 IEC†	13049.9	12578.6	5168.1 µg/L	5168.1 ppb	22:16:57
3	Na 589.592 Radial†	69668.3	66846.9	10146 µg/L	10146 ppb	22:16:57
3	Sr 421.552†	229774.6	224670.5	518.24 µg/L	518.24 ppb	22:16:55
3	Sc 361.383	1762011.3	1762011.3	100.40 %		22:18:02
3	Y 371.029	1051598.9	1051598.9	98.830 %		22:18:02
3	Ag 328.068†	129354.8	125398.7	504.75 µg/L	504.75 ppb	22:18:02
3	As 188.979†	1510.0	1521.8	538.29 µg/L	538.29 ppb	22:18:23
3	B 249.677†	33938.2	30574.3	496.74 µg/L	496.74 ppb	22:18:02
3	Ba 233.527†	116176.3	115881.3	504.98 µg/L	504.98 ppb	22:18:02
3	Be 313.107†	1701463.1	1695552.9	508.99 µg/L	508.99 ppb	22:18:02
3	Cd 226.502†	73147.3	72969.5	500.72 µg/L	500.72 ppb	22:18:02
3	Co 228.616†	37362.1	37387.5	505.93 µg/L	505.93 ppb	22:18:02
3	Cr 267.716†	59743.2	59329.6	499.77 µg/L	499.77 ppb	22:18:02
3	Cu 324.752†	122036.3	118767.1	502.02 µg/L	502.02 ppb	22:18:02
3	Mn 257.610†	379011.0	377343.9	504.15 µg/L	504.15 ppb	22:18:02
3	Mo 202.031†	16075.0	16046.5	510.89 µg/L	510.89 ppb	22:18:23
3	Ni 231.604†	40073.4	39993.6	503.03 µg/L	503.03 ppb	22:18:02
3	P 214.914†	10845.1	10797.4	2566.8 µg/L	2566.8 ppb	22:18:23
3	Pb 220.353†	8530.6	8400.0	515.96 µg/L	515.96 ppb	22:18:23
3	S 181.975 Axial†	1337.1	1244.2	1024.2 µg/L	1024.2 ppb	22:18:23
3	Sb 206.836†	4004.5	3910.7	514.09 µg/L	514.09 ppb	22:18:23
3	Se 196.026†	1294.9	1276.2	513 µg/L	513 ppb	22:18:23
3	SiO2†	52161.7	50203.3	5349.0 µg/L	5349.0 ppb	22:18:02
3	Si 251.611†	157219.9	155652.6	2509.2 µg/L	2509.2 ppb	22:18:02
3	Sn 189.927†	7461.2	7434.4	516.39 µg/L	516.39 ppb	22:18:23
3	Ti 334.940†	505177.2	502303.6	502.58 µg/L	502.58 ppb	22:18:02
3	Tl 190.801†	3735.8	3838.2	523.38 µg/L	523.38 ppb	22:18:23
3	U 409.014†	7211.5	7466.9	498.31 µg/L	498.31 ppb	22:18:02
3	V 292.402†	95154.8	94470.5	508.31 µg/L	508.31 ppb	22:18:02
3	Zn 213.857†	82153.8	81306.0	500.32 µg/L	500.32 ppb	22:18:02

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Mean Data: CCV

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1774925.8	101.13 %		0.784			0.78%
Sc RADIAL	152231.5	103 %		0.7			0.69%
Y 371.029	1058884.2	99.515 %		0.7476			0.75%
Ag 328.068†	125530.2	505.27 µg/L		1.806	505.27 ppb	1.806	0.36%
QC value within limits for Ag 328.068 Recovery = 101.05%							
Al 396.153Radial†	25444.0	5219.8 µg/L		29.26	5219.8 ppb	29.26	0.56%
QC value within limits for Al 396.153Radial Recovery = 104.40%							
As 188.979†	1500.3	530.79 µg/L		7.665	530.79 ppb	7.665	1.44%
QC value within limits for As 188.979 Recovery = 106.16%							
B 249.677†	30626.9	497.59 µg/L		2.940	497.59 ppb	2.940	0.59%
QC value within limits for B 249.677 Recovery = 99.52%							
Ba 233.527†	115867.7	504.92 µg/L		1.868	504.92 ppb	1.868	0.37%
QC value within limits for Ba 233.527 Recovery = 100.98%							
Be 313.107†	1697369.1	509.54 µg/L		1.531	509.54 ppb	1.531	0.30%
QC value within limits for Be 313.107 Recovery = 101.91%							
Ca 317.933Radial†	84196.5	5065.9 µg/L		22.87	5065.9 ppb	22.87	0.45%
QC value within limits for Ca 317.933Radial Recovery = 101.32%							
Cd 226.502†	73055.9	501.31 µg/L		2.800	501.31 ppb	2.800	0.56%
QC value within limits for Cd 226.502 Recovery = 100.26%							
Co 228.616†	37397.6	506.06 µg/L		3.154	506.06 ppb	3.154	0.62%

QC value within limits for Co 228.616 Recovery = 101.21%							
Cr 267.716†	59312.3	499.62 µg/L	1.336	499.62 ppb	1.336	0.27%	
QC value within limits for Cr 267.716 Recovery = 99.92%							
Cu 324.752†	118909.2	502.63 µg/L	0.892	502.63 ppb	0.892	0.18%	
QC value within limits for Cu 324.752 Recovery = 100.53%							
Fe 238.204 Radial†	75053.4	5050.2 µg/L	13.39	5050.2 ppb	13.39	0.27%	
QC value within limits for Fe 238.204 Radial Recovery = 101.00%							
K 766.490 Radial†	12660.2	5206.3 µg/L	20.97	5206.3 ppb	20.97	0.40%	
QC value within limits for K 766.490 Radial Recovery = 104.13%							
Mg 279.077 IEC†	12615.5	5183.1 µg/L	13.13	5183.1 ppb	13.13	0.25%	
QC value within limits for Mg 279.077 IEC Recovery = 103.66%							
Mn 257.610†	377395.8	504.21 µg/L	1.958	504.21 ppb	1.958	0.39%	
QC value within limits for Mn 257.610 Recovery = 100.84%							
Mo 202.031†	15890.5	505.92 µg/L	5.188	505.92 ppb	5.188	1.03%	
QC value within limits for Mo 202.031 Recovery = 101.18%							
Na 589.592 Radial†	66686.0	10121 µg/L	43.4	10121 ppb	43.4	0.43%	
QC value within limits for Na 589.592 Radial Recovery = 101.21%							
Ni 231.604†	40078.6	504.10 µg/L	2.798	504.10 ppb	2.798	0.55%	
QC value within limits for Ni 231.604 Recovery = 100.82%							
P 214.914†	10668.8	2536.2 µg/L	32.73	2536.2 ppb	32.73	1.29%	
QC value within limits for P 214.914 Recovery = 101.45%							
Pb 220.353†	8312.3	510.57 µg/L	5.426	510.57 ppb	5.426	1.06%	
QC value within limits for Pb 220.353 Recovery = 102.11%							
S 181.975 Axial†	1226.9	1010.0 µg/L	16.26	1010.0 ppb	16.26	1.61%	
QC value within limits for S 181.975 Axial Recovery = 101.00%							
Sb 206.836†	3863.5	507.83 µg/L	6.263	507.83 ppb	6.263	1.23%	
QC value within limits for Sb 206.836 Recovery = 101.57%							
Se 196.026†	1260.3	507 µg/L	8.7	507 ppb	8.7	1.72%	
QC value within limits for Se 196.026 Recovery = 101.34%							
SiO2†	50247.2	5353.9 µg/L	18.76	5353.9 ppb	18.76	0.35%	
QC value within limits for SiO2 Recovery = 100.12%							
Si 251.611†	155699.8	2510.1 µg/L	10.11	2510.1 ppb	10.11	0.40%	
QC value within limits for Si 251.611 Recovery = 100.40%							
Sn 189.927†	7358.8	511.16 µg/L	6.650	511.16 ppb	6.650	1.30%	
QC value within limits for Sn 189.927 Recovery = 102.23%							
Sr 421.552†	224295.6	517.38 µg/L	0.798	517.38 ppb	0.798	0.15%	
QC value within limits for Sr 421.552 Recovery = 103.48%							
Ti 334.940†	502173.9	502.44 µg/L	1.646	502.44 ppb	1.646	0.33%	
QC value within limits for Ti 334.940 Recovery = 100.49%							
Tl 190.801†	3786.3	516.40 µg/L	7.571	516.40 ppb	7.571	1.47%	
QC value within limits for Tl 190.801 Recovery = 103.28%							
U 409.014†	7574.2	505.01 µg/L	7.299	505.01 ppb	7.299	1.45%	
QC value within limits for U 409.014 Recovery = 101.00%							
V 292.402†	94375.3	507.76 µg/L	1.534	507.76 ppb	1.534	0.30%	
QC value within limits for V 292.402 Recovery = 101.55%							
Zn 213.857†	81312.4	500.35 µg/L	1.681	500.35 ppb	1.681	0.34%	
QC value within limits for Zn 213.857 Recovery = 100.07%							
All analyte(s) passed QC.							

Sequence No.: 144  
 Sample ID: CCB  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 8  
 Date Collected: 3/30/2010 22:18:31  
 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	148807.3	148807.3	101 %		22:19:00
1	Al 396.153Radial†	-37.5	25.7	5.2566 µg/L	5.2566 ppb	22:19:20
1	Ca 317.933Radial†	768.1	65.1	3.9175 µg/L	3.9175 ppb	22:19:20
1	Fe 238.204 Radial†	192.4	50.4	3.3938 µg/L	3.3938 ppb	22:19:20
1	K 766.490 Radial†	1678.8	355.0	146.09 µg/L	146.09 ppb	22:19:00
1	Mg 279.077 IEC†	177.0	7.1	2.9252 µg/L	2.9252 ppb	22:19:20
1	Na 589.592 Radial†	1381.4	165.7	25.030 µg/L	25.030 ppb	22:19:00
1	Sr 421.552†	-78.5	143.7	0.3314 µg/L	0.3314 ppb	22:19:00
1	Sc 361.383	1763258.7	1763258.7	100.47 %		22:20:08
1	Y 371.029	1064121.8	1064121.8	100.01 %		22:20:08
1	Ag 328.068†	3849.1	384.2	1.5348 µg/L	1.5348 ppb	22:20:10
1	As 188.979†	-20.4	-2.6	-0.8986 µg/L	-0.8986 ppb	22:20:30
1	B 249.677†	3299.3	53.6	0.8728 µg/L	0.8728 ppb	22:20:30
1	Ba 233.527†	-164.7	-1.8	-0.0073 µg/L	-0.0073 ppb	22:20:30
1	Be 313.107†	-908.6	-118.8	-0.0349 µg/L	-0.0349 ppb	22:20:10
1	Cd 226.502†	-100.9	9.6	0.0658 µg/L	0.0658 ppb	22:20:30
1	Co 228.616†	-147.9	25.2	0.3403 µg/L	0.3403 ppb	22:20:30
1	Cr 267.716†	172.5	-6.9	-0.0597 µg/L	-0.0597 ppb	22:20:30
1	Cu 324.752†	2888.2	85.9	0.3647 µg/L	0.3647 ppb	22:20:10
1	Mn 257.610†	285.1	108.2	0.1445 µg/L	0.1445 ppb	22:20:30
1	Mo 202.031†	-15.1	19.8	0.6292 µg/L	0.6292 ppb	22:20:30
1	Ni 231.604†	-70.1	8.1	0.1024 µg/L	0.1024 ppb	22:20:30
1	P 214.914†	5.8	0.8	0.1821 µg/L	0.1821 ppb	22:20:30
1	Pb 220.353†	79.2	-18.2	-1.1120 µg/L	-1.1120 ppb	22:20:30
1	S 181.975 Axial†	85.6	-2.5	-2.0677 µg/L	-2.0677 ppb	22:20:30
1	Sb 206.836†	88.9	10.4	1.3707 µg/L	1.3707 ppb	22:20:30
1	Se 196.026†	17.6	3.9	1.58 µg/L	1.58 ppb	22:20:30
1	SiO2†	1767.4	6.1	0.6367 µg/L	0.6367 ppb	22:20:30
1	Si 251.611†	899.6	-53.2	-0.8681 µg/L	-0.8681 ppb	22:20:30
1	Sn 189.927†	-6.1	-3.6	-0.2472 µg/L	-0.2472 ppb	22:20:30
1	Ti 334.940†	805.5	-83.8	-0.0851 µg/L	-0.0851 ppb	22:20:10
1	Tl 190.801†	-117.8	-0.2	-0.0222 µg/L	-0.0222 ppb	22:20:30
1	U 409.014†	-245.9	39.0	2.4662 µg/L	2.4662 ppb	22:20:10
1	V 292.402†	389.9	78.2	0.4230 µg/L	0.4230 ppb	22:20:10
1	Zn 213.857†	553.8	26.7	0.1641 µg/L	0.1641 ppb	22:20:30
2	Sc RADIAL	148691.1	148691.1	101 %		22:19:22
2	Al 396.153Radial†	-61.1	2.1	0.4164 µg/L	0.4164 ppb	22:19:42
2	Ca 317.933Radial†	720.6	18.4	1.1084 µg/L	1.1084 ppb	22:19:42
2	Fe 238.204 Radial†	183.6	41.9	2.8163 µg/L	2.8163 ppb	22:19:42
2	K 766.490 Radial†	1723.7	400.9	165.01 µg/L	165.01 ppb	22:19:22
2	Mg 279.077 IEC†	171.5	1.7	0.7095 µg/L	0.7095 ppb	22:19:42
2	Na 589.592 Radial†	1280.0	66.0	9.8686 µg/L	9.8686 ppb	22:19:22
2	Sr 421.552†	-205.0	17.8	0.0411 µg/L	0.0411 ppb	22:19:22
2	Sc 361.383	1770056.8	1770056.8	100.85 %		22:20:32
2	Y 371.029	1066919.4	1066919.4	100.27 %		22:20:32
2	Ag 328.068†	3825.9	346.4	1.3732 µg/L	1.3732 ppb	22:20:35
2	As 188.979†	-14.4	3.4	1.1908 µg/L	1.1908 ppb	22:20:55
2	B 249.677†	3274.2	16.1	0.2630 µg/L	0.2630 ppb	22:20:55
2	Ba 233.527†	-137.2	26.1	0.1137 µg/L	0.1137 ppb	22:20:55
2	Be 313.107†	-820.9	-28.4	-0.0086 µg/L	-0.0086 ppb	22:20:35
2	Cd 226.502†	-111.3	-0.3	-0.0024 µg/L	-0.0024 ppb	22:20:55
2	Co 228.616†	-174.0	-0.1	-0.0009 µg/L	-0.0009 ppb	22:20:55
2	Cr 267.716†	150.0	-29.8	-0.2514 µg/L	-0.2514 ppb	22:20:55
2	Cu 324.752†	2663.5	-148.0	-0.6233 µg/L	-0.6233 ppb	22:20:35
2	Mn 257.610†	265.1	87.3	0.1166 µg/L	0.1166 ppb	22:20:55
2	Mo 202.031†	-19.5	15.4	0.4893 µg/L	0.4893 ppb	22:20:55
2	Ni 231.604†	-66.6	11.9	0.1497 µg/L	0.1497 ppb	22:20:55
2	P 214.914†	-3.3	-8.3	-1.9685 µg/L	-1.9685 ppb	22:20:55
2	Pb 220.353†	74.5	-23.1	-1.4112 µg/L	-1.4112 ppb	22:20:55

2	S 181.975 Axial†	94.3	5.8	4.7628 µg/L	4.7628 ppb	22:20:55
2	Sb 206.836†	93.3	14.4	1.8971 µg/L	1.8971 ppb	22:20:55
2	Se 196.026†	12.0	-1.7	-0.663 µg/L	-0.663 ppb	22:20:55
2	SiO2†	1723.7	-44.0	-4.7329 µg/L	-4.7329 ppb	22:20:55
2	Si 251.611†	904.9	-51.4	-0.8418 µg/L	-0.8418 ppb	22:20:55
2	Sn 189.927†	5.0	7.5	0.5192 µg/L	0.5192 ppb	22:20:55
2	Ti 334.940†	821.7	-70.9	-0.0709 µg/L	-0.0709 ppb	22:20:35
2	Tl 190.801†	-105.3	12.6	1.6962 µg/L	1.6962 ppb	22:20:55
2	U 409.014†	-289.1	-2.9	-0.1964 µg/L	-0.1964 ppb	22:20:35
2	V 292.402†	257.2	-54.9	-0.2877 µg/L	-0.2877 ppb	22:20:35
2	Zn 213.857†	568.8	39.5	0.2440 µg/L	0.2440 ppb	22:20:55
3	Sc RADIAL	150016.6	150016.6	101 %		22:19:44
3	Al 396.153Radial†	-74.0	-10.1	-2.1470 µg/L	-2.1470 ppb	22:20:04
3	Ca 317.933Radial†	743.0	34.2	2.0565 µg/L	2.0565 ppb	22:20:04
3	Fe 238.204 Radial†	169.5	26.4	1.7740 µg/L	1.7740 ppb	22:20:04
3	K 766.490 Radial†	1547.6	212.3	87.354 µg/L	87.354 ppb	22:19:44
3	Mg 279.077 IEC†	175.8	4.5	1.8815 µg/L	1.8815 ppb	22:20:04
3	Na 589.592 Radial†	1364.4	137.9	20.864 µg/L	20.864 ppb	22:19:44
3	Sr 421.552†	-198.4	26.2	0.0604 µg/L	0.0604 ppb	22:19:44
3	Sc 361.383	1765298.9	1765298.9	100.58 %		22:20:57
3	Y 371.029	1065309.3	1065309.3	100.12 %		22:20:57
3	Ag 328.068†	3666.5	198.1	0.7889 µg/L	0.7889 ppb	22:20:59
3	As 188.979†	-18.2	-0.5	-0.1527 µg/L	-0.1527 ppb	22:21:19
3	B 249.677†	3274.6	25.3	0.4131 µg/L	0.4131 ppb	22:21:19
3	Ba 233.527†	-131.5	31.4	0.1372 µg/L	0.1372 ppb	22:21:19
3	Be 313.107†	-881.3	-90.7	-0.0263 µg/L	-0.0263 ppb	22:20:59
3	Cd 226.502†	-132.1	-21.3	-0.1465 µg/L	-0.1465 ppb	22:21:19
3	Co 228.616†	-172.1	1.3	0.0180 µg/L	0.0180 ppb	22:21:19
3	Cr 267.716†	176.1	-3.5	-0.0316 µg/L	-0.0316 ppb	22:21:19
3	Cu 324.752†	2976.7	170.6	0.7215 µg/L	0.7215 ppb	22:20:59
3	Mn 257.610†	273.2	96.1	0.1283 µg/L	0.1283 ppb	22:21:19
3	Mo 202.031†	14.7	49.4	1.5707 µg/L	1.5707 ppb	22:21:19
3	Ni 231.604†	-80.4	-2.0	-0.0256 µg/L	-0.0256 ppb	22:21:19
3	P 214.914†	-6.1	-11.0	-2.6575 µg/L	-2.6575 ppb	22:21:19
3	Pb 220.353†	69.4	-28.0	-1.7122 µg/L	-1.7122 ppb	22:21:19
3	S 181.975 Axial†	93.8	5.5	4.5395 µg/L	4.5395 ppb	22:21:19
3	Sb 206.836†	89.1	10.5	1.4006 µg/L	1.4006 ppb	22:21:19
3	Se 196.026†	24.3	10.6	4.25 µg/L	4.25 ppb	22:21:19
3	SiO2†	1745.8	-17.5	-1.9166 µg/L	-1.9166 ppb	22:21:19
3	Si 251.611†	864.7	-88.9	-1.4608 µg/L	-1.4608 ppb	22:21:19
3	Sn 189.927†	-1.9	0.6	0.0439 µg/L	0.0439 ppb	22:21:19
3	Ti 334.940†	785.7	-104.5	-0.1060 µg/L	-0.1060 ppb	22:20:59
3	Tl 190.801†	-105.9	11.8	1.5784 µg/L	1.5784 ppb	22:21:19
3	U 409.014†	-236.6	48.5	3.0270 µg/L	3.0270 ppb	22:20:59
3	V 292.402†	273.8	-37.7	-0.1819 µg/L	-0.1819 ppb	22:20:59
3	Zn 213.857†	543.9	16.2	0.0996 µg/L	0.0996 ppb	22:21:19

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1766204.8	100.63 %	0.199			0.20%
Sc RADIAL	149171.7	101 %	0.5			0.49%
Y 371.029	1065450.2	100.13 %	0.132			0.13%
Ag 328.068†	309.6	1.2323 µg/L	0.39244	1.2323 ppb	0.39244	31.85%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	5.9	1.1753 µg/L	3.75969	1.1753 ppb	3.75969	319.88%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	0.1	0.0465 µg/L	1.05883	0.0465 ppb	1.05883	>999.9%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	31.7	0.5163 µg/L	0.31774	0.5163 ppb	0.31774	61.54%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	18.6	0.0812 µg/L	0.07752	0.0812 ppb	0.07752	95.51%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-79.3	-0.0233 µg/L	0.01343	-0.0233 ppb	0.01343	57.73%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	39.2	2.3608 µg/L	1.42904	2.3608 ppb	1.42904	60.53%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	-4.0	-0.0277 µg/L	0.10838	-0.0277 ppb	0.10838	391.34%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	8.8	0.1191 µg/L	0.19179	0.1191 ppb	0.19179	160.98%

Cr 267.716†	QC value within limits for Co 228.616	Recovery = Not calculated				
	-13.4	-0.1142 µg/L	0.11961	-0.1142 ppb	0.11961	104.70%
Cu 324.752†	QC value within limits for Cr 267.716	Recovery = Not calculated				
	36.2	0.1543 µg/L	0.69664	0.1543 ppb	0.69664	451.47%
Fe 238.204 Radial†	QC value within limits for Cu 324.752	Recovery = Not calculated				
	39.6	2.6614 µg/L	0.82094	2.6614 ppb	0.82094	30.85%
K 766.490 Radial†	QC value within limits for Fe 238.204 Radial	Recovery = Not calculated				
	322.7	132.82 µg/L	40.494	132.82 ppb	40.494	30.49%
Mg 279.077 IEC†	QC value within limits for K 766.490 Radial	Recovery = Not calculated				
	4.4	1.8388 µg/L	1.10847	1.8388 ppb	1.10847	60.28%
Mn 257.610†	QC value within limits for Mg 279.077 IEC	Recovery = Not calculated				
	97.2	0.1298 µg/L	0.01400	0.1298 ppb	0.01400	10.79%
Mo 202.031†	QC value within limits for Mn 257.610	Recovery = Not calculated				
	28.2	0.8964 µg/L	0.58814	0.8964 ppb	0.58814	65.61%
Na 589.592 Radial†	QC value within limits for Mo 202.031	Recovery = Not calculated				
	123.2	18.587 µg/L	7.8328	18.587 ppb	7.8328	42.14%
Ni 231.604†	QC value within limits for Na 589.592 Radial	Recovery = Not calculated				
	6.0	0.0755 µg/L	0.09068	0.0755 ppb	0.09068	120.13%
P 214.914†	QC value within limits for Ni 231.604	Recovery = Not calculated				
	-6.2	-1.4813 µg/L	1.48120	-1.4813 ppb	1.48120	99.99%
Pb 220.353†	QC value within limits for P 214.914	Recovery = Not calculated				
	-23.1	-1.4118 µg/L	0.30012	-1.4118 ppb	0.30012	21.26%
S 181.975 Axial†	QC value within limits for Pb 220.353	Recovery = Not calculated				
	2.9	2.4115 µg/L	3.88076	2.4115 ppb	3.88076	160.93%
Sb 206.836†	QC value within limits for S 181.975 Axial	Recovery = Not calculated				
	11.8	1.5561 µg/L	0.29567	1.5561 ppb	0.29567	19.00%
Se 196.026†	QC value within limits for Sb 206.836	Recovery = Not calculated				
	4.3	1.72 µg/L	2.457	1.72 ppb	2.457	142.67%
SiO2†	QC value within limits for Se 196.026	Recovery = Not calculated				
	-18.5	-2.0043 µg/L	2.68585	-2.0043 ppb	2.68585	134.00%
Si 251.611†	QC value within limits for SiO2	Recovery = Not calculated				
	-64.5	-1.0569 µg/L	0.35003	-1.0569 ppb	0.35003	33.12%
Sn 189.927†	QC value within limits for Si 251.611	Recovery = Not calculated				
	1.5	0.1053 µg/L	0.38689	0.1053 ppb	0.38689	367.51%
Sr 421.552†	QC value within limits for Sn 189.927	Recovery = Not calculated				
	62.6	0.1443 µg/L	0.16231	0.1443 ppb	0.16231	112.50%
Ti 334.940†	QC value within limits for Sr 421.552	Recovery = Not calculated				
	-86.4	-0.0873 µg/L	0.01768	-0.0873 ppb	0.01768	20.25%
Tl 190.801†	QC value within limits for Ti 334.940	Recovery = Not calculated				
	8.1	1.0841 µg/L	0.95989	1.0841 ppb	0.95989	88.54%
U 409.014†	QC value within limits for Tl 190.801	Recovery = Not calculated				
	28.2	1.7656 µg/L	1.72212	1.7656 ppb	1.72212	97.54%
V 292.402†	QC value within limits for U 409.014	Recovery = Not calculated				
	-4.8	-0.0155 µg/L	0.38343	-0.0155 ppb	0.38343	>999.9%
Zn 213.857†	QC value within limits for V 292.402	Recovery = Not calculated				
	27.4	0.1693 µg/L	0.07234	0.1693 ppb	0.07234	42.74%
	QC value within limits for Zn 213.857 Recovery = Not calculated					

All analyte(s) passed QC.

## ICPMS #5 Daily Performance Report

### Sample ID: Sample

Sample Date/Time: Tuesday, April 13, 2010 11:33:12

### Sample Description:

Method File: c:\elandata\Method\Daily2.mth

Dataset File: c:\elandata\Dataset\default\Sample.1054

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	1541.9	1541.883	43.705	2.8
Mg	24.0	38738.9	38738.859	434.290	1.1
Co	58.9	63185.8	63185.831	373.250	0.6
Rh	102.9	123622.6	123622.601	766.014	0.6
In	114.9	178721.4	178721.441	1254.626	0.7
Pb	208.0	214246.1	214246.105	2038.893	1.0
[> Ba	137.9	169586.4	169586.427	957.403	0.6
[ Ba++	69.0	1987.6	0.012	0.000	2.3
[> Ce	139.9	205613.0	205612.974	1509.978	0.7
[ CeO	155.9	4192.2	0.020	0.000	2.1
Bkgd	220.0	19.8	19.800	2.564	13.0

### Current Optimization File Data

Current Value	Description
0.86	Nebulizer Gas Flow
6.75	Lens Voltage
1450.00	ICP RF Power
-1812.50	Analog Stage Voltage
1300.00	Pulse Stage Voltage
200.00	Discriminator Threshold
-6.00	AC Rod Offset

### Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	21	7.0	3372.1
Co	59	21	7.8	60333.1
In	115	21	9.5	172853.8

## ICPMS #5 Instrument Tuning Report

File Name: 100413.tun  
File Path: C:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width
He	3.0	3.0	606	2072	0.540
Be	9.0	9.0	2061	2088	0.543
Mg	24.0	24.0	5699	2085	0.562
Mg	25.0	25.0	5939	2085	0.540
Mg	26.0	26.0	6187	2100	0.545
Co	58.9	59.0	14193	2125	0.528
Rh	102.9	102.9	24880	2180	0.530
In	114.9	114.9	27796	2200	0.535
Ce	139.9	139.9	33878	2220	0.547
Pb	206.0	206.0	49948	2305	0.522
Pb	207.0	207.0	50171	2240	0.593
Pb	208.0	208.0	50451	2280	0.636
U	238.1	238.0	57731	2295	0.641

## ICPMS#5 - Summary Report

Sample ID: Blank

Sample Date/Time: Tuesday, April 13, 2010 18:56:12

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\Blank.179

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[ Be	9		ug/L			19
[> Sc	45		ug/L		445594	
[ Ni	60		ug/L		130	
[> Ge	74		ug/L		254044	
As	75		ug/L		-12	
Se	77		ug/L		3810	
Se	82		ug/L		-3	
[ Kr	83		ug/L		86	
[> Lu	175		ug/L		349004	
Tl	205		ug/L		2870	
[ U	238		ug/L		660	

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Simple Linear	
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Simple Linear	
As	75Simple Linear	
Se	77Simple Linear	
Se	82Simple Linear	
Kr	83Simple Linear	
Lu	175Linear Thru Zero	
Tl	205Simple Linear	
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[ Be	9					
[> Sc	45					
[ Ni	60					
[> Ge	74					
As	75					
Se	77					
Se	82					
[ Kr	83					
[> Lu	175					
Tl	205					
[ U	238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: Blank

Report Date/Time: Tuesday, April 13, 2010 18:56:54

Page 1



QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Tuesday, April 13, 2010 19:00:17

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lant soil.mth

Dataset File: C:\elandata\Dataset\100413\Standard 1.180

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	10.000	ug/L	0.282	1604	0.004
> Sc	45		ug/L		444363	444363.334
Ni	60	10.000	ug/L	1.699	9645	0.021
> Ge	74		ug/L		252669	252669.102
As	75	10.000	ug/L	5.043	6831	0.027
Se	77		ug/L		4272	0.002
Se	82	10.000	ug/L	1.966	709	0.003
Kr	83		ug/L		75	-0.000
> Lu	175		ug/L		350994	350993.990
Tl	205	10.000	ug/L	3.157	164485	0.461
U	238	10.000	ug/L	0.649	401696	1.143

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
> Sc	45					
Ni	60					
> Ge	74					
As	75					
Se	77					
Se	82					
Kr	83					
> Lu	175					
Tl	205					
U	238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: Standard 1

Report Date/Time: Tuesday, April 13, 2010 19:00:57

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Tuesday, April 13, 2010 19:04:20

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\Standard 2.181

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	99.972	ug/L	4.421	15744	0.035
> Sc	45		ug/L		453169	453169.172
Ni	60	99.954	ug/L	2.681	92801	0.205
> Ge	74		ug/L		253890	253890.125
As	75	100.015	ug/L	1.222	69813	0.275
Se	77		ug/L		8695	0.019
Se	82	99.957	ug/L	1.179	6855	0.027
Kr	83		ug/L		107	0.000
> Lu	175		ug/L		355412	355412.036
Tl	205	99.902	ug/L	2.482	1491556	4.190
U	238	99.924	ug/L	1.001	3772659	10.613

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9					
> Sc	45					
Ni	60					
> Ge	74					
As	75					
Se	77					
Se	82					
Kr	83					
> Lu	175					
Tl	205					
U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

Sample ID: Standard 2

Report Date/Time: Tuesday, April 13, 2010 19:05:00

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Tuesday, April 13, 2010 19:08:23

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 1.182

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	50.493	ug/L	6.745	7924	0.018
> Sc	45		ug/L		451255	451254.648
Ni	60	51.423	ug/L	1.981	47617	0.105
> Ge	74		ug/L		254009	254009.371
As	75	50.580	ug/L	3.327	35310	0.139
Se	77		ug/L		6322	0.010
Se	82	50.364	ug/L	3.025	3453	0.014
Kr	83		ug/L		93	0.000
> Lu	175		ug/L		356880	356880.491
Tl	205	50.690	ug/L	2.329	761378	2.126
U	238	49.756	ug/L	1.818	1886294	5.285

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Be	9	100.986				
> Sc	45		101.3			
Ni	60	102.846				
> Ge	74		100.0			
As	75	101.160				
Se	77					
Se	82	100.729				
Kr	83					
> Lu	175		102.3			
Tl	205	101.380				
U	238	99.512				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: QC Std 1

Report Date/Time: Tuesday, April 13, 2010 19:09:04

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Tuesday, April 13, 2010 19:12:29

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 2.183

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[ Be	9	0.014	ug/L	87.945	21	0.000
[ > Sc	45		ug/L		448722	448722.472
[ Ni	60	-0.013	ug/L	68.509	119	-0.000
[ > Ge	74		ug/L		252383	252383.425
[ As	75	0.064	ug/L	175.229	33	0.000
[ Se	77		ug/L		3928	0.001
[ Se	82	0.249	ug/L	7.710	14	0.000
[ Kr	83		ug/L		83	-0.000
[ > Lu	175		ug/L		351120	351119.525
[ Tl	205	0.186	ug/L	3.717	5620	0.008
[ U	238	0.005	ug/L	19.904	865	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[ Be	9						
[ > Sc	45		100.7				
[ Ni	60						
[ > Ge	74		99.3				
[ As	75						
[ Se	77						
[ Se	82						
[ Kr	83						
[ > Lu	175		100.6				
[ Tl	205						
[ U	238						

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: QC Std 2

Report Date/Time: Tuesday, April 13, 2010 19:13:12

Page 1



QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Tuesday, April 13, 2010 19:16:35

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 3.184

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.662	ug/L	16.453	122	0.000
Sc	45		ug/L		449650	449650.218
Ni	60	2.282	ug/L	3.948	2231	0.005
Ge	74		ug/L		251355	251355.187
As	75	6.052	ug/L	2.311	4170	0.017
Se	77		ug/L		3672	-0.000
Se	82	5.772	ug/L	3.928	389	0.002
Kr	83		ug/L		79	-0.000
Lu	175		ug/L		353165	353165.001
Tl	205	1.218	ug/L	1.671	20948	0.051
U	238	0.292	ug/L	2.945	11636	0.031

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Be	9	132.467				
Sc	45		100.9			
Ni	60	114.112				
Ge	74		98.9			
As	75	121.035				
Se	77					
Se	82	115.432				
Kr	83					
Lu	175		101.2			
Tl	205	121.846				
U	238	146.242				

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 3	Be	9	CRDL is out of limits
QC Std 3	U	238	CRDL is out of limits

Sample ID: QC Std 3

Report Date/Time: Tuesday, April 13, 2010 19:17:16

Page 1

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Tuesday, April 13, 2010 19:20:39

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 4.185

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[ Be	9	0.103	ug/L	50.064	33	0.000
[ > Sc	45		ug/L		421635	421635.197
[ Ni	60	2.779	ug/L	2.051	2521	0.006
[ > Ge	74		ug/L		231310	231310.332
[ As	75	-0.361	ug/L	174.402	-243	-0.001
[ Se	77		ug/L		4201	0.003
[ Se	82	-1.049	ug/L	39.941	-69	-0.000
[ Kr	83		ug/L		172	0.000
[ > Lu	175		ug/L		322577	322577.208
[ Tl	205	-0.004	ug/L	70.177	2594	-0.000
[ U	238	-0.012	ug/L	0.726	204	-0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[ Be	9						
[ > Sc	45		94.6				
[ Ni	60	83.948					
[ > Ge	74		91.1				
[ As	75						
[ Se	77						
[ Se	82						
[ Kr	83						
[ > Lu	175		92.4				
[ Tl	205						
[ U	238						

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: QC Std 4

Report Date/Time: Tuesday, April 13, 2010 19:21:21

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Tuesday, April 13, 2010 19:24:44

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 5.186

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	22.051	ug/L	10.901	3216	0.008
Sc	45		ug/L		418038	418037.921
Ni	60	21.668	ug/L	3.166	18655	0.044
Ge	74		ug/L		233103	233102.772
As	75	20.576	ug/L	2.617	13177	0.057
Se	77		ug/L		4507	0.004
Se	82	20.866	ug/L	5.343	1311	0.006
Kr	83		ug/L		171	0.000
Lu	175		ug/L		323073	323072.629
Tl	205	19.336	ug/L	1.538	264615	0.811
U	238	21.379	ug/L	1.769	734175	2.271

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel.	% Difference
Be	9	110.256					
Sc	45		93.8				
Ni	60	92.955					
Ge	74		91.8				
As	75	102.879					
Se	77						
Se	82	104.331					
Kr	83						
Lu	175		92.6				
Tl	205	96.680					
U	238	106.895					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: QC Std 5

Report Date/Time: Tuesday, April 13, 2010 19:25:26

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Tuesday, April 13, 2010 19:28:50

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 6.187

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	52.299	ug/L	6.742	8132	0.018
> Sc	45		ug/L		446886	446885.892
Ni	60	50.085	ug/L	3.133	45922	0.103
> Ge	74		ug/L		246224	246224.362
As	75	50.712	ug/L	2.285	34321	0.139
Se	77		ug/L		5995	0.009
Se	82	51.768	ug/L	5.984	3441	0.014
Kr	83		ug/L		84	0.000
> Lu	175		ug/L		349907	349906.710
Tl	205	49.372	ug/L	2.445	727303	2.071
U	238	49.990	ug/L	1.170	1858636	5.310

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Be	9	104.597				
> Sc	45		100.3			
Ni	60	100.170				
> Ge	74		96.9			
As	75	101.424				
Se	77					
Se	82	103.536				
Kr	83					
> Lu	175		100.3			
Tl	205	98.744				
U	238	99.980				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: QC Std 6

Report Date/Time: Tuesday, April 13, 2010 19:29:31

Page 1



QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Tuesday, April 13, 2010 19:32:56

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 7.188

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	-0.034	ug/L	57.982	13	-0.000
> Sc	45		ug/L		441514	441513.645
Ni	60	-0.011	ug/L	111.503	119	-0.000
> Ge	74		ug/L		244978	244978.365
As	75	-0.092	ug/L	238.142	-72	-0.000
Se	77		ug/L		3767	0.000
Se	82	-0.012	ug/L	1142.349	-4	-0.000
Kr	83		ug/L		83	0.000
> Lu	175		ug/L		343676	343675.889
Tl	205	0.324	ug/L	2.992	7490	0.014
U	238	0.006	ug/L	19.101	885	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
Be	9						
> Sc	45		99.1				
Ni	60						
> Ge	74		96.4				
As	75						
Se	77						
Se	82						
Kr	83						
> Lu	175		98.5				
Tl	205						
U	238						

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: QC Std 7

Report Date/Time: Tuesday, April 13, 2010 19:33:39

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Tuesday, April 13, 2010 20:09:39

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 8.197

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	55.715	ug/L	7.601	8592	0.019
> Sc	45		ug/L		443949	443949.183
Ni	60	49.855	ug/L	1.908	45424	0.102
> Ge	74		ug/L		242696	242696.352
As	75	51.652	ug/L	1.568	34459	0.142
Se	77		ug/L		5623	0.008
Se	82	51.017	ug/L	2.354	3343	0.014
Kr	83		ug/L		79	-0.000
> Lu	175		ug/L		346303	346303.461
Tl	205	50.085	ug/L	1.936	730163	2.100
U	238	50.668	ug/L	0.998	1864231	5.382

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9	111.430				
> Sc	45		99.6			
Ni	60	99.710				
> Ge	74		95.5			
As	75	103.304				
Se	77					
Se	82	102.033				
Kr	83					
> Lu	175		99.2			
Tl	205	100.170				
U	238	101.336				

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 8	Be	9	CCV is out of limits (+/- 10%)

Sample ID: QC Std 8

Report Date/Time: Tuesday, April 13, 2010 20:10:21

Page 1

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Tuesday, April 13, 2010 20:13:46

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 9.198

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	-0.003	ug/L	1295.742	18	-0.000
> Sc	45		ug/L		440793	440793.036
Ni	60	-0.018	ug/L	54.025	113	-0.000
> Ge	74		ug/L		241228	241227.718
As	75	0.184	ug/L	46.513	111	0.001
Se	77		ug/L		3187	-0.002
Se	82	0.679	ug/L	21.277	41	0.000
Kr	83		ug/L		74	-0.000
> Lu	175		ug/L		340351	340351.139
Tl	205	0.214	ug/L	7.703	5845	0.009
U	238	0.005	ug/L	31.139	810	0.000

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
> Sc	45		98.9			
Ni	60					
> Ge	74		95.0			
As	75					
Se	77					
Se	82					
Kr	83					
> Lu	175		97.5			
Tl	205					
U	238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: QC Std 9

Report Date/Time: Tuesday, April 13, 2010 20:14:29

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Tuesday, April 13, 2010 20:42:22

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 8.205

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	54.759	ug/L	4.874	8274	0.019
> Sc	45		ug/L		434593	434592.615
Ni	60	48.638	ug/L	1.610	43384	0.100
> Ge	74		ug/L		236941	236940.810
As	75	51.247	ug/L	3.030	33367	0.141
Se	77		ug/L		5279	0.007
Se	82	53.315	ug/L	4.185	3408	0.014
Kr	83		ug/L		91	0.000
> Lu	175		ug/L		339645	339644.555
Tl	205	49.628	ug/L	2.432	709571	2.081
U	238	50.501	ug/L	1.194	1822195	5.364

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
Be	9	109.517					
> Sc	45		97.5				
Ni	60	97.277					
> Ge	74		93.3				
As	75	102.494					
Se	77						
Se	82	106.630					
Kr	83						
> Lu	175		97.3				
Tl	205	99.256					
U	238	101.002					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: QC Std 8

Report Date/Time: Tuesday, April 13, 2010 20:43:04

Page 1



QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Tuesday, April 13, 2010 20:46:28

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 9.206

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.004	ug/L	872.528	19	0.000
> Sc	45		ug/L		430488	430487.529
Li	60	-0.021	ug/L	62.894	107	-0.000
> Ge	74		ug/L		235273	235273.278
As	75	0.335	ug/L	106.950	204	0.001
Se	77		ug/L		3031	-0.002
Se	82	1.568	ug/L	42.431	97	0.000
Kr	83		ug/L		78	-0.000
> Lu	175		ug/L		338574	338574.449
Tl	205	0.187	ug/L	6.245	5440	0.008
U	238	0.005	ug/L	27.419	815	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
> Sc	45		96.6			
Li	60					
> Ge	74		92.6			
As	75					
Se	77					
Se	82					
Kr	83					
> Lu	175		97.0			
Tl	205					
U	238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: QC Std 9

Report Date/Time: Tuesday, April 13, 2010 20:47:11

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Tuesday, April 13, 2010 21:19:11

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 8.214

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	54.357	ug/L	6.822	8443	0.019
Sc	45		ug/L		446968	446968.450
Ni	60	48.657	ug/L	1.021	44640	0.100
Ge	74		ug/L		244811	244811.344
As	75	50.472	ug/L	1.342	33965	0.139
Se	77		ug/L		5438	0.007
Se	82	51.092	ug/L	2.757	3377	0.014
Kr	83		ug/L		94	0.000
Lu	175		ug/L		342022	342021.972
Tl	205	50.446	ug/L	1.529	726226	2.116
U	238	51.043	ug/L	2.664	1854277	5.421

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
Be	9	108.714					
Sc	45		100.3				
Ni	60	97.314					
Ge	74		96.4				
As	75	100.944					
Se	77						
Se	82	102.185					
Kr	83						
Lu	175		98.0				
Tl	205	100.891					
U	238	102.087					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: QC Std 8

Report Date/Time: Tuesday, April 13, 2010 21:19:53

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Tuesday, April 13, 2010 21:23:18

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 9.215

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	-0.002	ug/L	878.977	18	-0.000
Sc	45		ug/L		446443	446443.357
Ni	60	-0.024	ug/L	35.726	108	-0.000
Ge	74		ug/L		242490	242490.488
As	75	0.115	ug/L	82.812	65	0.000
Se	77		ug/L		3054	-0.002
Se	82	0.436	ug/L	98.704	25	0.000
Kr	83		ug/L		79	-0.000
Lu	175		ug/L		339061	339061.237
Tl	205	0.169	ug/L	11.493	5192	0.007
U	238	0.005	ug/L	11.025	815	0.001

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
Sc	45		100.2			
Ni	60					
Ge	74		95.5			
As	75					
Se	77					
Se	82					
Kr	83					
Lu	175		97.2			
Tl	205					
U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

Sample ID: QC Std 9

Report Date/Time: Tuesday, April 13, 2010 21:24:01

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Tuesday, April 13, 2010 22:00:10

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 8.224

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	54.402	ug/L	9.487	8260	0.019
Sc	45		ug/L		436956	436955.815
Ni	60	49.138	ug/L	0.352	44072	0.101
Ge	74		ug/L		239779	239779.169
As	75	49.880	ug/L	0.813	32877	0.137
Se	77		ug/L		5353	0.007
Se	82	50.395	ug/L	4.218	3262	0.014
Kr	83		ug/L		96	0.000
Lu	175		ug/L		337283	337282.635
Tl	205	50.366	ug/L	3.052	714920	2.112
U	238	50.940	ug/L	1.128	1825248	5.410

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
Be	9	108.804					
Sc	45		98.1				
Ni	60	98.275					
Ge	74		94.4				
As	75	99.760					
Se	77						
Se	82	100.791					
Kr	83						
Lu	175		96.6				
Tl	205	100.732					
U	238	101.880					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: QC Std 8

Report Date/Time: Tuesday, April 13, 2010 22:00:52

Page 1



QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Tuesday, April 13, 2010 22:04:16

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 9.225

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	-0.031	ug/L	50.968	13	-0.000
> Sc	45		ug/L		429133	429133.032
Ni	60	-0.025	ug/L	42.376	104	-0.000
> Ge	74		ug/L		234512	234512.031
As	75	-0.111	ug/L	238.188	-82	-0.000
Se	77		ug/L		3018	-0.002
Se	82	0.012	ug/L	2849.190	-2	0.000
Kr	83		ug/L		76	-0.000
> Lu	175		ug/L		333848	333848.305
Tl	205	0.169	ug/L	10.913	5114	0.007
U	238	0.005	ug/L	24.888	798	0.000

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9					
> Sc	45		96.3			
Ni	60					
> Ge	74		92.3			
As	75					
Se	77					
Se	82					
Kr	83					
> Lu	175		95.7			
Tl	205					
U	238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: QC Std 9

Report Date/Time: Tuesday, April 13, 2010 22:04:59

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Tuesday, April 13, 2010 22:33:00

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\anal soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 8.232

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	52.990	ug/L	4.977	8187	0.018
Sc	45		ug/L		444298	444297.656
Ni	60	48.274	ug/L	0.454	44030	0.099
Ge	74		ug/L		240072	240072.098
As	75	51.144	ug/L	0.458	33751	0.141
Se	77		ug/L		5197	0.007
Se	82	50.406	ug/L	2.237	3266	0.014
Kr	83		ug/L		95	0.000
Lu	175		ug/L		335587	335586.926
Tl	205	49.885	ug/L	2.060	704626	2.092
U	238	50.990	ug/L	3.121	1817114	5.416

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
Be	9	105.980					
Sc	45		99.7				
Ni	60	96.548					
Ge	74		94.5				
As	75	102.288					
Se	77						
Se	82	100.812					
Kr	83						
Lu	175		96.2				
Tl	205	99.771					
U	238	101.979					

### QC Out Of Limits

Measurement Type Analyte

MassOut of Limits Message

### QC Action

Sample ID: QC Std 8

Report Date/Time: Tuesday, April 13, 2010 22:33:42

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QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Tuesday, April 13, 2010 22:37:06

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\Vanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 9.233

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.008	ug/L	186.939	20	0.000
> Sc	45		ug/L		441060	441060.407
Ni	60	-0.038	ug/L	23.812	95	-0.000
> Ge	74		ug/L		241609	241608.963
As	75	-0.125	ug/L	143.084	-94	-0.000
Se	77		ug/L		2927	-0.003
Se	82	-0.066	ug/L	474.093	-8	-0.000
Kr	83		ug/L		84	0.000
> Lu	175		ug/L		333904	333904.174
Tl	205	0.137	ug/L	5.943	4663	0.006
U	238	0.006	ug/L	15.217	832	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
Be	9						
> Sc	45		99.0				
Ni	60						
> Ge	74		95.1				
As	75						
Se	77						
Se	82						
Kr	83						
> Lu	175		95.7				
Tl	205						
U	238						

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: QC Std 9

Report Date/Time: Tuesday, April 13, 2010 22:37:49

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Tuesday, April 13, 2010 23:01:46

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 8.239

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	54.091	ug/L	4.108	8245	0.019
> Sc	45		ug/L		438310	438310.405
Ni	60	48.393	ug/L	2.466	43529	0.099
> Ge	74		ug/L		235675	235674.556
As	75	50.830	ug/L	1.106	32930	0.140
Se	77		ug/L		5179	0.007
Se	82	50.535	ug/L	0.979	3216	0.014
Kr	83		ug/L		101	0.000
> Lu	175		ug/L		333946	333945.955
Tl	205	49.646	ug/L	2.126	697847	2.082
U	238	50.917	ug/L	1.704	1806242	5.408

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Be	9	108.182				
> Sc	45		98.4			
Ni	60	96.786				
> Ge	74		92.8			
As	75	101.660				
Se	77					
Se	82	101.070				
Kr	83					
> Lu	175		95.7			
Tl	205	99.293				
U	238	101.833				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: QC Std 8

Report Date/Time: Tuesday, April 13, 2010 23:02:28

Page 1



QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Tuesday, April 13, 2010 23:05:52

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 9.240

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.002	ug/L	482.265	18	0.000
Sc	45		ug/L		429776	429776.403
Ni	60	-0.022	ug/L	61.873	106	-0.000
Ge	74		ug/L		232179	232178.814
As	75	0.214	ug/L	233.343	129	0.001
Se	77		ug/L		2774	-0.003
Se	82	0.029	ug/L	525.249	-1	0.000
Kr	83		ug/L		80	0.000
Lu	175		ug/L		332645	332644.914
Tl	205	0.140	ug/L	9.630	4685	0.006
U	238	0.006	ug/L	17.652	839	0.001

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9					
Sc	45		96.5			
Ni	60					
Ge	74		91.4			
As	75					
Se	77					
Se	82					
Kr	83					
Lu	175		95.3			
Tl	205					
U	238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: QC Std 9

Report Date/Time: Tuesday, April 13, 2010 23:06:35

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Tuesday, April 13, 2010 23:47:02

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 8.250

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	54.007	ug/L	7.052	8004	0.019
> Sc	45		ug/L		426530	426529.786
Ni	60	48.395	ug/L	1.209	42374	0.099
> Ge	74		ug/L		232777	232777.353
As	75	50.663	ug/L	3.592	32404	0.139
Se	77		ug/L		5089	0.007
Se	82	49.468	ug/L	8.041	3106	0.013
Kr	83		ug/L		95	0.000
> Lu	175		ug/L		324648	324647.795
Tl	205	50.441	ug/L	0.791	689442	2.115
U	238	51.232	ug/L	0.749	1767243	5.442

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9	108.015				
> Sc	45		95.7			
Ni	60	96.791				
> Ge	74		91.6			
As	75	101.325				
Se	77					
Se	82	98.937				
Kr	83					
> Lu	175		93.0			
Tl	205	100.883				
U	238	102.465				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: QC Std 8

Report Date/Time: Tuesday, April 13, 2010 23:47:44

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Tuesday, April 13, 2010 23:51:09

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\ani soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 9.251

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.022	ug/L	99.305	21	0.000
> Sc	45		ug/L		423358	423357.697
Ni	60	-0.030	ug/L	21.035	97	-0.000
> Ge	74		ug/L		228560	228560.231
As	75	0.176	ug/L	297.057	101	0.000
Se	77		ug/L		2677	-0.003
Se	82	-0.026	ug/L	560.347	-5	-0.000
Kr	83		ug/L		80	0.000
> Lu	175		ug/L		319461	319460.996
Tl	205	0.187	ug/L	5.932	5134	0.008
U	238	0.007	ug/L	14.292	853	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
> Sc	45		95.0			
Ni	60					
> Ge	74		90.0			
As	75					
Se	77					
Se	82					
Kr	83					
> Lu	175		91.5			
Tl	205					
U	238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: QC Std 9

Report Date/Time: Tuesday, April 13, 2010 23:51:52

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Wednesday, April 14, 2010 00:32:25

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 8.261

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	53.841	ug/L	8.860	8155	0.019
> Sc	45		ug/L		436015	436014.780
Ni	60	48.474	ug/L	0.816	43384	0.099
> Ge	74		ug/L		237078	237077.728
As	75	50.804	ug/L	0.277	33110	0.140
Se	77		ug/L		4901	0.006
Se	82	49.957	ug/L	0.188	3198	0.014
Kr	83		ug/L		111	0.000
> Lu	175		ug/L		332442	332441.746
Tl	205	49.578	ug/L	1.754	693897	2.079
U	238	50.437	ug/L	0.289	1781554	5.357

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel.	% Difference
Be	9	107.681					
> Sc	45		97.9				
Ni	60	96.949					
> Ge	74		93.3				
As	75	101.608					
Se	77						
Se	82	99.914					
Kr	83						
> Lu	175		95.3				
Tl	205	99.157					
U	238	100.874					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: QC Std 8

Report Date/Time: Wednesday, April 14, 2010 00:33:06

Page 1



QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Wednesday, April 14, 2010 00:36:31

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 9.262

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	-0.018	ug/L	110.791	15	-0.000
> Sc	45		ug/L		422746	422745.766
Ni	60	-0.014	ug/L	70.787	111	-0.000
> Ge	74		ug/L		232979	232979.441
As	75	-0.018	ug/L	2316.777	-23	-0.000
Se	77		ug/L		2595	-0.004
Se	82	0.033	ug/L	474.578	-1	0.000
Kr	83		ug/L		85	0.000
> Lu	175		ug/L		326485	326485.123
Tl	205	0.159	ug/L	9.651	4859	0.007
U	238	0.007	ug/L	5.937	853	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel.	% Difference
Be	9						
> Sc	45		94.9				
Ni	60						
> Ge	74		91.7				
As	75						
Se	77						
Se	82						
Kr	83						
> Lu	175		93.5				
Tl	205						
U	238						

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: QC Std 9

Report Date/Time: Wednesday, April 14, 2010 00:37:14

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202065014

Sample Date/Time: Wednesday, April 14, 2010 00:40:39

Sample Type:

Sample Description: LANL 6020 MB

Number of Replicates: 3

Batch ID: 962569|2|skj

Method File: c:\elandata\Method\ani soil.mth

Dataset File: C:\elandata\Dataset\100413\1202065014.263

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.000	ug/L	8788.328	19	0.000
> Sc	45		ug/L		461521	461520.977
Ni	60	0.023	ug/L	115.463	156	0.000
> Ge	74		ug/L		244787	244787.381
As	75	-0.021	ug/L	948.366	-27	-0.000
Se	77		ug/L		1743	-0.008
Se	82	-0.025	ug/L	493.954	-5	-0.000
Kr	83		ug/L		83	0.000
> Lu	175		ug/L		350803	350803.451
Tl	205	-0.020	ug/L	31.010	2590	-0.001
U	238	-0.015	ug/L	2.367	110	-0.002

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
> Sc	45		103.6			
Ni	60					
> Ge	74		96.4			
As	75					
Se	77					
Se	82					
Kr	83					
> Lu	175		100.5			
Tl	205					
U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

Sample ID: 1202065014

Report Date/Time: Wednesday, April 14, 2010 00:41:22

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202065015

Sample Date/Time: Wednesday, April 14, 2010 00:44:47

Sample Type:

Sample Description: LANL 6020 LCS

Number of Replicates: 3

Batch ID: 962569[40]skj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\1202065015.264

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	23.167	ug/L	4.819	3512	0.008
> Sc	45		ug/L		434780	434780.361
Ni	60	38.111	ug/L	2.215	34032	0.078
> Ge	74		ug/L		237066	237065.867
As	75	29.446	ug/L	2.665	19177	0.081
Se	77		ug/L		6062	0.011
Se	82	82.613	ug/L	2.353	5288	0.022
Kr	83		ug/L		93	0.000
> Lu	175		ug/L		333512	333511.561
Tl	205	36.245	ug/L	3.724	509504	1.520
U	238	0.548	ug/L	1.206	20043	0.058

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
> Sc	45		97.6			
Ni	60					
> Ge	74		93.3			
As	75					
Se	77					
Se	82					
Kr	83					
> Lu	175		95.6			
Tl	205					
U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

Sample ID: 1202065015

Report Date/Time: Wednesday, April 14, 2010 00:45:30

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 248515001

Sample Date/Time: Wednesday, April 14, 2010 00:48:55

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 962569|2|skj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\248515001.265

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	2.140	ug/L	7.981	384	0.001
Sc	45		ug/L		489522	489521.754
Ni	60	15.400	ug/L	5.387	15563	0.032
Ge	74		ug/L		238589	238588.740
As	75	5.813	ug/L	9.133	3805	0.016
Se	77		ug/L		1699	-0.008
Se	82	-0.242	ug/L	86.277	-19	-0.000
Kr	83		ug/L		157	0.000
Lu	175		ug/L		348192	348192.060
Tl	205	0.331	ug/L	4.264	7696	0.014
U	238	2.008	ug/L	0.578	74933	0.213

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
Sc	45		109.9			
Ni	60					
Ge	74		93.9			
As	75					
Se	77					
Se	82					
Kr	83					
Lu	175		99.8			
Tl	205					
U	238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: 248515001

Report Date/Time: Wednesday, April 14, 2010 00:49:38

Page 1



QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 248515002

Sample Date/Time: Wednesday, April 14, 2010 00:53:03

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 962569|2|skj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\248515002.266

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	1.290	ug/L	11.515	234	0.000
> Sc	45		ug/L		478392	478392.477
Ni	60	9.421	ug/L	1.607	9364	0.019
> Ge	74		ug/L		240478	240478.191
As	75	3.330	ug/L	2.441	2191	0.009
Se	77		ug/L		1617	-0.008
Se	82	-0.217	ug/L	46.846	-17	-0.000
Kr	83		ug/L		120	0.000
> Lu	175		ug/L		344957	344957.317
Tl	205	0.082	ug/L	10.974	4028	0.003
U	238	3.839	ug/L	0.651	141298	0.408

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
Be	9						
> Sc	45		107.4				
Ni	60						
> Ge	74		94.7				
As	75						
Se	77						
Se	82						
Kr	83						
> Lu	175		98.8				
Tl	205						
U	238						

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

Sample ID: 248515002

Report Date/Time: Wednesday, April 14, 2010 00:53:46

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 248515003

Sample Date/Time: Wednesday, April 14, 2010 00:57:11

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 962569|2|skj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\248515003.267

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[ Be	9	1.940	ug/L	11.503	351	0.001
[> Sc	45		ug/L		490747	490746.610
[ Ni	60	16.553	ug/L	1.610	16768	0.034
[> Ge	74		ug/L		236983	236982.944
As	75	6.153	ug/L	6.270	3998	0.017
Se	77		ug/L		1703	-0.008
Se	82	-0.324	ug/L	14.553	-24	-0.000
[ Kr	83		ug/L		145	0.000
[> Lu	175		ug/L		344064	344064.206
Tl	205	0.280	ug/L	5.536	6865	0.012
[ U	238	5.655	ug/L	4.116	207190	0.601

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[ Be	9					
[> Sc	45		110.1			
[ Ni	60					
[> Ge	74		93.3			
As	75					
Se	77					
Se	82					
[ Kr	83					
[> Lu	175		98.6			
Tl	205					
[ U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

Sample ID: 248515003

Report Date/Time: Wednesday, April 14, 2010 00:57:55

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Wednesday, April 14, 2010 01:17:34

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 8.272

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	54.215	ug/L	7.429	8264	0.019
> Sc	45		ug/L		438498	438498.297
Ni	60	47.681	ug/L	2.153	42917	0.098
> Ge	74		ug/L		237522	237522.427
As	75	50.717	ug/L	1.602	33109	0.139
Se	77		ug/L		5030	0.006
Se	82	50.410	ug/L	2.669	3232	0.014
Kr	83		ug/L		100	0.000
> Lu	175		ug/L		334164	334164.154
Tl	205	49.159	ug/L	3.228	691468	2.062
U	238	50.049	ug/L	1.231	1776855	5.316

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Be	9	108.430				
> Sc	45		98.4			
Ni	60	95.363				
> Ge	74		93.5			
As	75	101.434				
Se	77					
Se	82	100.821				
Kr	83					
> Lu	175		95.7			
Tl	205	98.317				
U	238	100.098				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: QC Std 8

Report Date/Time: Wednesday, April 14, 2010 01:18:16

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Wednesday, April 14, 2010 01:21:41

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 9.273

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[ Be	9	0.001	ug/L	1967.065	18	0.000
[> Sc	45		ug/L		431990	431989.679
[ Ni	60	-0.026	ug/L	41.595	103	-0.000
[> Ge	74		ug/L		235100	235099.995
As	75	0.078	ug/L	671.987	41	0.000
Se	77		ug/L		2614	-0.004
Se	82	0.286	ug/L	31.343	15	0.000
[ Kr	83		ug/L		79	-0.000
[> Lu	175		ug/L		328514	328514.439
Tl	205	0.121	ug/L	9.384	4364	0.005
[ U	238	0.006	ug/L	13.805	846	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel.	% Difference
[ Be	9						
[> Sc	45		96.9				
[ Ni	60						
[> Ge	74		92.5				
As	75						
Se	77						
Se	82						
[ Kr	83						
[> Lu	175		94.1				
Tl	205						
[ U	238						

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: QC Std 9

Report Date/Time: Wednesday, April 14, 2010 01:22:24

Page 1



QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Wednesday, April 14, 2010 01:54:18

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\Nanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 8.281

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	53.486	ug/L	6.408	8093	0.019
> Sc	45		ug/L		435211	435211.215
Ni	60	47.858	ug/L	1.166	42758	0.098
> Ge	74		ug/L		236627	236626.885
As	75	49.574	ug/L	1.894	32239	0.136
Se	77		ug/L		4833	0.005
Se	82	49.604	ug/L	2.666	3168	0.013
Kr	83		ug/L		95	0.000
> Lu	175		ug/L		326662	326662.327
Tl	205	50.284	ug/L	2.257	691443	2.109
U	238	50.864	ug/L	0.619	1765445	5.402

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Be	9	106.972				
> Sc	45		97.7			
Ni	60	95.715				
> Ge	74		93.1			
As	75	99.148				
Se	77					
Se	82	99.208				
Kr	83					
> Lu	175		93.6			
Tl	205	100.568				
U	238	101.728				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: QC Std 8

Report Date/Time: Wednesday, April 14, 2010 01:55:00

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Wednesday, April 14, 2010 01:58:25

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 9.282

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	-0.032	ug/L	103.870	13	-0.000
> Sc	45		ug/L		434623	434623.379
Ni	60	-0.017	ug/L	63.440	112	-0.000
> Ge	74		ug/L		232422	232422.274
As	75	0.160	ug/L	268.388	93	0.000
Se	77		ug/L		2643	-0.004
Se	82	-0.117	ug/L	169.226	-10	-0.000
Kr	83		ug/L		84	0.000
> Lu	175		ug/L		330060	330059.567
Tl	205	0.123	ug/L	17.287	4415	0.005
U	238	0.007	ug/L	16.582	868	0.001

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9					
> Sc	45		97.5			
Ni	60					
> Ge	74		91.5			
As	75					
Se	77					
Se	82					
Kr	83					
> Lu	175		94.6			
Tl	205					
U	238					

### QC Out Of Limits

Measurement Type Analyte

Mass Out of Limits Message

### QC Action

Sample ID: QC Std 9

Report Date/Time: Wednesday, April 14, 2010 01:59:07

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202065016

Sample Date/Time: Wednesday, April 14, 2010 02:10:44

Sample Type:

Sample Description: LANL 6020 DUP

Number of Replicates: 3

Batch ID: 962569|2|skj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\1202065016.285

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	2.209	ug/L	13.121	395	0.001
> Sc	45		ug/L		488433	488432.503
Ni	60	18.167	ug/L	1.397	18305	0.037
> Ge	74		ug/L		239484	239483.902
As	75	4.452	ug/L	4.010	2920	0.012
Se	77		ug/L		1729	-0.008
Se	82	-0.335	ug/L	144.993	-25	-0.000
Kr	83		ug/L		159	0.000
> Lu	175		ug/L		360610	360610.021
Tl	205	0.034	ug/L	22.323	3482	0.001
U	238	2.400	ug/L	2.724	92565	0.255

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
> Sc	45		109.6			
Ni	60					
> Ge	74		94.3			
As	75					
Se	77					
Se	82					
Kr	83					
> Lu	175		103.3			
Tl	205					
U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

Sample ID: 1202065016

Report Date/Time: Wednesday, April 14, 2010 02:11:27

Page 1

QC Action Line: No QC out of limits detected

---

Sample ID: 1202065016

Report Date/Time: Wednesday, April 14, 2010 02:11:27

Page 2

## ICPMS#5 - Summary Report

Sample ID: 1202065017

Sample Date/Time: Wednesday, April 14, 2010 02:14:52

Sample Type:

Sample Description: LANL 6020 MS

Number of Replicates: 3

Batch ID: 962569|2|skj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\1202065017.286

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	26.554	ug/L	7.185	4549	0.009
> Sc	45		ug/L		491664	491663.556
Ni	60	42.754	ug/L	3.571	43154	0.088
> Ge	74		ug/L		237963	237963.417
As	75	42.899	ug/L	2.131	28056	0.118
Se	77		ug/L		2238	-0.006
Se	82	8.898	ug/L	5.615	569	0.002
Kr	83		ug/L		210	0.001
> Lu	175		ug/L		379917	379917.361
Tl	205	41.473	ug/L	2.109	663856	1.739
U	238	26.411	ug/L	0.613	1066474	2.805

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
> Sc	45		110.3			
Ni	60					
> Ge	74		93.7			
As	75					
Se	77					
Se	82					
Kr	83					
> Lu	175		108.9			
Tl	205					
U	238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: 1202065017

Report Date/Time: Wednesday, April 14, 2010 02:15:34

Page 1



QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202065024

Sample Date/Time: Wednesday, April 14, 2010 02:18:59

Sample Type:

Sample Description: LANL 6020 MSD

Number of Replicates: 3

Batch ID: 962569|2|skj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\1202065024.287

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	24.315	ug/L	7.989	4172	0.008
Sc	45		ug/L		492403	492403.223
Ni	60	44.776	ug/L	3.138	45249	0.092
Ge	74		ug/L		239655	239655.298
As	75	39.521	ug/L	2.330	26026	0.109
Se	77		ug/L		2186	-0.006
Se	82	8.051	ug/L	2.707	518	0.002
Kr	83		ug/L		167	0.000
Lu	175		ug/L		359785	359785.433
Tl	205	43.486	ug/L	1.181	659037	1.824
U	238	26.373	ug/L	3.071	1008182	2.801

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
Sc	45		110.5			
Ni	60					
Ge	74		94.3			
As	75					
Se	77					
Se	82					
Kr	83					
Lu	175		103.1			
Tl	205					
U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

Sample ID: 1202065024

Report Date/Time: Wednesday, April 14, 2010 02:19:41

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202065018

Sample Date/Time: Wednesday, April 14, 2010 02:23:06

Sample Type:

Sample Description: LANL 6020 SDILT

Number of Replicates: 3

Batch ID: 962569|10|skj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\1202065018.288

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.383	ug/L	8.651	78	0.000
> Sc	45		ug/L		448661	448661.199
Ni	60	3.105	ug/L	1.912	2982	0.006
> Ge	74		ug/L		238785	238784.941
As	75	0.893	ug/L	50.078	573	0.002
Se	77		ug/L		1938	-0.007
Se	82	-0.004	ug/L	1799.731	-4	-0.000
Kr	83		ug/L		96	0.000
> Lu	175		ug/L		338939	338939.349
Tl	205	0.074	ug/L	16.420	3832	0.003
U	238	0.555	ug/L	2.510	20612	0.059

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike %	RecovDilution %	DilDuplicate	Rel. % Difference
Be	9						
> Sc	45		100.7				
Ni	60						
> Ge	74		94.0				
As	75						
Se	77						
Se	82						
Kr	83						
> Lu	175		97.1				
Tl	205						
U	238						

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: 1202065018

Report Date/Time: Wednesday, April 14, 2010 02:23:48

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Wednesday, April 14, 2010 02:27:12

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 6.289

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	52.953	ug/L	4.856	8060	0.018
> Sc	45		ug/L		437800	437800.386
[ Ni	60	47.916	ug/L	3.275	43061	0.098
> Ge	74		ug/L		236438	236438.382
As	75	51.087	ug/L	3.182	33197	0.140
Se	77		ug/L		4959	0.006
Se	82	51.318	ug/L	2.040	3276	0.014
[ Kr	83		ug/L		92	0.000
> Lu	175		ug/L		333438	333437.560
Tl	205	49.556	ug/L	2.907	695597	2.078
[ U	238	50.303	ug/L	0.907	1782124	5.343

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
Be	9	105.907					
> Sc	45		98.3				
[ Ni	60	95.833					
> Ge	74		93.1				
As	75	102.173					
Se	77						
Se	82	102.636					
[ Kr	83						
> Lu	175		95.5				
Tl	205	99.111					
[ U	238	100.605					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: QC Std 6

Report Date/Time: Wednesday, April 14, 2010 02:27:54

Page 1

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Wednesday, April 14, 2010 02:31:19

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100413\QC Std 7.290

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[ Be	9	-0.029	ug/L	63.384	14	-0.000
[ > Sc	45		ug/L		442975	442974.813
[ Ni	60	-0.017	ug/L	12.135	114	-0.000
[ > Ge	74		ug/L		241406	241406.138
As	75	0.052	ug/L	367.444	24	0.000
Se	77		ug/L		2606	-0.004
Se	82	-0.123	ug/L	165.926	-11	-0.000
[ Kr	83		ug/L		86	0.000
[ > Lu	175		ug/L		339182	339182.102
Ti	205	0.174	ug/L	11.511	5264	0.007
[ U	238	0.007	ug/L	6.349	886	0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
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	
Ti	205Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[ Be	9						
[ > Sc	45		99.4				
[ Ni	60						
[ > Ge	74		95.0				
As	75						
Se	77						
Se	82						
[ Kr	83						
[ > Lu	175		97.2				
Ti	205						
[ U	238						

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

Sample ID: QC Std 7

Report Date/Time: Wednesday, April 14, 2010 02:32:02

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QC Action Line: No QC out of limits detected

=====  
Analysis BegunLogged In Analyst: Administrator  
Spectrometer Model: FIMS-100, S/N B050-9550Technique: AA FIMS-MHS  
Autosampler Model: S10

Sample Information File: C:\data-AA\Administrator\Sample Information\031610S1.SIF

Batch ID:

Results Data Set: 031610S1

Results Library: C:\data-AA\Administrator\Results\Results.mdb

=====  
Method Loaded

Method Name: SOIL

Method Last Saved: 3/16/2010 09:36:57

Method Description: 7471A, ILM04 ANALYST JXL

=====  
Sequence No.: 1

Autosampler Location: 1

Sample ID: Calib Blank

Date Collected: 3/16/2010 09:37:07

Analyst:

Data Type: Original

-----  
Replicate Data: Calib Blank

Repl #	SampleConc ug/L	StdndConc ug/L	BlndCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.00]	0.0004	0.0017	0.0004	09:38:00	Yes
2		[0.00]	0.0004	0.0029	0.0004	09:38:30	Yes
Mean:		[0.00]	0.0004				
SD:		0.00	0.0000				
%RSD:		0.00	12.48				

  
Auto-zero performed.=====  
Sequence No.: 2

Autosampler Location: 2

Sample ID: S0.2

Date Collected: 3/16/2010 09:38:48

Analyst:

Data Type: Original

-----  
Replicate Data: S0.2

Repl #	SampleConc ug/L	StdndConc ug/L	BlndCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.2]	0.0027	0.0138	0.0031	09:39:39	Yes
2		[0.2]	0.0027	0.0142	0.0031	09:40:09	Yes
Mean:		[0.2]	0.0027				
SD:		0.0	0.0000				
%RSD:		0.0	0.24				

  
Standard number 1 applied. [0.2]  
Correlation Coef.: 1.000000 Slope: 0.01365 Intercept: 0.00000=====  
Sequence No.: 3

Autosampler Location: 3

Sample ID: S0.5

Date Collected: 3/16/2010 09:40:28

Analyst:

Data Type: Original

-----  
Replicate Data: S0.5

Repl #	SampleConc ug/L	StdndConc ug/L	BlndCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.5]	0.0067	0.0303	0.0070	09:41:19	Yes
2		[0.5]	0.0067	0.0307	0.0071	09:41:49	Yes
Mean:		[0.5]	0.0067				
SD:		0.0	0.0000				
%RSD:		0.0	0.46				

  
Standard number 2 applied. [0.5]  
Correlation Coef.: 0.999945 Slope: 0.01333 Intercept: 0.00002=====  
Sequence No.: 4

Autosampler Location: 4

Sample ID: S2.0

Date Collected: 3/16/2010 09:42:08

Analyst:

Data Type: Original

-----  
Replicate Data: S2.0

Repl #	SampleConc ug/L	StdndConc ug/L	BlndCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[2.0]	0.0276	0.1221	0.0280	09:42:59	Yes
2		[2.0]	0.0276	0.1216	0.0280	09:43:29	Yes
Mean:		[2.0]	0.0276				
SD:		0.0	0.0000				
%RSD:		0.0	0.11				

Standard number 3 applied. [2.0]  
Correlation Coef.: 0.999963 Slope: 0.01383 Intercept: -0.00008

Sequence No.: 5  
Sample ID: S5.0  
Analyst:

Autosampler Location: 5  
Date Collected: 3/16/2010 09:43:49  
Data Type: Original

-----  
Replicate Data: S5.0

Repl #	SampleConc ug/L	StdndConc ug/L	BlndCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[5.0]	0.0664	0.2938	0.0668	09:44:41	Yes
2		[5.0]	0.0668	0.2936	0.0672	09:45:11	Yes
Mean:		[5.0]	0.0666				
SD:		0.0	0.0003				
%RSD:		0.0	0.47				

Standard number 4 applied. [5.0]  
Correlation Coef.: 0.999886 Slope: 0.01334 Intercept: 0.00018

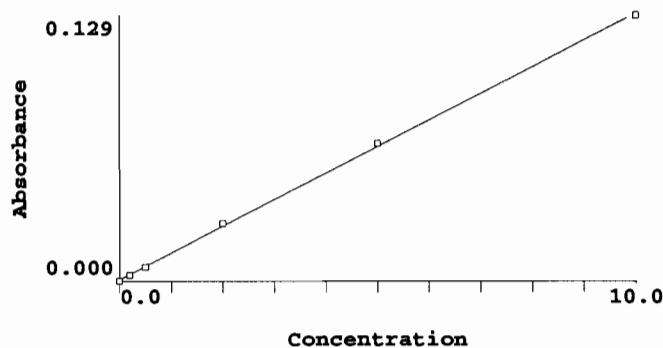
Sequence No.: 6  
Sample ID: S10.0  
Analyst:

Autosampler Location: 6  
Date Collected: 3/16/2010 09:45:31  
Data Type: Original

-----  
Replicate Data: S10.0

Repl #	SampleConc ug/L	StdndConc ug/L	BlndCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[10.0]	0.1289	0.5704	0.1293	09:46:21	Yes
2		[10.0]	0.1287	0.5686	0.1290	09:46:51	Yes
Mean:		[10.0]	0.1288				
SD:		0.0	0.0002				
%RSD:		0.0	0.16				

Standard number 5 applied. [10.0]  
Correlation Coef.: 0.999803 Slope: 0.01290 Intercept: 0.00067

-----  
Calibration data for Hg 253.7

Equation: Linear, Calculated Intercept

ID	Mean Signal (Abs)	Entered Conc. ug/L	Calculated Conc. ug/L	Standard Deviation	%RSD
Calib Blank	0.0000	0	-0.052	0.00	12.5
S0.2	0.0027	0.2	0.159	0.00	0.2
S0.5	0.0067	0.5	0.465	0.00	0.5
S2.0	0.0276	2.0	2.087	0.00	0.1

S5.0	0.0666	5.0	5.111	0.00	0.5
S10.0	0.1288	10.0	9.930	0.00	0.2

Correlation Coef.: 0.999803    Slope: 0.01290    Intercept: 0.00067

Sequence No.: 7

Sample ID: ICV

Analyst:

Autosampler Location: 9

Date Collected: 3/16/2010 09:47:10

Data Type: Original

## Replicate Data: ICV

Repl #	SampleConc ug/L	StndConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.242	5.242	0.0683	0.3021	0.0687	09:48:00	Yes
2	5.235	5.235	0.0682	0.2999	0.0686	09:48:30	Yes
Mean:	5.238	5.238	0.0683				
SD:	0.005	0.005	0.0001				
%RSD:	0.099	0.099	0.10				

QC value within limits for Hg 253.7    Recovery = 104.77%

All analyte(s) passed QC.

Sequence No.: 8

Sample ID: ICB

Analyst:

Autosampler Location: 10

Date Collected: 3/16/2010 09:48:50

Data Type: Original

## Replicate Data: ICB

Repl #	SampleConc ug/L	StndConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.051	-0.051	0.0000	0.0020	0.0004	09:49:41	Yes
2	-0.055	-0.055	-0.0000	0.0017	0.0004	09:50:11	Yes
Mean:	-0.053	-0.053	-0.0000				
SD:	0.003	0.003	0.0000				
%RSD:	4.763	4.763	370.42				

QC value within limits for Hg 253.7    Recovery = Not calculated

All analyte(s) passed QC.

Sequence No.: 9

Sample ID: CRDL

Analyst:

Autosampler Location: 11

Date Collected: 3/16/2010 09:50:31

Data Type: Original

## Replicate Data: CRDL

Repl #	SampleConc ug/L	StndConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.166	0.166	0.0028	0.0153	0.0032	09:51:22	Yes
2	0.164	0.164	0.0028	0.0148	0.0032	09:51:52	Yes
Mean:	0.165	0.165	0.0028				
SD:	0.001	0.001	0.0000				
%RSD:	0.726	0.726	0.55				

QC value within limits for Hg 253.7    Recovery = 82.36%

All analyte(s) passed QC.

Sequence No.: 10

Sample ID: CCV

Analyst:

Autosampler Location: 7

Date Collected: 3/16/2010 09:52:12

Data Type: Original

## Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.190	5.190	0.0676	0.2985	0.0680	09:53:02	Yes
2	5.167	5.167	0.0673	0.2970	0.0677	09:53:32	Yes
Mean:	5.178	5.178	0.0675				
SD:	0.016	0.016	0.0002				
%RSD:	0.318	0.318	0.31				

QC value within limits for Hg 253.7    Recovery = 103.56%

All analyte(s) passed QC.

Sequence No.: 11

Sample ID: CCB

Analyst:

Autosampler Location: 8

Date Collected: 3/16/2010 09:53:51

Data Type: Original

## Replicate Data: CCB

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.056	-0.056	-0.0000	0.0016	0.0003	09:54:42	Yes
2	-0.055	-0.055	-0.0000	0.0017	0.0004	09:55:12	Yes
Mean:	-0.055	-0.055	-0.0000				
SD:	0.001	0.001	0.0000				
%RSD:	1.143	1.143	21.71				

QC value within limits for Hg 253.7 Recovery = Not calculated  
All analyte(s) passed QC.

Sequence No.: 12

Sample ID: 1202056625|958979|1

Analyst: JXL

Autosampler Location: 12

Date Collected: 3/16/2010 09:55:31

Data Type: Original

## Replicate Data: 1202056625|958979|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.049	-0.049	0.0000	0.0032	0.0004	09:56:23	Yes
2	-0.049	-0.049	0.0000	0.0029	0.0004	09:56:53	Yes
Mean:	-0.049	-0.049	0.0000				
SD:	0.000	0.000	0.0000				
%RSD:	0.950	0.950	15.31				

Sequence No.: 13

Sample ID: 1202056626|958979|10

Analyst: JXL

Autosampler Location: 13

Date Collected: 3/16/2010 09:57:13

Data Type: Original

## Replicate Data: 1202056626|958979|10

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.233	0.233	0.0037	0.0183	0.0041	09:58:04	Yes
2	0.233	0.233	0.0037	0.0184	0.0041	09:58:34	Yes
Mean:	0.233	0.233	0.0037				
SD:	0.000	0.000	0.0000				
%RSD:	0.026	0.026	0.02				

Sequence No.: 14

Sample ID: 248233001|958979|1

Analyst: JXL

Autosampler Location: 14

Date Collected: 3/16/2010 09:58:55

Data Type: Original

## Replicate Data: 248233001|958979|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.384	0.384	0.0056	0.0256	0.0060	09:59:45	Yes
2	0.377	0.377	0.0055	0.0271	0.0059	10:00:15	Yes
Mean:	0.380	0.380	0.0056				
SD:	0.004	0.004	0.0001				
%RSD:	1.172	1.172	1.03				

Sequence No.: 15

Sample ID: 1202056627|958979|1

Analyst: JXL

Autosampler Location: 15

Date Collected: 3/16/2010 10:00:34

Data Type: Original

## Replicate Data: 1202056627|958979|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
------	------------	---------	---------	------	------	------	------

=====  
Analysis BegunLogged In Analyst: Administrator  
Spectrometer Model: FIMS-100, S/N B050-9550Technique: AA FIMS-MHS  
Autosampler Model: S10

Sample Information File: C:\data-AA\Administrator\Sample Information\031610S1.SIF

Batch ID:

Results Data Set: 031610S1

Results Library: C:\data-AA\Administrator\Results\Results.mdb

=====  
Method Loaded

Method Name: SOIL

Method Last Saved: 3/16/2010 09:36:57

Method Description: 7471A, ILM04 ANALYST JXL

Sequence No.: 1

Autosampler Location: 7

Sample ID: CCV

Date Collected: 3/16/2010 10:08:34

Analyst:

Data Type: Original

-----  
Replicate Data: CCV

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.082	5.082	0.0662	0.2944	0.0666	10:09:24	Yes
2	5.151	5.151	0.0671	0.2975	0.0675	10:09:54	Yes
Mean:	5.116	5.116	0.0667				
SD:	0.049	0.049	0.0006				
%RSD:	0.957	0.957	0.95				

QC value within limits for Hg 253.7 Recovery = 102.32%  
All analyte(s) passed QC.

Sequence No.: 2

Autosampler Location: 8

Sample ID: CCB

Date Collected: 3/16/2010 10:10:13

Analyst:

Data Type: Original

-----  
Replicate Data: CCB

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.059	-0.059	-0.0001	0.0016	0.0003	10:11:04	Yes
2	-0.058	-0.058	-0.0001	0.0017	0.0003	10:11:33	Yes
Mean:	-0.059	-0.059	-0.0001				
SD:	0.001	0.001	0.0000				
%RSD:	0.883	0.883	8.02				

QC value within limits for Hg 253.7 Recovery = Not calculated  
All analyte(s) passed QC.

Sequence No.: 3

Autosampler Location: 12

Sample ID: 1202056697|959031|1

Date Collected: 3/16/2010 10:11:53

Analyst: JXL

Data Type: Original

-----  
Replicate Data: 1202056697|959031|1

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.048	-0.048	0.0001	0.0032	0.0005	10:12:45	Yes
2	-0.058	-0.058	-0.0001	0.0016	0.0003	10:13:15	Yes
Mean:	-0.053	-0.053	-0.0000				
SD:	0.007	0.007	0.0001				
%RSD:	13.78	13.78	>999.9%				

Sequence No.: 4

Autosampler Location: 13

Sample ID: 247729001|959031|1

Date Collected: 3/16/2010 10:13:35

Analyst: JXL

Data Type: Original

Sequence No.: 9

Sample ID: 1202056627|958979|1

Analyst: JXL

Autosampler Location: 18

Date Collected: 3/16/2010 10:21:55

Data Type: Original

-----  
Replicate Data: 1202056627|958979|1

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.319	0.319	0.0048	0.0240	0.0052	10:22:46	Yes
2	0.316	0.316	0.0047	0.0237	0.0051	10:23:16	Yes
Mean:	0.318	0.318	0.0048				
SD:	0.003	0.003	0.0000				
%RSD:	0.808	0.808	0.69				

=====

Sequence No.: 10

Sample ID: 1202056628|958979|1

Analyst: JXL

Autosampler Location: 19

Date Collected: 3/16/2010 10:23:35

Data Type: Original

-----  
Replicate Data: 1202056628|958979|1

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	2.432	2.432	0.0321	0.1461	0.0324	10:24:25	Yes
2	2.444	2.444	0.0322	0.1461	0.0326	10:24:55	Yes
Mean:	2.438	2.438	0.0321				
SD:	0.008	0.008	0.0001				
%RSD:	0.348	0.348	0.34				

=====

Sequence No.: 11

Sample ID: 1202056630|958979|1

Analyst: JXL

Autosampler Location: 20

Date Collected: 3/16/2010 10:25:14

Data Type: Original

-----  
Replicate Data: 1202056630|958979|1

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	2.382	2.382	0.0314	0.1432	0.0318	10:26:06	Yes
2	2.374	2.374	0.0313	0.1421	0.0317	10:26:35	Yes
Mean:	2.378	2.378	0.0314				
SD:	0.006	0.006	0.0001				
%RSD:	0.244	0.244	0.24				

=====

Sequence No.: 12

Sample ID: 1202056629|958979|5

Analyst: JXL

Autosampler Location: 21

Date Collected: 3/16/2010 10:26:55

Data Type: Original

-----  
Replicate Data: 1202056629|958979|5

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.012	0.012	0.0008	0.0055	0.0012	10:27:46	Yes
2	0.013	0.013	0.0008	0.0058	0.0012	10:28:16	Yes
Mean:	0.012	0.012	0.0008				
SD:	0.001	0.001	0.0000				
%RSD:	6.937	6.937	1.31				

=====

Sequence No.: 13

Sample ID: CCV

Analyst:

Autosampler Location: 7

Date Collected: 3/16/2010 10:28:36

Data Type: Original

-----  
Replicate Data: CCV

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.307	5.307	0.0692	0.3067	0.0696	10:29:26	Yes
2	5.280	5.280	0.0688	0.3048	0.0692	10:29:56	Yes
Mean:	5.294	5.294	0.0690				

SD: 0.019 0.019 0.0002  
%RSD: 0.364 0.364 0.36

QC value within limits for Hg 253.7 Recovery = 105.88%  
All analyte(s) passed QC.

Sequence No.: 14

Sample ID: CCB

Analyst:

Autosampler Location: 8

Date Collected: 3/16/2010 10:30:15

Data Type: Original

## Replicate Data: CCB

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.060	-0.060	-0.0001	0.0013	0.0003	10:31:06	Yes
2	-0.058	-0.058	-0.0001	0.0015	0.0003	10:31:36	Yes
Mean:	-0.059	-0.059	-0.0001				
SD:	0.002	0.002	0.0000				
%RSD:	3.147	3.147	26.72				

QC value within limits for Hg 253.7 Recovery = Not calculated  
All analyte(s) passed QC.

Sequence No.: 15

Sample ID: 248233002|958979|1

Analyst: JXL

Autosampler Location: 22

Date Collected: 3/16/2010 10:31:56

Data Type: Original

## Replicate Data: 248233002|958979|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.134	0.134	0.0024	0.0129	0.0028	10:32:47	Yes
2	0.133	0.133	0.0024	0.0125	0.0028	10:33:17	Yes
Mean:	0.133	0.133	0.0024				
SD:	0.001	0.001	0.0000				
%RSD:	0.676	0.676	0.49				

Sequence No.: 16

Sample ID: 248233003|958979|1

Analyst: JXL

Autosampler Location: 23

Date Collected: 3/16/2010 10:33:37

Data Type: Original

## Replicate Data: 248233003|958979|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.095	0.095	0.0019	0.0102	0.0023	10:34:29	Yes
2	0.093	0.093	0.0019	0.0100	0.0023	10:34:59	Yes
Mean:	0.094	0.094	0.0019				
SD:	0.001	0.001	0.0000				
%RSD:	1.271	1.271	0.82				

Sequence No.: 17

Sample ID: 248233004|958979|1

Analyst: JXL

Autosampler Location: 24

Date Collected: 3/16/2010 10:35:19

Data Type: Original

## Replicate Data: 248233004|958979|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.094	0.094	0.0019	0.0104	0.0023	10:36:10	Yes
2	0.086	0.086	0.0018	0.0099	0.0022	10:36:40	Yes
Mean:	0.090	0.090	0.0018				
SD:	0.005	0.005	0.0001				
%RSD:	5.907	5.907	3.74				

Sequence No.: 18

Sample ID: 248233005|958979|1

Analyst: JXL

Autosampler Location: 25

Date Collected: 3/16/2010 10:37:00

Data Type: Original



Sequence No.: 23

Sample ID: 248233010|958979|1

Analyst: JXL

Autosampler Location: 30

Date Collected: 3/16/2010 10:45:23

Data Type: Original

Replicate Data: 248233010|958979|1

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.086	0.086	0.0018	0.0095	0.0022	10:46:14	Yes
2	0.089	0.089	0.0018	0.0096	0.0022	10:46:44	Yes
Mean:	0.088	0.088	0.0018				
SD:	0.002	0.002	0.0000				
%RSD:	2.652	2.652	1.66				

Sequence No.: 24

Sample ID: 248233011|958979|1

Analyst: JXL

Autosampler Location: 31

Date Collected: 3/16/2010 10:47:03

Data Type: Original

Replicate Data: 248233011|958979|1

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.386	0.386	0.0057	0.0268	0.0060	10:47:53	Yes
2	0.386	0.386	0.0057	0.0265	0.0061	10:48:23	Yes
Mean:	0.386	0.386	0.0057				
SD:	0.000	0.000	0.0000				
%RSD:	0.085	0.085	0.08				

Sequence No.: 25

Sample ID: CCV

Analyst:

Autosampler Location: 7

Date Collected: 3/16/2010 10:48:43

Data Type: Original

Replicate Data: CCV

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.054	5.054	0.0659	0.2912	0.0663	10:49:33	Yes
2	5.057	5.057	0.0659	0.2906	0.0663	10:50:02	Yes
Mean:	5.055	5.055	0.0659				
SD:	0.002	0.002	0.0000				
%RSD:	0.041	0.041	0.04				

QC value within limits for Hg 253.7 Recovery = 101.10%  
All analyte(s) passed QC.

Sequence No.: 26

Sample ID: CCB

Analyst:

Autosampler Location: 8

Date Collected: 3/16/2010 10:50:21

Data Type: Original

Replicate Data: CCB

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.064	-0.064	-0.0002	0.0009	0.0002	10:51:12	Yes
2	-0.062	-0.062	-0.0001	0.0011	0.0003	10:51:42	Yes
Mean:	-0.063	-0.063	-0.0001				
SD:	0.002	0.002	0.0000				
%RSD:	2.738	2.738	15.95				

QC value within limits for Hg 253.7 Recovery = Not calculated  
All analyte(s) passed QC.

Sequence No.: 27

Sample ID: 248233012|958979|1

Analyst: JXL

Autosampler Location: 32

Date Collected: 3/16/2010 10:52:02

Data Type: Original

Replicate Data: 248233012|958979|1

Sequence No.: 37  
Sample ID: CCV  
Analyst:

Autosampler Location: 7  
Date Collected: 3/16/2010 11:08:49  
Data Type: Original

## Replicate Data: CCV

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.123	5.123	0.0668	0.2956	0.0672	11:09:40	Yes
2	5.128	5.128	0.0668	0.2937	0.0672	11:10:10	Yes
Mean:	5.125	5.125	0.0668				
SD:	0.003	0.003	0.0000				
%RSD:	0.062	0.062	0.06				

QC value within limits for Hg 253.7 Recovery = 102.51%  
All analyte(s) passed QC.

Sequence No.: 38  
Sample ID: CCB  
Analyst:

Autosampler Location: 8  
Date Collected: 3/16/2010 11:10:29  
Data Type: Original

## Replicate Data: CCB

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.065	-0.065	-0.0002	0.0005	0.0002	11:11:20	Yes
2	-0.065	-0.065	-0.0002	0.0009	0.0002	11:11:50	Yes
Mean:	-0.065	-0.065	-0.0002				
SD:	0.000	0.000	0.0000				
%RSD:	0.191	0.191	0.98				

QC value within limits for Hg 253.7 Recovery = Not calculated  
All analyte(s) passed QC.

Sequence No.: 39  
Sample ID: 1202056615|958974|10  
Analyst: JXL

Autosampler Location: 42  
Date Collected: 3/16/2010 11:12:09  
Data Type: Original

## Replicate Data: 1202056615|958974|10

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	3.940	3.940	0.0515	0.2271	0.0519	11:13:00	Yes
2	3.957	3.957	0.0517	0.2269	0.0521	11:13:30	Yes
Mean:	3.949	3.949	0.0516				
SD:	0.012	0.012	0.0001				
%RSD:	0.294	0.294	0.29				

Sequence No.: 40  
Sample ID: 248237001|958974|1  
Analyst: JXL

Autosampler Location: 43  
Date Collected: 3/16/2010 11:13:50  
Data Type: Original

## Replicate Data: 248237001|958974|1

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.267	0.267	0.0041	0.0196	0.0045	11:14:41	Yes
2	0.262	0.262	0.0041	0.0186	0.0045	11:15:11	Yes
Mean:	0.264	0.264	0.0041				
SD:	0.003	0.003	0.0000				
%RSD:	1.137	1.137	0.95				

Sequence No.: 41  
Sample ID: 248237002|958974|1  
Analyst: JXL

Autosampler Location: 44  
Date Collected: 3/16/2010 11:15:30  
Data Type: Original

Sample ID: 248237007|958974|1  
Analyst: JXL

Date Collected: 3/16/2010 11:23:54  
Data Type: Original

-----  
Replicate Data: 248237007|958974|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.338	0.338	0.0050	0.0235	0.0054	11:24:47	Yes
2	0.339	0.339	0.0050	0.0234	0.0054	11:25:17	Yes
Mean:	0.338	0.338	0.0050				
SD:	0.001	0.001	0.0000				
%RSD:	0.283	0.283	0.25				

=====

Sequence No.: 47  
Sample ID: 248241001|958974|1  
Analyst: JXL

Autosampler Location: 50  
Date Collected: 3/16/2010 11:25:37  
Data Type: Original

-----  
Replicate Data: 248241001|958974|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.625	0.625	0.0087	0.0406	0.0091	11:26:28	Yes
2	0.621	0.621	0.0087	0.0402	0.0091	11:26:58	Yes
Mean:	0.623	0.623	0.0087				
SD:	0.003	0.003	0.0000				
%RSD:	0.455	0.455	0.42				

=====

Sequence No.: 48  
Sample ID: 1202056616|958974|1  
Analyst: JXL

Autosampler Location: 51  
Date Collected: 3/16/2010 11:27:17  
Data Type: Original

-----  
Replicate Data: 1202056616|958974|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.591	0.591	0.0083	0.0385	0.0087	11:28:09	Yes
2	0.594	0.594	0.0083	0.0383	0.0087	11:28:39	Yes
Mean:	0.592	0.592	0.0083				
SD:	0.002	0.002	0.0000				
%RSD:	0.363	0.363	0.33				

=====

Sequence No.: 49  
Sample ID: CCV  
Analyst:

Autosampler Location: 7  
Date Collected: 3/16/2010 11:28:58  
Data Type: Original

-----  
Replicate Data: CCV

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.419	5.419	0.0706	0.3085	0.0710	11:29:48	Yes
2	5.385	5.385	0.0702	0.3071	0.0706	11:30:18	Yes
Mean:	5.402	5.402	0.0704				
SD:	0.024	0.024	0.0003				
%RSD:	0.444	0.444	0.44				

QC value within limits for Hg 253.7 Recovery = 108.04%  
All analyte(s) passed QC.

=====

Sequence No.: 50  
Sample ID: CCB  
Analyst:

Autosampler Location: 8  
Date Collected: 3/16/2010 11:30:37  
Data Type: Original

-----  
Replicate Data: CCB

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.066	-0.066	-0.0002	0.0007	0.0002	11:31:28	Yes
2	-0.067	-0.067	-0.0002	0.0007	0.0002	11:31:58	Yes

Mean: -0.066 -0.066 -0.0002  
SD: 0.001 0.001 0.0000  
%RSD: 1.652 1.652 7.69

QC value within limits for Hg 253.7 Recovery = Not calculated  
All analyte(s) passed QC.

Sequence No.: 51

Autosampler Location: 52

Sample ID: 1202056617|958974|1

Date Collected: 3/16/2010 11:32:17

Analyst: JXL

Data Type: Original

Replicate Data: 1202056617|958974|1

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.629	2.629	0.0346	0.1568	0.0350	11:33:08	Yes
2	2.643	2.643	0.0348	0.1559	0.0352	11:33:38	Yes
Mean:	2.636	2.636	0.0347				
SD:	0.010	0.010	0.0001				
%RSD:	0.389	0.389	0.38				

Sequence No.: 52

Autosampler Location: 53

Sample ID: 1202056619|958974|1

Date Collected: 3/16/2010 11:33:58

Analyst: JXL

Data Type: Original

Replicate Data: 1202056619|958974|1

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.649	2.649	0.0348	0.1567	0.0352	11:34:49	Yes
2	2.639	2.639	0.0347	0.1557	0.0351	11:35:18	Yes
Mean:	2.644	2.644	0.0348				
SD:	0.006	0.006	0.0001				
%RSD:	0.245	0.245	0.24				

Sequence No.: 53

Autosampler Location: 54

Sample ID: 1202056618|958974|5

Date Collected: 3/16/2010 11:35:38

Analyst: JXL

Data Type: Original

Replicate Data: 1202056618|958974|5

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.088	0.088	0.0018	0.0095	0.0022	11:36:29	Yes
2	0.088	0.088	0.0018	0.0096	0.0022	11:36:59	Yes
Mean:	0.088	0.088	0.0018				
SD:	0.000	0.000	0.0000				
%RSD:	0.137	0.137	0.09				

Sequence No.: 54

Autosampler Location: 55

Sample ID: 248241002|958974|1

Date Collected: 3/16/2010 11:37:18

Analyst: JXL

Data Type: Original

Replicate Data: 248241002|958974|1

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.416	0.416	0.0060	0.0295	0.0064	11:38:10	Yes
2	0.408	0.408	0.0059	0.0280	0.0063	11:38:40	Yes
Mean:	0.412	0.412	0.0060				
SD:	0.005	0.005	0.0001				
%RSD:	1.309	1.309	1.16				

Sequence No.: 55

Autosampler Location: 56

Sample ID: 248241003|958974|1

Date Collected: 3/16/2010 11:38:59

Analyst: JXL

Data Type: Original

Sequence No.: 60  
Sample ID: 248241008|958974|1  
Analyst: JXL

Autosampler Location: 61  
Date Collected: 3/16/2010 11:47:26  
Data Type: Original

-----  
Replicate Data: 248241008|958974|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	1.306	1.306	0.0175	0.0804	0.0179	11:48:17	Yes
2	1.304	1.304	0.0175	0.0798	0.0179	11:48:47	Yes
Mean:	1.305	1.305	0.0175				
SD:	0.001	0.001	0.0000				
%RSD:	0.101	0.101	0.10				

Sequence No.: 61  
Sample ID: CCV  
Analyst:

Autosampler Location: 7  
Date Collected: 3/16/2010 11:49:08  
Data Type: Original

-----  
Replicate Data: CCV

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.141	5.141	0.0670	0.2942	0.0674	11:49:58	Yes
2	5.059	5.059	0.0660	0.2873	0.0664	11:50:28	Yes
Mean:	5.100	5.100	0.0665				
SD:	0.058	0.058	0.0007				
%RSD:	1.137	1.137	1.13				

QC value within limits for Hg 253.7 Recovery = 102.01%  
All analyte(s) passed QC.

Sequence No.: 62  
Sample ID: CCB  
Analyst:

Autosampler Location: 8  
Date Collected: 3/16/2010 11:50:47  
Data Type: Original

-----  
Replicate Data: CCB

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.066	-0.066	-0.0002	0.0007	0.0002	11:51:38	Yes
2	-0.067	-0.067	-0.0002	0.0007	0.0002	11:52:08	Yes
Mean:	-0.066	-0.066	-0.0002				
SD:	0.001	0.001	0.0000				
%RSD:	1.440	1.440	6.80				

QC value within limits for Hg 253.7 Recovery = Not calculated  
All analyte(s) passed QC.

Sequence No.: 63  
Sample ID: 248241009|958974|1  
Analyst: JXL

Autosampler Location: 62  
Date Collected: 3/16/2010 11:52:27  
Data Type: Original

-----  
Replicate Data: 248241009|958974|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.405	0.405	0.0059	0.0280	0.0063	11:53:18	Yes
2	0.403	0.403	0.0059	0.0275	0.0063	11:53:48	Yes
Mean:	0.404	0.404	0.0059				
SD:	0.002	0.002	0.0000				
%RSD:	0.458	0.458	0.41				

Sequence No.: 64  
Sample ID: 248241010|958974|1  
Analyst: JXL

Autosampler Location: 63  
Date Collected: 3/16/2010 11:54:08  
Data Type: Original

-----  
Replicate Data: 248241010|958974|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
------	------------	---------	---------	------	------	------	------

-----  
Replicate Data: 1202069754|964735|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	2.343	2.343	0.0309	0.1371	0.0313	12:03:24	Yes
2	2.333	2.333	0.0308	0.1353	0.0312	12:03:53	Yes
Mean:	2.338	2.338	0.0308				
SD:	0.007	0.007	0.0001				
%RSD:	0.289	0.289	0.28				

Sequence No.: 70

Autosampler Location: 69

Sample ID: 1202069756|964735|1

Date Collected: 3/16/2010 12:04:13

Analyst: JXL

Data Type: Original

-----  
Replicate Data: 1202069756|964735|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	2.362	2.362	0.0312	0.1376	0.0315	12:05:05	Yes
2	2.330	2.330	0.0307	0.1359	0.0311	12:05:34	Yes
Mean:	2.346	2.346	0.0309				
SD:	0.023	0.023	0.0003				
%RSD:	0.970	0.970	0.95				

Sequence No.: 71

Autosampler Location: 70

Sample ID: 1202069755|964735|1

Date Collected: 3/16/2010 12:05:54

Analyst: JXL

Data Type: Original

-----  
Replicate Data: 1202069755|964735|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.032	-0.032	0.0003	0.0027	0.0007	12:06:46	Yes
2	-0.034	-0.034	0.0002	0.0025	0.0006	12:07:16	Yes
Mean:	-0.033	-0.033	0.0002				
SD:	0.002	0.002	0.0000				
%RSD:	5.094	5.094	8.69				

Sequence No.: 72

Autosampler Location: 71

Sample ID: 248383002|964735|1

Date Collected: 3/16/2010 12:07:36

Analyst: JXL

Data Type: Original

-----  
Replicate Data: 248383002|964735|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.131	0.131	0.0024	0.0121	0.0028	12:08:27	Yes
2	0.130	0.130	0.0024	0.0120	0.0027	12:08:57	Yes
Mean:	0.131	0.131	0.0024				
SD:	0.001	0.001	0.0000				
%RSD:	0.628	0.628	0.45				

Sequence No.: 73

Autosampler Location: 7

Sample ID: CCV

Date Collected: 3/16/2010 12:09:17

Analyst:

Data Type: Original

-----  
Replicate Data: CCV

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.021	5.021	0.0655	0.2891	0.0659	12:10:07	Yes
2	5.073	5.073	0.0661	0.2890	0.0665	12:10:37	Yes
Mean:	5.047	5.047	0.0658				
SD:	0.037	0.037	0.0005				
%RSD:	0.730	0.730	0.72				

QC value within limits for Hg 253.7 Recovery = 100.94%

All analyte(s) passed QC.

Sequence No.: 74

Sample ID: CCB

Analyst:

Autosampler Location: 8

Date Collected: 3/16/2010 12:10:56

Data Type: Original

## Replicate Data: CCB

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.064	-0.064	-0.0001	0.0010	0.0002	12:11:46	Yes
2	-0.064	-0.064	-0.0002	0.0008	0.0002	12:12:16	Yes
Mean:	-0.064	-0.064	-0.0002				
SD:	0.000	0.000	0.0000				
%RSD:	0.505	0.505	2.77				

QC value within limits for Hg 253.7 Recovery = Not calculated

All analyte(s) passed QC.

Sequence No.: 75

Sample ID: 248383003|964735|1

Analyst: JXL

Autosampler Location: 72

Date Collected: 3/16/2010 12:12:35

Data Type: Original

## Replicate Data: 248383003|964735|1

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.236	0.236	0.0037	0.0180	0.0041	12:13:27	Yes
2	0.235	0.235	0.0037	0.0179	0.0041	12:13:57	Yes
Mean:	0.235	0.235	0.0037				
SD:	0.001	0.001	0.0000				
%RSD:	0.483	0.483	0.40				

Sequence No.: 76

Sample ID: 248383004|964735|1

Analyst: JXL

Autosampler Location: 73

Date Collected: 3/16/2010 12:14:17

Data Type: Original

## Replicate Data: 248383004|964735|1

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.091	0.091	0.0018	0.0097	0.0022	12:15:09	Yes
2	0.092	0.092	0.0019	0.0096	0.0023	12:15:39	Yes
Mean:	0.091	0.091	0.0019				
SD:	0.001	0.001	0.0000				
%RSD:	0.822	0.822	0.52				

Sequence No.: 77

Sample ID: 248383005|964735|1

Analyst: JXL

Autosampler Location: 74

Date Collected: 3/16/2010 12:16:00

Data Type: Original

## Replicate Data: 248383005|964735|1

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.145	0.145	0.0025	0.0126	0.0029	12:16:51	Yes
2	0.146	0.146	0.0026	0.0125	0.0029	12:17:20	Yes
Mean:	0.145	0.145	0.0025				
SD:	0.001	0.001	0.0000				
%RSD:	0.423	0.423	0.31				

Sequence No.: 78

Sample ID: 248383006|964735|1

Analyst: JXL

Autosampler Location: 75

Date Collected: 3/16/2010 12:17:40

Data Type: Original

## Replicate Data: 248383006|964735|1

Analyst: JXL

Data Type: Original

-----  
Replicate Data: 248396001|964735|1

Repl	SampleConc	StdConc	Blncorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.255	0.255	0.0040	0.0187	0.0044	12:26:59	Yes
2	0.255	0.255	0.0040	0.0190	0.0044	12:27:29	Yes
Mean:	0.255	0.255	0.0040				
SD:	0.000	0.000	0.0000				
%RSD:	0.036	0.036	0.03				

Sequence No.: 84

Autosampler Location: 81

Sample ID: 248396002|964735|1

Date Collected: 3/16/2010 12:27:49

Analyst: JXL

Data Type: Original

-----  
Replicate Data: 248396002|964735|1

Repl	SampleConc	StdConc	Blncorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.169	0.169	0.0029	0.0136	0.0033	12:28:40	Yes
2	0.170	0.170	0.0029	0.0144	0.0033	12:29:10	Yes
Mean:	0.170	0.170	0.0029				
SD:	0.000	0.000	0.0000				
%RSD:	0.278	0.278	0.21				

Sequence No.: 85

Autosampler Location: 7

Sample ID: CCV

Date Collected: 3/16/2010 12:29:30

Analyst:

Data Type: Original

-----  
Replicate Data: CCV

Repl	SampleConc	StdConc	Blncorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.073	5.073	0.0661	0.2882	0.0665	12:30:20	Yes
2	5.095	5.095	0.0664	0.2881	0.0668	12:30:50	Yes
Mean:	5.084	5.084	0.0663				
SD:	0.016	0.016	0.0002				
%RSD:	0.305	0.305	0.30				

QC value within limits for Hg 253.7 Recovery = 101.68%  
All analyte(s) passed QC.

Sequence No.: 86

Autosampler Location: 8

Sample ID: CCB

Date Collected: 3/16/2010 12:31:09

Analyst:

Data Type: Original

-----  
Replicate Data: CCB

Repl	SampleConc	StdConc	Blncorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.068	-0.068	-0.0002	0.0004	0.0002	12:31:59	Yes
2	-0.064	-0.064	-0.0002	0.0010	0.0002	12:32:29	Yes
Mean:	-0.066	-0.066	-0.0002				
SD:	0.003	0.003	0.0000				
%RSD:	3.855	3.855	18.63				

QC value within limits for Hg 253.7 Recovery = Not calculated  
All analyte(s) passed QC.

Sequence No.: 87

Autosampler Location: 82

Sample ID: 248396003|964735|1

Date Collected: 3/16/2010 12:32:49

Analyst: JXL

Data Type: Original

-----  
Replicate Data: 248396003|964735|1

Repl	SampleConc	StdConc	Blncorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.114	0.114	0.0021	0.0112	0.0025	12:33:40	Yes



Sample ID: CCV

Date Collected: 3/16/2010 12:49:44

Analyst:

Data Type: Original

-----  
Replicate Data: CCV

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.080	5.080	0.0662	0.2875	0.0666	12:50:35	Yes
2	5.056	5.056	0.0659	0.2856	0.0663	12:51:04	Yes
Mean:	5.068	5.068	0.0661				
SD:	0.017	0.017	0.0002				
%RSD:	0.331	0.331	0.33				

QC value within limits for Hg 253.7 Recovery = 101.36%

All analyte(s) passed QC.

=====

Sequence No.: 98

Autosampler Location: 8

Sample ID: CCB

Date Collected: 3/16/2010 12:51:23

Analyst:

Data Type: Original

-----  
Replicate Data: CCB

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.063	-0.063	-0.0001	0.0010	0.0003	12:52:14	Yes
2	-0.065	-0.065	-0.0002	0.0009	0.0002	12:52:44	Yes
Mean:	-0.064	-0.064	-0.0002				
SD:	0.001	0.001	0.0000				
%RSD:	1.783	1.783	9.75				

QC value within limits for Hg 253.7 Recovery = Not calculated

All analyte(s) passed QC.

=====

Sequence No.: 99

Autosampler Location: 92

Sample ID: 1202069762|964738|1

Date Collected: 3/16/2010 12:53:03

Analyst: JXL

Data Type: Original

-----  
Replicate Data: 1202069762|964738|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	2.308	2.308	0.0305	0.1341	0.0309	12:53:55	Yes
2	2.294	2.294	0.0303	0.1330	0.0307	12:54:25	Yes
Mean:	2.301	2.301	0.0304				
SD:	0.010	0.010	0.0001				
%RSD:	0.445	0.445	0.44				

=====

Sequence No.: 100

Autosampler Location: 93

Sample ID: 1202069761|964738|5

Date Collected: 3/16/2010 12:54:45

Analyst: JXL

Data Type: Original

-----  
Replicate Data: 1202069761|964738|5

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.041	-0.041	0.0001	0.0024	0.0005	12:55:37	Yes
2	-0.042	-0.042	0.0001	0.0020	0.0005	12:56:07	Yes
Mean:	-0.042	-0.042	0.0001				
SD:	0.001	0.001	0.0000				
%RSD:	2.113	2.113	8.30				

=====

Sequence No.: 101

Autosampler Location: 94

Sample ID: 248408002|964738|1

Date Collected: 3/16/2010 12:56:27

Analyst: JXL

Data Type: Original

-----  
Replicate Data: 248408002|964738|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored

-----  
Replicate Data: 248408007|964738|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.314	0.314	0.0047	0.0220	0.0051	13:05:48	Yes
2	0.313	0.313	0.0047	0.0223	0.0051	13:06:18	Yes
Mean:	0.313	0.313	0.0047				
SD:	0.001	0.001	0.0000				
%RSD:	0.278	0.278	0.24				

Sequence No.: 107

Autosampler Location: 100

Sample ID: 248408008|964738|1

Date Collected: 3/16/2010 13:06:38

Analyst: JXL

Data Type: Original  
-----

## Replicate Data: 248408008|964738|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.099	0.099	0.0019	0.0100	0.0023	13:07:30	Yes
2	0.104	0.104	0.0020	0.0102	0.0024	13:08:00	Yes
Mean:	0.101	0.101	0.0020				
SD:	0.004	0.004	0.0000				
%RSD:	3.503	3.503	2.31				

Sequence No.: 108

Autosampler Location: 101

Sample ID: 248408009|964738|1

Date Collected: 3/16/2010 13:08:20

Analyst: JXL

Data Type: Original  
-----

## Replicate Data: 248408009|964738|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.098	0.098	0.0019	0.0101	0.0023	13:09:12	Yes
2	0.097	0.097	0.0019	0.0099	0.0023	13:09:42	Yes
Mean:	0.097	0.097	0.0019				
SD:	0.001	0.001	0.0000				
%RSD:	1.083	1.083	0.70				

Sequence No.: 109

Autosampler Location: 7

Sample ID: CCV

Date Collected: 3/16/2010 13:10:03

Analyst:

Data Type: Original  
-----

## Replicate Data: CCV

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.073	5.073	0.0661	0.2828	0.0665	13:10:53	Yes
2	5.058	5.058	0.0659	0.2812	0.0663	13:11:23	Yes
Mean:	5.065	5.065	0.0660				
SD:	0.011	0.011	0.0001				
%RSD:	0.217	0.217	0.21				

QC value within limits for Hg 253.7 Recovery = 101.31%  
All analyte(s) passed QC.

Sequence No.: 110

Autosampler Location: 8

Sample ID: CCB

Date Collected: 3/16/2010 13:11:42

Analyst:

Data Type: Original  
-----

## Replicate Data: CCB

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.064	-0.064	-0.0002	0.0008	0.0002	13:12:33	Yes
2	-0.064	-0.064	-0.0001	0.0009	0.0002	13:13:03	Yes
Mean:	-0.064	-0.064	-0.0002				
SD:	0.001	0.001	0.0000				
%RSD:	0.964	0.964	5.23				

#	ug/L	ug/L	Signal	Area	Height		Stored
1	1.114	1.114	0.0150	0.0663	0.0154	13:21:03	Yes
2	1.111	1.111	0.0150	0.0657	0.0154	13:21:33	Yes
Mean:	1.113	1.113	0.0150				
SD:	0.002	0.002	0.0000				
%RSD:	0.184	0.184	0.18				

Sequence No.: 116

Sample ID: 248408015|964738|1

Analyst: JXL

Autosampler Location: 107

Date Collected: 3/16/2010 13:21:54

Data Type: Original

Replicate Data: 248408015|964738|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.233	0.233	0.0037	0.0174	0.0041	13:22:45	Yes
2	0.229	0.229	0.0036	0.0174	0.0040	13:23:15	Yes
Mean:	0.231	0.231	0.0037				
SD:	0.003	0.003	0.0000				
%RSD:	1.246	1.246	1.02				

Sequence No.: 117

Sample ID: 248408016|964738|1

Analyst: JXL

Autosampler Location: 108

Date Collected: 3/16/2010 13:23:36

Data Type: Original

Replicate Data: 248408016|964738|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.095	0.095	0.0019	0.0096	0.0023	13:24:27	Yes
2	0.095	0.095	0.0019	0.0097	0.0023	13:24:57	Yes
Mean:	0.095	0.095	0.0019				
SD:	0.000	0.000	0.0000				
%RSD:	0.155	0.155	0.10				

Sequence No.: 118

Sample ID: 248408017|964738|1

Analyst: JXL

Autosampler Location: 109

Date Collected: 3/16/2010 13:25:18

Data Type: Original

Replicate Data: 248408017|964738|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.169	0.169	0.0029	0.0139	0.0032	13:26:10	Yes
2	0.174	0.174	0.0029	0.0146	0.0033	13:26:40	Yes
Mean:	0.171	0.171	0.0029				
SD:	0.004	0.004	0.0000				
%RSD:	2.082	2.082	1.60				

Sequence No.: 119

Sample ID: 248408018|964738|1

Analyst: JXL

Autosampler Location: 110

Date Collected: 3/16/2010 13:27:00

Data Type: Original

Replicate Data: 248408018|964738|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.001	0.001	0.0007	0.0043	0.0011	13:27:52	Yes
2	-0.001	-0.001	0.0007	0.0044	0.0011	13:28:22	Yes
Mean:	0.000	0.000	0.0007				
SD:	0.002	0.002	0.0000				
%RSD:	495.5	495.5	2.88				

Sequence No.: 120

Sample ID: 1202069763|964741|1

Analyst: JXL

Autosampler Location: 111

Date Collected: 3/16/2010 13:28:43

Data Type: Original

-----  
Replicate Data: 1202069763|964741|1

Repl	SampleConc	StdConc	Blncorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.072	-0.072	-0.0003	0.0000	0.0001	13:29:35	Yes
2	-0.073	-0.073	-0.0003	0.0002	0.0001	13:30:05	Yes
Mean:	-0.072	-0.072	-0.0003				
SD:	0.000	0.000	0.0000				
%RSD:	0.685	0.685	2.45				

Sequence No.: 121

Autosampler Location: 7

Sample ID: CCV

Date Collected: 3/16/2010 13:30:26

Analyst:

Data Type: Original  
-----

## Replicate Data: CCV

Repl	SampleConc	StdConc	Blncorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.134	5.134	0.0669	0.2907	0.0673	13:31:16	Yes
2	5.130	5.130	0.0669	0.2890	0.0673	13:31:46	Yes
Mean:	5.132	5.132	0.0669				
SD:	0.003	0.003	0.0000				
%RSD:	0.054	0.054	0.05				

QC value within limits for Hg 253.7 Recovery = 102.65%

All analyte(s) passed QC.  
-----

Sequence No.: 122

Autosampler Location: 8

Sample ID: CCB

Date Collected: 3/16/2010 13:32:05

Analyst:

Data Type: Original  
-----

## Replicate Data: CCB

Repl	SampleConc	StdConc	Blncorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.067	-0.067	-0.0002	0.0003	0.0002	13:32:56	Yes
2	-0.065	-0.065	-0.0002	0.0008	0.0002	13:33:26	Yes
Mean:	-0.066	-0.066	-0.0002				
SD:	0.001	0.001	0.0000				
%RSD:	1.726	1.726	8.13				

QC value within limits for Hg 253.7 Recovery = Not calculated

All analyte(s) passed QC.  
-----

Sequence No.: 123

Autosampler Location: 112

Sample ID: 1202069764|964741|10

Date Collected: 3/16/2010 13:33:45

Analyst: JXL

Data Type: Original  
-----

## Replicate Data: 1202069764|964741|10

Repl	SampleConc	StdConc	Blncorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	3.735	3.735	0.0489	0.2124	0.0493	13:34:37	Yes
2	3.739	3.739	0.0489	0.2122	0.0493	13:35:07	Yes
Mean:	3.737	3.737	0.0489				
SD:	0.003	0.003	0.0000				
%RSD:	0.075	0.075	0.07				

Sequence No.: 124

Autosampler Location: 113

Sample ID: 248418001|964741|1

Date Collected: 3/16/2010 13:35:27

Analyst: JXL

Data Type: Original  
-----

## Replicate Data: 248418001|964741|1

Repl	SampleConc	StdConc	Blncorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.235	0.235	0.0037	0.0177	0.0041	13:36:19	Yes
2	0.229	0.229	0.0036	0.0173	0.0040	13:36:49	Yes

Mean: 0.232 0.232 0.0037  
SD: 0.005 0.005 0.0001  
%RSD: 1.990 1.990 1.62

Sequence No.: 125

Sample ID: 1202069765|964741|1

Analyst: JXL

Autosampler Location: 114

Date Collected: 3/16/2010 13:37:10

Data Type: Original

Replicate Data: 1202069765|964741|1

Repl #	SampleConc ug/L	StdConc ug/L	Blncorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.255	0.255	0.0040	0.0190	0.0044	13:38:02	Yes
2	0.256	0.256	0.0040	0.0190	0.0044	13:38:32	Yes
Mean:	0.256	0.256	0.0040				
SD:	0.000	0.000	0.0000				
%RSD:	0.073	0.073	0.06				

Sequence No.: 126

Sample ID: 1202069766|964741|1

Analyst: JXL

Autosampler Location: 115

Date Collected: 3/16/2010 13:38:53

Data Type: Original

Replicate Data: 1202069766|964741|1

Repl #	SampleConc ug/L	StdConc ug/L	Blncorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.501	2.501	0.0329	0.1453	0.0333	13:39:45	Yes
2	2.514	2.514	0.0331	0.1448	0.0335	13:40:14	Yes
Mean:	2.508	2.508	0.0330				
SD:	0.009	0.009	0.0001				
%RSD:	0.368	0.368	0.36				

Sequence No.: 127

Sample ID: 1202069768|964741|1

Analyst: JXL

Autosampler Location: 116

Date Collected: 3/16/2010 13:40:35

Data Type: Original

Replicate Data: 1202069768|964741|1

Repl #	SampleConc ug/L	StdConc ug/L	Blncorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.538	2.538	0.0334	0.1459	0.0338	13:41:27	Yes
2	2.510	2.510	0.0331	0.1451	0.0335	13:41:57	Yes
Mean:	2.524	2.524	0.0332				
SD:	0.019	0.019	0.0002				
%RSD:	0.765	0.765	0.75				

Sequence No.: 128

Sample ID: 1202069767|964741|5

Analyst: JXL

Autosampler Location: 117

Date Collected: 3/16/2010 13:42:18

Data Type: Original

Replicate Data: 1202069767|964741|5

Repl #	SampleConc ug/L	StdConc ug/L	Blncorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.010	-0.010	0.0005	0.0035	0.0009	13:43:10	Yes
2	-0.011	-0.011	0.0005	0.0031	0.0009	13:43:39	Yes
Mean:	-0.010	-0.010	0.0005				
SD:	0.001	0.001	0.0000				
%RSD:	10.94	10.94	2.75				

Sequence No.: 129

Sample ID: 248418002|964741|1

Analyst: JXL

Autosampler Location: 118

Date Collected: 3/16/2010 13:44:00

Data Type: Original

Replicate Data: 248418002|964741|1

Repl	SampleConc	StndConc	Blncorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.211	0.211	0.0034	0.0162	0.0038	13:44:52	Yes
2	0.207	0.207	0.0033	0.0158	0.0037	13:45:22	Yes
Mean:	0.209	0.209	0.0034				
SD:	0.003	0.003	0.0000				
%RSD:	1.586	1.586	1.27				

Sequence No.: 130

Sample ID: 248418003|964741|1

Analyst: JXL

Autosampler Location: 119

Date Collected: 3/16/2010 13:45:43

Data Type: Original

Replicate Data: 248418003|964741|1

Repl	SampleConc	StndConc	Blncorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.526	0.526	0.0075	0.0336	0.0079	13:46:35	Yes
2	0.519	0.519	0.0074	0.0331	0.0078	13:47:05	Yes
Mean:	0.523	0.523	0.0074				
SD:	0.005	0.005	0.0001				
%RSD:	0.950	0.950	0.86				

Sequence No.: 131

Sample ID: 248418004|964741|1

Analyst: JXL

Autosampler Location: 120

Date Collected: 3/16/2010 13:47:25

Data Type: Original

Replicate Data: 248418004|964741|1

Repl	SampleConc	StndConc	Blncorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.272	0.272	0.0042	0.0195	0.0046	13:48:18	Yes
2	0.270	0.270	0.0042	0.0191	0.0045	13:48:48	Yes
Mean:	0.271	0.271	0.0042				
SD:	0.002	0.002	0.0000				
%RSD:	0.569	0.569	0.48				

Sequence No.: 132

Sample ID: 248418005|964741|1

Analyst: JXL

Autosampler Location: 121

Date Collected: 3/16/2010 13:49:08

Data Type: Original

Replicate Data: 248418005|964741|1

Repl	SampleConc	StndConc	Blncorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.043	0.043	0.0012	0.0069	0.0016	13:50:01	Yes
2	0.042	0.042	0.0012	0.0069	0.0016	13:50:30	Yes
Mean:	0.043	0.043	0.0012				
SD:	0.001	0.001	0.0000				
%RSD:	1.362	1.362	0.61				

Sequence No.: 133

Sample ID: CCV

Analyst:

Autosampler Location: 7

Date Collected: 3/16/2010 13:50:51

Data Type: Original

Replicate Data: CCV

Repl	SampleConc	StndConc	Blncorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.384	5.384	0.0701	0.3036	0.0705	13:51:42	Yes
2	5.286	5.286	0.0689	0.3003	0.0693	13:52:12	Yes
Mean:	5.335	5.335	0.0695				
SD:	0.069	0.069	0.0009				
%RSD:	1.299	1.299	1.29				

QC value within limits for Hg 253.7 Recovery = 106.70%  
All analyte(s) passed QC.

Sequence No.: 134

Sample ID: CCB

Analyst:

Autosampler Location: 8

Date Collected: 3/16/2010 13:52:31

Data Type: Original

-----  
Replicate Data: CCB

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.068	-0.068	-0.0002	0.0005	0.0002	13:53:22	Yes
2	-0.068	-0.068	-0.0002	0.0005	0.0002	13:53:52	Yes
Mean:	-0.068	-0.068	-0.0002				
SD:	0.000	0.000	0.0000				
%RSD:	0.623	0.623	2.67				

QC value within limits for Hg 253.7 Recovery = Not calculated  
All analyte(s) passed QC.

Sequence No.: 135

Sample ID: 248418006|964741|1

Analyst: JXL

Autosampler Location: 122

Date Collected: 3/16/2010 13:54:11

Data Type: Original

-----  
Replicate Data: 248418006|964741|1

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.174	0.174	0.0029	0.0144	0.0033	13:55:03	Yes
2	0.173	0.173	0.0029	0.0141	0.0033	13:55:33	Yes
Mean:	0.174	0.174	0.0029				
SD:	0.001	0.001	0.0000				
%RSD:	0.426	0.426	0.33				

Sequence No.: 136

Sample ID: 248418007|964741|1

Analyst: JXL

Autosampler Location: 123

Date Collected: 3/16/2010 13:55:54

Data Type: Original

-----  
Replicate Data: 248418007|964741|1

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.237	0.237	0.0037	0.0179	0.0041	13:56:46	Yes
2	0.238	0.238	0.0037	0.0175	0.0041	13:57:16	Yes
Mean:	0.237	0.237	0.0037				
SD:	0.001	0.001	0.0000				
%RSD:	0.315	0.315	0.26				

Sequence No.: 137

Sample ID: 248418008|964741|1

Analyst: JXL

Autosampler Location: 124

Date Collected: 3/16/2010 13:57:36

Data Type: Original

-----  
Replicate Data: 248418008|964741|1

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.261	0.261	0.0040	0.0191	0.0044	13:58:29	Yes
2	0.264	0.264	0.0041	0.0190	0.0045	13:58:59	Yes
Mean:	0.262	0.262	0.0041				
SD:	0.002	0.002	0.0000				
%RSD:	0.599	0.599	0.50				

Sequence No.: 138

Sample ID: 248418009|964741|1

Analyst: JXL

Autosampler Location: 125

Date Collected: 3/16/2010 13:59:19

Data Type: Original

-----  
Replicate Data: 248418009|964741|1

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.200	0.200	0.0033	0.0159	0.0036	14:00:11	Yes

2	0.199	0.199	0.0032	0.0154	0.0036	14:00:41	Yes
Mean:	0.200	0.200	0.0032				
SD:	0.001	0.001	0.0000				
%RSD:	0.371	0.371	0.29				

Sequence No.: 139

Autosampler Location: 126

Sample ID: 248515001|964741|1

Date Collected: 3/16/2010 14:01:02

Analyst: JXL

Data Type: Original

Replicate Data: 248515001|964741|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.221	0.221	0.0035	0.0168	0.0039	14:01:54	Yes
2	0.218	0.218	0.0035	0.0165	0.0039	14:02:24	Yes
Mean:	0.220	0.220	0.0035				
SD:	0.002	0.002	0.0000				
%RSD:	0.851	0.851	0.69				

Sequence No.: 140

Autosampler Location: 127

Sample ID: 248515002|964741|1

Date Collected: 3/16/2010 14:02:45

Analyst: JXL

Data Type: Original

Replicate Data: 248515002|964741|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	1.691	1.691	0.0225	0.0999	0.0229	14:03:37	Yes
2	1.703	1.703	0.0226	0.1000	0.0230	14:04:07	Yes
Mean:	1.697	1.697	0.0226				
SD:	0.008	0.008	0.0001				
%RSD:	0.489	0.489	0.47				

Sequence No.: 141

Autosampler Location: 128

Sample ID: 248515003|964741|1

Date Collected: 3/16/2010 14:04:27

Analyst: JXL

Data Type: Original

Replicate Data: 248515003|964741|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.501	0.501	0.0071	0.0328	0.0075	14:05:20	Yes
2	0.495	0.495	0.0071	0.0325	0.0075	14:05:50	Yes
Mean:	0.498	0.498	0.0071				
SD:	0.004	0.004	0.0000				
%RSD:	0.745	0.745	0.67				

Sequence No.: 142

Autosampler Location: 129

Sample ID: 248517001|964741|1

Date Collected: 3/16/2010 14:06:11

Analyst: JXL

Data Type: Original

Replicate Data: 248517001|964741|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.791	0.791	0.0109	0.0489	0.0113	14:07:02	Yes
2	0.785	0.785	0.0108	0.0481	0.0112	14:07:32	Yes
Mean:	0.788	0.788	0.0108				
SD:	0.004	0.004	0.0001				
%RSD:	0.497	0.497	0.47				

Sequence No.: 143

Autosampler Location: 130

Sample ID: 1202068545|964199|1

Date Collected: 3/16/2010 14:07:53

Analyst: JXL

Data Type: Original



## Replicate Data: 1202068545|964199|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.067	-0.067	-0.0002	0.0009	0.0002	14:08:46	Yes
2	-0.067	-0.067	-0.0002	0.0011	0.0002	14:09:16	Yes
Mean:	-0.067	-0.067	-0.0002				
SD:	0.000	0.000	0.0000				
%RSD:	0.138	0.138	0.63				

Sequence No.: 144

Autosampler Location: 131

Sample ID: 1202068546|964199|1

Date Collected: 3/16/2010 14:09:36

Analyst: JXL

Data Type: Original

## Replicate Data: 1202068546|964199|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	2.199	2.199	0.0290	0.1259	0.0294	14:10:28	Yes
2	2.186	2.186	0.0289	0.1250	0.0293	14:10:58	Yes
Mean:	2.192	2.192	0.0290				
SD:	0.009	0.009	0.0001				
%RSD:	0.415	0.415	0.41				

Sequence No.: 145

Autosampler Location: 7

Sample ID: CCV

Date Collected: 3/16/2010 14:11:19

Analyst:

Data Type: Original

## Replicate Data: CCV

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.339	5.339	0.0696	0.2975	0.0700	14:12:09	Yes
2	5.330	5.330	0.0694	0.2968	0.0698	14:12:39	Yes
Mean:	5.334	5.334	0.0695				
SD:	0.007	0.007	0.0001				
%RSD:	0.127	0.127	0.13				

QC value within limits for Hg 253.7 Recovery = 106.69%  
All analyte(s) passed QC.

Sequence No.: 146

Autosampler Location: 8

Sample ID: CCB

Date Collected: 3/16/2010 14:12:58

Analyst:

Data Type: Original

## Replicate Data: CCB

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.070	-0.070	-0.0002	0.0003	0.0002	14:13:49	Yes
2	-0.067	-0.067	-0.0002	0.0007	0.0002	14:14:19	Yes
Mean:	-0.069	-0.069	-0.0002				
SD:	0.002	0.002	0.0000				
%RSD:	3.462	3.462	14.53				

QC value within limits for Hg 253.7 Recovery = Not calculated  
All analyte(s) passed QC.

Sequence No.: 147

Autosampler Location: 132

Sample ID: 249065015|964199|1

Date Collected: 3/16/2010 14:14:38

Analyst: JXL

Data Type: Original

## Replicate Data: 249065015|964199|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.202	0.202	0.0033	0.0161	0.0037	14:15:30	Yes
2	0.196	0.196	0.0032	0.0152	0.0036	14:16:00	Yes
Mean:	0.199	0.199	0.0032				
SD:	0.004	0.004	0.0000				

# Miscellaneous

# Prep Logbook

## Acid Digestion of Sediments, Sludges, and Soils

Batch ID: 962563.0      Verified by: \_\_\_\_\_      Lab SOP: GL-MA-E-009 REV# 19  
 Analyst: Anthony Green      Instrument: BAL-001  
 Method: SW846 3050B

Sample ID	Run Date	Initial Weight (g)	Final Volume (mL)	Prep Factor (mL/g)	pH Check 1	
1202065014 MB	16-MAR-2010 08:30:00	0.502	50	99.60159		
1202065015 LCS	16-MAR-2010 08:30:00	0.515	50	97.08738		
248515001	16-MAR-2010 08:30:00	0.525	50	95.2381		
248515002	16-MAR-2010 08:30:00	0.518	50	96.5251		
248515003	16-MAR-2010 08:30:00	0.52	50	96.15385		
248517001	16-MAR-2010 08:30:00	0.519	50	96.33911		
248520001	16-MAR-2010 08:30:00	0.52	50	96.15385		
248520002	16-MAR-2010 08:30:00	0.517	50	96.7118		
248520003	16-MAR-2010 08:30:00	0.501	50	99.8004		
248520004	16-MAR-2010 08:30:00	0.514	50	97.27626		
248520005	16-MAR-2010 08:30:00	0.512	50	97.65625		
248520006	16-MAR-2010 08:30:00	0.583	50	85.76329		
248520007	16-MAR-2010 08:30:00	0.528	50	94.69697		
248520008	16-MAR-2010 08:30:00	0.541	50	92.42144		
248520009	16-MAR-2010 08:30:00	0.506	50	98.81423		
248520010	16-MAR-2010 08:30:00	0.537	50	93.10987		
248520011	16-MAR-2010 08:30:00	0.534	50	93.63296		
248526001	16-MAR-2010 08:30:00	0.503	50	99.40358		
1202065016 DUP (248526001)	16-MAR-2010 08:30:00	0.533	50	93.80863		
1202065017 MS (248526001)	16-MAR-2010 08:30:00	0.509	50	98.23183		
1202065024 MSD (248526001)	16-MAR-2010 08:30:00	0.557	50	89.76661		
1202065018 SDILT (248526001)	16-MAR-2010 08:30:00	0.503	50	99.40358		
Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:
LCS	1202065015	Metals Soil LCS SRM ICPMS	U1062540-MS	.515	g	Sample 248526001 consist of brown, medium soil.
MS	1202065017	ICP-MS Spike for soil products.	U1090827-A	.5	mL	
MS	1202065017	ICP-MS Spike for Soil Products	U1090827-B	.5	mL	
MSD	1202065024	ICP-MS Spike for soil products.	U1090827-A	.5	mL	
MSD	1202065024	ICP-MS Spike for Soil Products	U1090827-B	.5	mL	
REGNT	All	Hydrogen Peroxide 30%	1250038-02	1.5	mL	
REGNT	All	Nitric Acid CONC.	1282566	5	mL	

## Acid Digestion of Sediments, Sludges, and Soils

Instrument: BAI-001

Prep Logbook

Batch ID: 962573.0

Analyst: Anthony Green

Method: SW846 3050B

Lab SOP: GL-MA-E-009 REV# 19

Instrument: BAL-001

Verified by:

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1202065046	Metals Soil LCS SRM ICP/Hg	U1062540-1	.517	g
MS	1202065048	Metals Spike Mix I	U11268741-01	.25	mL
MS	1202065048	Metals Spike Mix II	U11268744-06	.25	mL
MSD	1202065050	Metals Spike Mix I	U11268741-01	.25	mL
MSD	1202065050	Metals Spike Mix II	U11268744-06	.25	mL

Sample ID	Run Date	Matrix	Initial Weight (g)	Final Volume (mL)	Prep Factor (mL/g)	pH Check	I
1282564	HYDROCHLORIC ACID	10 mL					
1282566	Nitric Acid CONC.	1.25 mL					
Comments: Sample 248526001 consist of brown, medium soil.							

# Prep Logbook

## Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer

<b>Batch ID:</b>	<b>964740.0</b>	Verified by:		Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
<b>Analyst:</b>	Tara Griffin			LCS	1202069764	Metals LCS Soil SRM	UI031809A	.206	g
<b>Method:</b>	SW846 7471A Prep			MS	1202069766	Mercury soil working intermediate standard for MS	WHG100315-14	.3	mL
<b>Lab SOP:</b>	GL-MA-E-010 REV# 23			MSD	1202069768	Mercury soil working intermediate standard for MS	WHG100315-14	.3	mL
<b>Instrument:</b>	BAL-002								

Sample ID	Run Date	Matrix	Initial Weight (g)	Final Volume (mL)	Prep Factor (mL/g)	pH Check 1
1202069763 MB	15-MAR-2010 18:00:00	Soil	0.529	30	56.71078	
1202069764 LCS	15-MAR-2010 18:00:00	Soil	0.206	30	145.63107	
248418001	15-MAR-2010 18:00:00	Soil	0.549	30	54.64481	
1202069765 DUP (248418001)	15-MAR-2010 18:00:00	Soil	0.565	30	53.09735	
1202069766 MS (248418001)	15-MAR-2010 18:00:00	Soil	0.513	30	58.47953	
1202069768 MSD (248418001)	15-MAR-2010 18:00:00	Soil	0.547	30	54.84461	
1202069767 SDILT (248418001)	15-MAR-2010 18:00:00	Soil	0.549	30	54.64481	
248418002	15-MAR-2010 18:00:00	Soil	0.563	30	53.28597	
248418003	15-MAR-2010 18:00:00	Soil	0.543	30	55.24862	
248418004	15-MAR-2010 18:00:00	Soil	0.52	30	57.69231	
248418005	15-MAR-2010 18:00:00	Soil	0.508	30	59.05512	
248418006	15-MAR-2010 18:00:00	Soil	0.531	30	56.49718	
248418007	15-MAR-2010 18:00:00	Soil	0.506	30	59.28854	
248418008	15-MAR-2010 18:00:00	Soil	0.519	30	57.80347	
248418009	15-MAR-2010 18:00:00	Soil	0.561	30	53.47594	
248515001	15-MAR-2010 18:00:00	Soil	0.534	30	56.17978	
248515002	15-MAR-2010 18:00:00	Soil	0.5	30	60	
248515003	15-MAR-2010 18:00:00	Soil	0.521	30	57.58157	
248517001	15-MAR-2010 18:00:00	Soil	0.535	30	56.07477	

Reagent/Solvent Lot ID	Description	Amount	Comments:
1255532-C	Hg reducing agent	2 mL	Sample 248418001 is a brown dry rocky soil.
1274391-1	NITRIC ACID	.375 mL	Digestion Start Date: 15-MAR-10 18:00
1277235-A	Hydrochloric Acid Conc.	1.125 mL	Digestion End Date: 15-MAR-10 18:30
1277238-C	5% KMnO4 solution	7.5 mL	
WHG100315-07	Mercury Working Standard 1st Source CAL S 0.2/CRA	30 uL	

Analytical Logbook version 1 11-04-2002

GEL Laboratories LLC

### DATA EXCEPTION REPORT

<b>Mo.Day Yr.</b> 06-APR-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> 962575	<b>Sample Numbers:</b> See Below		

**Potentially affected work order(s)(SDG):** 248515(10-2197),248517(10-2198),248520(10-2200),248526(10-2202)

**Application Issues:**

Failed Recovery for MS/PS  
Failed RPD for MS/MSD, or PS/PSD  
Failed RPD for DUP  
Failed Recovery for LCS/LCSD  
Failed Recovery for MSD/PSD

<b>Specification and Requirements Exception Description:</b>	<b>DER Disposition:</b>
<p>1. Failed Recovery for MS/PS: QC 1202065048MS</p> <p>2. Failed RPD for DUP: QC 1202065047DUP</p> <p>3. Failed RPD for MS/MSD, or PS/PSD: QC 1202065050MSD</p> <p>4. Failed Recovery for LCS/LCSD: QC 1202065046LCS</p> <p>5. Failed Recovery for MSD/PSD: QC 1202065050MSD</p>	<p>1. The matrix spike recovery failed outside of the control limits for barium,calcium,lead,magnesium,manganese,potassium,sodium and zinc 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>2. The sample and sample duplicate % RPD failed outside the control limits for calcium and chromium due to possible sample non-homogeneity and/or matrix interference. Per GEL's accredited methods and SOPs, a corrective action is not required and the data is qualified and reported.</p> <p>3. The matrix spike and matrix spike duplicate % RPD failed outside of the control limits for aluminum,barium,calcium,chromium,iron,lead, magnesium,manganese,potassium and zinc due to possible matrix interferences and/or sample non-homogeneity. Per GEL's accredited methods and SOPs, a corrective action is not required and the data is qualified and reported.</p> <p>4. Silver and/or antimony did not meet the recovery acceptance criteria for the LCS. Per the DOE-AL statement of work, page forty, silver and antimony are exempt from the re-digestion requirement for LCS failures.</p> <p>5. The matrix spike duplicate recovery failed outside of the control limits for 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>

**Originator's Name:**

Helen Camello 09-APR-10

**Data Validator/Group Leader:**

Louise Smith 13-APR-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:** 12-JUN-10  
**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:** 12-JAN-10  
**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:** UI090421-40      **Opened:** 09-OCT-09      **Amount :** 250 mL  
**Name:** TRACE ICP Na-1000SOUR      **Received:** 21-APR-09      **Catalog Number :** HP100052-1  
**Type:** Source Material      **Expires:** 09-OCT-10      **Lot Number :** 0830227  
**Employee:** Helen Camello      **Solvent :** 1%HNO3  
**Supplier:** ENVIRONMENTAL EXPRESS  
**Description:** Sodium 1000 +/- 3 ug/mL in 1% HNO3  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Sodium	1000 ug/mL		

**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:** UI090612-02      **Opened:** 12-JUN-09      **Catalog Number :** 060074-06-01  
**Name:** ICPMS Tungsten - 10mg/L      **Received:** 12-JUN-09      **Lot Number :** 1016377  
**Type:** Source Material      **Expires:** 12-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:** UI090827-A      **Opened:** 27-AUG-09      **Catalog Number :** 160067-03  
**Name:** ICP-MS DOE SOIL SPIKE      **Received:** 27-AUG-09      **Lot Number :** 1015749  
**Type:** Source Material      **Expires:** 27-AUG-10  
**Employee:** Francena Armstrong  
**Supplier:** O2si  
**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:** UI090827-B      **Opened:** 27-AUG-09      **Catalog Number :** 160067-03  
**Name:** ICP-MS DOE SOIL SPIKE      **Received:** 27-AUG-09      **Lot Number :** 1015749  
**Type:** Source Material      **Expires:** 27-AUG-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:** 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
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

# Standard Logbook

<b>Analyte</b>	<b>Concentration</b>	<b>Analyte</b>	<b>Concentration</b>
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

<b>Analyte</b>	<b>Concentration</b>	<b>Analyte</b>	<b>Concentration</b>
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

<b>Analyte</b>	<b>Concentration</b>	<b>Analyte</b>	<b>Concentration</b>
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

<b>Analyte</b>	<b>Concentration</b>	<b>Analyte</b>	<b>Concentration</b>
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# 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:** UI100310-48      **Opened:** 19-MAR-10      **Amount :** 1000 mL  
**Name:** Trace ICP ICSEA      **Received:** 12-MAR-10      **Catalog Number :** 160005-02  
**Type:** Source Material      **Expires:** 19-MAR-11      **Lot Number :** 1019141  
**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:** UI100317-06      **Opened:** 17-MAR-10      **Amount :** 250 mL  
**Name:** ICP-MS ICV/CCV Master A      **Received:** 17-MAR-10      **Catalog Number :** 160055-01  
**Type:** Source Material      **Expires:** 17-MAR-11      **Lot Number :** 1019161  
**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		

# Standard Logbook

**Serial ID:** UI100317-07      **Opened:** 17-MAR-10      **Amount :** 250 mL  
**Name:** ICP-MS ICV/CCV Master B      **Received:** 17-MAR-10      **Catalog Number :** 160054-02  
**Type:** Source Material      **Expires:** 17-MAR-11      **Lot Number :** 1019162  
**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:** UI100317-08      **Opened:** 17-MAR-10      **Amount :** 250 mL  
**Name:** ICP-MS ICV/CCV Master C      **Received:** 17-MAR-10      **Catalog Number :** 160054-03  
**Type:** Source Material      **Expires:** 17-MAR-11      **Lot Number :** 1019163  
**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:** UI100318-11      **Opened:** 18-MAR-10      **Amount :** 1000 mL  
**Name:** ICP-MS ICSA Master A      **Received:** 18-MAR-10      **Catalog Number :** 160013-01-01L  
**Type:** Source Material      **Expires:** 18-MAR-11      **Lot Number :** 1018321  
**Employee:** Paul Boyd      **Solvent :** 2% HNO3  
**Supplier:** 02SI  
**Description:** ICP-MS ICSA Master A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Carbon	2000 mg/L	Chloride	10000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L



# Standard Logbook

Analyte	Concentration	Analyte	Concentration
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:** UI100325-40      **Opened:** 25-MAR-10      **Amount :** 500 mL  
**Name:** ICP HIGH RANGE STD-A      **Received:** 25-MAR-10      **Catalog Number :** 160211-05-03  
**Type:** Source Material      **Expires:** 25-MAR-11      **Lot Number :** 1019348  
**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:** UI100325-41      **Opened:** 25-MAR-10      **Amount :** 500 mL  
**Name:** ICP HIGH RANGE STD B      **Received:** 25-MAR-10      **Catalog Number :** 160211-05-03  
**Type:** Source Material      **Expires:** 25-MAR-11      **Lot Number :** 1019348  
**Employee:** Helen Camello      **Solvent :** +/-0.5%in2%HNO3  
**Supplier:** 02SI  
**Description:** ICP HIGH RANGE STD SOLUTION B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	500000 ug/L	Calcium	500000 ug/L
Iron	500000 ug/L	Magnesium	500000 ug/L
Sodium	500000 ug/L	Uranium	15000 ug/L

# Standard Logbook

**Serial ID:** UI100405-12      **Opened:** 05-APR-10      **Amount :** 250 mL  
**Name:** ICP-MS ICSAB Master B      **Received:** 05-APR-10      **Catalog Number :** 160033-02  
**Type:** Source Material      **Expires:** 05-APR-11      **Lot Number :** 1019466  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 2% HNO3  
**Supplier:** 02SI  
**Description:** ICPMS ICSAB Master B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Arsenic	2 mg/L	Barium	2 mg/L
Beryllium	2 mg/L	Boron	2 mg/L
Cadmium	2 mg/L	Chromium	2 mg/L
Cobalt	2 mg/L	Copper	2 mg/L
Lead	2 mg/L	Lithium	2 mg/L
Manganese	2 mg/L	Nickel	2 mg/L
Selenium	2 mg/L	Strontium	2 mg/L
Thallium	2 mg/L	Thorium	2 mg/L
Uranium	2 mg/L	Vanadium	2 mg/L
Zinc	2 mg/L		

**Serial ID:** UI100405-13      **Opened:** 05-APR-10      **Amount :** 250 mL  
**Name:** ICP-MS ICSAB Master C      **Received:** 05-APR-10      **Catalog Number :** 160033-03  
**Type:** Source Material      **Expires:** 05-APR-11      **Lot Number :** 1019467  
**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:** UI1268741-01      **Opened:** 11-FEB-10      **Lot Number :** 1018514  
**Name:** METALSPIKE-1      **Received:** 11-FEB-10  
**Type:** Source Material      **Expires:** 11-FEB-11  
**Employee:** Bryan Davis  
**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

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
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:** UI1268744-06      **Opened:** 11-FEB-10      **Lot Number :** 1018515  
**Name:** METALSPIKE-2      **Received:** 11-FEB-10  
**Type:** Source Material      **Expires:** 11-FEB-11  
**Employee:** Bryan Davis  
**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
Uranium-235	.72 ug/mL	Uranium-238	99.28 ug/mL
Vanadium	100 ug/mL	Zinc	100 ug/mL

**Serial ID:** UMS100226-01      **Opened:** 26-FEB-10      **Amount :** 250 mL  
**Name:** ICPMSCalSPIKEB      **Received:** 26-FEB-10      **Catalog Number :** ZGEL-100-250  
**Type:** Source Material      **Expires:** 26-FEB-11      **Lot Number :** 21-104JB  
**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:** UMS100226-02      **Opened:** 26-FEB-10      **Catalog Number :** ZGEL-102-250  
**Name:** ICPMSCalSPIKEA      **Received:** 26-FEB-10      **Lot Number :** 21-103JB  
**Type:** Source Material      **Expires:** 26-FEB-11  
**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:** UMS100226-03      **Opened:** 26-FEB-10      **Amount :** 250 ml  
**Name:** ICPMSCalSPIKEC      **Received:** 26-FEB-10      **Catalog Number :** ZGEL-101-250  
**Type:** Source Material      **Expires:** 26-FEB-11      **Lot Number :** 21-102JB  
**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:** IHG100315-01      **Opened:** 15-MAR-10      **Instrument Id :** Mercury  
**Name:** MHGINTER1      **Received:** 15-MAR-10      **Pipet Id :** Minou1  
**Type:** Intermediate      **Expires:** 16-MAR-10      **Solvent :** 1mL HNO3 + TypeI H2O  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** Mercury Intermediate 1st Source 200 ug/L  
**Comments:** Prepare fresh daily

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167639-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

**Serial ID:** IHG100315-02      **Opened:** 15-MAR-10      **Pipet Id :** Minou1  
**Name:** MHGINTER2      **Received:** 15-MAR-10      **Solvent :** 2% HNO3-1274391  
**Type:** Intermediate      **Expires:** 16-MAR-10  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** Mercury Intermediate 2nd Source 200 ug/L  
**Comments:** None

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167641-02	Mercury	999.7 mg/L	.05 mL	250 mL	200 ug/L

**Serial ID:** WHG100315-07      **Opened:** 15-MAR-10      **Pipet Id :** Hg1289245  
**Name:** MHGWORKCALS0.2CRA      **Received:** 15-MAR-10      **Solvent :** 2% HNO3-1274391  
**Type:** Working      **Expires:** 22-MAR-10  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** Mercury Working Standard 1st Source CAL S 0.2/CRA  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100315-01	Mercury	200 ug/L	30 uL	30 mL	.2 ug/L

**Serial ID:** WHG100315-08      **Opened:** 15-MAR-10      **Pipet Id :** Hg1289245  
**Name:** MHGWORKCALS0.5      **Received:** 15-MAR-10      **Solvent :** 2% HNO3-1274391  
**Type:** Working      **Expires:** 22-MAR-10  
**Employee:** Tara Griffin      **Verified:** 20-JUL-07  
**Supplier:** GEL  
**Description:** Mercury Working Standard 1st Source CAL S 0.5  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100315-01	Mercury	200 ug/L	75 uL	30 mL	.5 ug/L

**Serial ID:** WHG100315-09      **Opened:** 15-MAR-10      **Pipet Id :** Hg1289245  
**Name:** MHGWORKCALS2.0      **Received:** 15-MAR-10      **Solvent :** 2% HNO3-1274391  
**Type:** Working      **Expires:** 22-MAR-10  
**Employee:** Tara Griffin      **Verified:** 20-JUL-07  
**Supplier:** GEL  
**Description:** Mercury Working 1st Source CAL S 2.0  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100315-01	Mercury	200 ug/L	300 uL	30 mL	2 ug/L

**Serial ID:** WHG100315-10      **Opened:** 15-MAR-10      **Pipet Id :** Hg1289245  
**Name:** MHGWORKCALS5.0CCV      **Received:** 15-MAR-10      **Solvent :** 2% HNO3-1274391  
**Type:** Working      **Expires:** 22-MAR-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.
IHG100315-01	Mercury	200 ug/L	750 uL	30 mL	5 ug/L

**Serial ID:** WHG100315-11      **Opened:** 15-MAR-10      **Pipet Id :** Hg1289245  
**Name:** MHGWORKCALS10.0      **Received:** 15-MAR-10      **Solvent :** 2% HNO3-1274391  
**Type:** Working      **Expires:** 22-MAR-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.
IHG100315-01	Mercury	200 ug/L	1.5 mL	30 mL	10 ug/L

**Serial ID:** WHG100315-12      **Opened:** 15-MAR-10      **Pipet Id :** Hg1289245  
**Name:** MHGWORKS5.0ICV      **Received:** 15-MAR-10      **Solvent :** 2% HNO3-1274391  
**Type:** Working      **Expires:** 22-MAR-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.
IHG100315-02	Mercury	200 ug/L	750 uL	30 mL	5 ug/L

**Serial ID:** WHG100315-14      **Opened:** 15-MAR-10      **Pipet Id :** Hg1289245  
**Name:** MHGSOILMSSPIKE      **Received:** 15-MAR-10      **Solvent :** 2% HNO3-1274391  
**Type:** Working      **Expires:** 22-MAR-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:** WI100330-42      **Opened:** 30-MAR-10      **Balance Id :** 216  
**Name:** TRACE ICP 0.1 PPM STD.      **Received:** 02-NOV-09      **Pipet Id :** 3581809  
**Type:** Working      **Expires:** 31-MAR-10      **Solvent :** 3%HCL and 1%HNO3 -1293083  
**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.
WI100330-44	Aluminum	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100330-44	Antimony	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Arsenic	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Barium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Beryllium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Boron	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Cadmium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Calcium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100330-44	Chromium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Cobalt	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Copper	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Iron	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100330-44	Lead	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Magnesium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100330-44	Manganese	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Molybdenum	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Nickel	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Phosphorous	5000 ug/L	10 mL	100 mL	500 ug/L
WI100330-44	Potassium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100330-44	Selenium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Silica	10698 ug/L	10 mL	100 mL	1069 ug/L
WI100330-44	Silicon	5000 ug/L	10 mL	100 mL	500 ug/L
WI100330-44	Silver	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Sodium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100330-44	Strontium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Sulfur	2000 ug/L	10 mL	100 mL	200 ug/L
WI100330-44	Thallium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Tin	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Titanium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Uranium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Vanadium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Zinc	1000 ug/L	10 mL	100 mL	100 ug/L

**Serial ID:** WI100330-43      **Opened:** 30-MAR-10      **Balance Id :** 216  
**Name:** TRACE ICP 0.5/CCV STD.      **Received:** 02-NOV-09      **Pipet Id :** 3581809  
**Type:** Working      **Expires:** 31-MAR-10      **Solvent :** 3%HCL and 1%HNO3 -1293083  
**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.
UI090421-40	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:** W1100330-44      **Opened:** 30-MAR-10      **Balance Id :** 216  
**Name:** TRACE ICP SCAL 1.0      **Received:** 02-NOV-09      **Pipet Id :** 3581809  
**Type:** Working      **Expires:** 31-MAR-10      **Solvent :** 3%HCL and 1 %HNO3-1293083  
**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.	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:** WI100330-45      **Opened:** 30-MAR-10      **Balance Id :** 216  
**Name:** TRACE ICP S-10 STD      **Received:** 22-APR-09      **Pipet Id :** 3581809  
**Type:** Working      **Expires:** 31-MAR-10      **Solvent :** 3%HCL and 1%HNO3 -1293083  
**Employee:** Helen Camello  
**Supplier:** GEL  
**Description:** TRACE ICP S-10 CALIBRATION STD.  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090421-40	Sodium	1000 ug/mL	10 mL	500 mL	20000 UG/L
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

# Standard Logbook

**Serial ID:** WI100330-46      **Opened:** 30-MAR-10      **Balance Id :** 216  
**Name:** ICP TRACE ICV      **Received:** 25-SEP-09      **Pipet Id :** 3581809  
**Type:** Working      **Expires:** 31-MAR-10      **Solvent :** 3%HCL AND 1%HNO3-1293083  
**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:** WI100330-47      **Opened:** 30-MAR-10      **Balance Id :** 216  
**Name:** PQL Working Standard      **Received:** 30-JUN-09      **Pipet Id :** 3581809  
**Type:** Working      **Expires:** 31-MAR-10      **Solvent :** 3%HCL & 1%HNO3-1293083  
**Employee:** Helen Camello  
**Supplier:** 02si  
**Description:** PQL Working Standard  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-40	Aluminum	100 mg/L	2 mL	1000 mL	200 ug/L
UI090701-40	Antimony	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Arsenic	15 mg/L	2 mL	1000 mL	15 ug/L
UI090701-40	Barium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Beryllium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Boron	25 mg/L	2 mL	1000 mL	50 ug/L
UI090701-40	Cadmium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Calcium	100 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Chromium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Cobalt	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Copper	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Iron	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Lead	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Magnesium	150 mg/L	2 mL	1000 mL	300 ug/L
UI090701-40	Manganese	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Molybdenum	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Nickel	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Phosphorous	75 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Potassium	75 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Selenium	15 mg/L	2 mL	1000 mL	15 ug/L
UI090701-40	Silicon	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Silver	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Sodium	150 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Strontium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Sulfur	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Thallium	10 mg/L	2 mL	1000 mL	20 ug/L
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:** WMS100413-04      **Opened:** 13-APR-10      **Amount :** 50 mL  
**Name:** ICPMS Cal Standard 100      **Received:** 13-APR-10      **Balance Id :** 4025216  
**Type:** Working      **Expires:** 14-APR-10      **Pipet Id :** 3541598  
**Employee:** Paul Boyd      **Solvent :** 2%HNO3/1%HCL-1300209  
**Supplier:** GEL

# Standard Logbook

**Description:** ICPMS Calibration Standard (100 ppb)

**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090612-02	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS100226-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS100226-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

**Serial ID:** WMS100413-04A

**Opened:** 13-APR-10

**Balance Id :** 4025216

**Name:** ICPMS Cal Standard 10

**Received:** 13-APR-10

**Pipet Id :** 3541598

**Type:** Working

**Expires:** 14-APR-10

**Solvent :** 2%HNO3/1%HCl - 1300209

**Employee:** Paul Boyd

**Supplier:** GEL

**Description:** ICPMS Calibration Standard (10 ppb)

**Comments:** None

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100413-04	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100413-04	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100413-04	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100413-04	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100413-04	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100413-04	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100413-04	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100413-04	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100413-04	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100413-04	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100413-04	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100413-04	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100413-04	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100413-04	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100413-04	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100413-04	Manganese	100 ug/l	5 mL	50 mL	10 ug/l
WMS100413-04	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l
WMS100413-04	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100413-04	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100413-04	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100413-04	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100413-04	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100413-04	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100413-04	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100413-04	Thallium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100413-04	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100413-04	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100413-04	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100413-04	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100413-04	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100413-04	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100413-04	Zinc	100 ug/l	5 mL	50 mL	10 ug/l
WMS100413-04	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l

**Serial ID:** WMS100413-05      **Opened:** 13-APR-10      **Balance Id :** 40245216  
**Name:** ICPMS ICV      **Received:** 13-APR-10      **Pipet Id :** 3541598  
**Type:** Working      **Expires:** 14-APR-10      **Solvent :** 2%HNO3/1%HCl - 1300209  
**Employee:** Paul Boyd  
**Supplier:** GEL  
**Description:** ICPMS ICV  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100317-06	Aluminum	2020 mg/L	.125 mL	50 mL	5050 ug/L
UI100317-06	Calcium	2000 mg/L	.125 mL	50 mL	5000 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100317-06	Iron	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI100317-06	Magnesium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI100317-06	Phosphorous	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI100317-06	Potassium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI100317-06	Sodium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI100317-07	Arsenic	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Barium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Beryllium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Boron	40 mg/L	.125 mL	50 mL	100 ug/L
UI100317-07	Cadmium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Chromium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Cobalt	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Copper	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Lead	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Lithium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Manganese	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Nickel	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Selenium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Strontium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Thallium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Thorium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Uranium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Vanadium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Zinc	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Antimony	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Molybdenum	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Silver	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Tin	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Titanium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Tungsten	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Zirconium	20 mg/L	.125 mL	50 mL	50 ug/L

**Serial ID:** WMS100413-06      **Opened:** 13-APR-10      **Balance Id :** 40245216  
**Name:** ICPMS CRDL      **Received:** 13-APR-10      **Pipet Id :** 3820544  
**Type:** Working      **Expires:** 14-APR-10      **Solvent :** 2%HNO3/1%HCl - 1300209  
**Employee:** Paul Boyd  
**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:** WMS100413-07      **Opened:** 13-APR-10      **Balance Id :** 40245216  
**Name:** ICPMS ICSA      **Received:** 13-APR-10      **Lot Number :** 1010773  
**Type:** Working      **Expires:** 14-APR-10      **Pipet Id :** 3541598  
**Employee:** Paul Boyd      **Solvent :** 2%HNO3/1%HCl - 1300209  
**Supplier:** GEL  
**Description:** ICPMS ICSA  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100318-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI100318-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100318-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

**Serial ID:** WMS100413-08      **Opened:** 13-APR-10      **Balance Id :** 40245216  
**Name:** ICPMS ICSAB      **Received:** 13-APR-10      **Pipet Id :** 1758088  
**Type:** Working      **Expires:** 14-APR-10      **Solvent :** 2%HNO3/1%HCl - 1300209  
**Employee:** Paul Boyd  
**Supplier:** GEL  
**Description:** ICPMS ICSAB  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100318-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI100318-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI100318-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L
UI100405-12	Arsenic	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-12	Barium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-12	Beryllium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-12	Boron	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-12	Cadmium	2 mg/L	.5 mL	50 mL	20.2 ug/L
UI100405-12	Chromium	2 mg/L	.5 mL	50 mL	22.2 ug/L
UI100405-12	Cobalt	2 mg/L	.5 mL	50 mL	20.4 ug/L
UI100405-12	Copper	2 mg/L	.5 mL	50 mL	23.4 ug/L
UI100405-12	Lead	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-12	Lithium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-12	Manganese	2 mg/L	.5 mL	50 mL	22.7 ug/L
UI100405-12	Nickel	2 mg/L	.5 mL	50 mL	22.4 ug/L
UI100405-12	Selenium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-12	Strontium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-12	Thallium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-12	Thorium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-12	Uranium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-12	Vanadium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-12	Zinc	2 mg/L	.5 mL	50 mL	27 ug/L



# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100405-13	Antimony	2 mg/L	.5 mL	50 mL	20.5 ug/L
UI100405-13	Silver	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-13	Tin	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-13	Tungsten	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-13	Zirconium	2 mg/L	.5 mL	50 mL	20 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:** 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:** 1250038-02      **Opened:** 04-JAN-10      **Lot Number :** ZU74081198 mL  
**Name:** B-H2O2      **Received:** 04-JAN-10  
**Type:** Reagent/Solvent      **Expires:** 04-JAN-11  
**Employee:** Bryan Davis  
**Supplier:** EM SCIENCE  
**Description:** Hydrogen Peroxide 30%  
**Comments:** None

**Serial ID:** 1255532-C      **Opened:** 15-JAN-10      **Balance Id :** BAL-002  
**Name:** B-NaCl.NH2OH.HCl-MER      **Received:** 15-JAN-10  
**Type:** Reagent/Solvent      **Expires:** 15-JUL-10  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** Hg reducing agent  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1228372-A	B-NH2OH.HCl-MER	N/A	120 g	1000 mL	N/A

# Standard Logbook

**Serial ID:** 1274391-1      **Opened:** 24-FEB-10      **Instrument Id :** MERCURY  
**Name:** B-HNO3-MER      **Received:** 24-FEB-10      **Lot Number :** H44025  
**Type:** Reagent/Solvent      **Expires:** 24-FEB-11  
**Employee:** Tara Griffin  
**Supplier:** Mallinckrodt Chemicals  
**Description:** NITRIC ACID  
**Comments:** None

**Serial ID:** 1277235-A      **Opened:** 01-MAR-10      **Lot Number :** J02039  
**Name:** B-HCl-MER      **Received:** 01-MAR-10  
**Type:** Reagent/Solvent      **Expires:** 01-MAR-11  
**Employee:** Tara Griffin  
**Supplier:** J T Baker  
**Description:** Hydrochloric Acid Conc.  
**Comments:** None

**Serial ID:** 1277238-C      **Opened:** 01-MAR-10      **Balance Id :** BAL-002  
**Name:** B-KMnO4-MER      **Received:** 01-MAR-10  
**Type:** Reagent/Solvent      **Expires:** 20-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:** 1277916      **Opened:** 02-MAR-10      **Lot Number :** J02039  
**Name:** I-HCL      **Received:** 02-MAR-10      **Preservative\_Id :** 5 none  
**Type:** Reagent/Solvent      **Expires:** 02-MAR-11  
**Employee:** Francena Armstrong  
**Supplier:** J.T. BAKER  
**Description:** HYDROCHLORIC ACID  
**Comments:** None

**Serial ID:** 1282564      **Opened:** 09-MAR-10      **Lot Number :** J02039  
**Name:** I-HCL      **Received:** 09-MAR-10      **Preservative\_Id :** 5 none  
**Type:** Reagent/Solvent      **Expires:** 09-MAR-11  
**Employee:** Anthony Green  
**Supplier:** J.T. BAKER  
**Description:** HYDROCHLORIC ACID  
**Comments:** None

# Standard Logbook

**Serial ID:** 1282566      **Opened:** 09-MAR-10      **Lot Number :** J 04043 L  
**Name:** I-HNO3      **Received:** 09-MAR-10  
**Type:** Reagent/Solvent      **Expires:** 09-MAR-11  
**Employee:** Anthony Green  
**Supplier:** BAKER  
**Description:** Nitric Acid CONC.  
**Comments:** None

**Serial ID:** 1291278      **Opened:** 25-MAR-10      **Lot Number :** J 08035 L  
**Name:** I-HNO3      **Received:** 25-MAR-10  
**Type:** Reagent/Solvent      **Expires:** 25-MAR-11  
**Employee:** Anthony Green  
**Supplier:** BAKER  
**Description:** Nitric Acid CONC.  
**Comments:** None

**Serial ID:** 1293083      **Opened:** 29-MAR-10      **Amount :** 20 L  
**Name:** B-ICP-RINSE SOLN      **Received:** 29-MAR-10      **Lot Number :** H04040+G34050  
**Type:** Reagent/Solvent      **Expires:** 04-APR-10      **Solvent :** 3%HCL+1%HNO3  
**Employee:** Helen Camello  
**Supplier:** GEL  
**Description:** 3%HCL+1%HNO3 RINSE SOLN.  
**Comments:** None

**Serial ID:** 1300209      **Opened:** 12-APR-10      **Solvent :** Type I Water  
**Name:** B-2%HNO3/1%HCl-ICPMS      **Received:** 12-APR-10  
**Type:** Reagent/Solvent      **Expires:** 19-APR-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.
1277916	I-HCL	36.5-38.0	90 mL	9 l	N/A
1291278	I-HNO3	69.0-70.0	180 mL	9 l	N/A

# Metals Analysis

# Case Narrative

**Metals Fractional Narrative  
Los Alamos National Laboratory (LANL)  
SDG 10-2197-1**

**Sample Analysis**

<b>Sample ID</b>	<b>Client ID</b>
248516001	RE36-10-7537
248516002	RE36-10-7536
1202065055	Method Blank (MB) ICP
1202065056	Laboratory Control Sample (LCS)
1202065059	248550001(RE32-10-11362L) Serial Dilution (SD)
1202065057	248550001(RE32-10-11362D) Sample Duplicate (DUP)
1202065058	248550001(RE32-10-11362S) Matrix Spike (MS)
1202065070	Method Blank (MB) ICP-MS
1202065071	Laboratory Control Sample (LCS)
1202065074	248550001(RE32-10-11362L) Serial Dilution (SD)
1202065072	248550001(RE32-10-11362D) Sample Duplicate (DUP)
1202065073	248550001(RE32-10-11362S) Matrix Spike (MS)
1202068540	Method Blank (MB) CVAA
1202068541	Laboratory Control Sample (LCS)
1202068544	248551001(RE46-10-11978L) Serial Dilution (SD)
1202068542	248551001(RE46-10-11978D) Sample Duplicate (DUP)
1202068543	248551001(RE46-10-11978S) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

### **Method/Analysis Information**

**Analytical Batch:** 962580, 962585 and 964196

**Prep Batch :** 962579, 962584 and 964195

**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 7300 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 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 standards met the advisory control limits with the exception of uranium, 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 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: 248550001 (RE32-10-11362) and 248551001 (RE46-10-11978).

**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 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 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:**

*Kristen Fauson 4/15/10*  
**Reviewer:** \_\_\_\_\_ **Date:** \_\_\_\_\_

# Sample Data Summary

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

SDG No: 10-2197-1

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 248516001

BASIS: As Received

DATE COLLECTED 25-FEB-10

CLIENT ID: RE36-10-7537

LEVEL: Low

DATE RECEIVED 03-MAR-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	03/30/10 17:45	033010B-1	962580
7440-36-0	Antimony	3	ug/L	U	1	3	3	1	MS	PRB	04/13/10 09:33	100412-7	962585
7440-38-2	Arsenic	30	ug/L	U	5	30	30	1	P	HSC	03/30/10 17:45	033010B-1	962580
7440-39-3	Barium	5	ug/L	U	1	5	5	1	P	HSC	03/30/10 17:45	033010B-1	962580
7440-41-7	Beryllium	0.50	ug/L	U	0.1	0.5	0.5	1	MS	PRB	04/12/10 21:39	100412-2	962585
7440-43-9	Cadmium	1	ug/L	U	0.11	1	1	1	MS	PRB	04/12/10 21:39	100412-2	962585
7440-70-2	Calcium	200	ug/L	U	50	200	200	1	P	HSC	03/30/10 17:45	033010B-1	962580
7440-47-3	Chromium	5	ug/L	U	1	5	5	1	P	HSC	03/30/10 17:45	033010B-1	962580
7440-48-4	Cobalt	5	ug/L	U	1	5	5	1	P	HSC	03/30/10 17:45	033010B-1	962580
7440-50-8	Copper	10	ug/L	U	3	10	10	1	P	HSC	03/30/10 17:45	033010B-1	962580
7439-89-6	Iron	100	ug/L	U	30	100	100	1	P	HSC	03/30/10 17:45	033010B-1	962580
7439-92-1	Lead	2	ug/L	U	0.5	2	2	1	MS	PRB	04/12/10 21:39	100412-2	962585
7439-95-4	Magnesium	300	ug/L	U	85	300	300	1	P	HSC	03/30/10 17:45	033010B-1	962580
7439-96-5	Manganese	5	ug/L	U	1	5	5	1	MS	PRB	04/12/10 21:39	100412-2	962585
7439-97-6	Mercury	0.20	ug/L	U	0.066	0.2	0.2	1	AV	JXL1	03/13/10 08:07	031310W1-8	964196
7440-02-0	Nickel	5	ug/L	U	1.5	5	5	1	P	HSC	03/30/10 17:45	033010B-1	962580
7440-09-7	Potassium	271	ug/L		50	150	150	1	P	HSC	03/30/10 17:45	033010B-1	962580
7782-49-2	Selenium	30	ug/L	U	5	30	30	1	P	HSC	03/30/10 17:45	033010B-1	962580
7440-22-4	Silver	5	ug/L	U	1	5	5	1	P	HSC	03/30/10 17:45	033010B-1	962580
7440-23-5	Sodium	221	ug/L	J	100	300	300	1	P	HSC	03/30/10 17:45	033010B-1	962580
7440-28-0	Thallium	0.670	ug/L	J	0.3	1	1	1	MS	PRB	04/12/10 21:39	100412-2	962585
7440-61-1	Uranium	0.20	ug/L	U	0.05	0.2	0.2	1	MS	PRB	04/12/10 21:39	100412-2	962585
7440-62-2	Vanadium	5	ug/L	U	1	5	5	1	P	HSC	03/30/10 17:45	033010B-1	962580
7440-66-6	Zinc	10	ug/L	U	3.3	10	10	1	P	HSC	03/30/10 17:45	033010B-1	962580

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
962580	962579	SW846 3005A	50	mL	50	mL	03/15/10	BCD1
962585	962584	SW846 3005A	50	mL	50	mL	03/15/10	BCD1
964196	964195	SW846 7470A Prep	20	mL	20	mL	03/12/10	TXB3

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

SDG No: 10-2197-1

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 248516002

BASIS: As Received

DATE COLLECTED 25-FEB-10

CLIENT ID: RE36-10-7536

LEVEL: Low

DATE RECEIVED 03-MAR-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	03/30/10 17:48	033010B-1	962580
7440-36-0	Antimony	3	ug/L	U	1	3	3	1	MS	PRB	04/13/10 09:35	100412-7	962585
7440-38-2	Arsenic	30	ug/L	U	5	30	30	1	P	HSC	03/30/10 17:48	033010B-1	962580
7440-39-3	Barium	5	ug/L	U	1	5	5	1	P	HSC	03/30/10 17:48	033010B-1	962580
7440-41-7	Beryllium	0.50	ug/L	U	0.1	0.5	0.5	1	MS	PRB	04/12/10 21:44	100412-2	962585
7440-43-9	Cadmium	1	ug/L	U	0.11	1	1	1	MS	PRB	04/12/10 21:44	100412-2	962585
7440-70-2	Calcium	200	ug/L	U	50	200	200	1	P	HSC	03/30/10 17:48	033010B-1	962580
7440-47-3	Chromium	5	ug/L	U	1	5	5	1	P	HSC	03/30/10 17:48	033010B-1	962580
7440-48-4	Cobalt	5	ug/L	U	1	5	5	1	P	HSC	03/30/10 17:48	033010B-1	962580
7440-50-8	Copper	10	ug/L	U	3	10	10	1	P	HSC	03/30/10 17:48	033010B-1	962580
7439-89-6	Iron	38.5	ug/L	J	30	100	100	1	P	HSC	03/30/10 17:48	033010B-1	962580
7439-92-1	Lead	2	ug/L	U	0.5	2	2	1	MS	PRB	04/12/10 21:44	100412-2	962585
7439-95-4	Magnesium	300	ug/L	U	85	300	300	1	P	HSC	03/30/10 17:48	033010B-1	962580
7439-96-5	Manganese	5	ug/L	U	1	5	5	1	MS	PRB	04/12/10 21:44	100412-2	962585
7439-97-6	Mercury	0.20	ug/L	U	0.066	0.2	0.2	1	AV	JXLI	03/13/10 08:09	031310W1-8	964196
7440-02-0	Nickel	5	ug/L	U	1.5	5	5	1	P	HSC	03/30/10 17:48	033010B-1	962580
7440-09-7	Potassium	246	ug/L		50	150	150	1	P	HSC	03/30/10 17:48	033010B-1	962580
7782-49-2	Selenium	30	ug/L	U	5	30	30	1	P	HSC	03/30/10 17:48	033010B-1	962580
7440-22-4	Silver	5	ug/L	U	1	5	5	1	P	HSC	03/30/10 17:48	033010B-1	962580
7440-23-5	Sodium	211	ug/L	J	100	300	300	1	P	HSC	03/30/10 17:48	033010B-1	962580
7440-28-0	Thallium	1	ug/L	U	0.3	1	1	1	MS	PRB	04/12/10 21:44	100412-2	962585
7440-61-1	Uranium	0.20	ug/L	U	0.05	0.2	0.2	1	MS	PRB	04/12/10 21:44	100412-2	962585
7440-62-2	Vanadium	5	ug/L	U	1	5	5	1	P	HSC	03/30/10 17:48	033010B-1	962580
7440-66-6	Zinc	10	ug/L	U	3.3	10	10	1	P	HSC	03/30/10 17:48	033010B-1	962580

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
962580	962579	SW846 3005A	50	mL	50	mL	03/15/10	BCD1
962585	962584	SW846 3005A	50	mL	50	mL	03/15/10	BCD1
964196	964195	SW846 7470A Prep	20	mL	20	mL	03/12/10	TXB3

# **Quality Control Summary**

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-2197-1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA4

<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	5.1	ug/L	5	ug/L	101.9	90.0 – 110.0	AV	13-MAR-10 07:19	031310W1-8
	Aluminum	5280	ug/L	5000	ug/L	105.7	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Arsenic	489	ug/L	500	ug/L	97.8	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Barium	520	ug/L	500	ug/L	104	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Calcium	5160	ug/L	5000	ug/L	103.2	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Chromium	499	ug/L	500	ug/L	99.8	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Cobalt	521	ug/L	500	ug/L	104.3	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Copper	523	ug/L	500	ug/L	104.6	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Iron	5180	ug/L	5000	ug/L	103.5	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Magnesium	5450	ug/L	5000	ug/L	109	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Nickel	515	ug/L	500	ug/L	102.9	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Potassium	2600	ug/L	2500	ug/L	104.1	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Selenium	2560	ug/L	2500	ug/L	102.4	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Silver	267	ug/L	250	ug/L	106.8	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Sodium	2600	ug/L	2500	ug/L	104	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Vanadium	524	ug/L	500	ug/L	104.8	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Zinc	519	ug/L	500	ug/L	103.8	90.0 – 110.0	P	30-MAR-10 15:16	033010B-1
	Beryllium	54.7	ug/L	50	ug/L	109.4	90.0 – 110.0	MS	12-APR-10 20:58	100412-2
	Cadmium	53.7	ug/L	50	ug/L	107.4	90.0 – 110.0	MS	12-APR-10 20:58	100412-2
	Lead	54.9	ug/L	50	ug/L	109.8	90.0 – 110.0	MS	12-APR-10 20:58	100412-2
	Manganese	55.2	ug/L	50	ug/L	110.4	90.0 – 110.0	MS	12-APR-10 20:58	100412-2
	Thallium	53.4	ug/L	50	ug/L	106.8	90.0 – 110.0	MS	12-APR-10 20:58	100412-2
	Uranium	54.5	ug/L	50	ug/L	109	90.0 – 110.0	MS	12-APR-10 20:58	100412-2
	Antimony	54.7	ug/L	50	ug/L	109.3	90.0 – 110.0	MS	13-APR-10 09:12	100412-7
CCV01										
	Mercury	5.04	ug/L	5	ug/L	100.8	80.0 – 120.0	AV	13-MAR-10 07:24	031310W1-8
	Aluminum	5060	ug/L	5000	ug/L	101.1	90.0 – 110.0	P	30-MAR-10 15:38	033010B-1
	Arsenic	510	ug/L	500	ug/L	101.9	90.0 – 110.0	P	30-MAR-10 15:38	033010B-1
	Barium	505	ug/L	500	ug/L	101.1	90.0 – 110.0	P	30-MAR-10 15:38	033010B-1
	Calcium	5070	ug/L	5000	ug/L	101.5	90.0 – 110.0	P	30-MAR-10 15:38	033010B-1

## METALS

-2a-

## Initial and Continuing Calibration Verification

SDG No: 10-2197-1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA4

<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>
	Chromium	503	ug/L	500	ug/L	100.7	90.0 - 110.0	P	30-MAR-10 15:38	033010B-1
	Cobalt	509	ug/L	500	ug/L	101.7	90.0 - 110.0	P	30-MAR-10 15:38	033010B-1
	Copper	504	ug/L	500	ug/L	100.8	90.0 - 110.0	P	30-MAR-10 15:38	033010B-1
	Iron	5040	ug/L	5000	ug/L	100.8	90.0 - 110.0	P	30-MAR-10 15:38	033010B-1
	Magnesium	5180	ug/L	5000	ug/L	103.5	90.0 - 110.0	P	30-MAR-10 15:38	033010B-1
	Nickel	508	ug/L	500	ug/L	101.6	90.0 - 110.0	P	30-MAR-10 15:38	033010B-1
	Potassium	5130	ug/L	5000	ug/L	102.6	90.0 - 110.0	P	30-MAR-10 15:38	033010B-1
	Selenium	506	ug/L	500	ug/L	101.2	90.0 - 110.0	P	30-MAR-10 15:38	033010B-1
	Silver	506	ug/L	500	ug/L	101.3	90.0 - 110.0	P	30-MAR-10 15:38	033010B-1
	Sodium	10100	ug/L	10000	ug/L	100.9	90.0 - 110.0	P	30-MAR-10 15:38	033010B-1
	Vanadium	508	ug/L	500	ug/L	101.6	90.0 - 110.0	P	30-MAR-10 15:38	033010B-1
	Zinc	504	ug/L	500	ug/L	100.9	90.0 - 110.0	P	30-MAR-10 15:38	033010B-1
	Beryllium	52.2	ug/L	50	ug/L	104.3	90.0 - 110.0	MS	12-APR-10 21:21	100412-2
	Cadmium	51.2	ug/L	50	ug/L	102.3	90.0 - 110.0	MS	12-APR-10 21:21	100412-2
	Lead	51.4	ug/L	50	ug/L	102.7	90.0 - 110.0	MS	12-APR-10 21:21	100412-2
	Manganese	53.1	ug/L	50	ug/L	106.3	90.0 - 110.0	MS	12-APR-10 21:21	100412-2
	Thallium	49.8	ug/L	50	ug/L	99.5	90.0 - 110.0	MS	12-APR-10 21:21	100412-2
	Uranium	50.9	ug/L	50	ug/L	101.8	90.0 - 110.0	MS	12-APR-10 21:21	100412-2
	Antimony	53	ug/L	50	ug/L	105.9	90.0 - 110.0	MS	13-APR-10 09:24	100412-7
CCV02	Mercury	4.97	ug/L	5	ug/L	99.4	80.0 - 120.0	AV	13-MAR-10 07:47	031310W1-8
	Aluminum	5110	ug/L	5000	ug/L	102.2	90.0 - 110.0	P	30-MAR-10 15:54	033010B-1
	Arsenic	512	ug/L	500	ug/L	102.5	90.0 - 110.0	P	30-MAR-10 15:54	033010B-1
	Barium	507	ug/L	500	ug/L	101.4	90.0 - 110.0	P	30-MAR-10 15:54	033010B-1
	Calcium	5150	ug/L	5000	ug/L	103.1	90.0 - 110.0	P	30-MAR-10 15:54	033010B-1
	Chromium	506	ug/L	500	ug/L	101.1	90.0 - 110.0	P	30-MAR-10 15:54	033010B-1
	Cobalt	512	ug/L	500	ug/L	102.4	90.0 - 110.0	P	30-MAR-10 15:54	033010B-1
	Copper	506	ug/L	500	ug/L	101.2	90.0 - 110.0	P	30-MAR-10 15:54	033010B-1
	Iron	5120	ug/L	5000	ug/L	102.4	90.0 - 110.0	P	30-MAR-10 15:54	033010B-1
	Magnesium	5250	ug/L	5000	ug/L	105.1	90.0 - 110.0	P	30-MAR-10 15:54	033010B-1



**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-2197-1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA4

<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	510	ug/L	500	ug/L	102.1	90.0 – 110.0	P	30-MAR-10 15:54	033010B-1
	Potassium	5160	ug/L	5000	ug/L	103.2	90.0 – 110.0	P	30-MAR-10 15:54	033010B-1
	Selenium	513	ug/L	500	ug/L	102.6	90.0 – 110.0	P	30-MAR-10 15:54	033010B-1
	Silver	509	ug/L	500	ug/L	101.8	90.0 – 110.0	P	30-MAR-10 15:54	033010B-1
	Sodium	10200	ug/L	10000	ug/L	101.5	90.0 – 110.0	P	30-MAR-10 15:54	033010B-1
	Vanadium	510	ug/L	500	ug/L	102	90.0 – 110.0	P	30-MAR-10 15:54	033010B-1
	Zinc	507	ug/L	500	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 15:54	033010B-1
	Beryllium	49.5	ug/L	50	ug/L	99	90.0 – 110.0	MS	12-APR-10 21:58	100412-2
	Cadmium	51.1	ug/L	50	ug/L	102.1	90.0 – 110.0	MS	12-APR-10 21:58	100412-2
	Lead	50.9	ug/L	50	ug/L	101.8	90.0 – 110.0	MS	12-APR-10 21:58	100412-2
	Manganese	51.1	ug/L	50	ug/L	102.1	90.0 – 110.0	MS	12-APR-10 21:58	100412-2
	Thallium	47.4	ug/L	50	ug/L	94.9	90.0 – 110.0	MS	12-APR-10 21:58	100412-2
	Uranium	50.2	ug/L	50	ug/L	100.4	90.0 – 110.0	MS	12-APR-10 21:58	100412-2
	Antimony	53.1	ug/L	50	ug/L	106.2	90.0 – 110.0	MS	13-APR-10 09:42	100412-7
CCV03										
	Mercury	5.01	ug/L	5	ug/L	100.2	80.0 – 120.0	AV	13-MAR-10 08:11	031310W1-8
	Aluminum	5160	ug/L	5000	ug/L	103.1	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Arsenic	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Barium	507	ug/L	500	ug/L	101.4	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Calcium	5100	ug/L	5000	ug/L	102	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Chromium	505	ug/L	500	ug/L	101.1	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Cobalt	510	ug/L	500	ug/L	101.9	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Copper	507	ug/L	500	ug/L	101.4	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Iron	5080	ug/L	5000	ug/L	101.5	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Magnesium	5180	ug/L	5000	ug/L	103.6	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Nickel	508	ug/L	500	ug/L	101.6	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Potassium	5160	ug/L	5000	ug/L	103.2	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Selenium	508	ug/L	500	ug/L	101.6	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Silver	510	ug/L	500	ug/L	102	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Sodium	10100	ug/L	10000	ug/L	101.2	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-2197-1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA4

<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>
	Vanadium	511	ug/L	500	ug/L	102.2	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Zinc	503	ug/L	500	ug/L	100.6	90.0 – 110.0	P	30-MAR-10 16:14	033010B-1
	Beryllium	50.5	ug/L	50	ug/L	101	90.0 – 110.0	MS	12-APR-10 22:30	100412-2
	Cadmium	51.2	ug/L	50	ug/L	102.3	90.0 – 110.0	MS	12-APR-10 22:30	100412-2
	Lead	51.8	ug/L	50	ug/L	103.6	90.0 – 110.0	MS	12-APR-10 22:30	100412-2
	Manganese	51.4	ug/L	50	ug/L	102.8	90.0 – 110.0	MS	12-APR-10 22:30	100412-2
	Thallium	48.4	ug/L	50	ug/L	96.8	90.0 – 110.0	MS	12-APR-10 22:30	100412-2
	Uranium	51.1	ug/L	50	ug/L	102.2	90.0 – 110.0	MS	12-APR-10 22:30	100412-2
	Antimony	54	ug/L	50	ug/L	107.9	90.0 – 110.0	MS	13-APR-10 09:58	100412-7
CCV04	Mercury	5.14	ug/L	5	ug/L	102.8	80.0 – 120.0	AV	13-MAR-10 08:34	031310W1-8
	Aluminum	5110	ug/L	5000	ug/L	102.3	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Arsenic	509	ug/L	500	ug/L	101.9	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Barium	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Calcium	5080	ug/L	5000	ug/L	101.6	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Chromium	502	ug/L	500	ug/L	100.4	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Cobalt	506	ug/L	500	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Copper	503	ug/L	500	ug/L	100.6	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Iron	5050	ug/L	5000	ug/L	101.1	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Magnesium	5160	ug/L	5000	ug/L	103.1	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Nickel	505	ug/L	500	ug/L	101	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Potassium	5160	ug/L	5000	ug/L	103.2	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Selenium	509	ug/L	500	ug/L	101.8	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Silver	507	ug/L	500	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Sodium	10100	ug/L	10000	ug/L	101	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Vanadium	507	ug/L	500	ug/L	101.4	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
	Zinc	500	ug/L	500	ug/L	100.1	90.0 – 110.0	P	30-MAR-10 16:33	033010B-1
CCV05	Aluminum	5110	ug/L	5000	ug/L	102.2	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Arsenic	512	ug/L	500	ug/L	102.5	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-2197-1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA4

<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>
	Barium	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Calcium	5090	ug/L	5000	ug/L	101.9	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Chromium	502	ug/L	500	ug/L	100.4	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Cobalt	507	ug/L	500	ug/L	101.4	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Copper	503	ug/L	500	ug/L	100.5	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Iron	5060	ug/L	5000	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Magnesium	5210	ug/L	5000	ug/L	104.1	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Nickel	506	ug/L	500	ug/L	101.2	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Potassium	5080	ug/L	5000	ug/L	101.5	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Selenium	516	ug/L	500	ug/L	103.2	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Silver	506	ug/L	500	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Sodium	10100	ug/L	10000	ug/L	100.9	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Vanadium	507	ug/L	500	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
	Zinc	501	ug/L	500	ug/L	100.3	90.0 – 110.0	P	30-MAR-10 16:57	033010B-1
CCV06	Aluminum	5120	ug/L	5000	ug/L	102.3	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Arsenic	512	ug/L	500	ug/L	102.5	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Barium	505	ug/L	500	ug/L	101	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Calcium	5100	ug/L	5000	ug/L	102	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Chromium	503	ug/L	500	ug/L	100.7	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Cobalt	509	ug/L	500	ug/L	101.8	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Copper	505	ug/L	500	ug/L	101	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Iron	5060	ug/L	5000	ug/L	101.3	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Magnesium	5190	ug/L	5000	ug/L	103.8	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Nickel	508	ug/L	500	ug/L	101.6	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Potassium	5090	ug/L	5000	ug/L	101.8	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Selenium	512	ug/L	500	ug/L	102.4	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Silver	508	ug/L	500	ug/L	101.6	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Sodium	10100	ug/L	10000	ug/L	100.6	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Vanadium	510	ug/L	500	ug/L	101.9	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1

**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-2197-1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA4

<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>
CCV07	Zinc	503	ug/L	500	ug/L	100.7	90.0 – 110.0	P	30-MAR-10 17:18	033010B-1
	Aluminum	5090	ug/L	5000	ug/L	101.8	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Arsenic	513	ug/L	500	ug/L	102.7	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Barium	505	ug/L	500	ug/L	101.1	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Calcium	5110	ug/L	5000	ug/L	102.3	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Chromium	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Cobalt	509	ug/L	500	ug/L	101.8	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Copper	505	ug/L	500	ug/L	101	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Iron	5070	ug/L	5000	ug/L	101.5	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Magnesium	5220	ug/L	5000	ug/L	104.4	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Nickel	508	ug/L	500	ug/L	101.6	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Potassium	5130	ug/L	5000	ug/L	102.6	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Selenium	513	ug/L	500	ug/L	102.6	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Silver	508	ug/L	500	ug/L	101.7	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Sodium	10100	ug/L	10000	ug/L	100.5	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Vanadium	508	ug/L	500	ug/L	101.7	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
	Zinc	505	ug/L	500	ug/L	100.9	90.0 – 110.0	P	30-MAR-10 17:40	033010B-1
CCV08	Aluminum	5110	ug/L	5000	ug/L	102.2	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Arsenic	506	ug/L	500	ug/L	101.2	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Barium	503	ug/L	500	ug/L	100.6	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Calcium	5090	ug/L	5000	ug/L	101.8	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Chromium	501	ug/L	500	ug/L	100.1	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Cobalt	506	ug/L	500	ug/L	101.2	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Copper	502	ug/L	500	ug/L	100.4	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Iron	5060	ug/L	5000	ug/L	101.2	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Magnesium	5160	ug/L	5000	ug/L	103.3	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Nickel	505	ug/L	500	ug/L	101	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Potassium	5110	ug/L	5000	ug/L	102.2	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1

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**METALS**  
**-2a-**  
**Initial and Continuing Calibration Verification**

SDG No: 10-2197-1

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA4

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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>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Selenium	510	ug/L	500	ug/L	102	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Silver	506	ug/L	500	ug/L	101.2	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Sodium	10100	ug/L	10000	ug/L	100.7	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Vanadium	506	ug/L	500	ug/L	101.2	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1
	Zinc	500	ug/L	500	ug/L	100	90.0 – 110.0	P	30-MAR-10 18:00	033010B-1

**METALS**  
**-2b-**  
**CRDL Standard for AA & ICP**

SDG No: 10-2197-1

Contract: LANL01004

Lab Code: GEL

AA CRDL Standard Source: SPEX

ICP CRDL Standard Source Solutions Plus

Instrument ID: HG3,ICPMS5,OPTIMA4

<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	.199	ug/L	.2	ug/L	99.5	70.0 – 130.0	AV	13-MAR-10 07:23	031310W1-8
	Lead	2.45	ug/L	2	ug/L	122.5	70.0 – 130.0	MS	12-APR-10 21:07	100412-2
	Manganese	6.44	ug/L	5	ug/L	128.9	70.0 – 130.0	MS	12-APR-10 21:07	100412-2
	Beryllium	.557	ug/L	.5	ug/L	111.4	70.0 – 130.0	MS	12-APR-10 21:07	100412-2
	Uranium	.266	ug/L	.2	ug/L	133	70.0 – 130.0	MS	12-APR-10 21:07	100412-2
	Cadmium	1.23	ug/L	1	ug/L	123.2	70.0 – 130.0	MS	12-APR-10 21:07	100412-2
	Thallium	1.26	ug/L	1	ug/L	125.6	70.0 – 130.0	MS	12-APR-10 21:07	100412-2
	Antimony	3.06	ug/L	3	ug/L	101.9	70.0 – 130.0	MS	13-APR-10 09:17	100412-7
PQL01										
	Aluminum	218	ug/L	200	ug/L	108.8	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Iron	103	ug/L	100	ug/L	102.5	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Magnesium	315	ug/L	300	ug/L	104.9	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Nickel	5.18	ug/L	5	ug/L	103.6	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Potassium	189	ug/L	150	ug/L	126.2	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Silver	6.06	ug/L	5	ug/L	121.1	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Sodium	294	ug/L	300	ug/L	98.1	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Arsenic	31.6	ug/L	30	ug/L	105.3	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Barium	5.22	ug/L	5	ug/L	104.5	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Chromium	4.93	ug/L	5	ug/L	98.6	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Cobalt	5.18	ug/L	5	ug/L	103.7	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Copper	10.4	ug/L	10	ug/L	104.4	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Vanadium	5.56	ug/L	5	ug/L	111.3	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Zinc	10.2	ug/L	10	ug/L	101.8	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Calcium	201	ug/L	200	ug/L	100.8	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1
	Selenium	31.9	ug/L	30	ug/L	106.3	70.0 – 130.0	P	30-MAR-10 15:21	033010B-1

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-2197-1

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>
ICB01	Mercury	0.066	+/- .2	U	0.066	0.2	LIQ	AV	13-MAR-10 07:21	031310W1-8
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	30-MAR-10 15:18	033010B-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	30-MAR-10 15:18	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 15:18	033010B-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	30-MAR-10 15:18	033010B-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 15:18	033010B-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 15:18	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	30-MAR-10 15:18	033010B-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	30-MAR-10 15:18	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	30-MAR-10 15:18	033010B-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	30-MAR-10 15:18	033010B-1
	Potassium	57.06	+/-150	J	50.0	150	LIQ	P	30-MAR-10 15:18	033010B-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	30-MAR-10 15:18	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 15:18	033010B-1
	Sodium	100	+/-300	U	100	300	LIQ	P	30-MAR-10 15:18	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 15:18	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	30-MAR-10 15:18	033010B-1
	Beryllium	0.1	+/- .5	U	0.1	0.5	LIQ	MS	12-APR-10 21:03	100412-2
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	12-APR-10 21:03	100412-2
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	12-APR-10 21:03	100412-2
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	12-APR-10 21:03	100412-2
	Thallium	0.3	+/-1	U	0.3	1.0	LIQ	MS	12-APR-10 21:03	100412-2
	Uranium	0.05	+/- .2	U	0.05	0.2	LIQ	MS	12-APR-10 21:03	100412-2
	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	13-APR-10 09:15	100412-7
CCB01	Mercury	0.066	+/- .2	U	0.066	0.2	LIQ	AV	13-MAR-10 07:26	031310W1-8
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	30-MAR-10 15:40	033010B-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	30-MAR-10 15:40	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 15:40	033010B-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	30-MAR-10 15:40	033010B-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 15:40	033010B-1

SW846

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-2197-1

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>
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 15:40	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	30-MAR-10 15:40	033010B-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	30-MAR-10 15:40	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	30-MAR-10 15:40	033010B-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	30-MAR-10 15:40	033010B-1
	Potassium	103.4	+/-150	J	50.0	150	LIQ	P	30-MAR-10 15:40	033010B-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	30-MAR-10 15:40	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 15:40	033010B-1
	Sodium	100	+/-300	U	100	300	LIQ	P	30-MAR-10 15:40	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 15:40	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	30-MAR-10 15:40	033010B-1
	Beryllium	0.1	+/-5	U	0.1	0.5	LIQ	MS	12-APR-10 21:26	100412-2
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	12-APR-10 21:26	100412-2
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	12-APR-10 21:26	100412-2
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	12-APR-10 21:26	100412-2
	Thallium	0.31	+/-1	J	0.3	1.0	LIQ	MS	12-APR-10 21:26	100412-2
	Uranium	0.05	+/-2	U	0.05	0.2	LIQ	MS	12-APR-10 21:26	100412-2
	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	13-APR-10 09:26	100412-7
<b>CCB02</b>	Mercury	0.066	+/-2	U	0.066	0.2	LIQ	AV	13-MAR-10 07:49	031310W1-8
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	30-MAR-10 15:56	033010B-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	30-MAR-10 15:56	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 15:56	033010B-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	30-MAR-10 15:56	033010B-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 15:56	033010B-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 15:56	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	30-MAR-10 15:56	033010B-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	30-MAR-10 15:56	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	30-MAR-10 15:56	033010B-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	30-MAR-10 15:56	033010B-1
	Potassium	68.02	+/-150	J	50.0	150	LIQ	P	30-MAR-10 15:56	033010B-1

SW846



**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-2197-1

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>
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	30-MAR-10 15:56	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 15:56	033010B-1
	Sodium	100	+/-300	U	100	300	LIQ	P	30-MAR-10 15:56	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 15:56	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	30-MAR-10 15:56	033010B-1
	Beryllium	0.1	+/-5	U	0.1	0.5	LIQ	MS	12-APR-10 22:02	100412-2
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	12-APR-10 22:02	100412-2
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	12-APR-10 22:02	100412-2
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	12-APR-10 22:02	100412-2
	Thallium	0.634	+/-1	J	0.3	1.0	LIQ	MS	12-APR-10 22:02	100412-2
	Uranium	0.05	+/-2	U	0.05	0.2	LIQ	MS	12-APR-10 22:02	100412-2
	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	13-APR-10 09:45	100412-7
<b>CCB03</b>	Mercury	0.066	+/-2	U	0.066	0.2	LIQ	AV	13-MAR-10 08:12	031310W1-8
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	30-MAR-10 16:16	033010B-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	30-MAR-10 16:16	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 16:16	033010B-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	30-MAR-10 16:16	033010B-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 16:16	033010B-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 16:16	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	30-MAR-10 16:16	033010B-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	30-MAR-10 16:16	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	30-MAR-10 16:16	033010B-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	30-MAR-10 16:16	033010B-1
	Potassium	96.01	+/-150	J	50.0	150	LIQ	P	30-MAR-10 16:16	033010B-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	30-MAR-10 16:16	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 16:16	033010B-1
	Sodium	100	+/-300	U	100	300	LIQ	P	30-MAR-10 16:16	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 16:16	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	30-MAR-10 16:16	033010B-1
	Beryllium	0.1	+/-5	U	0.1	0.5	LIQ	MS	12-APR-10 22:35	100412-2

SW846

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-2197-1

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>
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	12-APR-10 22:35	100412-2
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	12-APR-10 22:35	100412-2
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	12-APR-10 22:35	100412-2
	Thallium	0.837	+/-1	J	0.3	1.0	LIQ	MS	12-APR-10 22:35	100412-2
	Uranium	0.05	+/-2	U	0.05	0.2	LIQ	MS	12-APR-10 22:35	100412-2
	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	13-APR-10 10:01	100412-7
<b>CCB04</b>	Mercury	0.066	+/-2	U	0.066	0.2	LIQ	AV	13-MAR-10 08:36	031310W1-8
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	30-MAR-10 16:35	033010B-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	30-MAR-10 16:35	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 16:35	033010B-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	30-MAR-10 16:35	033010B-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 16:35	033010B-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 16:35	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	30-MAR-10 16:35	033010B-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	30-MAR-10 16:35	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	30-MAR-10 16:35	033010B-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	30-MAR-10 16:35	033010B-1
	Potassium	67.52	+/-150	J	50.0	150	LIQ	P	30-MAR-10 16:35	033010B-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	30-MAR-10 16:35	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 16:35	033010B-1
	Sodium	100	+/-300	U	100	300	LIQ	P	30-MAR-10 16:35	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 16:35	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	30-MAR-10 16:35	033010B-1
<b>CCB05</b>	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	30-MAR-10 16:59	033010B-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	30-MAR-10 16:59	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 16:59	033010B-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	30-MAR-10 16:59	033010B-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 16:59	033010B-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 16:59	033010B-1

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-2197-1

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>
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	30-MAR-10 16:59	033010B-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	30-MAR-10 16:59	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	30-MAR-10 16:59	033010B-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	30-MAR-10 16:59	033010B-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	30-MAR-10 16:59	033010B-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	30-MAR-10 16:59	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 16:59	033010B-1
	Sodium	100	+/-300	U	100	300	LIQ	P	30-MAR-10 16:59	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 16:59	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	30-MAR-10 16:59	033010B-1
<b>CCB06</b>	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	30-MAR-10 17:21	033010B-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	30-MAR-10 17:21	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 17:21	033010B-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	30-MAR-10 17:21	033010B-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 17:21	033010B-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 17:21	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	30-MAR-10 17:21	033010B-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	30-MAR-10 17:21	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	30-MAR-10 17:21	033010B-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	30-MAR-10 17:21	033010B-1
	Potassium	64.34	+/-150	J	50.0	150	LIQ	P	30-MAR-10 17:21	033010B-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	30-MAR-10 17:21	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 17:21	033010B-1
	Sodium	100	+/-300	U	100	300	LIQ	P	30-MAR-10 17:21	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 17:21	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	30-MAR-10 17:21	033010B-1
<b>CCB07</b>	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	30-MAR-10 17:42	033010B-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	30-MAR-10 17:42	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 17:42	033010B-1

**Metals**  
**-3a-**  
**Initial and Continuing Calibration Blank Summary**

SDG No.: 10-2197-1

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	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	30-MAR-10 17:42	033010B-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 17:42	033010B-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 17:42	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	30-MAR-10 17:42	033010B-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	30-MAR-10 17:42	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	30-MAR-10 17:42	033010B-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	30-MAR-10 17:42	033010B-1
	Potassium	52.7	+/-150	J	50.0	150	LIQ	P	30-MAR-10 17:42	033010B-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	30-MAR-10 17:42	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 17:42	033010B-1
	Sodium	100	+/-300	U	100	300	LIQ	P	30-MAR-10 17:42	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 17:42	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	30-MAR-10 17:42	033010B-1
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	30-MAR-10 18:02	033010B-1
CCB08	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	30-MAR-10 18:02	033010B-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 18:02	033010B-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	30-MAR-10 18:02	033010B-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 18:02	033010B-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 18:02	033010B-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	30-MAR-10 18:02	033010B-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	30-MAR-10 18:02	033010B-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	30-MAR-10 18:02	033010B-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	30-MAR-10 18:02	033010B-1
	Potassium	51.03	+/-150	J	50.0	150	LIQ	P	30-MAR-10 18:02	033010B-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	30-MAR-10 18:02	033010B-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 18:02	033010B-1
	Sodium	100	+/-300	U	100	300	LIQ	P	30-MAR-10 18:02	033010B-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	30-MAR-10 18:02	033010B-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	30-MAR-10 18:02	033010B-1

**METALS**  
**-3b-**  
**PREPARATION BLANK SUMMARY**

SDG NO. 10-2197-1

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>
1202065055	Aluminum	68	ug/L	+/-200	U	P	68	200
	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
	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	50	ug/L	+/-150	U	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
1202065070	Antimony	1	ug/L	+/-3	U	MS	1	3
	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
1202068540	Mercury	0.066	ug/L	+/-0.2	U	AV	0.066	0.2

**METALS**  
**-4-**  
**Interference Check Sample**

SDG No: 10-2197-1

Contract: LANL01004

Lab Code: GEL

ICS: O2Si

Instrument: OPTIMA4

<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	512000	ug/L	500000	ug/L	102	80.0 – 120.0	30-MAR-10 15:23	033010B-1
	Arsenic	10.9	ug/L					30-MAR-10 15:23	033010B-1
	Barium	0.369	ug/L					30-MAR-10 15:23	033010B-1
	Calcium	489000	ug/L	500000	ug/L	97.7	80.0 – 120.0	30-MAR-10 15:23	033010B-1
	Chromium	1.08	ug/L					30-MAR-10 15:23	033010B-1
	Cobalt	-6.45	ug/L					30-MAR-10 15:23	033010B-1
	Copper	3.23	ug/L					30-MAR-10 15:23	033010B-1
	Iron	193000	ug/L	200000	ug/L	96.6	80.0 – 120.0	30-MAR-10 15:23	033010B-1
	Magnesium	491000	ug/L	500000	ug/L	98.1	80.0 – 120.0	30-MAR-10 15:23	033010B-1
	Nickel	3.44	ug/L					30-MAR-10 15:23	033010B-1
	Potassium	-113.0	ug/L					30-MAR-10 15:23	033010B-1
	Selenium	-10.3	ug/L					30-MAR-10 15:23	033010B-1
	Silver	0.19	ug/L					30-MAR-10 15:23	033010B-1
	Sodium	52.7	ug/L					30-MAR-10 15:23	033010B-1
	Vanadium	2.75	ug/L					30-MAR-10 15:23	033010B-1
	Zinc	8.7	ug/L					30-MAR-10 15:23	033010B-1
<b>ICSAB01</b>									
	Aluminum	511000	ug/L	500000	ug/L	102	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Arsenic	531	ug/L	500	ug/L	106	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Barium	505	ug/L	500	ug/L	101	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Calcium	487000	ug/L	500000	ug/L	97.4	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Chromium	493	ug/L	500	ug/L	98.6	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Cobalt	451	ug/L	500	ug/L	90.2	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Copper	547	ug/L	500	ug/L	109	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Iron	193000	ug/L	200000	ug/L	96.4	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Magnesium	494000	ug/L	500000	ug/L	98.8	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Nickel	463	ug/L	500	ug/L	92.5	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Potassium	5610	ug/L	5000	ug/L	112	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Selenium	2470	ug/L	2500	ug/L	98.8	80.0 – 120.0	30-MAR-10 15:25	033010B-1

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**METALS**  
**-4-**  
**Interference Check Sample**

SDG No: 10-2197-1

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>
	Silver	271	ug/L	250	ug/L	108	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Sodium	5450	ug/L	5000	ug/L	109	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Vanadium	523	ug/L	500	ug/L	105	80.0 – 120.0	30-MAR-10 15:25	033010B-1
	Zinc	499	ug/L	500	ug/L	99.7	80.0 – 120.0	30-MAR-10 15:25	033010B-1

**METALS**  
**-4-**  
**Interference Check Sample**

SDG No: 10-2197-1

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>									
	Beryllium	0.104	ug/L					12-APR-10 21:12	100412-2
	Cadmium	0.361	ug/L					12-APR-10 21:12	100412-2
	Lead	0.207	ug/L					12-APR-10 21:12	100412-2
	Manganese	5.93	ug/L					12-APR-10 21:12	100412-2
	Thallium	-0.022	ug/L					12-APR-10 21:12	100412-2
	Uranium	-0.021	ug/L					12-APR-10 21:12	100412-2
<b>ICSAB01</b>									
	Beryllium	21.9	ug/L	20	ug/L	110	80.0 - 120.0	12-APR-10 21:16	100412-2
	Cadmium	20.7	ug/L	20.44	ug/L	101	80.0 - 120.0	12-APR-10 21:16	100412-2
	Lead	20.7	ug/L	20.19	ug/L	102	80.0 - 120.0	12-APR-10 21:16	100412-2
	Manganese	26.8	ug/L	25.8	ug/L	104	80.0 - 120.0	12-APR-10 21:16	100412-2
	Thallium	19.7	ug/L	20	ug/L	98.5	80.0 - 120.0	12-APR-10 21:16	100412-2
	Uranium	22.0	ug/L	20	ug/L	110	80.0 - 120.0	12-APR-10 21:16	100412-2



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**METALS**  
**-4-**  
**Interference Check Sample**

**SDG No:** 10-2197-1

**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	0.135	ug/L					13-APR-10 09:19	100412-7
ICSAB01	Antimony	20.3	ug/L	20	ug/L	101	80.0 - 120.0	13-APR-10 09:21	100412-7

## METALS

-5a-

## Matrix Spike Summary

SDG NO. 10-2197-1 Client ID RE32-10-11362S

Contract: LANL01004 Level: Low

Matrix: WATER % Solids:

Sample ID: 248550001 Spike ID: 1202065058

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Silver	ug/L	75-125	501		1	U	500	100		P
Sodium	ug/L	75-125	5390		265	J	5000	103		P
Vanadium	ug/L	75-125	512		1	U	500	102		P
Zinc	ug/L	75-125	495		3.3	U	500	98.6		P
Aluminum	ug/L	75-125	5210		68	U	5000	104		P
Arsenic	ug/L	75-125	518		5	U	500	103		P
Barium	ug/L	75-125	516		1	U	500	103		P
Calcium	ug/L	75-125	5240		50	U	5000	104		P
Chromium	ug/L	75-125	504		1	U	500	101		P
Cobalt	ug/L	75-125	506		1	U	500	101		P
Copper	ug/L	75-125	512		3	U	500	102		P
Iron	ug/L	75-125	5140		30	U	5000	103		P
Magnesium	ug/L	75-125	5330		85	U	5000	106		P
Nickel	ug/L	75-125	512		1.5	U	500	102		P
Potassium	ug/L	75-125	5570		452		5000	102		P
Selenium	ug/L	75-125	501		5	U	500	99.5		P

## METALS

-5a-

## Matrix Spike Summary

SDG NO. 10-2197-1 Client ID: RE32-10-11362S

Contract: LANL01004 Level: Low

Matrix: WATER % Solids:

Sample ID: 248550001 Spike ID: 1202065073

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Antimony	ug/L	75-125	206		1	U	200	103		MS
Beryllium	ug/L	75-125	57.7		0.1	U	50	115		MS
Cadmium	ug/L	75-125	10.9		0.11	U	10	109		MS
Lead	ug/L	75-125	41		0.5	U	40	102		MS
Manganese	ug/L	75-125	53.2		1	U	50	105		MS
Thallium	ug/L	75-125	84.3		0.3	U	100	84.2		MS
Uranium	ug/L	75-125	49.5		0.05	U	50	99		MS

METALS

-5a-

Matrix Spike Summary

SDG NO. 10-2197-1 Client ID RE46-10-11978S

Contract: LANL01004 Level: Low

Matrix: WATER % Solids:

Sample ID: 248551001 Spike ID: 1202068543

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/L	75-125	2.09		0.066	U	2	104		AV

**Metals**  
**-6-**  
**Duplicate Sample Summary**

SDG No.: 10-2197-1

Contract: LANL01004

Lab Code: GEL

Matrix: LIQUID

Level: Low

Client ID: RE32-10-11362D

Sample ID: 248550001

Duplicate ID: 1202065057

Percent Solids for Dup: N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/L		68 U		68 U				P
Arsenic	ug/L		5 U		5 U				P
Barium	ug/L		1 U		1 U				P
Calcium	ug/L		50 U		50 U				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		30 U		30 U				P
Magnesium	ug/L		85 U		85 U				P
Nickel	ug/L		1.5 U		1.5 U				P
Potassium	ug/L	+/-150	452		442		2.21		P
Selenium	ug/L		5 U		5 U				P
Silver	ug/L		1 U		1 U				P
Sodium	ug/L	+/-300	265 J		257 J		2.85		P
Vanadium	ug/L		1 U		1 U				P
Zinc	ug/L		3.3 U		3.3 U				P

**Metals**  
**-6-**  
**Duplicate Sample Summary**

SDG No.: 10-2197-1

Contract: LANL01004

Lab Code: GEL

Matrix: LIQUID

Level: Low

Client ID: RE32-10-11362D

Sample ID: 248550001

Duplicate ID: 1202065072

Percent Solids for Dup: N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Antimony	ug/L		1 U		1 U				MS
Beryllium	ug/L		0.1 U		0.1 U				MS
Cadmium	ug/L		0.11 U		0.11 U				MS
Lead	ug/L		0.5 U		0.5 U				MS
Manganese	ug/L		1 U		1 U				MS
Thallium	ug/L		0.3 U		0.3 U				MS
Uranium	ug/L		0.05 U		0.05 U				MS

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**Metals**  
**-6-**  
**Duplicate Sample Summary**

**SDG No.:** 10-2197-1

**Contract:** LANL01004

**Lab Code:** GEL

**Matrix:** LIQUID

**Level:** Low

**Client ID:** RE46-10-11978D

**Sample ID:** 248551001

**Duplicate ID:** 1202068542

**Percent Solids for Dup:** N/A

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Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/L		0.066 U		0.066 U				AV

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**METALS**  
-7-  
**Laboratory Control Sample Summary**

SDG NO. 10-2197-1

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>
1202065056								
	Selenium	ug/L	500	496		99.2	80-120	P
	Silver	ug/L	500	498		99.6	80-120	P
	Sodium	ug/L	5000	5140		103	80-120	P
	Vanadium	ug/L	500	512		102	80-120	P
	Zinc	ug/L	500	497		99.4	80-120	P
	Aluminum	ug/L	5000	5170		103	80-120	P
	Arsenic	ug/L	500	515		103	80-120	P
	Barium	ug/L	500	516		103	80-120	P
	Calcium	ug/L	5000	5170		103	80-120	P
	Chromium	ug/L	500	505		101	80-120	P
	Cobalt	ug/L	500	506		101	80-120	P
	Copper	ug/L	500	511		102	80-120	P
	Iron	ug/L	5000	5090		102	80-120	P
	Magnesium	ug/L	5000	5290		106	80-120	P
	Nickel	ug/L	500	513		103	80-120	P
	Potassium	ug/L	5000	5170		103	80-120	P



## METALS

-7-

## Laboratory Control Sample Summary

SDG NO. 10-2197-1

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>
1202065071								
	Antimony	ug/L	50	54.4		109	80-120	MS
	Beryllium	ug/L	50	55.1		110	80-120	MS
	Cadmium	ug/L	50	52.7		105	80-120	MS
	Lead	ug/L	50	50.9		102	80-120	MS
	Manganese	ug/L	50	56.6		113	80-120	MS
	Thallium	ug/L	50	44.7		89.5	80-120	MS
	Uranium	ug/L	50	49.4		98.7	80-120	MS

**METALS**  
**-7-**  
**Laboratory Control Sample Summary**

SDG NO. 10-2197-1

Contract: LANL01004

Aqueous LCS Source:GEL

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>
1202068541	Mercury	ug/L	2	2.29		115	80-120	AV

## METALS

-9-

## Serial Dilution Sample Summary

SDG NO. 10-2197-1 Client ID RE32-10-11362L

Contract: LANL01004

Matrix: LIQUID Level: Low

Sample ID: 248550001 Serial Dilution ID: 1202065059

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M
Aluminum	68	U	340	U				P
Arsenic	5	U	25	U				P
Barium	1	U	5	U				P
Calcium	50	U	250	U				P
Chromium	1	U	5	U				P
Cobalt	1	U	5	U				P
Copper	3	U	15	U				P
Iron	30	U	150	U				P
Magnesium	85	U	425	U				P
Nickel	1.5	U	7.5	U				P
Potassium	452		615	J	36.1			P
Selenium	5	U	25	U				P
Silver	1	U	5	U				P
Sodium	265	J	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. 10-2197-1 Client ID RE32-10-11362L

Contract: LANL01004

Matrix: LIQUID Level: Low

Sample ID: 248550001 Serial Dilution ID: 1202065074

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M
Antimony	1	U	5	U				MS
Beryllium	.1	U	.5	U				MS
Cadmium	.11	U	.55	U				MS
Lead	.5	U	2.5	U				MS
Manganese	1	U	5	U				MS
Thallium	.3	U	8.85					MS
Uranium	.05	U	.25	U				MS

## METALS

-9-

## Serial Dilution Sample Summary

SDG NO. 10-2197-1 Client ID RE46-10-11978L

Contract: LANL01004

Matrix: LIQUID Level: Low

Sample ID: 248551001 Serial Dilution ID: 1202068544

<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

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METALS  
-13-  
SAMPLE PREPARATION SUMMARY

SDG No: 10-2197-1

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	962579						
1202065055	MB for batch 962579	MB	W	15-MAR-10	50mL	50mL	
1202065056	LCS for batch 962579	LCS	W	15-MAR-10	50mL	50mL	
1202065058	RE32-10-11362S	MS	W	15-MAR-10	50mL	50mL	
1202065057	RE32-10-11362D	DUP	W	15-MAR-10	50mL	50mL	
248516001	RE36-10-7537	SAMPLE	W	15-MAR-10	50mL	50mL	
248516002	RE36-10-7536	SAMPLE	W	15-MAR-10	50mL	50mL	

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SW846

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**METALS**  
**-13-**  
**SAMPLE PREPARATION SUMMARY**

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SDG No: 10-2197-1

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>
Batch Number	962584						
1202065070	MB for batch 962584	MB	W	15-MAR-10	50mL	50mL	
1202065071	LCS for batch 962584	LCS	W	15-MAR-10	50mL	50mL	
1202065073	RE32-10-11362S	MS	W	15-MAR-10	50mL	50mL	
1202065072	RE32-10-11362D	DUP	W	15-MAR-10	50mL	50mL	
248516001	RE36-10-7537	SAMPLE	W	15-MAR-10	50mL	50mL	
248516002	RE36-10-7536	SAMPLE	W	15-MAR-10	50mL	50mL	

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SW846

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METALS  
-13-  
SAMPLE PREPARATION SUMMARY

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SDG No: 10-2197-1

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	964195						
1202068540	MB for batch 964195	MB	W	12-MAR-10	20mL	20mL	
1202068541	LCS for batch 964195	LCS	W	12-MAR-10	20mL	20mL	
1202068543	RE46-10-11978S	MS	W	12-MAR-10	20mL	20mL	
1202068542	RE46-10-11978D	DUP	W	12-MAR-10	20mL	20mL	
248516001	RE36-10-7537	SAMPLE	W	12-MAR-10	20mL	20mL	
248516002	RE36-10-7536	SAMPLE	W	12-MAR-10	20mL	20mL	

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SW846



**Metals**  
**-14-**  
**Analysis Run Log**

Contract: LANL01004

Lab Code: GEL

Inst Name: ICPMS5

Start Date: 12-APR-10

End Date: 13-APR-10

Client Sdg: 10-2197-1

Method MS

Data File: 100412-2

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	20:44:00					X	X						X	X								X	X		
S10	1	20:49:00					X	X						X	X								X	X		
S100	1	20:53:00					X	X						X	X								X	X		
ICV01	1	20:58:00					X	X						X	X								X	X		
ICB01	1	21:03:00					X	X						X	X								X	X		
CRDL01	1	21:07:00					X	X						X	X								X	X		
ICSA01	1	21:12:00					X	X						X	X								X	X		
ICSAB01	1	21:16:00					X	X						X	X								X	X		
CCV01	1	21:21:00					X	X						X	X								X	X		
CCB01	1	21:26:00					X	X						X	X								X	X		
1202065070	1	21:30:00					X	X						X	X								X	X		
1202065071	1	21:35:00					X	X						X	X								X	X		
248516001	1	21:39:00					X	X						X	X								X	X		
248516002	1	21:44:00					X	X						X	X								X	X		
ZZZZZZ	1	21:49:00																								
ZZZZZZ	1	21:53:00																								
CCV02	1	21:58:00					X	X						X	X								X	X		
CCB02	1	22:02:00					X	X						X	X								X	X		
ZZZZZZ	1	22:07:00																								
1202065072	1	22:12:00					X	X						X	X								X	X		
1202065073	1	22:16:00					X	X						X	X								X	X		
1202065074	5	22:21:00					X	X						X	X								X	X		
ZZZZZZ	1	22:25:00																								
CCV03	1	22:30:00					X	X						X	X								X	X		
CCB03	1	22:35:00					X	X						X	X								X	X		

**Metals**  
**-14-**  
**Analysis Run Log**

**Contract:** LANL01004**Lab Code:** GEL**Inst Name:** ICPMS5**Start Date:** 12-APR-10**Client Sdg:** 10-2197-1**Method:** MS**Data File:** 100412-7**End Date:** 13-APR-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	09:05:00		X																						
S10	1	09:08:00		X																						
S100	1	09:10:00		X																						
ICV01	1	09:12:00		X																						
ICB01	1	09:15:00		X																						
CRDL01	1	09:17:00		X																						
ICSA01	1	09:19:00		X																						
ICSAB01	1	09:21:00		X																						
CCV01	1	09:24:00		X																						
CCB01	1	09:26:00		X																						
1202065070	1	09:28:00		X																						
1202065071	1	09:31:00		X																						
248516001	1	09:33:00		X																						
248516002	1	09:35:00		X																						
ZZZZZZ	1	09:38:00																								
ZZZZZZ	1	09:40:00																								
CCV02	1	09:42:00		X																						
CCB02	1	09:45:00		X																						
ZZZZZZ	1	09:47:00																								
1202065072	1	09:49:00		X																						
1202065073	1	09:52:00		X																						
1202065074	5	09:54:00		X																						
ZZZZZZ	1	09:56:00																								
CCV03	1	09:58:00		X																						
CCB03	1	10:01:00		X																						

**Metals**  
**-14-**  
**Analysis Run Log**

Contract: LANL01004

Lab Code: GEL

Inst Name: HG3

Start Date: 13-MAR-10

Client Sdg: 10-2197-1

Method AV

Data File: 031310W1-8

End Date: 13-MAR-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	07:07:00															X									
S0.2	1	07:09:00															X									
S0.5	1	07:11:00															X									
S2.0	1	07:13:00															X									
S5.0	1	07:15:00															X									
S10.0	1	07:17:00															X									
ICV01	1	07:19:00															X									
ICB01	1	07:21:00															X									
CRDL01	1	07:23:00															X									
CCV01	1	07:24:00															X									
CCB01	1	07:26:00															X									
ZZZZZZ	1	07:28:00																								
ZZZZZZ	1	07:30:00																								
ZZZZZZ	1	07:32:00																								
ZZZZZZ	1	07:34:00																								
ZZZZZZ	1	07:36:00																								
ZZZZZZ	100	07:38:00																								
ZZZZZZ	100	07:40:00																								
ZZZZZZ	100	07:42:00																								
ZZZZZZ	500	07:44:00																								
ZZZZZZ	100	07:46:00																								
CCV02	1	07:47:00															X									
CCB02	1	07:49:00															X									
ZZZZZZ	1	07:51:00																								
ZZZZZZ	1	07:53:00																								
ZZZZZZ	1	07:55:00																								
1202068540	1	07:57:00															X									
1202068541	1	07:59:00															X									
ZZZZZZ	1	08:01:00																								
ZZZZZZ	1	08:03:00																								
ZZZZZZ	1	08:05:00																								
248516001	1	08:07:00															X									
248516002	1	08:09:00															X									
CCV03	1	08:11:00															X									
CCB03	1	08:12:00															X									
ZZZZZZ	1	08:14:00																								
ZZZZZZ	1	08:16:00																								
ZZZZZZ	1	08:18:00																								
ZZZZZZ	1	08:20:00																								
ZZZZZZ	1	08:22:00																								

[illegible]

**Metals**  
**-14-**  
**Analysis Run Log**

Contract: LANL01004

Lab Code: GEL

Inst Name: OPTIMA4

Start Date: 30-MAR-10

End Date: 30-MAR-10

Client Sdg: 10-2197-1

Method P

Data File: 033010B-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	15:06:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
S0.1	1	15:09:00			X	X				X	X	X						X	X	X	X				X	X
S0.5	1	15:11:00	X		X	X			X	X	X	X			X			X	X	X	X				X	X
SCAL	1	15:13:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
S10	1	15:15:00	X						X				X		X							X				
ICV01	1	15:16:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ICB01	1	15:18:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
PQL01	1	15:21:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ICSA01	1	15:23:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ICSAB01	1	15:25:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
LR01	1	15:27:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
LR02	1	15:29:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ZZZZZZ	1	15:30:00																								
ZZZZZZ	1	15:32:00																								
CCV01	1	15:38:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB01	1	15:40:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ZZZZZZ	5	15:43:00																								
ZZZZZZ	10	15:45:00																								
ZZZZZZ	10	15:47:00																								
ZZZZZZ	10	15:49:00																								
ZZZZZZ	10	15:51:00																								
CCV02	1	15:54:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB02	1	15:56:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ZZZZZZ	1	15:59:00																								
ZZZZZZ	1	16:02:00																								
ZZZZZZ	1	16:03:00																								
ZZZZZZ	1	16:05:00																								
ZZZZZZ	1	16:07:00																								
ZZZZZZ	1	16:09:00																								
ZZZZZZ	5	16:10:00																								
ZZZZZZ	1	16:12:00																								
CCV03	1	16:14:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB03	1	16:16:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ZZZZZZ	1	16:19:00																								
ZZZZZZ	1	16:22:00																								
ZZZZZZ	1	16:24:00																								
ZZZZZZ	1	16:26:00																								
ZZZZZZ	1	16:28:00																								
ZZZZZZ	1	16:29:00																								
ZZZZZZ	5	16:30:00																								

**Metals**  
**-14-**  
**Analysis Run Log**

Samp No.	D/F	Run Time																								
CCV04	1	16:33:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB04	1	16:35:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCV05	1	16:57:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB05	1	16:59:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ZZZZZZ	1	17:02:00																								
ZZZZZZ	1	17:05:00																								
ZZZZZZ	1	17:07:00																								
ZZZZZZ	1	17:10:00																								
ZZZZZZ	1	17:13:00																								
ZZZZZZ	5	17:15:00																								
CCV06	1	17:18:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB06	1	17:21:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
1202065055	1	17:23:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
1202065056	1	17:27:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ZZZZZZ	1	17:29:00																								
1202065057	1	17:32:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
1202065058	1	17:35:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
1202065059	5	17:37:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCV07	1	17:40:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB07	1	17:42:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
248516001	1	17:45:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
248516002	1	17:48:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ZZZZZZ	1	17:51:00																								
ZZZZZZ	1	17:54:00																								
ZZZZZZ	1	17:57:00																								
CCV08	1	18:00:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB08	1	18:02:00	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X

# Standards

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METALS  
-10-  
Instrument Detection Limits

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SDG NO. 10-2197-1

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>
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. 10-2197-1

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

**METALS**  
**-10-**  
**Instrument Detection Limits**

SDG NO. 10-2197-1

Contract: LANL01004

Lab Code: GEL

MDL Effective Date: 01-JUL-09

ICP	<u>Analyte</u>	<u>Wavelength</u>	<u>MDL</u>	<u>RDL</u>
		<u>(nm)</u>	<u>ug/L</u>	<u>ug/L</u>
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: 10-2197-1

Contract: LANL01004

Instrument: OPTIMA4

Effective Dates: 22-MAR-10

\* Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Aluminum	Antimony	Arsenic	Barium	Beryllium
Parmname	Wavelength					
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00676	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	-0.98369	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	-0.06206	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
Phosphorous	214.914	-0.22134	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.22220	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
Sodium	589.592	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	-0.01674	0.00000	0.00000	0.00000	0.00000

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GELGEL Job No: **10-2197-1**

Contract: LANL01004

Instrument: OPTIMA4

Effective Dates: **22-MAR-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	14.9992	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	-9.49960	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	3.47778	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	-0.18390	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	-0.60088	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.04741	0.32747
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
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	10.9289
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	-0.07359	0.00000	0.00000
Sodium	589.592	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	5.02864	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.33675	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	1.18768	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	-4.30004	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.03286	0.12442	0.79397

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GELGEL Job No: **10-2197-1**

Contract: LANL01004

Instrument: OPTIMA4

Effective Dates: **22-MAR-10**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Lead	Magnesium	Manganese	Molybdenum	Phosphorous
Parmname	Wavelength					
Aluminum	396.153	0.00000	0.00000	0.00000	46.4438	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	-14.0269	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	-2.84596	0.00000
Barium	233.527	0.00000	0.00000	0.00000	-0.32136	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	0.01216	0.24903	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	-0.02702	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	-2.77286	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	-24.4630	0.00000
Manganese	257.61	0.00000	0.03966	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	-0.01826	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	10.3832	0.00000
Potassium	766.49	0.00000	0.07568	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	13.3443	0.00000
Silver	328.068	0.00000	0.00000	0.28019	-0.03095	0.00000
Sodium	589.592	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	-8.43314	0.00000
Thallium	190.801	0.00000	0.00000	-2.58065	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.08144	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	-6.48399	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	-10.3466	0.00000
Zinc	213.857	0.00000	0.00000	0.06887	-0.04597	0.00000

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GELGEL Job No: **10-2197-1**

Contract: LANL01004

Instrument: OPTIMA4

Effective Dates: **22-MAR-10**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Potassium	Selenium	Silicon	Silver	Sodium
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	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
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
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.16274
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
Sodium	589.592	0.88937	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: GELGEL Job No: **10-2197-1**

Contract: LANL01004

Instrument: OPTIMA4

Effective Dates: **22-MAR-10**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Strontium	Sulfur	Thallium	Tin	Titanium
<b>Parmname</b>	<b>Wavelength</b>					
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	-1.82716	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
Lead	220.353	0.00000	0.00000	0.00000	0.00000	-1.32991
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
Phosphorous	214.914	0.00000	0.00000	0.00000	-8.61809	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	0.00000	6.59640	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Sodium	589.592	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	-10.0432
Tin	189.927	0.00000	0.00000	0.00000	0.00000	-3.37234
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	0.92753
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	-0.56798

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GELGEL Job No: **10-2197-1**

Contract: LANL01004

Instrument: OPTIMA4

Effective Dates: **22-MAR-10**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Uranium	Vanadium	Zinc
Aluminum	396.153	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	-1.62578	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000
Barium	233.527	0.00000	-0.63442	0.00000
Beryllium	313.107	-0.30229	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000
Chromium	267.716	0.78601	-0.47146	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000
Copper	324.752	-0.82619	0.00000	0.00000
Lead	220.353	0.74521	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	-0.33953	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000
Selenium	196.026	-0.96499	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000
Silver	328.068	-1.22996	-11.9401	0.00000
Sodium	589.592	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	-7.37871	0.00000
Tin	189.927	0.00000	0.00000	0.00000
Titanium	334.94	0.40930	0.00000	0.00000
Uranium	409.014	0.00000	-57.5852	0.00000
Vanadium	292.402	-0.67226	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000



**METALS**  
**-12-**  
**Linear Ranges**

SDG NO. 10-2197-1

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-FEB-10
Antimony	1000	250	ug/L	01-FEB-10
Arsenic	1000	1000	ug/L	01-FEB-10
Barium	1000	1000	ug/L	01-FEB-10
Beryllium	1000	1000	ug/L	01-FEB-10
Cadmium	1000	1000	ug/L	01-FEB-10
Calcium	500	50000	ug/L	01-FEB-10
Chromium	1000	1000	ug/L	01-FEB-10
Cobalt	1000	1000	ug/L	01-FEB-10
Copper	1000	1000	ug/L	01-FEB-10
Iron	500	50000	ug/L	01-FEB-10
Lead	1000	5000	ug/L	01-FEB-10
Magnesium	1	50000	ug/L	01-FEB-10
Manganese	1000	1000	ug/L	01-FEB-10
Nickel	1000	1000	ug/L	01-FEB-10
Potassium	1	50000	ug/L	01-FEB-10
Selenium	1000	500	ug/L	01-FEB-10
Silver	1000	250	ug/L	01-FEB-10
Sodium	1	50000	ug/L	01-FEB-10
Thallium	1000	500	ug/L	01-FEB-10
Uranium	1000	5000	ug/L	01-FEB-10
Vanadium	1000	100	ug/L	01-FEB-10
Zinc	1000	2500	ug/L	01-FEB-10

**METALS**  
**-12-**  
**Linear Ranges**

SDG NO. 10-2197-1

Contract: LANL01004

Lab Code: GEL

Instrument ID OPTIMA4

<u>Analyte</u>	<u>Integration Time (sec)</u>	<u>LDR</u>	<u>Units</u>	<u>Effective Date</u>
Antimony	20	10000	ug/L	01-FEB-10
Arsenic	20	10000	ug/L	01-FEB-10
Barium	20	15000	ug/L	01-FEB-10
Beryllium	20	3000	ug/L	01-FEB-10
Cadmium	20	10000	ug/L	01-FEB-10
Aluminum	20	500000	ug/L	01-FEB-10
Calcium	20	500000	ug/L	01-FEB-10
Chromium	20	25000	ug/L	01-FEB-10
Cobalt	20	10000	ug/L	01-FEB-10
Copper	20	20000	ug/L	01-FEB-10
Iron	20	500000	ug/L	01-FEB-10
Lead	20	25000	ug/L	01-FEB-10
Magnesium	20	500000	ug/L	01-FEB-10
Manganese	20	10000	ug/L	01-FEB-10
Nickel	20	10000	ug/L	01-FEB-10
Potassium	20	300000	ug/L	01-FEB-10
Selenium	20	10000	ug/L	01-FEB-10
Silver	20	1000	ug/L	01-FEB-10
Sodium	20	500000	ug/L	01-FEB-10
Thallium	20	10000	ug/L	01-FEB-10
Uranium	20	15000	ug/L	01-FEB-10
Vanadium	20	10000	ug/L	01-FEB-10
Zinc	20	15000	ug/L	01-FEB-10

# Raw Data

Spec: Communications time out error.  
This message may have resulted when the spectrometer starts up from standby (sleep) mode.  
If that is the case, Click on OK and ignore this message.

Otherwise... Check the following:

- » Make sure the spectrometer is powered on.
- » Make sure the cable is connected between the spectrometer and the computer.

Correct the problem and then press the Reconnect button on the Spectrometer page of the Diagnostics window.

[0104]

=====  
Analysis Begun

Start Time: 3/30/2010 15:06:00

Plasma On Time: 3/29/2010 18:07:58

Logged In Analyst: optima4

Technique: ICP Continuous

Spectrometer Model: Optima 7300 DV, S/N 077C0022701 Autosampler Model: AS-93plus

Sample Information File: C:\pe\optima4\Sample Information\033010.sif

Batch ID:

Results Data Set: 033010B

Results Library: C:\pe\optima4\Results\Results.mdb

=====  
Sequence No.: 1

Autosampler Location: 8

Sample ID: S0

Date Collected: 3/30/2010 15:06:02

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	146497.9	146497.9	99.1 %	15:06:32
1	Al 396.153Radial†	-101.0	-101.9	[0.00] µg/L	15:06:52
1	Ca 317.933Radial†	670.1	676.2	[0.00] µg/L	15:06:52
1	Fe 238.204 Radial†	133.7	134.9	[0.00] µg/L	15:06:52
1	K 766.490 Radial†	1222.4	1233.5	[0.00] µg/L	15:06:32
1	Mg 279.077 IEC†	174.9	176.5	[0.00] µg/L	15:06:52
1	Na 589.592 Radial†	1269.7	1281.2	[0.00] µg/L	15:06:32
1	Sr 421.552†	-245.3	-247.6	[0.00] µg/L	15:06:32
1	Sc 361.383	1750148.6	1750148.6	99.719 %	15:07:54
1	Y 371.029	1060907.2	1060907.2	99.705 %	15:07:54
1	Ag 328.068†	3317.5	3326.9	[0.00] µg/L	15:07:56
1	As 188.979†	-16.5	-16.5	[0.00] µg/L	15:08:16
1	B 249.677†	3233.9	3243.0	[0.00] µg/L	15:08:16
1	Ba 233.527†	-160.6	-161.1	[0.00] µg/L	15:08:16
1	Be 313.107†	-773.6	-775.8	[0.00] µg/L	15:07:56
1	Cd 226.502†	-119.9	-120.3	[0.00] µg/L	15:08:16
1	Co 228.616†	-167.4	-167.9	[0.00] µg/L	15:08:16
1	Cr 267.716†	181.0	181.5	[0.00] µg/L	15:08:16
1	Cu 324.752†	2790.1	2798.0	[0.00] µg/L	15:07:56
1	Mn 257.610†	176.6	177.1	[0.00] µg/L	15:08:16
1	Mo 202.031†	-36.7	-36.8	[0.00] µg/L	15:08:16
1	Ni 231.604†	-71.2	-71.4	[0.00] µg/L	15:08:16
1	P 214.914†	0.0	0.0	[0.00] µg/L	15:08:16
1	Pb 220.353†	115.5	115.9	[0.00] µg/L	15:08:16
1	S 181.975 Axial†	85.9	86.1	[0.00] µg/L	15:08:16
1	Sb 206.836†	81.3	81.5	[0.00] µg/L	15:08:16
1	Se 196.026†	3.3	3.3	[0.00] µg/L	15:08:16
1	SiO2†	1748.5	1753.4	[0.00] µg/L	15:08:16
1	Si 251.611†	853.8	856.2	[0.00] µg/L	15:07:56
1	Sn 189.927†	-7.6	-7.7	[0.00] µg/L	15:08:16
1	Ti 334.940†	867.0	869.5	[0.00] µg/L	15:07:56
1	Tl 190.801†	-111.8	-112.1	[0.00] µg/L	15:08:16
1	U 409.014†	-248.2	-248.9	[0.00] µg/L	15:07:56
1	V 292.402†	416.2	417.4	[0.00] µg/L	15:07:56
1	Zn 213.857†	524.3	525.8	[0.00] µg/L	15:08:16
2	Sc RADIAL	147907.3	147907.3	100 %	15:06:55
2	Al 396.153Radial†	-34.8	-34.7	[0.00] µg/L	15:07:15
2	Ca 317.933Radial†	694.0	693.6	[0.00] µg/L	15:07:15
2	Fe 238.204 Radial†	148.0	147.9	[0.00] µg/L	15:07:15
2	K 766.490 Radial†	1396.5	1395.7	[0.00] µg/L	15:06:55
2	Mg 279.077 IEC†	152.8	152.7	[0.00] µg/L	15:07:15
2	Na 589.592 Radial†	1149.0	1148.4	[0.00] µg/L	15:06:55
2	Sr 421.552†	-193.4	-193.3	[0.00] µg/L	15:06:55
2	Sc 361.383	1758204.8	1758204.8	100.18 %	15:08:19
2	Y 371.029	1066082.1	1066082.1	100.19 %	15:08:19
2	Ag 328.068†	3417.1	3411.0	[0.00] µg/L	15:08:21
2	As 188.979†	-15.0	-15.0	[0.00] µg/L	15:08:41

2	B 249.677†	3227.6	3221.9	[0.00]	µg/L	15:08:41
2	Ba 233.527†	-147.6	-147.4	[0.00]	µg/L	15:08:41
2	Be 313.107†	-698.8	-697.5	[0.00]	µg/L	15:08:21
2	Cd 226.502†	-114.7	-114.5	[0.00]	µg/L	15:08:41
2	Co 228.616†	-169.7	-169.4	[0.00]	µg/L	15:08:41
2	Cr 267.716†	163.9	163.6	[0.00]	µg/L	15:08:41
2	Cu 324.752†	2765.8	2760.9	[0.00]	µg/L	15:08:21
2	Mn 257.610†	183.5	183.2	[0.00]	µg/L	15:08:41
2	Mo 202.031†	-33.7	-33.6	[0.00]	µg/L	15:08:41
2	Ni 231.604†	-86.0	-85.8	[0.00]	µg/L	15:08:41
2	P 214.914†	8.3	8.3	[0.00]	µg/L	15:08:41
2	Pb 220.353†	81.9	81.8	[0.00]	µg/L	15:08:41
2	S 181.975 Axial†	81.0	80.8	[0.00]	µg/L	15:08:41
2	Sb 206.836†	78.6	78.4	[0.00]	µg/L	15:08:41
2	Se 196.026†	28.8	28.8	[0.00]	µg/L	15:08:41
2	SiO2†	1754.9	1751.8	[0.00]	µg/L	15:08:41
2	Si 251.611†	1018.7	1016.9	[0.00]	µg/L	15:08:21
2	Sn 189.927†	0.3	0.3	[0.00]	µg/L	15:08:41
2	Ti 334.940†	994.7	992.9	[0.00]	µg/L	15:08:21
2	Tl 190.801†	-109.6	-109.4	[0.00]	µg/L	15:08:41
2	U 409.014†	-263.3	-262.8	[0.00]	µg/L	15:08:21
2	V 292.402†	284.4	283.9	[0.00]	µg/L	15:08:21
2	Zn 213.857†	528.6	527.6	[0.00]	µg/L	15:08:41
3	Sc RADIAL	149084.2	149084.2	101	%	15:07:17
3	Al 396.153Radial†	-52.4	-52.0	[0.00]	µg/L	15:07:37
3	Ca 317.933Radial†	730.3	724.2	[0.00]	µg/L	15:07:37
3	Fe 238.204 Radial†	140.4	139.2	[0.00]	µg/L	15:07:37
3	K 766.490 Radial†	1320.3	1309.2	[0.00]	µg/L	15:07:17
3	Mg 279.077 IEC†	178.6	177.1	[0.00]	µg/L	15:07:37
3	Na 589.592 Radial†	1200.4	1190.3	[0.00]	µg/L	15:07:17
3	Sr 421.552†	-226.0	-224.1	[0.00]	µg/L	15:07:17
3	Sc 361.383	1756878.6	1756878.6	100.10	%	15:08:43
3	Y 371.029	1065144.1	1065144.1	100.10	%	15:08:43
3	Ag 328.068†	3607.1	3603.4	[0.00]	µg/L	15:08:45
3	As 188.979†	-21.6	-21.6	[0.00]	µg/L	15:09:05
3	B 249.677†	3229.5	3226.2	[0.00]	µg/L	15:09:05
3	Ba 233.527†	-178.2	-178.0	[0.00]	µg/L	15:09:05
3	Be 313.107†	-884.3	-883.4	[0.00]	µg/L	15:08:45
3	Cd 226.502†	-95.4	-95.3	[0.00]	µg/L	15:09:05
3	Co 228.616†	-180.2	-180.0	[0.00]	µg/L	15:09:05
3	Cr 267.716†	190.8	190.6	[0.00]	µg/L	15:09:05
3	Cu 324.752†	2810.8	2808.0	[0.00]	µg/L	15:08:45
3	Mn 257.610†	166.6	166.4	[0.00]	µg/L	15:09:05
3	Mo 202.031†	-33.9	-33.9	[0.00]	µg/L	15:09:05
3	Ni 231.604†	-76.5	-76.4	[0.00]	µg/L	15:09:05
3	P 214.914†	6.7	6.7	[0.00]	µg/L	15:09:05
3	Pb 220.353†	93.4	93.3	[0.00]	µg/L	15:09:05
3	S 181.975 Axial†	96.2	96.1	[0.00]	µg/L	15:09:05
3	Sb 206.836†	74.4	74.3	[0.00]	µg/L	15:09:05
3	Se 196.026†	8.6	8.6	[0.00]	µg/L	15:09:05
3	SiO2†	1756.0	1754.2	[0.00]	µg/L	15:09:05
3	Si 251.611†	973.9	972.9	[0.00]	µg/L	15:08:45
3	Sn 189.927†	-0.2	-0.2	[0.00]	µg/L	15:09:05
3	Ti 334.940†	795.2	794.4	[0.00]	µg/L	15:08:45
3	Tl 190.801†	-129.9	-129.8	[0.00]	µg/L	15:09:05
3	U 409.014†	-340.0	-339.6	[0.00]	µg/L	15:08:45
3	V 292.402†	228.5	228.3	[0.00]	µg/L	15:08:45
3	Zn 213.857†	520.8	520.3	[0.00]	µg/L	15:09:05

## Mean Data: S0

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	1755077.4	4319.59	0.25%	100.00	%
Sc RADIAL	147829.8	1294.89	0.88%	100	%
Y 371.029	1064044.5	2757.13	0.26%	100.00	%
Ag 328.068†	3447.1	141.77	4.11%	[0.00]	µg/L
Al 396.153Radial†	-62.9	34.89	55.49%	[0.00]	µg/L
As 188.979†	-17.7	3.44	19.45%	[0.00]	µg/L
B 249.677†	3230.3	11.14	0.34%	[0.00]	µg/L
Ba 233.527†	-162.2	15.33	9.46%	[0.00]	µg/L

Be 313.107†	-785.6	93.33	11.88%	[0.00]	µg/L
Ca 317.933Radial†	698.0	24.30	3.48%	[0.00]	µg/L
Cd 226.502†	-110.0	13.07	11.88%	[0.00]	µg/L
Co 228.616†	-172.4	6.63	3.84%	[0.00]	µg/L
Cr 267.716†	178.6	13.74	7.69%	[0.00]	µg/L
Cu 324.752†	2788.9	24.81	0.89%	[0.00]	µg/L
Fe 238.204 Radial†	140.7	6.62	4.70%	[0.00]	µg/L
K 766.490 Radial†	1312.8	81.17	6.18%	[0.00]	µg/L
Mg 279.077 IEC†	168.8	13.89	8.23%	[0.00]	µg/L
Mn 257.610†	175.6	8.49	4.84%	[0.00]	µg/L
Mo 202.031†	-34.8	1.78	5.12%	[0.00]	µg/L
Na 589.592 Radial†	1206.6	67.93	5.63%	[0.00]	µg/L
Ni 231.604†	-77.9	7.31	9.39%	[0.00]	µg/L
P 214.914†	5.0	4.37	87.51%	[0.00]	µg/L
Pb 220.353†	97.0	17.35	17.90%	[0.00]	µg/L
S 181.975 Axial†	87.7	7.77	8.86%	[0.00]	µg/L
Sb 206.836†	78.1	3.61	4.63%	[0.00]	µg/L
Se 196.026†	13.6	13.43	99.02%	[0.00]	µg/L
SiO2†	1753.1	1.20	0.07%	[0.00]	µg/L
Si 251.611†	948.7	83.02	8.75%	[0.00]	µg/L
Sn 189.927†	-2.5	4.43	174.28%	[0.00]	µg/L
Sr 421.552†	-221.7	27.19	12.27%	[0.00]	µg/L
Ti 334.940†	885.6	100.24	11.32%	[0.00]	µg/L
Tl 190.801†	-117.1	11.10	9.48%	[0.00]	µg/L
U 409.014†	-283.8	48.88	17.23%	[0.00]	µg/L
V 292.402†	309.8	97.21	31.37%	[0.00]	µg/L
Zn 213.857†	524.6	3.82	0.73%	[0.00]	µg/L

Sequence No.: 2

Sample ID: S0.1

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 2

Date Collected: 3/30/2010 15:09:13

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	151106.4	151106.4	102 %	15:09:44
1	K 766.490 Radial†	3818.5	2422.9	[1000] µg/L	15:09:44
1	Sr 421.552†	45253.2	44493.6	[100] µg/L	15:09:44
1	Sc 361.383	1738037.7	1738037.7	99.029 %	15:09:52
1	Y 371.029	1049397.7	1049397.7	98.623 %	15:09:52
1	Ag 328.068†	28574.4	25407.5	[100] µg/L	15:09:54
1	As 188.979†	268.3	288.6	[100] µg/L	15:10:14
1	B 249.677†	9207.2	6067.1	[100] µg/L	15:09:54
1	Ba 233.527†	22852.5	23238.7	[100] µg/L	15:09:54
1	Be 313.107†	323892.5	327853.5	[100] µg/L	15:09:52
1	Cd 226.502†	14574.7	14827.6	[100] µg/L	15:09:54
1	Co 228.616†	7300.6	7544.6	[100] µg/L	15:10:14
1	Cr 267.716†	11891.0	11829.0	[100] µg/L	15:09:54
1	Cu 324.752†	26223.3	23691.5	[100] µg/L	15:09:54
1	Mn 257.610†	76566.4	77141.5	[100] µg/L	15:09:54
1	Mo 202.031†	3085.6	3150.6	[100] µg/L	15:10:14
1	Ni 231.604†	8046.1	8202.9	[100] µg/L	15:09:54
1	P 214.914†	2079.3	2094.7	[500] µg/L	15:10:14
1	Pb 220.353†	1741.7	1661.8	[100] µg/L	15:10:14
1	S 181.975 Axial†	326.5	242.0	[200] µg/L	15:10:14
1	Sb 206.836†	832.0	762.0	[100] µg/L	15:10:14
1	Se 196.026†	250.1	238.9	[100] µg/L	15:10:14
1	SiO2†	11525.9	9885.8	[1069.5] µg/L	15:09:54
1	Si 251.611†	31162.9	30519.8	[500] µg/L	15:09:54
1	Sn 189.927†	1432.7	1449.3	[100] µg/L	15:10:14
1	Ti 334.940†	99104.5	99190.5	[100] µg/L	15:09:54
1	Tl 190.801†	632.9	756.2	[100] µg/L	15:10:14
1	U 409.014†	1279.0	1575.3	[100] µg/L	15:09:54
1	V 292.402†	18747.4	18621.3	[100] µg/L	15:09:54
1	Zn 213.857†	16580.0	16218.0	[100] µg/L	15:09:54
2	Sc RADIAL	151100.7	151100.7	102 %	15:09:46
2	K 766.490 Radial†	3799.4	2404.3	[1000] µg/L	15:09:46
2	Sr 421.552†	45444.4	44682.4	[100] µg/L	15:09:46
2	Sc 361.383	1757465.9	1757465.9	100.14 %	15:10:16
2	Y 371.029	1061598.8	1061598.8	99.770 %	15:10:16
2	Ag 328.068†	28565.6	25079.7	[100] µg/L	15:10:18
2	As 188.979†	278.0	295.3	[100] µg/L	15:10:38
2	B 249.677†	9241.9	5999.0	[100] µg/L	15:10:18
2	Ba 233.527†	23009.2	23140.1	[100] µg/L	15:10:18
2	Be 313.107†	327346.9	327687.6	[100] µg/L	15:10:16
2	Cd 226.502†	14590.2	14680.4	[100] µg/L	15:10:18
2	Co 228.616†	7268.8	7431.4	[100] µg/L	15:10:38
2	Cr 267.716†	12079.9	11884.9	[100] µg/L	15:10:18
2	Cu 324.752†	26500.5	23675.6	[100] µg/L	15:10:18
2	Mn 257.610†	77037.2	76756.9	[100] µg/L	15:10:18
2	Mo 202.031†	3083.7	3114.3	[100] µg/L	15:10:38
2	Ni 231.604†	8112.2	8179.1	[100] µg/L	15:10:18
2	P 214.914†	2063.1	2055.3	[500] µg/L	15:10:38
2	Pb 220.353†	1736.3	1637.0	[100] µg/L	15:10:38
2	S 181.975 Axial†	322.2	234.0	[200] µg/L	15:10:38
2	Sb 206.836†	843.3	764.1	[100] µg/L	15:10:38
2	Se 196.026†	260.0	246.1	[100] µg/L	15:10:38
2	SiO2†	11608.3	9839.4	[1069.5] µg/L	15:10:18
2	Si 251.611†	31441.9	30450.5	[500] µg/L	15:10:18
2	Sn 189.927†	1435.4	1436.0	[100] µg/L	15:10:38
2	Ti 334.940†	99940.5	98919.1	[100] µg/L	15:10:18
2	Tl 190.801†	638.1	754.3	[100] µg/L	15:10:38
2	U 409.014†	1394.8	1676.7	[100] µg/L	15:10:18
2	V 292.402†	18757.2	18421.9	[100] µg/L	15:10:18



2	Zn 213.857†	16630.2	16083.1	[100]	µg/L	15:10:18
3	Sc RADIAL	150595.1	150595.1	102	%	15:09:48
3	K 766.490 Radial†	3957.0	2571.5	[1000]	µg/L	15:09:48
3	Sr 421.552†	45519.0	44904.8	[100]	µg/L	15:09:48
3	Sc 361.383	1739244.5	1739244.5	99.098	%	15:10:40
3	Y 371.029	1050569.8	1050569.8	98.734	%	15:10:40
3	Ag 328.068†	28423.4	25235.1	[100]	µg/L	15:10:42
3	As 188.979†	270.5	290.7	[100]	µg/L	15:11:02
3	B 249.677†	9031.4	5883.3	[100]	µg/L	15:10:42
3	Ba 233.527†	22814.2	23184.1	[100]	µg/L	15:10:42
3	Be 313.107†	324651.0	328391.9	[100]	µg/L	15:10:40
3	Cd 226.502†	14381.3	14622.3	[100]	µg/L	15:10:42
3	Co 228.616†	7305.3	7544.2	[100]	µg/L	15:11:02
3	Cr 267.716†	11842.0	11771.3	[100]	µg/L	15:10:42
3	Cu 324.752†	26162.4	23611.6	[100]	µg/L	15:10:42
3	Mn 257.610†	76240.8	76759.2	[100]	µg/L	15:10:42
3	Mo 202.031†	3086.5	3149.4	[100]	µg/L	15:11:02
3	Ni 231.604†	7930.5	8080.6	[100]	µg/L	15:10:42
3	P 214.914†	2052.5	2066.2	[500]	µg/L	15:11:02
3	Pb 220.353†	1737.1	1655.9	[100]	µg/L	15:11:02
3	S 181.975 Axial†	322.8	238.0	[200]	µg/L	15:11:02
3	Sb 206.836†	838.9	768.4	[100]	µg/L	15:11:02
3	Se 196.026†	267.2	256.1	[100]	µg/L	15:11:02
3	SiO2†	11482.8	9834.2	[1069.5]	µg/L	15:10:42
3	Si 251.611†	31025.8	30359.6	[500]	µg/L	15:10:42
3	Sn 189.927†	1439.4	1455.1	[100]	µg/L	15:11:02
3	Ti 334.940†	98234.7	98243.4	[100]	µg/L	15:10:42
3	Tl 190.801†	640.7	763.7	[100]	µg/L	15:11:02
3	U 409.014†	1354.3	1650.4	[100]	µg/L	15:10:42
3	V 292.402†	18608.8	18468.4	[100]	µg/L	15:10:42
3	Zn 213.857†	16438.9	16064.0	[100]	µg/L	15:10:42

## Mean Data: S0.1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	1744916.0	10885.22	0.62%	99.421	%
Sc RADIAL	150934.1	293.54	0.19%	102	%
Y 371.029	1053855.4	6731.54	0.64%	99.042	%
Ag 328.068†	25240.8	163.97	0.65%	[100]	µg/L
As 188.979†	291.5	3.43	1.18%	[100]	µg/L
B 249.677†	5983.1	92.92	1.55%	[100]	µg/L
Ba 233.527†	23187.6	49.38	0.21%	[100]	µg/L
Be 313.107†	327977.7	368.24	0.11%	[100]	µg/L
Cd 226.502†	14710.1	105.82	0.72%	[100]	µg/L
Co 228.616†	7506.8	65.26	0.87%	[100]	µg/L
Cr 267.716†	11828.4	56.81	0.48%	[100]	µg/L
Cu 324.752†	23659.5	42.28	0.18%	[100]	µg/L
K 766.490 Radial†	2466.2	91.66	3.72%	[1000]	µg/L
Mn 257.610†	76885.9	221.36	0.29%	[100]	µg/L
Mo 202.031†	3138.1	20.62	0.66%	[100]	µg/L
Ni 231.604†	8154.2	64.85	0.80%	[100]	µg/L
P 214.914†	2072.0	20.35	0.98%	[500]	µg/L
Pb 220.353†	1651.6	12.97	0.79%	[100]	µg/L
S 181.975 Axial†	238.0	4.01	1.69%	[200]	µg/L
Sb 206.836†	764.9	3.26	0.43%	[100]	µg/L
Se 196.026†	247.0	8.60	3.48%	[100]	µg/L
SiO2†	9853.1	28.41	0.29%	[1069.5]	µg/L
Si 251.611†	30443.3	80.34	0.26%	[500]	µg/L
Sn 189.927†	1446.8	9.79	0.68%	[100]	µg/L
Sr 421.552†	44693.6	205.85	0.46%	[100]	µg/L
Ti 334.940†	98784.3	487.73	0.49%	[100]	µg/L
Tl 190.801†	758.0	4.95	0.65%	[100]	µg/L
U 409.014†	1634.1	52.62	3.22%	[100]	µg/L
V 292.402†	18503.9	104.35	0.56%	[100]	µg/L
Zn 213.857†	16121.7	83.92	0.52%	[100]	µg/L

Sequence No.: 3

Sample ID: S0.5

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 3

Date Collected: 3/30/2010 15:11:10

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: S0.5

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Analysis Time
1	Sc RADIAL	153789.5	153789.5	104 %	15:11:41
1	Al 396.153Radial†	24481.1	23595.3	[5000] µg/L	15:11:41
1	Ca 317.933Radial†	85129.1	81132.2	[5000] µg/L	15:11:41
1	K 766.490 Radial†	13676.3	11833.5	[5000] µg/L	15:11:41
1	Mg 279.077 IEC†	12814.2	12148.8	[5000] µg/L	15:11:41
1	Sr 421.552†	211787.7	203802.1	[500] µg/L	15:11:39
1	Sc 361.383	1735951.4	1735951.4	98.910 %	15:11:54
1	Y 371.029	1040161.6	1040161.6	97.755 %	15:11:54
1	Ag 328.068†	126606.2	124554.0	[500] µg/L	15:11:54
1	As 188.979†	1397.2	1430.3	[500] µg/L	15:12:14
1	B 249.677†	33216.3	30351.9	[500] µg/L	15:11:54
1	Ba 233.527†	113577.9	114991.4	[500] µg/L	15:11:54
1	Be 313.107†	1647596.1	1666534.1	[500] µg/L	15:11:54
1	Cd 226.502†	72100.2	73004.6	[500] µg/L	15:11:54
1	Co 228.616†	36584.4	37159.9	[500] µg/L	15:11:54
1	Cr 267.716†	58901.1	59371.5	[500] µg/L	15:11:54
1	Cu 324.752†	119610.4	118139.2	[500] µg/L	15:11:54
1	Mn 257.610†	371672.1	375591.5	[500] µg/L	15:11:54
1	Mo 202.031†	15467.6	15672.8	[500] µg/L	15:12:14
1	Ni 231.604†	39521.0	40034.3	[500] µg/L	15:11:54
1	P 214.914†	10340.4	10449.3	[2500] µg/L	15:12:14
1	Pb 220.353†	8226.2	8219.8	[500] µg/L	15:12:14
1	S 181.975 Axial†	1292.3	1218.9	[1000] µg/L	15:12:14
1	Sb 206.836†	3846.6	3810.9	[500] µg/L	15:12:14
1	Se 196.026†	1241.8	1241.9	[500] µg/L	15:12:14
1	SiO2†	50998.0	49806.7	[5347.5] µg/L	15:11:54
1	Si 251.611†	153709.5	154454.4	[2500] µg/L	15:11:54
1	Sn 189.927†	7149.3	7230.6	[500] µg/L	15:12:14
1	Ti 334.940†	494470.5	499032.8	[500] µg/L	15:11:54
1	Tl 190.801†	3575.0	3731.4	[500] µg/L	15:12:14
1	U 409.014†	7148.3	7510.8	[500] µg/L	15:11:54
1	V 292.402†	92825.6	93538.5	[500] µg/L	15:11:54
1	Zn 213.857†	80524.0	80886.6	[500] µg/L	15:11:54
2	Sc RADIAL	152865.2	152865.2	103 %	15:11:45
2	Al 396.153Radial†	24989.3	24229.1	[5000] µg/L	15:11:45
2	Ca 317.933Radial†	86974.4	83411.5	[5000] µg/L	15:11:45
2	K 766.490 Radial†	13984.7	12211.3	[5000] µg/L	15:11:45
2	Mg 279.077 IEC†	12966.9	12370.9	[5000] µg/L	15:11:45
2	Sr 421.552†	222524.3	215416.0	[500] µg/L	15:11:43
2	Sc 361.383	1734190.5	1734190.5	98.810 %	15:12:17
2	Y 371.029	1038691.4	1038691.4	97.617 %	15:12:17
2	Ag 328.068†	126509.4	124586.0	[500] µg/L	15:12:17
2	As 188.979†	1391.7	1426.2	[500] µg/L	15:12:37
2	B 249.677†	33048.7	30216.4	[500] µg/L	15:12:17
2	Ba 233.527†	113148.6	114673.5	[500] µg/L	15:12:17
2	Be 313.107†	1642503.0	1663071.1	[500] µg/L	15:12:17
2	Cd 226.502†	71973.8	72950.7	[500] µg/L	15:12:17
2	Co 228.616†	36618.8	37232.2	[500] µg/L	15:12:17
2	Cr 267.716†	58524.7	59051.0	[500] µg/L	15:12:17
2	Cu 324.752†	119301.7	117949.6	[500] µg/L	15:12:17
2	Mn 257.610†	370432.5	374718.5	[500] µg/L	15:12:17
2	Mo 202.031†	15519.2	15740.9	[500] µg/L	15:12:37
2	Ni 231.604†	39230.4	39780.8	[500] µg/L	15:12:17
2	P 214.914†	10372.7	10492.7	[2500] µg/L	15:12:37
2	Pb 220.353†	8220.3	8222.3	[500] µg/L	15:12:37
2	S 181.975 Axial†	1292.2	1220.1	[1000] µg/L	15:12:37
2	Sb 206.836†	3819.7	3787.6	[500] µg/L	15:12:37
2	Se 196.026†	1255.4	1257.0	[500] µg/L	15:12:37
2	SiO2†	51109.7	49972.2	[5347.5] µg/L	15:12:17

2	Si 251.611†	153212.5	154109.2	[2500]	µg/L	15:12:17
2	Sn 189.927†	7129.5	7217.9	[500]	µg/L	15:12:37
2	Ti 334.940†	493094.1	498147.4	[500]	µg/L	15:12:17
2	Tl 190.801†	3556.4	3716.3	[500]	µg/L	15:12:37
2	U 409.014†	6944.1	7311.5	[500]	µg/L	15:12:17
2	V 292.402†	92554.7	93359.6	[500]	µg/L	15:12:17
2	Zn 213.857†	80255.8	80697.8	[500]	µg/L	15:12:17
3	Sc RADIAL	149863.4	149863.4	101	%	15:11:49
3	Al 396.153Radial†	24669.1	24397.3	[5000]	µg/L	15:11:49
3	Ca 317.933Radial†	85030.9	83179.1	[5000]	µg/L	15:11:49
3	K 766.490 Radial†	13600.3	12103.0	[5000]	µg/L	15:11:49
3	Mg 279.077 IEC†	12711.9	12370.7	[5000]	µg/L	15:11:49
3	Sr 421.552†	221546.3	218761.8	[500]	µg/L	15:11:47
3	Sc 361.383	1723472.7	1723472.7	98.199	%	15:12:40
3	Y 371.029	1032864.9	1032864.9	97.070	%	15:12:40
3	Ag 328.068†	125972.8	124835.8	[500]	µg/L	15:12:40
3	As 188.979†	1399.9	1443.2	[500]	µg/L	15:13:00
3	B 249.677†	33059.7	30435.6	[500]	µg/L	15:12:40
3	Ba 233.527†	112125.9	114344.2	[500]	µg/L	15:12:40
3	Be 313.107†	1630400.6	1661084.1	[500]	µg/L	15:12:40
3	Cd 226.502†	71306.5	72724.1	[500]	µg/L	15:12:40
3	Co 228.616†	36272.9	37110.5	[500]	µg/L	15:12:40
3	Cr 267.716†	58285.2	59175.5	[500]	µg/L	15:12:40
3	Cu 324.752†	118561.9	117947.1	[500]	µg/L	15:12:40
3	Mn 257.610†	367562.2	374126.9	[500]	µg/L	15:12:40
3	Mo 202.031†	15553.6	15873.5	[500]	µg/L	15:13:00
3	Ni 231.604†	38922.1	39713.7	[500]	µg/L	15:12:40
3	P 214.914†	10377.3	10562.6	[2500]	µg/L	15:13:00
3	Pb 220.353†	8241.3	8295.5	[500]	µg/L	15:13:00
3	S 181.975 Axial†	1295.0	1231.1	[1000]	µg/L	15:13:00
3	Sb 206.836†	3839.0	3831.3	[500]	µg/L	15:13:00
3	Se 196.026†	1246.3	1255.5	[500]	µg/L	15:13:00
3	SiO2†	50697.4	49873.9	[5347.5]	µg/L	15:12:40
3	Si 251.611†	152190.0	154032.2	[2500]	µg/L	15:12:40
3	Sn 189.927†	7135.8	7269.2	[500]	µg/L	15:13:00
3	Ti 334.940†	489890.4	497988.3	[500]	µg/L	15:12:40
3	Tl 190.801†	3591.9	3774.8	[500]	µg/L	15:13:00
3	U 409.014†	7340.9	7759.3	[500]	µg/L	15:12:40
3	V 292.402†	91865.1	93239.8	[500]	µg/L	15:12:40
3	Zn 213.857†	79572.2	80506.8	[500]	µg/L	15:12:40

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Mean Data: S0.5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc.	Units
Sc 361.383	1731204.9	6753.87	0.39%	98.640	%
Sc RADIAL	152172.7	2052.66	1.35%	103	%
Y 371.029	1037239.3	3858.99	0.37%	97.481	%
Ag 328.068†	124658.6	154.27	0.12%	[500]	µg/L
Al 396.153Radial†	24073.9	422.90	1.76%	[5000]	µg/L
As 188.979†	1433.2	8.90	0.62%	[500]	µg/L
B 249.677†	30334.6	110.59	0.36%	[500]	µg/L
Ba 233.527†	114669.7	323.62	0.28%	[500]	µg/L
Be 313.107†	1663563.1	2758.14	0.17%	[500]	µg/L
Ca 317.933Radial†	82574.3	1254.28	1.52%	[5000]	µg/L
Cd 226.502†	72893.1	148.83	0.20%	[500]	µg/L
Co 228.616†	37167.5	61.23	0.16%	[500]	µg/L
Cr 267.716†	59199.3	161.54	0.27%	[500]	µg/L
Cu 324.752†	118012.0	110.23	0.09%	[500]	µg/L
K 766.490 Radial†	12049.3	194.52	1.61%	[5000]	µg/L
Mg 279.077 IEC†	12296.8	128.17	1.04%	[5000]	µg/L
Mn 257.610†	374812.3	736.78	0.20%	[500]	µg/L
Mo 202.031†	15762.4	102.07	0.65%	[500]	µg/L
Ni 231.604†	39842.9	169.11	0.42%	[500]	µg/L
P 214.914†	10501.5	57.19	0.54%	[2500]	µg/L
Pb 220.353†	8245.9	42.98	0.52%	[500]	µg/L
S 181.975 Axial†	1223.3	6.71	0.55%	[1000]	µg/L
Sb 206.836†	3809.9	21.86	0.57%	[500]	µg/L
Se 196.026†	1251.5	8.34	0.67%	[500]	µg/L
SiO2†	49884.3	83.19	0.17%	[5347.5]	µg/L
Si 251.611†	154198.6	224.84	0.15%	[2500]	µg/L

Sn 189.927†	7239.2	26.70	0.37%	[500] µg/L
Sr 421.552†	212660.0	7851.46	3.69%	[500] µg/L
Ti 334.940†	498389.5	562.78	0.11%	[500] µg/L
Tl 190.801†	3740.9	30.37	0.81%	[500] µg/L
U 409.014†	7527.2	224.34	2.98%	[500] µg/L
V 292.402†	93379.3	150.30	0.16%	[500] µg/L
Zn 213.857†	80697.1	189.88	0.24%	[500] µg/L

Sequence No.: 4

Sample ID: SCAL

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 4

Date Collected: 3/30/2010 15:13:09

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

## Replicate Data: SCAL

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Analysis Time
1	Sc RADIAL	151479.9	151479.9	102 %	15:13:40
1	Al 396.153Radial†	50248.0	49100.2	[10000] µg/L	15:13:40
1	Ca 317.933Radial†	172576.6	167720.3	[10000] µg/L	15:13:40
1	Fe 238.204 Radial†	152851.3	149027.6	[10000] µg/L	15:13:40
1	K 766.490 Radial†	26338.9	24391.4	[10000] µg/L	15:13:40
1	Mg 279.077 IEC†	25844.4	25052.9	[10000] µg/L	15:13:40
1	Na 589.592 Radial†	68427.5	65572.1	[10000] µg/L	15:13:40
1	Sr 421.552†	443569.3	433102.8	[1000] µg/L	15:13:38
1	Sc 361.383	1755665.6	1755665.6	100.03 %	15:13:53
1	Y 371.029	1044873.8	1044873.8	98.198 %	15:13:53
1	Ag 328.068†	252438.6	248906.9	[1000] µg/L	15:13:55
1	As 188.979†	2841.7	2858.5	[1000] µg/L	15:14:15
1	B 249.677†	63707.1	60455.4	[1000] µg/L	15:13:55
1	Ba 233.527†	226640.1	226726.3	[1000] µg/L	15:13:55
1	Be 313.107†	3325212.5	3324883.9	[1000] µg/L	15:13:53
1	Cd 226.502†	143542.8	143604.7	[1000] µg/L	15:13:55
1	Co 228.616†	72617.2	72765.3	[1000] µg/L	15:13:55
1	Cr 267.716†	117324.3	117106.4	[1000] µg/L	15:13:55
1	Cu 324.752†	237494.2	234625.7	[1000] µg/L	15:13:55
1	Mn 257.610†	738395.3	737972.3	[1000] µg/L	15:13:55
1	Mo 202.031†	31197.3	31221.6	[1000] µg/L	15:14:15
1	Ni 231.604†	78391.2	78442.8	[1000] µg/L	15:13:55
1	P 214.914†	20837.0	20825.0	[5000] µg/L	15:14:15
1	Pb 220.353†	16272.4	16170.0	[1000] µg/L	15:14:15
1	S 181.975 Axial†	2513.2	2424.7	[2000] µg/L	15:14:15
1	Sb 206.836†	7651.2	7570.5	[1000] µg/L	15:14:15
1	Se 196.026†	2493.0	2478.6	[1000] µg/L	15:14:15
1	SiO2†	100259.4	98472.6	[10695] µg/L	15:13:55
1	Si 251.611†	305887.8	304836.7	[5000] µg/L	15:13:55
1	Sn 189.927†	14332.6	14330.3	[1000] µg/L	15:14:15
1	Ti 334.940†	997065.9	995846.2	[1000] µg/L	15:13:53
1	Tl 190.801†	7268.8	7383.5	[1000] µg/L	15:14:15
1	U 409.014†	15767.1	16045.6	[1000] µg/L	15:13:55
1	V 292.402†	186730.1	186357.7	[1000] µg/L	15:13:55
1	Zn 213.857†	159431.2	158853.3	[1000] µg/L	15:13:55
2	Sc RADIAL	151260.0	151260.0	102 %	15:13:44
2	Al 396.153Radial†	50210.8	49135.1	[10000] µg/L	15:13:44
2	Ca 317.933Radial†	171845.0	167250.0	[10000] µg/L	15:13:44
2	Fe 238.204 Radial†	152123.6	148533.1	[10000] µg/L	15:13:44
2	K 766.490 Radial†	26188.8	24282.1	[10000] µg/L	15:13:44
2	Mg 279.077 IEC†	25703.0	24951.3	[10000] µg/L	15:13:44
2	Na 589.592 Radial†	67914.1	65167.3	[10000] µg/L	15:13:44
2	Sr 421.552†	445909.8	436019.5	[1000] µg/L	15:13:42
2	Sc 361.383	1749606.7	1749606.7	99.688 %	15:14:18
2	Y 371.029	1042280.4	1042280.4	97.955 %	15:14:18
2	Ag 328.068†	254491.0	251839.7	[1000] µg/L	15:14:20
2	As 188.979†	2842.0	2868.6	[1000] µg/L	15:14:40
2	B 249.677†	64704.3	61676.3	[1000] µg/L	15:14:20
2	Ba 233.527†	228264.2	229140.1	[1000] µg/L	15:14:20
2	Be 313.107†	3335523.1	3346738.2	[1000] µg/L	15:14:18
2	Cd 226.502†	144794.1	145356.9	[1000] µg/L	15:14:20
2	Co 228.616†	73330.2	73732.0	[1000] µg/L	15:14:20
2	Cr 267.716†	118422.9	118614.6	[1000] µg/L	15:14:20
2	Cu 324.752†	239130.0	237088.8	[1000] µg/L	15:14:20
2	Mn 257.610†	744297.2	746448.9	[1000] µg/L	15:14:20
2	Mo 202.031†	31343.1	31475.9	[1000] µg/L	15:14:40
2	Ni 231.604†	78921.8	79246.4	[1000] µg/L	15:14:20
2	P 214.914†	20931.4	20991.9	[5000] µg/L	15:14:40
2	Pb 220.353†	16369.7	16323.9	[1000] µg/L	15:14:40

2	S 181.975 Axial†	2522.0	2442.1	[2000]	µg/L	15:14:40
2	Sb 206.836†	7703.7	7649.7	[1000]	µg/L	15:14:40
2	Se 196.026†	2507.4	2501.6	[1000]	µg/L	15:14:40
2	SiO2†	101466.2	100030.3	[10695]	µg/L	15:14:20
2	Si 251.611†	308702.3	308718.9	[5000]	µg/L	15:14:20
2	Sn 189.927†	14433.4	14481.1	[1000]	µg/L	15:14:40
2	Ti 334.940†	998815.3	1001052.9	[1000]	µg/L	15:14:18
2	Tl 190.801†	7296.7	7436.6	[1000]	µg/L	15:14:40
2	U 409.014†	15818.7	16151.9	[1000]	µg/L	15:14:20
2	V 292.402†	188107.1	188385.4	[1000]	µg/L	15:14:20
2	Zn 213.857†	161016.2	160995.1	[1000]	µg/L	15:14:20
3	Sc RADIAL	151014.0	151014.0	102	%	15:13:48
3	Al 396.153Radial†	50198.3	49202.7	[10000]	µg/L	15:13:48
3	Ca 317.933Radial†	171941.8	167618.5	[10000]	µg/L	15:13:48
3	Fe 238.204 Radial†	152128.1	148779.8	[10000]	µg/L	15:13:48
3	K 766.490 Radial†	26223.9	24358.2	[10000]	µg/L	15:13:48
3	Mg 279.077 IEC†	25716.3	25005.2	[10000]	µg/L	15:13:48
3	Na 589.592 Radial†	67843.5	65206.4	[10000]	µg/L	15:13:48
3	Sr 421.552†	446265.2	437077.4	[1000]	µg/L	15:13:46
3	Sc 361.383	1732533.9	1732533.9	98.716	%	15:14:42
3	Y 371.029	1032118.8	1032118.8	97.000	%	15:14:42
3	Ag 328.068†	255803.1	255684.5	[1000]	µg/L	15:14:45
3	As 188.979†	2815.4	2869.7	[1000]	µg/L	15:15:05
3	B 249.677†	64798.9	62411.8	[1000]	µg/L	15:14:45
3	Ba 233.527†	230158.6	233315.5	[1000]	µg/L	15:14:45
3	Be 313.107†	3286563.4	3330113.2	[1000]	µg/L	15:14:42
3	Cd 226.502†	145823.0	147830.4	[1000]	µg/L	15:14:45
3	Co 228.616†	73882.3	75016.1	[1000]	µg/L	15:14:45
3	Cr 267.716†	119164.2	120536.2	[1000]	µg/L	15:14:45
3	Cu 324.752†	240884.9	241230.3	[1000]	µg/L	15:14:45
3	Mn 257.610†	748765.6	758332.8	[1000]	µg/L	15:14:45
3	Mo 202.031†	31112.5	31552.1	[1000]	µg/L	15:15:05
3	Ni 231.604†	79518.6	80631.2	[1000]	µg/L	15:14:45
3	P 214.914†	20780.9	21046.3	[5000]	µg/L	15:15:05
3	Pb 220.353†	16271.0	16385.8	[1000]	µg/L	15:15:05
3	S 181.975 Axial†	2504.4	2449.3	[2000]	µg/L	15:15:05
3	Sb 206.836†	7642.3	7663.6	[1000]	µg/L	15:15:05
3	Se 196.026†	2492.7	2511.6	[1000]	µg/L	15:15:05
3	SiO2†	102016.4	101590.7	[10695]	µg/L	15:14:45
3	Si 251.611†	310581.1	313673.7	[5000]	µg/L	15:14:45
3	Sn 189.927†	14306.7	14495.4	[1000]	µg/L	15:15:05
3	Ti 334.940†	986990.6	998947.6	[1000]	µg/L	15:14:42
3	Tl 190.801†	7254.3	7465.7	[1000]	µg/L	15:15:05
3	U 409.014†	15880.8	16371.2	[1000]	µg/L	15:14:45
3	V 292.402†	189443.3	191598.5	[1000]	µg/L	15:14:45
3	Zn 213.857†	162084.4	163668.8	[1000]	µg/L	15:14:45

## Mean Data: SCAL

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
Sc 361.383	1745935.4	11994.92	0.69%	99.479 %
Sc RADIAL	151251.3	233.07	0.15%	102 %
Y 371.029	1039757.6	6741.31	0.65%	97.717 %
Ag 328.068†	252143.7	3399.00	1.35%	[1000] µg/L
Al 396.153Radial†	49146.0	52.14	0.11%	[10000] µg/L
As 188.979†	2865.6	6.19	0.22%	[1000] µg/L
B 249.677†	61514.5	988.13	1.61%	[1000] µg/L
Ba 233.527†	229727.3	3333.66	1.45%	[1000] µg/L
Be 313.107†	3333911.8	11411.59	0.34%	[1000] µg/L
Ca 317.933Radial†	167529.6	247.39	0.15%	[10000] µg/L
Cd 226.502†	145597.3	2123.07	1.46%	[1000] µg/L
Co 228.616†	73837.8	1129.09	1.53%	[1000] µg/L
Cr 267.716†	118752.4	1719.04	1.45%	[1000] µg/L
Cu 324.752†	237648.3	3337.68	1.40%	[1000] µg/L
Fe 238.204 Radial†	148780.2	247.21	0.17%	[10000] µg/L
K 766.490 Radial†	24343.9	56.06	0.23%	[10000] µg/L
Mg 279.077 IEC†	25003.1	50.81	0.20%	[10000] µg/L
Mn 257.610†	747584.7	10227.64	1.37%	[1000] µg/L
Mo 202.031†	31416.5	173.06	0.55%	[1000] µg/L
Na 589.592 Radial†	65315.3	223.25	0.34%	[10000] µg/L

Ni 231.604†	79440.2	1106.98	1.39%	[1000] µg/L
P 214.914†	20954.4	115.28	0.55%	[5000] µg/L
Pb 220.353†	16293.2	111.12	0.68%	[1000] µg/L
S 181.975 Axial†	2438.7	12.65	0.52%	[2000] µg/L
Sb 206.836†	7628.0	50.21	0.66%	[1000] µg/L
Se 196.026†	2497.3	16.89	0.68%	[1000] µg/L
SiO2†	100031.2	1559.01	1.56%	[10695] µg/L
Si 251.611†	309076.4	4429.34	1.43%	[5000] µg/L
Sn 189.927†	14435.6	91.46	0.63%	[1000] µg/L
Sr 421.552†	435399.9	2058.45	0.47%	[1000] µg/L
Ti 334.940†	998615.5	2619.17	0.26%	[1000] µg/L
Tl 190.801†	7428.6	41.70	0.56%	[1000] µg/L
U 409.014†	16189.6	166.03	1.03%	[1000] µg/L
V 292.402†	188780.5	2642.62	1.40%	[1000] µg/L
Zn 213.857†	161172.4	2412.67	1.50%	[1000] µg/L

Sequence No.: 5

Sample ID: S10

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 5

Date Collected: 3/30/2010 15:15:12

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	147370.9	147370.9	99.7 %		15:15:41
1	Al 396.153Radial†	240906.1	241719.3	[50000] µg/L		15:15:41
1	Ca 317.933Radial†	827273.1	829151.6	[50000] µg/L		15:15:41
1	Fe 238.204 Radial†	295786.6	296567.1	[20000] µg/L		15:15:41
1	Mg 279.077 IEC†	121547.2	121756.9	[50000] µg/L		15:15:41
1	Na 589.592 Radial†	132367.2	131572.8	[20000] µg/L		15:15:41
1	Sc 361.383	1684238.1	1684238.1	95.964 %		15:16:04
1	Y 371.029	1003912.2	1003912.2	94.349 %		15:16:04
2	Sc RADIAL	146863.2	146863.2	99.3 %		15:15:43
2	Al 396.153Radial†	241723.2	243377.1	[50000] µg/L		15:15:43
2	Ca 317.933Radial†	829762.2	834525.6	[50000] µg/L		15:15:43
2	Fe 238.204 Radial†	296606.6	298418.2	[20000] µg/L		15:15:43
2	Mg 279.077 IEC†	121675.8	122307.8	[50000] µg/L		15:15:43
2	Na 589.592 Radial†	132905.7	132573.9	[20000] µg/L		15:15:43
2	Sc 361.383	1671225.1	1671225.1	95.222 %		15:16:06
2	Y 371.029	995871.7	995871.7	93.593 %		15:16:06
3	Sc RADIAL	146034.8	146034.8	98.8 %		15:15:45
3	Al 396.153Radial†	239485.6	242492.1	[50000] µg/L		15:15:45
3	Ca 317.933Radial†	819348.2	828721.4	[50000] µg/L		15:15:45
3	Fe 238.204 Radial†	292983.7	296444.2	[20000] µg/L		15:15:45
3	Mg 279.077 IEC†	119881.9	121186.7	[50000] µg/L		15:15:45
3	Na 589.592 Radial†	131389.7	131798.1	[20000] µg/L		15:15:45
3	Sc 361.383	1683479.0	1683479.0	95.921 %		15:16:09
3	Y 371.029	1003957.3	1003957.3	94.353 %		15:16:09

## Mean Data: S10

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units	Calib Units
Sc 361.383	1679647.4	7303.80	0.43%	95.702 %	
Sc RADIAL	146756.3	674.41	0.46%	99.3 %	
Y 371.029	1001247.1	4655.29	0.46%	94.098 %	
Al 396.153Radial†	242529.5	829.53	0.34%	[50000] µg/L	
Ca 317.933Radial†	830799.6	3234.04	0.39%	[50000] µg/L	
Fe 238.204 Radial†	297143.2	1105.88	0.37%	[20000] µg/L	
Mg 279.077 IEC†	121750.5	560.60	0.46%	[50000] µg/L	
Na 589.592 Radial†	131981.6	525.16	0.40%	[20000] µg/L	

## Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	3	Lin Thru 0	0.0	251.6	0.00000	0.999990	
Al 396.153Radial	3	Lin Thru 0	0.0	4.853	0.00000	0.999997	
As 188.979	3	Lin Thru 0	0.0	2.866	0.00000	0.999999	
B 249.677	3	Lin Thru 0	0.0	61.33	0.00000	0.999983	
Ba 233.527	3	Lin Thru 0	0.0	229.7	0.00000	0.999999	
Be 313.107	3	Lin Thru 0	0.0	3332	0.00000	0.999999	
Ca 317.933Radial	3	Lin Thru 0	0.0	16.62	0.00000	0.999999	
Cd 226.502	3	Lin Thru 0	0.0	145.6	0.00000	0.999999	
Co 228.616	3	Lin Thru 0	0.0	73.95	0.00000	0.999995	
Cr 267.716	3	Lin Thru 0	0.0	118.7	0.00000	0.999999	
Cu 324.752	3	Lin Thru 0	0.0	237.3	0.00000	0.999996	
Fe 238.204 Radia	2	Lin Thru 0	0.0	14.86	0.00000	1.000000	
K 766.490 Radial	3	Lin Thru 0	0.0	2.430	0.00000	0.999991	
Mg 279.077 IEC	3	Lin Thru 0	0.0	2.438	0.00000	0.999986	
Mn 257.610	3	Lin Thru 0	0.0	748.2	0.00000	0.999996	
Mo 202.031	3	Lin Thru 0	0.0	31.44	0.00000	0.999999	
Na 589.592 Radia	2	Lin Thru 0	0.0	6.586	0.00000	0.999992	



Ni 231.604	3	Lin Thru 0	0.0	79.51	0.00000	0.999997
P 214.914	3	Lin Thru 0	0.0	4.192	0.00000	0.999999
Pb 220.353	3	Lin Thru 0	0.0	16.33	0.00000	0.999988
S 181.975 Axial	3	Lin Thru 0	0.0	1.220	0.00000	0.999997
Sb 206.836	3	Lin Thru 0	0.0	7.627	0.00000	1.000000
Se 196.026	3	Lin Thru 0	0.0	2.498	0.00000	0.999999
SiO2	3	Lin Thru 0	0.0	9.347	0.00000	0.999999
Si 251.611	3	Lin Thru 0	0.0	61.78	0.00000	0.999999
Sn 189.927	3	Lin Thru 0	0.0	14.44	0.00000	0.999999
Sr 421.552	3	Lin Thru 0	0.0	433.5	0.00000	0.999953
Ti 334.940	3	Lin Thru 0	0.0	998.2	0.00000	0.999999
Tl 190.801	3	Lin Thru 0	0.0	7.440	0.00000	0.999995
U 409.014	3	Lin Thru 0	0.0	15.97	0.00000	0.999597
V 292.402	3	Lin Thru 0	0.0	188.3	0.00000	0.999990
Zn 213.857	3	Lin Thru 0	0.0	161.2	0.00000	1.000000

Sequence No.: 6

Sample ID: ICV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 9

Date Collected: 3/30/2010 15:16:17

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	149158.9	149158.9	101 %		15:16:49
1	Al 396.153Radial†	25831.6	25664.3	5263.3 µg/L	5263.3 ppb	15:16:49
1	Ca 317.933Radial†	87376.8	85900.3	5168.4 µg/L	5168.4 ppb	15:16:49
1	Fe 238.204 Radial†	77792.8	76958.9	5178.5 µg/L	5178.5 ppb	15:16:49
1	K 766.490 Radial†	7770.6	6388.5	2626.3 µg/L	2626.3 ppb	15:16:49
1	Mg 279.077 IEC†	13533.9	13244.5	5442.1 µg/L	5442.1 ppb	15:16:49
1	Na 589.592 Radial†	18509.1	17137.5	2599.9 µg/L	2599.9 ppb	15:16:49
1	Sr 421.552†	239535.7	237623.0	548.12 µg/L	548.12 ppb	15:16:47
1	Sc 361.383	1733695.8	1733695.8	98.782 %		15:17:16
1	Y 371.029	1040751.9	1040751.9	97.811 %		15:17:16
1	Ag 328.068†	68135.2	65528.4	266.96 µg/L	266.96 ppb	15:17:16
1	As 188.979†	1329.3	1363.4	483.14 µg/L	483.14 ppb	15:17:36
1	B 249.677†	34869.6	32069.3	521.06 µg/L	521.06 ppb	15:17:16
1	Ba 233.527†	117588.5	119200.9	519.45 µg/L	519.45 ppb	15:17:16
1	Be 313.107†	875829.6	887416.8	266.46 µg/L	266.46 ppb	15:17:16
1	Cd 226.502†	73213.2	74226.2	509.34 µg/L	509.34 ppb	15:17:16
1	Co 228.616†	37882.5	38522.2	521.28 µg/L	521.28 ppb	15:17:16
1	Cr 267.716†	58712.5	59258.0	499.17 µg/L	499.17 ppb	15:17:16
1	Cu 324.752†	124786.7	123536.7	522.16 µg/L	522.16 ppb	15:17:16
1	Mn 257.610†	389862.8	394495.4	527.06 µg/L	527.06 ppb	15:17:16
1	Mo 202.031†	16938.7	17182.4	547.03 µg/L	547.03 ppb	15:17:36
1	Ni 231.604†	40201.0	40774.7	512.85 µg/L	512.85 ppb	15:17:16
1	P 214.914†	10575.5	10701.0	2543.4 µg/L	2543.4 ppb	15:17:36
1	Pb 220.353†	8363.7	8369.8	514.21 µg/L	514.21 ppb	15:17:36
1	S 181.975 Axial†	3115.2	3066.0	2517.9 µg/L	2517.9 ppb	15:17:36
1	Sb 206.836†	3912.6	3882.7	511.03 µg/L	511.03 ppb	15:17:36
1	Se 196.026†	6300.9	6365.0	2550 µg/L	2550 ppb	15:17:36
1	SiO2†	99885.1	99363.8	10607 µg/L	10607 ppb	15:17:16
1	Si 251.611†	304452.4	307258.6	4962.5 µg/L	4962.5 ppb	15:17:16
1	Sn 189.927†	7790.2	7888.8	547.86 µg/L	547.86 ppb	15:17:36
1	Ti 334.940†	499727.2	505004.7	505.26 µg/L	505.26 ppb	15:17:16
1	Tl 190.801†	3892.3	4057.4	552.96 µg/L	552.96 ppb	15:17:36
1	U 409.014†	7143.0	7514.9	502.35 µg/L	502.35 ppb	15:17:16
1	V 292.402†	96557.1	97438.1	524.43 µg/L	524.43 ppb	15:17:16
1	Zn 213.857†	83773.2	84281.8	518.68 µg/L	518.68 ppb	15:17:16
2	Sc RADIAL	150464.5	150464.5	102 %		15:16:53
2	Al 396.153Radial†	26338.4	25940.0	5320.0 µg/L	5320.0 ppb	15:16:53
2	Ca 317.933Radial†	88167.1	85925.3	5169.9 µg/L	5169.9 ppb	15:16:53
2	Fe 238.204 Radial†	78818.8	77298.0	5201.3 µg/L	5201.3 ppb	15:16:53
2	K 766.490 Radial†	7643.7	6197.1	2547.5 µg/L	2547.5 ppb	15:16:53
2	Mg 279.077 IEC†	13736.8	13327.5	5476.1 µg/L	5476.1 ppb	15:16:53
2	Na 589.592 Radial†	18678.7	17145.0	2601.2 µg/L	2601.2 ppb	15:16:53
2	Sr 421.552†	239844.1	235866.0	544.07 µg/L	544.07 ppb	15:16:51
2	Sc 361.383	1726627.6	1726627.6	98.379 %		15:17:39
2	Y 371.029	1036918.0	1036918.0	97.451 %		15:17:39
2	Ag 328.068†	67812.3	65482.6	266.77 µg/L	266.77 ppb	15:17:39
2	As 188.979†	1343.8	1383.7	490.23 µg/L	490.23 ppb	15:17:59
2	B 249.677†	34859.4	32203.4	523.24 µg/L	523.24 ppb	15:17:39
2	Ba 233.527†	117491.5	119589.6	521.15 µg/L	521.15 ppb	15:17:39
2	Be 313.107†	873409.7	888586.5	266.81 µg/L	266.81 ppb	15:17:39
2	Cd 226.502†	73073.6	74387.6	510.44 µg/L	510.44 ppb	15:17:39
2	Co 228.616†	37714.1	38508.0	521.09 µg/L	521.09 ppb	15:17:39
2	Cr 267.716†	58529.2	59315.0	499.66 µg/L	499.66 ppb	15:17:39
2	Cu 324.752†	124562.2	123825.7	523.38 µg/L	523.38 ppb	15:17:39
2	Mn 257.610†	389247.0	395485.0	528.38 µg/L	528.38 ppb	15:17:39
2	Mo 202.031†	16924.2	17237.8	548.80 µg/L	548.80 ppb	15:17:59
2	Ni 231.604†	40215.9	40956.5	515.14 µg/L	515.14 ppb	15:17:39
2	P 214.914†	10595.6	10765.2	2558.7 µg/L	2558.7 ppb	15:17:59
2	Pb 220.353†	8379.7	8420.8	517.34 µg/L	517.34 ppb	15:17:59

2	S 181.975 Axial†	3127.7	3091.5	2538.8 µg/L	2538.8 ppb	15:17:59
2	Sb 206.836†	3893.4	3879.5	510.62 µg/L	510.62 ppb	15:17:59
2	Se 196.026†	6305.0	6395.3	2560 µg/L	2560 ppb	15:17:59
2	SiO2†	99950.6	99844.4	10658 µg/L	10658 ppb	15:17:39
2	Si 251.611†	303842.4	307900.2	4972.8 µg/L	4972.8 ppb	15:17:39
2	Sn 189.927†	7799.1	7930.2	550.73 µg/L	550.73 ppb	15:17:59
2	Ti 334.940†	499097.0	506435.1	506.70 µg/L	506.70 ppb	15:17:39
2	Tl 190.801†	3884.6	4065.7	554.09 µg/L	554.09 ppb	15:17:59
2	U 409.014†	7044.9	7444.7	497.98 µg/L	497.98 ppb	15:17:39
2	V 292.402†	96220.1	97495.7	524.75 µg/L	524.75 ppb	15:17:39
2	Zn 213.857†	83633.8	84487.3	519.94 µg/L	519.94 ppb	15:17:39
3	Sc RADIAL	148694.2	148694.2	101 %		15:16:57
3	Al 396.153Radial†	25757.3	25670.4	5264.3 µg/L	5264.3 ppb	15:16:57
3	Ca 317.933Radial†	86641.6	85440.0	5140.7 µg/L	5140.7 ppb	15:16:57
3	Fe 238.204 Radial†	77077.3	76488.6	5146.8 µg/L	5146.8 ppb	15:16:57
3	K 766.490 Radial†	7760.1	6402.2	2631.9 µg/L	2631.9 ppb	15:16:57
3	Mg 279.077 IEC†	13465.4	13218.4	5431.5 µg/L	5431.5 ppb	15:16:57
3	Na 589.592 Radial†	18458.7	17144.8	2601.0 µg/L	2601.0 ppb	15:16:57
3	Sr 421.552†	238015.5	236853.6	546.35 µg/L	546.35 ppb	15:16:55
3	Sc 361.383	1717483.0	1717483.0	97.858 %		15:18:02
3	Y 371.029	1031891.3	1031891.3	96.978 %		15:18:02
3	Ag 328.068†	67510.7	65541.4	267.02 µg/L	267.02 ppb	15:18:02
3	As 188.979†	1346.0	1393.2	493.54 µg/L	493.54 ppb	15:18:22
3	B 249.677†	34582.2	32108.8	521.70 µg/L	521.70 ppb	15:18:02
3	Ba 233.527†	116478.8	119190.5	519.41 µg/L	519.41 ppb	15:18:02
3	Be 313.107†	866925.4	886687.4	266.25 µg/L	266.25 ppb	15:18:02
3	Cd 226.502†	72305.6	73998.3	507.78 µg/L	507.78 ppb	15:18:02
3	Co 228.616†	37543.9	38538.1	521.50 µg/L	521.50 ppb	15:18:02
3	Cr 267.716†	58047.4	59139.5	498.16 µg/L	498.16 ppb	15:18:02
3	Cu 324.752†	123812.4	123733.6	522.99 µg/L	522.99 ppb	15:18:02
3	Mn 257.610†	386013.5	394287.5	526.78 µg/L	526.78 ppb	15:18:02
3	Mo 202.031†	16915.6	17320.6	551.43 µg/L	551.43 ppb	15:18:22
3	Ni 231.604†	40039.0	40993.3	515.60 µg/L	515.60 ppb	15:18:02
3	P 214.914†	10618.3	10845.7	2578.0 µg/L	2578.0 ppb	15:18:22
3	Pb 220.353†	8376.9	8463.3	519.94 µg/L	519.94 ppb	15:18:22
3	S 181.975 Axial†	3127.7	3108.5	2552.8 µg/L	2552.8 ppb	15:18:22
3	Sb 206.836†	3899.6	3906.9	514.27 µg/L	514.27 ppb	15:18:22
3	Se 196.026†	6296.1	6420.3	2570 µg/L	2570 ppb	15:18:22
3	SiO2†	99144.2	99561.3	10628 µg/L	10628 ppb	15:18:02
3	Si 251.611†	301303.2	306949.8	4957.4 µg/L	4957.4 ppb	15:18:02
3	Sn 189.927†	7767.3	7939.9	551.39 µg/L	551.39 ppb	15:18:22
3	Ti 334.940†	494745.0	504689.0	504.94 µg/L	504.94 ppb	15:18:02
3	Tl 190.801†	3887.5	4089.7	557.29 µg/L	557.29 ppb	15:18:22
3	U 409.014†	7321.2	7765.3	517.97 µg/L	517.97 ppb	15:18:02
3	V 292.402†	95435.5	97214.7	523.30 µg/L	523.30 ppb	15:18:02
3	Zn 213.857†	82911.3	84201.6	518.17 µg/L	518.17 ppb	15:18:02

## Mean Data: ICV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1725935.5	98.340 %	0.4631			0.47%
Sc RADIAL	149439.2	101 %	0.6			0.61%
Y 371.029	1036520.4	97.413 %	0.4176			0.43%
Ag 328.068†	65517.5	266.92 µg/L	0.126	266.92 ppb	0.126	0.05%
QC value within limits for Ag 328.068 Recovery = 106.77%						
Al 396.153Radial†	25758.3	5282.6 µg/L	32.46	5282.6 ppb	32.46	0.61%
QC value within limits for Al 396.153Radial Recovery = 105.65%						
As 188.979†	1380.1	488.97 µg/L	5.311	488.97 ppb	5.311	1.09%
QC value within limits for As 188.979 Recovery = 97.79%						
B 249.677†	32127.2	522.00 µg/L	1.124	522.00 ppb	1.124	0.22%
QC value within limits for B 249.677 Recovery = 104.40%						
Ba 233.527†	119327.0	520.00 µg/L	0.990	520.00 ppb	0.990	0.19%
QC value within limits for Ba 233.527 Recovery = 104.00%						
Be 313.107†	887563.5	266.51 µg/L	0.285	266.51 ppb	0.285	0.11%
QC value within limits for Be 313.107 Recovery = 106.60%						
Ca 317.933Radial†	85755.2	5159.7 µg/L	16.44	5159.7 ppb	16.44	0.32%
QC value within limits for Ca 317.933Radial Recovery = 103.19%						
Cd 226.502†	74204.1	509.18 µg/L	1.340	509.18 ppb	1.340	0.26%
QC value within limits for Cd 226.502 Recovery = 101.84%						
Co 228.616†	38522.7	521.29 µg/L	0.204	521.29 ppb	0.204	0.04%

QC value within limits for Co 228.616 Recovery = 104.26%						
Cr 267.716†	59237.5	499.00 µg/L	0.764	499.00 ppb	0.764	0.15%
QC value within limits for Cr 267.716 Recovery = 99.80%						
Cu 324.752†	123698.7	522.84 µg/L	0.623	522.84 ppb	0.623	0.12%
QC value within limits for Cu 324.752 Recovery = 104.57%						
Fe 238.204 Radial†	76915.2	5175.5 µg/L	27.35	5175.5 ppb	27.35	0.53%
QC value within limits for Fe 238.204 Radial Recovery = 103.51%						
K 766.490 Radial†	6329.3	2601.9 µg/L	47.21	2601.9 ppb	47.21	1.81%
QC value within limits for K 766.490 Radial Recovery = 104.08%						
Mg 279.077 IEC†	13263.4	5449.9 µg/L	23.33	5449.9 ppb	23.33	0.43%
QC value within limits for Mg 279.077 IEC Recovery = 109.00%						
Mn 257.610†	394756.0	527.41 µg/L	0.854	527.41 ppb	0.854	0.16%
QC value within limits for Mn 257.610 Recovery = 105.48%						
Mo 202.031†	17246.9	549.09 µg/L	2.212	549.09 ppb	2.212	0.40%
QC value within limits for Mo 202.031 Recovery = 109.82%						
Na 589.592 Radial†	17142.4	2600.7 µg/L	0.67	2600.7 ppb	0.67	0.03%
QC value within limits for Na 589.592 Radial Recovery = 104.03%						
Ni 231.604†	40908.1	514.53 µg/L	1.472	514.53 ppb	1.472	0.29%
QC value within limits for Ni 231.604 Recovery = 102.91%						
P 214.914†	10770.6	2560.0 µg/L	17.30	2560.0 ppb	17.30	0.68%
QC value within limits for P 214.914 Recovery = 102.40%						
Pb 220.353†	8418.0	517.16 µg/L	2.867	517.16 ppb	2.867	0.55%
QC value within limits for Pb 220.353 Recovery = 103.43%						
S 181.975 Axial†	3088.6	2536.5 µg/L	17.56	2536.5 ppb	17.56	0.69%
QC value within limits for S 181.975 Axial Recovery = 101.46%						
Sb 206.836†	3889.7	511.97 µg/L	2.001	511.97 ppb	2.001	0.39%
QC value within limits for Sb 206.836 Recovery = 102.39%						
Se 196.026†	6393.5	2560 µg/L	11.1	2560 ppb	11.1	0.43%
QC value within limits for Se 196.026 Recovery = 102.46%						
SiO2†	99589.8	10631 µg/L	25.8	10631 ppb	25.8	0.24%
QC value within limits for SiO2 Recovery = 99.40%						
Si 251.611†	307369.5	4964.2 µg/L	7.86	4964.2 ppb	7.86	0.16%
QC value within limits for Si 251.611 Recovery = 99.28%						
Sn 189.927†	7919.6	549.99 µg/L	1.879	549.99 ppb	1.879	0.34%
QC value within limits for Sn 189.927 Recovery = 110.00%						
Sr 421.552†	236780.8	546.18 µg/L	2.032	546.18 ppb	2.032	0.37%
QC value within limits for Sr 421.552 Recovery = 109.24%						
Ti 334.940†	505376.2	505.63 µg/L	0.934	505.63 ppb	0.934	0.18%
QC value within limits for Ti 334.940 Recovery = 101.13%						
Tl 190.801†	4070.9	554.78 µg/L	2.246	554.78 ppb	2.246	0.40%
QC value greater than the upper limit for Tl 190.801 Recovery = 110.96%						
U 409.014†	7575.0	506.10 µg/L	10.510	506.10 ppb	10.510	2.08%
QC value within limits for U 409.014 Recovery = 101.22%						
V 292.402†	97382.8	524.16 µg/L	0.762	524.16 ppb	0.762	0.15%
QC value within limits for V 292.402 Recovery = 104.83%						
Zn 213.857†	84323.6	518.93 µg/L	0.911	518.93 ppb	0.911	0.18%
QC value within limits for Zn 213.857 Recovery = 103.79%						
QC Failed. Continue with analysis.						

Sequence No.: 7

Sample ID: ICB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 10

Date Collected: 3/30/2010 15:18:31

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	153206.5	153206.5	104 %		15:19:00
1	Al 396.153Radial†	-69.1	-3.8	-0.7740 µg/L	-0.7740 ppb	15:19:20
1	Ca 317.933Radial†	556.4	-161.1	-9.6939 µg/L	-9.6939 ppb	15:19:20
1	Fe 238.204 Radial†	151.0	5.0	0.3342 µg/L	0.3342 ppb	15:19:20
1	K 766.490 Radial†	1545.6	178.5	73.465 µg/L	73.465 ppb	15:19:00
1	Mg 279.077 IEC†	183.7	8.5	3.4678 µg/L	3.4678 ppb	15:19:20
1	Na 589.592 Radial†	1438.4	181.3	27.462 µg/L	27.462 ppb	15:19:00
1	Sr 421.552†	-358.4	-124.2	-0.2864 µg/L	-0.2864 ppb	15:19:00
1	Sc 361.383	1778800.0	1778800.0	101.35 %		15:20:22
1	Y 371.029	1078865.1	1078865.1	101.39 %		15:20:22
1	Ag 328.068†	3508.3	14.4	0.0586 µg/L	0.0586 ppb	15:20:24
1	As 188.979†	-17.8	0.1	0.0419 µg/L	0.0419 ppb	15:20:44
1	B 249.677†	3246.0	-27.6	-0.4511 µg/L	-0.4511 ppb	15:20:44
1	Ba 233.527†	-161.5	2.8	0.0123 µg/L	0.0123 ppb	15:20:44
1	Be 313.107†	-690.5	104.3	0.0315 µg/L	0.0315 ppb	15:20:24
1	Cd 226.502†	-93.8	17.5	0.1201 µg/L	0.1201 ppb	15:20:44
1	Co 228.616†	-157.8	16.7	0.2258 µg/L	0.2258 ppb	15:20:44
1	Cr 267.716†	167.7	-13.1	-0.1107 µg/L	-0.1107 ppb	15:20:44
1	Cu 324.752†	2840.6	13.8	0.0589 µg/L	0.0589 ppb	15:20:24
1	Mn 257.610†	177.2	-0.8	-0.0012 µg/L	-0.0012 ppb	15:20:44
1	Mo 202.031†	-35.1	0.1	0.0047 µg/L	0.0047 ppb	15:20:44
1	Ni 231.604†	-78.0	1.0	0.0124 µg/L	0.0124 ppb	15:20:44
1	P 214.914†	12.7	7.5	1.7929 µg/L	1.7929 ppb	15:20:44
1	Pb 220.353†	60.9	-36.9	-2.2599 µg/L	-2.2599 ppb	15:20:44
1	S 181.975 Axial†	88.2	-0.7	-0.5610 µg/L	-0.5610 ppb	15:20:44
1	Sb 206.836†	85.2	6.0	0.7853 µg/L	0.7853 ppb	15:20:44
1	Se 196.026†	10.8	-2.9	-1.16 µg/L	-1.16 ppb	15:20:44
1	SiO2†	1722.8	-53.3	-5.7163 µg/L	-5.7163 ppb	15:20:44
1	Si 251.611†	826.6	-133.1	-2.1594 µg/L	-2.1594 ppb	15:20:24
1	Sn 189.927†	10.2	12.7	0.8755 µg/L	0.8755 ppb	15:20:44
1	Ti 334.940†	723.6	-171.6	-0.1727 µg/L	-0.1727 ppb	15:20:24
1	Tl 190.801†	-106.8	11.7	1.5760 µg/L	1.5760 ppb	15:20:44
1	U 409.014†	-277.6	9.9	0.6216 µg/L	0.6216 ppb	15:20:24
1	V 292.402†	320.4	6.3	0.0333 µg/L	0.0333 ppb	15:20:24
1	Zn 213.857†	499.5	-31.7	-0.1969 µg/L	-0.1969 ppb	15:20:44
2	Sc RADIAL	150721.0	150721.0	102 %		15:19:22
2	Al 396.153Radial†	-48.2	15.6	3.2216 µg/L	3.2216 ppb	15:19:42
2	Ca 317.933Radial†	575.9	-133.2	-8.0115 µg/L	-8.0115 ppb	15:19:42
2	Fe 238.204 Radial†	145.3	1.8	0.1215 µg/L	0.1215 ppb	15:19:42
2	K 766.490 Radial†	1483.0	141.7	58.321 µg/L	58.321 ppb	15:19:22
2	Mg 279.077 IEC†	163.5	-8.4	-3.4473 µg/L	-3.4473 ppb	15:19:42
2	Na 589.592 Radial†	1391.5	158.1	23.961 µg/L	23.961 ppb	15:19:22
2	Sr 421.552†	-206.6	19.0	0.0439 µg/L	0.0439 ppb	15:19:22
2	Sc 361.383	1728906.2	1728906.2	98.509 %		15:20:46
2	Y 371.029	1049241.8	1049241.8	98.609 %		15:20:46
2	Ag 328.068†	3539.7	146.2	0.5945 µg/L	0.5945 ppb	15:20:48
2	As 188.979†	-19.5	-2.1	-0.7336 µg/L	-0.7336 ppb	15:21:09
2	B 249.677†	3272.0	91.1	1.4866 µg/L	1.4866 ppb	15:21:09
2	Ba 233.527†	-163.6	-3.9	-0.0168 µg/L	-0.0168 ppb	15:21:09
2	Be 313.107†	-841.3	-68.5	-0.0184 µg/L	-0.0184 ppb	15:20:48
2	Cd 226.502†	-103.2	5.3	0.0364 µg/L	0.0364 ppb	15:21:09
2	Co 228.616†	-181.8	-12.1	-0.1642 µg/L	-0.1642 ppb	15:21:09
2	Cr 267.716†	152.0	-24.2	-0.2095 µg/L	-0.2095 ppb	15:21:09
2	Cu 324.752†	2859.0	113.3	0.4833 µg/L	0.4833 ppb	15:20:48
2	Mn 257.610†	143.9	-29.5	-0.0393 µg/L	-0.0393 ppb	15:21:09
2	Mo 202.031†	-37.4	-3.3	-0.1034 µg/L	-0.1034 ppb	15:21:09
2	Ni 231.604†	-63.8	13.1	0.1646 µg/L	0.1646 ppb	15:21:09
2	P 214.914†	23.6	18.9	4.5148 µg/L	4.5148 ppb	15:21:09
2	Pb 220.353†	114.5	19.3	1.1760 µg/L	1.1760 ppb	15:21:09

2	S 181.975 Axial†	90.2	3.8	3.1293 µg/L	3.1293 ppb	15:21:09
2	Sb 206.836†	78.1	1.2	0.1567 µg/L	0.1567 ppb	15:21:09
2	Se 196.026†	19.1	5.8	2.34 µg/L	2.34 ppb	15:21:09
2	SiO2†	1747.5	20.9	2.2278 µg/L	2.2278 ppb	15:21:09
2	Si 251.611†	794.7	-141.9	-2.2988 µg/L	-2.2988 ppb	15:20:48
2	Sn 189.927†	3.9	6.5	0.4511 µg/L	0.4511 ppb	15:21:09
2	Ti 334.940†	935.4	64.0	0.0614 µg/L	0.0614 ppb	15:20:48
2	Tl 190.801†	-90.0	25.7	3.4630 µg/L	3.4630 ppb	15:21:09
2	U 409.014†	-168.9	112.3	7.0568 µg/L	7.0568 ppb	15:20:48
2	V 292.402†	376.2	72.1	0.3855 µg/L	0.3855 ppb	15:20:48
2	Zn 213.857†	512.2	-4.7	-0.0302 µg/L	-0.0302 ppb	15:21:09
3	Sc RADIAL	152025.6	152025.6	103 %		15:19:44
3	Al 396.153Radial†	-48.0	16.2	3.3357 µg/L	3.3357 ppb	15:20:04
3	Ca 317.933Radial†	564.3	-149.3	-8.9821 µg/L	-8.9821 ppb	15:20:04
3	Fe 238.204 Radial†	130.3	-14.0	-0.9447 µg/L	-0.9447 ppb	15:20:04
3	K 766.490 Radial†	1448.5	95.7	39.384 µg/L	39.384 ppb	15:19:44
3	Mg 279.077 IEC†	171.7	-1.8	-0.7289 µg/L	-0.7289 ppb	15:20:04
3	Na 589.592 Radial†	1555.7	306.1	46.445 µg/L	46.445 ppb	15:19:44
3	Sr 421.552†	-343.8	-112.6	-0.2598 µg/L	-0.2598 ppb	15:19:44
3	Sc 361.383	1742344.9	1742344.9	99.275 %		15:21:11
3	Y 371.029	1057263.7	1057263.7	99.363 %		15:21:11
3	Ag 328.068†	3422.8	0.7	0.0063 µg/L	0.0063 ppb	15:21:13
3	As 188.979†	-7.6	10.0	3.4870 µg/L	3.4870 ppb	15:21:33
3	B 249.677†	3234.7	28.0	0.4564 µg/L	0.4564 ppb	15:21:33
3	Ba 233.527†	-159.6	1.4	0.0057 µg/L	0.0057 ppb	15:21:33
3	Be 313.107†	-681.8	98.8	0.0318 µg/L	0.0318 ppb	15:21:13
3	Cd 226.502†	-79.8	29.6	0.2034 µg/L	0.2034 ppb	15:21:33
3	Co 228.616†	-174.0	-2.8	-0.0378 µg/L	-0.0378 ppb	15:21:33
3	Cr 267.716†	147.7	-29.7	-0.2566 µg/L	-0.2566 ppb	15:21:33
3	Cu 324.752†	2965.4	198.1	0.8405 µg/L	0.8405 ppb	15:21:13
3	Mn 257.610†	154.7	-19.8	-0.0264 µg/L	-0.0264 ppb	15:21:33
3	Mo 202.031†	-28.3	6.3	0.1999 µg/L	0.1999 ppb	15:21:33
3	Ni 231.604†	-70.4	6.9	0.0872 µg/L	0.0872 ppb	15:21:33
3	P 214.914†	20.5	15.7	3.7359 µg/L	3.7359 ppb	15:21:33
3	Pb 220.353†	105.1	8.9	0.5395 µg/L	0.5395 ppb	15:21:33
3	S 181.975 Axial†	78.6	-8.5	-6.9957 µg/L	-6.9957 ppb	15:21:33
3	Sb 206.836†	83.3	5.8	0.7689 µg/L	0.7689 ppb	15:21:33
3	Se 196.026†	22.9	9.5	3.79 µg/L	3.79 ppb	15:21:33
3	SiO2†	1714.3	-26.3	-2.8302 µg/L	-2.8302 ppb	15:21:33
3	Si 251.611†	912.8	-29.2	-0.4782 µg/L	-0.4782 ppb	15:21:13
3	Sn 189.927†	4.9	7.5	0.5192 µg/L	0.5192 ppb	15:21:33
3	Ti 334.940†	727.2	-153.0	-0.1564 µg/L	-0.1564 ppb	15:21:13
3	Tl 190.801†	-113.2	3.0	0.4038 µg/L	0.4038 ppb	15:21:33
3	U 409.014†	-166.2	116.3	7.2590 µg/L	7.2590 ppb	15:21:13
3	V 292.402†	217.4	-90.9	-0.4764 µg/L	-0.4764 ppb	15:21:13
3	Zn 213.857†	498.8	-22.1	-0.1381 µg/L	-0.1381 ppb	15:21:33

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Mean Data: ICB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1750017.0	99.712 %	1.4710			1.48%
Sc RADIAL	151984.4	103 %	0.8			0.82%
Y 371.029	1061790.2	99.788 %	1.4399			1.44%
Ag 328.068†	53.8	0.2198 µg/L	0.32552	0.2198 ppb	0.32552	148.11%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	9.4	1.9278 µg/L	2.34050	1.9278 ppb	2.34050	121.41%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	2.7	0.9318 µg/L	2.24662	0.9318 ppb	2.24662	241.11%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	30.5	0.4973 µg/L	0.96947	0.4973 ppb	0.96947	194.95%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	0.1	0.0004 µg/L	0.01528	0.0004 ppb	0.01528	>999.9%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	44.9	0.0150 µg/L	0.02892	0.0150 ppb	0.02892	193.16%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-147.9	-8.8958 µg/L	0.84451	-8.8958 ppb	0.84451	9.49%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	17.5	0.1200 µg/L	0.08355	0.1200 ppb	0.08355	69.64%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	0.6	0.0079 µg/L	0.19896	0.0079 ppb	0.19896	>999.9%

QC value within limits for Co 228.616 Recovery = Not calculated							
Cr	267.716†	-22.4	-0.1923 µg/L	0.07446	-0.1923 ppb	0.07446	38.72%
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu	324.752†	108.4	0.4609 µg/L	0.39130	0.4609 ppb	0.39130	84.90%
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe	238.204 Radial†	-2.4	-0.1630 µg/L	0.68528	-0.1630 ppb	0.68528	420.53%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K	766.490 Radial†	138.6	57.056 µg/L	17.0760	57.056 ppb	17.0760	29.93%
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg	279.077 IEC†	-0.6	-0.2362 µg/L	3.48380	-0.2362 ppb	3.48380	>999.9%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn	257.610†	-16.7	-0.0223 µg/L	0.01938	-0.0223 ppb	0.01938	86.94%
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo	202.031†	1.1	0.0337 µg/L	0.15371	0.0337 ppb	0.15371	455.98%
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na	589.592 Radial†	215.2	32.622 µg/L	12.0980	32.622 ppb	12.0980	37.09%
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni	231.604†	7.0	0.0880 µg/L	0.07611	0.0880 ppb	0.07611	86.44%
QC value within limits for Ni 231.604 Recovery = Not calculated							
P	214.914†	14.0	3.3479 µg/L	1.40183	3.3479 ppb	1.40183	41.87%
QC value within limits for P 214.914 Recovery = Not calculated							
Pb	220.353†	-2.9	-0.1815 µg/L	1.82791	-0.1815 ppb	1.82791	>999.9%
QC value within limits for Pb 220.353 Recovery = Not calculated							
S	181.975 Axial†	-1.8	-1.4758 µg/L	5.12412	-1.4758 ppb	5.12412	347.21%
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb	206.836†	4.3	0.5703 µg/L	0.35827	0.5703 ppb	0.35827	62.82%
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se	196.026†	4.1	1.66 µg/L	2.544	1.66 ppb	2.544	153.28%
QC value within limits for Se 196.026 Recovery = Not calculated							
SiO2†		-19.6	-2.1063 µg/L	4.02123	-2.1063 ppb	4.02123	190.92%
QC value within limits for SiO2 Recovery = Not calculated							
Si	251.611†	-101.4	-1.6455 µg/L	1.01329	-1.6455 ppb	1.01329	61.58%
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn	189.927†	8.9	0.6153 µg/L	0.22794	0.6153 ppb	0.22794	37.05%
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr	421.552†	-72.6	-0.1674 µg/L	0.18347	-0.1674 ppb	0.18347	109.58%
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti	334.940†	-86.9	-0.0892 µg/L	0.13068	-0.0892 ppb	0.13068	146.45%
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl	190.801†	13.5	1.8143 µg/L	1.54345	1.8143 ppb	1.54345	85.07%
QC value within limits for Tl 190.801 Recovery = Not calculated							
U	409.014†	79.5	4.9791 µg/L	3.77508	4.9791 ppb	3.77508	75.82%
QC value within limits for U 409.014 Recovery = Not calculated							
V	292.402†	-4.2	-0.0192 µg/L	0.43332	-0.0192 ppb	0.43332	>999.9%
QC value within limits for V 292.402 Recovery = Not calculated							
Zn	213.857†	-19.5	-0.1217 µg/L	0.08455	-0.1217 ppb	0.08455	69.46%
QC value within limits for Zn 213.857 Recovery = Not calculated							
All analyte(s) passed QC.							

Sequence No.: 8

Sample ID: PQL

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 101

Date Collected: 3/30/2010 15:21:41

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	151538.9	151538.9	103 %		15:22:11
1	Al 396.153Radial†	1003.2	1041.6	214.21 µg/L	214.21 ppb	15:22:13
1	Ca 317.933Radial†	4094.6	3296.4	198.34 µg/L	198.34 ppb	15:22:13
1	Fe 238.204 Radial†	1655.5	1474.3	99.205 µg/L	99.205 ppb	15:22:13
1	K 766.490 Radial†	1863.9	505.5	207.89 µg/L	207.89 ppb	15:22:11
1	Mg 279.077 IEC†	958.9	766.6	314.63 µg/L	314.63 ppb	15:22:13
1	Na 589.592 Radial†	3105.5	1822.9	276.62 µg/L	276.62 ppb	15:22:13
1	Sr 421.552†	2223.1	2390.3	5.5126 µg/L	5.5126 ppb	15:22:13
1	Sc 361.383	1725451.3	1725451.3	98.312 %		15:22:25
1	Y 371.029	1045817.3	1045817.3	98.287 %		15:22:25
1	Ag 328.068†	4999.9	1638.6	6.6213 µg/L	6.6213 ppb	15:22:27
1	As 188.979†	69.8	88.7	31.042 µg/L	31.042 ppb	15:22:47
1	B 249.677†	6177.2	3052.9	49.758 µg/L	49.758 ppb	15:22:27
1	Ba 233.527†	1015.0	1194.5	5.2065 µg/L	5.2065 ppb	15:22:47
1	Be 313.107†	15418.6	16468.9	4.9544 µg/L	4.9544 ppb	15:22:27
1	Cd 226.502†	613.7	734.2	5.0333 µg/L	5.0333 ppb	15:22:47
1	Co 228.616†	186.0	361.7	4.8917 µg/L	4.8917 ppb	15:22:47
1	Cr 267.716†	742.4	576.6	4.8271 µg/L	4.8271 ppb	15:22:47
1	Cu 324.752†	5231.2	2532.1	10.728 µg/L	10.728 ppb	15:22:27
1	Mn 257.610†	7935.2	7895.9	10.541 µg/L	10.541 ppb	15:22:27
1	Mo 202.031†	249.7	288.8	9.1970 µg/L	9.1970 ppb	15:22:47
1	Ni 231.604†	321.7	405.1	5.0950 µg/L	5.0950 ppb	15:22:47
1	P 214.914†	631.6	637.5	151.90 µg/L	151.90 ppb	15:22:47
1	Pb 220.353†	247.1	154.4	9.4588 µg/L	9.4588 ppb	15:22:47
1	S 181.975 Axial†	205.3	121.2	99.392 µg/L	99.392 ppb	15:22:47
1	Sb 206.836†	157.6	82.2	10.863 µg/L	10.863 ppb	15:22:47
1	Se 196.026†	84.0	71.8	28.8 µg/L	28.8 ppb	15:22:47
1	SiO2†	3795.8	2107.8	225.10 µg/L	225.10 ppb	15:22:27
1	Si 251.611†	7081.1	6254.0	101.04 µg/L	101.04 ppb	15:22:27
1	Sn 189.927†	137.7	142.6	9.8879 µg/L	9.8879 ppb	15:22:47
1	Ti 334.940†	5809.9	5024.1	4.9951 µg/L	4.9951 ppb	15:22:27
1	Tl 190.801†	48.7	166.6	22.483 µg/L	22.483 ppb	15:22:47
1	U 409.014†	339.2	628.8	39.760 µg/L	39.760 ppb	15:22:27
1	V 292.402†	1353.2	1066.6	5.7900 µg/L	5.7900 ppb	15:22:27
1	Zn 213.857†	2145.8	1658.1	10.236 µg/L	10.236 ppb	15:22:47
2	Sc RADIAL	148899.4	148899.4	101 %		15:22:15
2	Al 396.153Radial†	1029.3	1084.8	223.07 µg/L	223.07 ppb	15:22:17
2	Ca 317.933Radial†	4074.2	3347.0	201.38 µg/L	201.38 ppb	15:22:17
2	Fe 238.204 Radial†	1672.9	1520.1	102.29 µg/L	102.29 ppb	15:22:17
2	K 766.490 Radial†	1737.9	412.6	169.65 µg/L	169.65 ppb	15:22:15
2	Mg 279.077 IEC†	908.9	733.6	301.09 µg/L	301.09 ppb	15:22:17
2	Na 589.592 Radial†	3196.8	1967.2	298.57 µg/L	298.57 ppb	15:22:17
2	Sr 421.552†	2249.0	2454.5	5.6605 µg/L	5.6605 ppb	15:22:17
2	Sc 361.383	1717434.8	1717434.8	97.855 %		15:22:49
2	Y 371.029	1041401.9	1041401.9	97.872 %		15:22:49
2	Ag 328.068†	4641.9	1296.6	5.2704 µg/L	5.2704 ppb	15:22:51
2	As 188.979†	74.8	94.2	32.949 µg/L	32.949 ppb	15:23:11
2	B 249.677†	6109.5	3013.0	49.107 µg/L	49.107 ppb	15:22:51
2	Ba 233.527†	1038.4	1223.3	5.3319 µg/L	5.3319 ppb	15:23:11
2	Be 313.107†	15483.7	16608.6	4.9987 µg/L	4.9987 ppb	15:22:51
2	Cd 226.502†	609.6	733.0	5.0245 µg/L	5.0245 ppb	15:23:11
2	Co 228.616†	220.5	397.7	5.3796 µg/L	5.3796 ppb	15:23:11
2	Cr 267.716†	746.1	583.9	4.8822 µg/L	4.8822 ppb	15:23:11
2	Cu 324.752†	5004.9	2325.7	9.8653 µg/L	9.8653 ppb	15:22:51
2	Mn 257.610†	7953.3	7952.0	10.617 µg/L	10.617 ppb	15:22:51
2	Mo 202.031†	280.4	321.3	10.233 µg/L	10.233 ppb	15:23:11
2	Ni 231.604†	327.6	412.6	5.1901 µg/L	5.1901 ppb	15:23:11
2	P 214.914†	627.8	636.5	151.69 µg/L	151.69 ppb	15:23:11
2	Pb 220.353†	232.0	140.1	8.5854 µg/L	8.5854 ppb	15:23:11



2	S 181.975 Axial†	215.9	132.9	109.04 µg/L	109.04 ppb	15:23:11
2	Sb 206.836†	152.4	77.7	10.282 µg/L	10.282 ppb	15:23:11
2	Se 196.026†	92.7	81.2	32.6 µg/L	32.6 ppb	15:23:11
2	SiO2†	3796.8	2126.8	227.10 µg/L	227.10 ppb	15:22:51
2	Si 251.611†	7000.4	6205.2	100.23 µg/L	100.23 ppb	15:22:51
2	Sn 189.927†	143.5	149.1	10.342 µg/L	10.342 ppb	15:23:11
2	Ti 334.940†	5589.1	4826.0	4.7945 µg/L	4.7945 ppb	15:22:51
2	Tl 190.801†	51.0	169.2	22.830 µg/L	22.830 ppb	15:23:11
2	U 409.014†	463.4	757.3	47.801 µg/L	47.801 ppb	15:22:51
2	V 292.402†	1329.4	1048.7	5.7113 µg/L	5.7113 ppb	15:22:51
2	Zn 213.857†	2132.0	1654.1	10.211 µg/L	10.211 ppb	15:23:11
3	Sc RADIAL	147081.9	147081.9	99.5 %		15:22:19
3	Al 396.153Radial†	978.9	1046.8	215.27 µg/L	215.27 ppb	15:22:21
3	Ca 317.933Radial†	4080.3	3403.1	204.76 µg/L	204.76 ppb	15:22:21
3	Fe 238.204 Radial†	1709.0	1577.0	106.12 µg/L	106.12 ppb	15:22:21
3	K 766.490 Radial†	1766.2	462.3	190.12 µg/L	190.12 ppb	15:22:19
3	Mg 279.077 IEC†	964.2	800.3	328.44 µg/L	328.44 ppb	15:22:21
3	Na 589.592 Radial†	3215.9	2025.6	307.42 µg/L	307.42 ppb	15:22:21
3	Sr 421.552†	2210.3	2443.2	5.6344 µg/L	5.6344 ppb	15:22:21
3	Sc 361.383	1716395.9	1716395.9	97.796 %		15:23:13
3	Y 371.029	1041833.4	1041833.4	97.913 %		15:23:13
3	Ag 328.068†	4888.2	1551.3	6.2744 µg/L	6.2744 ppb	15:23:15
3	As 188.979†	68.7	88.0	30.793 µg/L	30.793 ppb	15:23:35
3	B 249.677†	6241.4	3151.7	51.368 µg/L	51.368 ppb	15:23:15
3	Ba 233.527†	993.3	1177.8	5.1332 µg/L	5.1332 ppb	15:23:35
3	Be 313.107†	15462.3	16596.3	4.9945 µg/L	4.9945 ppb	15:23:15
3	Cd 226.502†	611.3	735.1	5.0386 µg/L	5.0386 ppb	15:23:35
3	Co 228.616†	213.2	390.4	5.2802 µg/L	5.2802 ppb	15:23:35
3	Cr 267.716†	767.8	606.5	5.0744 µg/L	5.0744 ppb	15:23:35
3	Cu 324.752†	5204.8	2533.2	10.739 µg/L	10.739 ppb	15:23:15
3	Mn 257.610†	7893.3	7895.6	10.540 µg/L	10.540 ppb	15:23:15
3	Mo 202.031†	255.2	295.7	9.4171 µg/L	9.4171 ppb	15:23:35
3	Ni 231.604†	332.4	417.8	5.2544 µg/L	5.2544 ppb	15:23:35
3	P 214.914†	626.6	635.7	151.47 µg/L	151.47 ppb	15:23:35
3	Pb 220.353†	252.3	161.1	9.8653 µg/L	9.8653 ppb	15:23:35
3	S 181.975 Axial†	209.7	126.7	103.93 µg/L	103.93 ppb	15:23:35
3	Sb 206.836†	150.6	75.9	10.029 µg/L	10.029 ppb	15:23:35
3	Se 196.026†	96.6	85.2	34.2 µg/L	34.2 ppb	15:23:35
3	SiO2†	3748.3	2079.7	222.08 µg/L	222.08 ppb	15:23:15
3	Si 251.611†	6933.3	6140.9	99.207 µg/L	99.207 ppb	15:23:15
3	Sn 189.927†	138.0	143.7	9.9640 µg/L	9.9640 ppb	15:23:35
3	Ti 334.940†	5690.8	4933.4	4.9007 µg/L	4.9007 ppb	15:23:15
3	Tl 190.801†	46.5	164.6	22.211 µg/L	22.211 ppb	15:23:35
3	U 409.014†	434.0	727.6	45.909 µg/L	45.909 ppb	15:23:15
3	V 292.402†	1234.9	952.9	5.1933 µg/L	5.1933 ppb	15:23:15
3	Zn 213.857†	2110.8	1633.8	10.083 µg/L	10.083 ppb	15:23:35

## Mean Data: PQL

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1719760.6	97.988 %	0.2824			0.29%
Sc RADIAL	149173.4	101 %	1.5			1.50%
Y 371.029	1043017.5	98.024 %	0.2288			0.23%
Ag 328.068†	1495.5	6.0554 µg/L	0.70156	6.0554 ppb	0.70156	11.59%
QC value within limits for Ag 328.068 Recovery = 121.11%						
Al 396.153Radial†	1057.7	217.52 µg/L	4.840	217.52 ppb	4.840	2.22%
QC value within limits for Al 396.153Radial Recovery = 108.76%						
As 188.979†	90.3	31.595 µg/L	1.1796	31.595 ppb	1.1796	3.73%
QC value within limits for As 188.979 Recovery = 105.32%						
B 249.677†	3072.5	50.078 µg/L	1.1640	50.078 ppb	1.1640	2.32%
QC value within limits for B 249.677 Recovery = 100.16%						
Ba 233.527†	1198.6	5.2239 µg/L	0.10050	5.2239 ppb	0.10050	1.92%
QC value within limits for Ba 233.527 Recovery = 104.48%						
Be 313.107†	16558.0	4.9825 µg/L	0.02447	4.9825 ppb	0.02447	0.49%
QC value within limits for Be 313.107 Recovery = 99.65%						
Ca 317.933Radial†	3348.8	201.49 µg/L	3.210	201.49 ppb	3.210	1.59%
QC value within limits for Ca 317.933Radial Recovery = 100.75%						
Cd 226.502†	734.1	5.0321 µg/L	0.00712	5.0321 ppb	0.00712	0.14%
QC value within limits for Cd 226.502 Recovery = 100.64%						
Co 228.616†	383.3	5.1838 µg/L	0.25781	5.1838 ppb	0.25781	4.97%

QC value within limits for Co 228.616 Recovery = 103.68%							
Cr 267.716†	589.0	4.9279 µg/L	0.12984	4.9279 ppb	0.12984	2.63%	
QC value within limits for Cr 267.716 Recovery = 98.56%							
Cu 324.752†	2463.6	10.444 µg/L	0.5014	10.444 ppb	0.5014	4.80%	
QC value within limits for Cu 324.752 Recovery = 104.44%							
Fe 238.204 Radial†	1523.8	102.54 µg/L	3.462	102.54 ppb	3.462	3.38%	
QC value within limits for Fe 238.204 Radial Recovery = 102.54%							
K 766.490 Radial†	460.2	189.22 µg/L	19.137	189.22 ppb	19.137	10.11%	
QC value within limits for K 766.490 Radial Recovery = 126.15%							
Mg 279.077 IEC†	766.8	314.72 µg/L	13.677	314.72 ppb	13.677	4.35%	
QC value within limits for Mg 279.077 IEC Recovery = 104.91%							
Mn 257.610†	7914.5	10.566 µg/L	0.0439	10.566 ppb	0.0439	0.42%	
QC value within limits for Mn 257.610 Recovery = 105.66%							
Mo 202.031†	301.9	9.6156 µg/L	0.54552	9.6156 ppb	0.54552	5.67%	
QC value within limits for Mo 202.031 Recovery = 96.16%							
Na 589.592 Radial†	1938.6	294.20 µg/L	15.859	294.20 ppb	15.859	5.39%	
QC value within limits for Na 589.592 Radial Recovery = 98.07%							
Ni 231.604†	411.8	5.1799 µg/L	0.08020	5.1799 ppb	0.08020	1.55%	
QC value within limits for Ni 231.604 Recovery = 103.60%							
P 214.914†	636.6	151.69 µg/L	0.216	151.69 ppb	0.216	0.14%	
QC value within limits for P 214.914 Recovery = 101.13%							
Pb 220.353†	151.8	9.3032 µg/L	0.65396	9.3032 ppb	0.65396	7.03%	
QC value within limits for Pb 220.353 Recovery = 93.03%							
S 181.975 Axial†	126.9	104.12 µg/L	4.828	104.12 ppb	4.828	4.64%	
QC value within limits for S 181.975 Axial Recovery = 104.12%							
Sb 206.836†	78.6	10.391 µg/L	0.4280	10.391 ppb	0.4280	4.12%	
QC value within limits for Sb 206.836 Recovery = 103.91%							
Se 196.026†	79.4	31.9 µg/L	2.75	31.9 ppb	2.75	8.64%	
QC value within limits for Se 196.026 Recovery = 106.24%							
SiO2†	2104.8	224.76 µg/L	2.527	224.76 ppb	2.527	1.12%	
QC value within limits for SiO2 Recovery = 105.52%							
Si 251.611†	6200.0	100.16 µg/L	0.919	100.16 ppb	0.919	0.92%	
QC value within limits for Si 251.611 Recovery = 100.16%							
Sn 189.927†	145.1	10.065 µg/L	0.2432	10.065 ppb	0.2432	2.42%	
QC value within limits for Sn 189.927 Recovery = 100.65%							
Sr 421.552†	2429.3	5.6025 µg/L	0.07899	5.6025 ppb	0.07899	1.41%	
QC value within limits for Sr 421.552 Recovery = 112.05%							
Ti 334.940†	4927.8	4.8968 µg/L	0.10034	4.8968 ppb	0.10034	2.05%	
QC value within limits for Ti 334.940 Recovery = 97.94%							
Tl 190.801†	166.8	22.508 µg/L	0.3103	22.508 ppb	0.3103	1.38%	
QC value within limits for Tl 190.801 Recovery = 112.54%							
U 409.014†	704.5	44.490 µg/L	4.2038	44.490 ppb	4.2038	9.45%	
QC value within limits for U 409.014 Recovery = 88.98%							
V 292.402†	1022.7	5.5648 µg/L	0.32420	5.5648 ppb	0.32420	5.83%	
QC value within limits for V 292.402 Recovery = 111.30%							
Zn 213.857†	1648.7	10.177 µg/L	0.0818	10.177 ppb	0.0818	0.80%	
QC value within limits for Zn 213.857 Recovery = 101.77%							
All analyte(s) passed QC.							

Sequence No.: 9

Sample ID: ICSA

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 103

Date Collected: 3/30/2010 15:23:44

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	135491.3	135491.3	91.7 %		15:24:17
1	Al 396.153Radial†	2286947.2	2495271.1	514200 µg/L	514200 ppb	15:24:15
1	Ca 317.933Radial†	7501113.1	8183504.6	492380 µg/L	492380 ppb	15:24:15
1	Fe 238.204 Radial†	2650457.5	2891680.9	194580 µg/L	194580 ppb	15:24:15
1	K 766.490 Radial†	1541.2	368.7	-93.473 µg/L	-93.473 ppb	15:24:17
1	Mg 279.077 IEC†	1105922.5	1206464.7	494750 µg/L	494750 ppb	15:24:15
1	Na 589.592 Radial†	1485.9	414.6	62.815 µg/L	62.815 ppb	15:24:17
1	Sr 421.552†	1315.2	1656.6	-0.0324 µg/L	-0.0324 ppb	15:24:17
1	Sc 361.383	1550377.8	1550377.8	88.337 %		15:24:30
1	Y 371.029	923448.2	923448.2	86.787 %		15:24:30
1	Ag 328.068†	5848.7	3173.8	-0.9573 µg/L	-0.9573 ppb	15:24:30
1	As 188.979†	-95.4	-90.4	12.078 µg/L	12.078 ppb	15:24:50
1	B 249.677†	3031.8	201.7	3.2757 µg/L	3.2757 ppb	15:24:30
1	Ba 233.527†	439.1	659.2	0.3855 µg/L	0.3855 ppb	15:24:50
1	Be 313.107†	-852.7	-179.7	-0.0514 µg/L	-0.0514 ppb	15:24:30
1	Cd 226.502†	2265.2	2674.3	-2.0990 µg/L	-2.0990 ppb	15:24:50
1	Co 228.616†	89.3	273.6	-6.4479 µg/L	-6.4479 ppb	15:24:50
1	Cr 267.716†	184.7	30.5	0.9733 µg/L	0.9733 ppb	15:24:50
1	Cu 324.752†	-5458.4	-8968.0	3.9288 µg/L	3.9288 ppb	15:24:30
1	Mn 257.610†	15118.7	16939.3	2.5037 µg/L	2.5037 ppb	15:24:30
1	Mo 202.031†	-527.3	-562.2	-1.1409 µg/L	-1.1409 ppb	15:24:50
1	Ni 231.604†	156.5	255.0	3.2074 µg/L	3.2074 ppb	15:24:50
1	P 214.914†	186.0	205.6	31.164 µg/L	31.164 ppb	15:24:50
1	Pb 220.353†	-313.6	-451.9	-2.0684 µg/L	-2.0684 ppb	15:24:50
1	S 181.975 Axial†	145.2	76.7	62.685 µg/L	62.685 ppb	15:24:50
1	Sb 206.836†	119.3	56.9	1.3356 µg/L	1.3356 ppb	15:24:50
1	Se 196.026†	-140.9	-173.0	-1.74 µg/L	-1.74 ppb	15:24:50
1	SiO2†	1610.5	70.0	7.9672 µg/L	7.9672 ppb	15:24:50
1	Si 251.611†	429.3	-462.7	-7.2638 µg/L	-7.2638 ppb	15:24:50
1	Sn 189.927†	24.6	30.4	2.1790 µg/L	2.1790 ppb	15:24:50
1	Ti 334.940†	20051.3	21813.1	-5.6222 µg/L	-5.6222 ppb	15:24:30
1	Tl 190.801†	-176.0	-82.2	-10.613 µg/L	-10.613 ppb	15:24:50
1	U 409.014†	-134.3	131.7	-13.380 µg/L	-13.380 ppb	15:24:30
1	V 292.402†	4112.7	4345.8	2.3469 µg/L	2.3469 ppb	15:24:50
1	Zn 213.857†	4024.9	4031.8	8.3012 µg/L	8.3012 ppb	15:24:50
2	Sc RADIAL	134398.4	134398.4	90.9 %		15:24:22
2	Al 396.153Radial†	2251126.8	2476161.2	510270 µg/L	510270 ppb	15:24:20
2	Ca 317.933Radial†	7350398.9	8084279.8	486410 µg/L	486410 ppb	15:24:20
2	Fe 238.204 Radial†	2597180.3	2856594.8	192220 µg/L	192220 ppb	15:24:20
2	K 766.490 Radial†	1495.4	332.0	-106.03 µg/L	-106.03 ppb	15:24:22
2	Mg 279.077 IEC†	1081861.3	1189810.8	487920 µg/L	487920 ppb	15:24:20
2	Na 589.592 Radial†	1353.7	282.4	42.754 µg/L	42.754 ppb	15:24:22
2	Sr 421.552†	1363.4	1721.3	0.1636 µg/L	0.1636 ppb	15:24:22
2	Sc 361.383	1529302.7	1529302.7	87.136 %		15:24:53
2	Y 371.029	911641.3	911641.3	85.677 %		15:24:53
2	Ag 328.068†	6201.8	3670.3	1.1894 µg/L	1.1894 ppb	15:24:53
2	As 188.979†	-96.9	-93.6	10.426 µg/L	10.426 ppb	15:25:13
2	B 249.677†	3140.4	373.6	6.0801 µg/L	6.0801 ppb	15:24:53
2	Ba 233.527†	440.1	667.2	0.4501 µg/L	0.4501 ppb	15:25:13
2	Be 313.107†	-1112.6	-491.3	-0.1442 µg/L	-0.1442 ppb	15:24:53
2	Cd 226.502†	2279.3	2725.8	-1.4965 µg/L	-1.4965 ppb	15:25:13
2	Co 228.616†	67.3	249.7	-6.6477 µg/L	-6.6477 ppb	15:25:13
2	Cr 267.716†	204.6	56.2	1.1890 µg/L	1.1890 ppb	15:25:13
2	Cu 324.752†	-5392.7	-8977.8	3.3610 µg/L	3.3610 ppb	15:24:53
2	Mn 257.610†	15342.3	17431.7	3.4390 µg/L	3.4390 ppb	15:24:53
2	Mo 202.031†	-551.7	-598.4	-2.5108 µg/L	-2.5108 ppb	15:25:13
2	Ni 231.604†	154.5	255.2	3.2101 µg/L	3.2101 ppb	15:25:13
2	P 214.914†	160.5	179.1	25.620 µg/L	25.620 ppb	15:25:13
2	Pb 220.353†	-375.1	-527.4	-6.8630 µg/L	-6.8630 ppb	15:25:13

2	S 181.975 Axial†	153.7	88.7	72.553 µg/L	72.553 ppb	15:25:13
2	Sb 206.836†	118.2	57.5	1.4515 µg/L	1.4515 ppb	15:25:13
2	Se 196.026†	-176.7	-216.4	-19.9 µg/L	-19.9 ppb	15:25:13
2	SiO2†	1570.0	48.6	5.6934 µg/L	5.6934 ppb	15:25:13
2	Si 251.611†	436.0	-448.3	-7.0262 µg/L	-7.0262 ppb	15:25:13
2	Sn 189.927†	42.7	51.6	3.6464 µg/L	3.6464 ppb	15:25:13
2	Ti 334.940†	20530.0	22675.4	-4.3587 µg/L	-4.3587 ppb	15:24:53
2	Tl 190.801†	-173.6	-82.2	-10.599 µg/L	-10.599 ppb	15:25:13
2	U 409.014†	-99.0	170.2	-10.670 µg/L	-10.670 ppb	15:24:53
2	V 292.402†	4093.4	4387.9	2.8090 µg/L	2.8090 ppb	15:25:13
2	Zn 213.857†	4029.0	4099.2	8.9615 µg/L	8.9615 ppb	15:25:13
3	Sc RADIAL	135723.7	135723.7	91.8 %		15:24:26
3	Al 396.153Radial†	2273186.3	2476011.1	510240 µg/L	510240 ppb	15:24:24
3	Ca 317.933Radial†	7430044.5	8092086.0	486880 µg/L	486880 ppb	15:24:24
3	Fe 238.204 Radial†	2629467.1	2863867.6	192710 µg/L	192710 ppb	15:24:24
3	K 766.490 Radial†	1436.9	252.3	-139.06 µg/L	-139.06 ppb	15:24:26
3	Mg 279.077 IEC†	1095585.1	1193139.5	489280 µg/L	489280 ppb	15:24:24
3	Na 589.592 Radial†	1426.6	347.2	52.627 µg/L	52.627 ppb	15:24:26
3	Sr 421.552†	1369.3	1713.1	0.1409 µg/L	0.1409 ppb	15:24:26
3	Sc 361.383	1526692.0	1526692.0	86.987 %		15:25:16
3	Y 371.029	910201.6	910201.6	85.542 %		15:25:16
3	Ag 328.068†	6006.6	3458.1	0.3388 µg/L	0.3388 ppb	15:25:16
3	As 188.979†	-97.6	-94.5	10.205 µg/L	10.205 ppb	15:25:36
3	B 249.677†	3058.7	285.9	4.6488 µg/L	4.6488 ppb	15:25:16
3	Ba 233.527†	404.6	627.3	0.2707 µg/L	0.2707 ppb	15:25:36
3	Be 313.107†	-1039.4	-409.4	-0.1186 µg/L	-0.1186 ppb	15:25:16
3	Cd 226.502†	2276.1	2726.6	-1.5425 µg/L	-1.5425 ppb	15:25:36
3	Co 228.616†	93.3	279.7	-6.2669 µg/L	-6.2669 ppb	15:25:36
3	Cr 267.716†	191.5	41.6	1.0636 µg/L	1.0636 ppb	15:25:36
3	Cu 324.752†	-5604.7	-9232.1	2.4007 µg/L	2.4007 ppb	15:25:16
3	Mn 257.610†	15289.1	17400.7	3.3421 µg/L	3.3421 ppb	15:25:16
3	Mo 202.031†	-523.8	-567.4	-1.4815 µg/L	-1.4815 ppb	15:25:36
3	Ni 231.604†	202.7	310.9	3.9104 µg/L	3.9104 ppb	15:25:36
3	P 214.914†	185.5	208.2	32.197 µg/L	32.197 ppb	15:25:36
3	Pb 220.353†	-350.8	-500.2	-5.2143 µg/L	-5.2143 ppb	15:25:36
3	S 181.975 Axial†	149.8	84.5	69.091 µg/L	69.091 ppb	15:25:36
3	Sb 206.836†	125.1	65.7	2.5329 µg/L	2.5329 ppb	15:25:36
3	Se 196.026†	-153.6	-190.1	-9.22 µg/L	-9.22 ppb	15:25:36
3	SiO2†	1630.8	121.7	13.502 µg/L	13.502 ppb	15:25:36
3	Si 251.611†	470.7	-407.5	-6.3676 µg/L	-6.3676 ppb	15:25:36
3	Sn 189.927†	20.5	26.1	1.8853 µg/L	1.8853 ppb	15:25:36
3	Ti 334.940†	20741.8	22959.1	-4.1747 µg/L	-4.1747 ppb	15:25:16
3	Tl 190.801†	-132.1	-34.8	-4.2279 µg/L	-4.2279 ppb	15:25:36
3	U 409.014†	-51.7	224.3	-7.3537 µg/L	-7.3537 ppb	15:25:16
3	V 292.402†	4139.6	4449.0	3.0936 µg/L	3.0936 ppb	15:25:36
3	Zn 213.857†	4013.6	4089.5	8.8407 µg/L	8.8407 ppb	15:25:36

## Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1535457.5	87.487 %	0.7400			0.85%
Sc RADIAL	135204.5	91.5 %	0.48			0.52%
Y 371.029	915097.0	86.002 %	0.6831			0.79%
Ag 328.068†	3434.1	0.1903 µg/L	1.08102	0.1903 ppb	1.08102	567.98%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	2482481.1	511570 µg/L	2282.6	511570 ppb	2282.6	0.45%
QC value within limits for Al 396.153Radial Recovery = 102.31%						
As 188.979†	-92.8	10.903 µg/L	1.0235	10.903 ppb	1.0235	9.39%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	287.1	4.6682 µg/L	1.40228	4.6682 ppb	1.40228	30.04%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	651.2	0.3687 µg/L	0.09087	0.3687 ppb	0.09087	24.65%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-360.1	-0.1047 µg/L	0.04792	-0.1047 ppb	0.04792	45.74%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	8119956.8	488560 µg/L	3319.6	488560 ppb	3319.6	0.68%
QC value within limits for Ca 317.933Radial Recovery = 97.71%						
Cd 226.502†	2708.9	-1.7127 µg/L	0.33534	-1.7127 ppb	0.33534	19.58%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	267.6	-6.4542 µg/L	0.19046	-6.4542 ppb	0.19046	2.95%

Cr	267.716†	42.8	1.0753 µg/L	0.10833	1.0753 ppb	0.10833	10.07%
QC value within limits for Co 228.616 Recovery = Not calculated							
Cu	324.752†	-9059.3	3.2302 µg/L	0.77242	3.2302 ppb	0.77242	23.91%
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe	238.204 Radial†	2870714.4	193170 µg/L	1246.1	193170 ppb	1246.1	0.65%
QC value within limits for Fe 238.204 Radial Recovery = 96.58%							
K	766.490 Radial†	317.7	-112.85 µg/L	23.545	-112.85 ppb	23.545	20.86%
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg	279.077 IEC†	1196471.7	490650 µg/L	3614.1	490650 ppb	3614.1	0.74%
QC value within limits for Mg 279.077 IEC Recovery = 98.13%							
Mn	257.610†	17257.2	3.0950 µg/L	0.51432	3.0950 ppb	0.51432	16.62%
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo	202.031†	-576.0	-1.7111 µg/L	0.71323	-1.7111 ppb	0.71323	41.68%
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na	589.592 Radial†	348.0	52.732 µg/L	10.0310	52.732 ppb	10.0310	19.02%
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni	231.604†	273.7	3.4426 µg/L	0.40513	3.4426 ppb	0.40513	11.77%
QC value within limits for Ni 231.604 Recovery = Not calculated							
P	214.914†	197.6	29.660 µg/L	3.5371	29.660 ppb	3.5371	11.93%
QC value within limits for P 214.914 Recovery = Not calculated							
Pb	220.353†	-493.2	-4.7152 µg/L	2.43592	-4.7152 ppb	2.43592	51.66%
QC value within limits for Pb 220.353 Recovery = Not calculated							
S	181.975 Axial†	83.3	68.110 µg/L	5.0065	68.110 ppb	5.0065	7.35%
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb	206.836†	60.1	1.7733 µg/L	0.66034	1.7733 ppb	0.66034	37.24%
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se	196.026†	-193.2	-10.3 µg/L	9.13	-10.3 ppb	9.13	88.75%
QC value within limits for Se 196.026 Recovery = Not calculated							
SiO2†		80.1	9.0540 µg/L	4.01594	9.0540 ppb	4.01594	44.36%
QC value within limits for SiO2 Recovery = Not calculated							
Si	251.611†	-439.5	-6.8859 µg/L	0.46433	-6.8859 ppb	0.46433	6.74%
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn	189.927†	36.0	2.5702 µg/L	0.94345	2.5702 ppb	0.94345	36.71%
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr	421.552†	1697.0	0.0907 µg/L	0.10724	0.0907 ppb	0.10724	118.24%
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti	334.940†	22482.5	-4.7185 µg/L	0.78801	-4.7185 ppb	0.78801	16.70%
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl	190.801†	-66.4	-8.4799 µg/L	3.68229	-8.4799 ppb	3.68229	43.42%
QC value within limits for Tl 190.801 Recovery = Not calculated							
U	409.014†	175.4	-10.468 µg/L	3.0181	-10.468 ppb	3.0181	28.83%
QC value within limits for U 409.014 Recovery = Not calculated							
V	292.402†	4394.2	2.7499 µg/L	0.37684	2.7499 ppb	0.37684	13.70%
QC value within limits for V 292.402 Recovery = Not calculated							
Zn	213.857†	4073.5	8.7011 µg/L	0.35156	8.7011 ppb	0.35156	4.04%
QC value within limits for Zn 213.857 Recovery = Not calculated							

All analyte(s) passed QC.

Sequence No.: 10  
 Sample ID: ICSAB  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 104  
 Date Collected: 3/30/2010 15:25:44  
 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	128969.8	128969.8	87.2 %		15:26:16
1	Al 396.153Radial†	2268643.5	2600464.8	535860 µg/L	535860 ppb	15:26:14
1	Ca 317.933Radial†	7418203.8	8502317.5	511560 µg/L	511560 ppb	15:26:14
1	Fe 238.204 Radial†	2626582.9	3010544.4	202580 µg/L	202580 ppb	15:26:14
1	K 766.490 Radial†	13932.0	14656.5	5776.6 µg/L	5776.6 ppb	15:26:16
1	Mg 279.077 IEC†	1076571.1	1233836.2	505980 µg/L	505980 ppb	15:26:16
1	Na 589.592 Radial†	33219.3	36870.5	5593.3 µg/L	5593.3 ppb	15:26:16
1	Sr 421.552†	207277.5	237810.7	544.59 µg/L	544.59 ppb	15:26:16
1	Sc 361.383	1516196.2	1516196.2	86.389 %		15:26:44
1	Y 371.029	903728.7	903728.7	84.933 %		15:26:44
1	Ag 328.068†	63350.6	69884.6	270.36 µg/L	270.36 ppb	15:26:44
1	As 188.979†	1221.1	1431.2	550.90 µg/L	550.90 ppb	15:26:46
1	B 249.677†	30854.5	32485.4	528.04 µg/L	528.04 ppb	15:26:44
1	Ba 233.527†	100374.9	116351.4	504.51 µg/L	504.51 ppb	15:26:44
1	Be 313.107†	710674.5	823428.9	247.28 µg/L	247.28 ppb	15:26:44
1	Cd 226.502†	62827.3	72836.0	479.01 µg/L	479.01 ppb	15:26:44
1	Co 228.616†	29526.2	34350.5	454.56 µg/L	454.56 ppb	15:26:46
1	Cr 267.716†	51013.6	58872.4	496.64 µg/L	496.64 ppb	15:26:46
1	Cu 324.752†	105945.5	119848.6	548.90 µg/L	548.90 ppb	15:26:44
1	Mn 257.610†	328467.2	380042.5	487.37 µg/L	487.37 ppb	15:26:44
1	Mo 202.031†	13247.4	15369.3	506.32 µg/L	506.32 ppb	15:26:46
1	Ni 231.604†	32031.3	37155.8	467.34 µg/L	467.34 ppb	15:26:46
1	P 214.914†	9671.9	11190.7	2643.8 µg/L	2643.8 ppb	15:26:46
1	Pb 220.353†	6483.0	7407.4	481.68 µg/L	481.68 ppb	15:26:46
1	S 181.975 Axial†	3019.3	3407.3	2797.2 µg/L	2797.2 ppb	15:26:46
1	Sb 206.836†	3474.0	3943.3	512.08 µg/L	512.08 ppb	15:26:46
1	Se 196.026†	5295.0	6115.7	2520 µg/L	2520 ppb	15:26:46
1	SiO2†	92064.6	104816.5	11193 µg/L	11193 ppb	15:26:44
1	Si 251.611†	280816.9	324111.7	5236.4 µg/L	5236.4 ppb	15:26:44
1	Sn 189.927†	6181.1	7157.5	497.35 µg/L	497.35 ppb	15:26:46
1	Ti 334.940†	466691.3	539334.3	512.06 µg/L	512.06 ppb	15:26:44
1	Tl 190.801†	2873.7	3443.5	471.18 µg/L	471.18 ppb	15:26:46
1	U 409.014†	7010.7	8399.0	535.66 µg/L	535.66 ppb	15:26:44
1	V 292.402†	87819.1	101345.4	523.74 µg/L	523.74 ppb	15:26:44
1	Zn 213.857†	72585.4	83496.9	497.27 µg/L	497.27 ppb	15:26:44
2	Sc RADIAL	138750.1	138750.1	93.9 %		15:26:21
2	Al 396.153Radial†	2248527.6	2395732.2	493670 µg/L	493670 ppb	15:26:19
2	Ca 317.933Radial†	7355600.1	7836246.5	471490 µg/L	471490 ppb	15:26:19
2	Fe 238.204 Radial†	2604562.2	2774861.9	186720 µg/L	186720 ppb	15:26:19
2	K 766.490 Radial†	14271.2	13892.3	5480.7 µg/L	5480.7 ppb	15:26:21
2	Mg 279.077 IEC†	1111258.4	1183809.4	485470 µg/L	485470 ppb	15:26:21
2	Na 589.592 Radial†	34192.5	35223.4	5343.5 µg/L	5343.5 ppb	15:26:21
2	Sr 421.552†	211492.1	225553.7	516.63 µg/L	516.63 ppb	15:26:21
2	Sc 361.383	1518506.0	1518506.0	86.521 %		15:26:49
2	Y 371.029	904980.6	904980.6	85.051 %		15:26:49
2	Ag 328.068†	63288.3	69701.0	270.75 µg/L	270.75 ppb	15:26:49
2	As 188.979†	1123.1	1315.7	507.01 µg/L	507.01 ppb	15:26:51
2	B 249.677†	31121.0	32739.1	532.19 µg/L	532.19 ppb	15:26:49
2	Ba 233.527†	100793.3	116658.3	506.05 µg/L	506.05 ppb	15:26:49
2	Be 313.107†	712144.3	823876.4	247.41 µg/L	247.41 ppb	15:26:49
2	Cd 226.502†	63049.4	72982.0	481.68 µg/L	481.68 ppb	15:26:49
2	Co 228.616†	29214.5	33938.3	449.81 µg/L	449.81 ppb	15:26:51
2	Cr 267.716†	50659.7	58373.5	492.13 µg/L	492.13 ppb	15:26:51
2	Cu 324.752†	106123.6	119867.9	546.12 µg/L	546.12 ppb	15:26:49
2	Mn 257.610†	329580.6	380751.0	489.17 µg/L	489.17 ppb	15:26:49
2	Mo 202.031†	13269.6	15371.7	505.39 µg/L	505.39 ppb	15:26:51
2	Ni 231.604†	31669.3	36681.0	461.36 µg/L	461.36 ppb	15:26:51
2	P 214.914†	9695.4	11200.9	2647.7 µg/L	2647.7 ppb	15:26:51
2	Pb 220.353†	6408.2	7309.6	473.58 µg/L	473.58 ppb	15:26:51

2	S 181.975 Axial†	3032.1	3416.8	2805.0 µg/L	2805.0 ppb	15:26:51
2	Sb 206.836†	3497.1	3963.8	515.32 µg/L	515.32 ppb	15:26:51
2	Se 196.026†	5153.5	5942.8	2440 µg/L	2440 ppb	15:26:51
2	SiO2†	92148.0	104750.8	11186 µg/L	11186 ppb	15:26:49
2	Si 251.611†	282053.1	325046.0	5251.5 µg/L	5251.5 ppb	15:26:49
2	Sn 189.927†	6186.0	7152.3	496.98 µg/L	496.98 ppb	15:26:51
2	Ti 334.940†	465598.1	537249.0	510.59 µg/L	510.59 ppb	15:26:49
2	Tl 190.801†	2897.1	3465.6	474.15 µg/L	474.15 ppb	15:26:51
2	U 409.014†	7068.1	8453.0	540.87 µg/L	540.87 ppb	15:26:49
2	V 292.402†	87740.2	101099.6	524.10 µg/L	524.10 ppb	15:26:49
2	Zn 213.857†	72899.1	83731.7	500.12 µg/L	500.12 ppb	15:26:49
3	Sc RADIAL	136915.4	136915.4	92.6 %		15:26:25
3	Al 396.153Radial†	2257454.6	2437473.9	502270 µg/L	502270 ppb	15:26:23
3	Ca 317.933Radial†	7359855.8	7945860.1	478080 µg/L	478080 ppb	15:26:23
3	Fe 238.204 Radial†	2604669.3	2812163.8	189230 µg/L	189230 ppb	15:26:23
3	K 766.490 Radial†	14264.5	14088.8	5558.0 µg/L	5558.0 ppb	15:26:25
3	Mg 279.077 IEC†	1106854.3	1194920.1	490030 µg/L	490030 ppb	15:26:25
3	Na 589.592 Radial†	34167.4	35684.5	5413.4 µg/L	5413.4 ppb	15:26:25
3	Sr 421.552†	210799.8	227825.7	521.82 µg/L	521.82 ppb	15:26:25
3	Sc 361.383	1532637.0	1532637.0	87.326 %		15:26:54
3	Y 371.029	912980.1	912980.1	85.803 %		15:26:54
3	Ag 328.068†	63997.3	69838.5	271.10 µg/L	271.10 ppb	15:26:54
3	As 188.979†	1202.6	1394.9	535.14 µg/L	535.14 ppb	15:26:56
3	B 249.677†	30994.7	32262.8	524.43 µg/L	524.43 ppb	15:26:54
3	Ba 233.527†	101425.8	116308.4	504.49 µg/L	504.49 ppb	15:26:54
3	Be 313.107†	717134.4	822001.9	246.85 µg/L	246.85 ppb	15:26:54
3	Cd 226.502†	63386.1	72695.7	479.45 µg/L	479.45 ppb	15:26:54
3	Co 228.616†	29425.6	33868.8	448.74 µg/L	448.74 ppb	15:26:56
3	Cr 267.716†	50967.1	58185.7	490.58 µg/L	490.58 ppb	15:26:56
3	Cu 324.752†	106853.0	119572.3	545.36 µg/L	545.36 ppb	15:26:54
3	Mn 257.610†	331501.6	379438.8	487.23 µg/L	487.23 ppb	15:26:54
3	Mo 202.031†	13182.9	15131.0	497.92 µg/L	497.92 ppb	15:26:56
3	Ni 231.604†	31816.9	36512.6	459.25 µg/L	459.25 ppb	15:26:56
3	P 214.914†	9750.3	11160.5	2638.3 µg/L	2638.3 ppb	15:26:56
3	Pb 220.353†	6296.3	7113.2	461.99 µg/L	461.99 ppb	15:26:56
3	S 181.975 Axial†	3014.7	3364.5	2762.1 µg/L	2762.1 ppb	15:26:56
3	Sb 206.836†	3428.2	3847.7	499.92 µg/L	499.92 ppb	15:26:56
3	Se 196.026†	5199.2	5940.2	2440 µg/L	2440 ppb	15:26:56
3	SiO2†	93000.5	104745.0	11185 µg/L	11185 ppb	15:26:54
3	Si 251.611†	283786.9	324025.9	5235.1 µg/L	5235.1 ppb	15:26:54
3	Sn 189.927†	6228.6	7135.1	495.78 µg/L	495.78 ppb	15:26:56
3	Ti 334.940†	468402.8	535499.2	508.64 µg/L	508.64 ppb	15:26:54
3	Tl 190.801†	2875.8	3410.2	466.69 µg/L	466.69 ppb	15:26:56
3	U 409.014†	7143.9	8464.4	541.20 µg/L	541.20 ppb	15:26:54
3	V 292.402†	88322.9	100831.9	522.33 µg/L	522.33 ppb	15:26:54
3	Zn 213.857†	73408.9	83538.6	498.75 µg/L	498.75 ppb	15:26:54

## Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1522446.4	86.745 %	0.5071			0.58%
Sc RADIAL	134878.4	91.2 %	3.52			3.85%
Y 371.029	907229.8	85.262 %	0.4717			0.55%
Ag 328.068†	69808.1	270.74 µg/L	0.366	270.74 ppb	0.366	0.14%
QC value within limits for Ag 328.068 Recovery = 108.29%						
Al 396.153Radial†	2477890.3	510600 µg/L	22293.7	510600 ppb	22293.7	4.37%
QC value within limits for Al 396.153Radial Recovery = 102.12%						
As 188.979†	1380.6	531.02 µg/L	22.233	531.02 ppb	22.233	4.19%
QC value within limits for As 188.979 Recovery = 106.20%						
B 249.677†	32495.8	528.22 µg/L	3.885	528.22 ppb	3.885	0.74%
QC value within limits for B 249.677 Recovery = 105.64%						
Ba 233.527†	116439.4	505.02 µg/L	0.894	505.02 ppb	0.894	0.18%
QC value within limits for Ba 233.527 Recovery = 101.00%						
Be 313.107†	823102.4	247.18 µg/L	0.294	247.18 ppb	0.294	0.12%
QC value within limits for Be 313.107 Recovery = 98.87%						
Ca 317.933Radial†	8094808.1	487050 µg/L	21488.5	487050 ppb	21488.5	4.41%
QC value within limits for Ca 317.933Radial Recovery = 97.41%						
Cd 226.502†	72837.9	480.04 µg/L	1.431	480.04 ppb	1.431	0.30%
QC value within limits for Cd 226.502 Recovery = 96.01%						
Co 228.616†	34052.5	451.03 µg/L	3.097	451.03 ppb	3.097	0.69%

QC value within limits for Co 228.616 Recovery = 90.21%							
Cr 267.716†	58477.2	493.12 µg/L	3.147	493.12 ppb	3.147	0.64%	
QC value within limits for Cr 267.716 Recovery = 98.62%							
Cu 324.752†	119762.9	546.80 µg/L	1.864	546.80 ppb	1.864	0.34%	
QC value within limits for Cu 324.752 Recovery = 109.36%							
Fe 238.204 Radial†	2865856.7	192840 µg/L	8524.4	192840 ppb	8524.4	4.42%	
QC value within limits for Fe 238.204 Radial Recovery = 96.42%							
K 766.490 Radial†	14212.5	5605.1 µg/L	153.49	5605.1 ppb	153.49	2.74%	
QC value within limits for K 766.490 Radial Recovery = 112.10%							
Mg 279.077 IEC†	1204188.6	493830 µg/L	10769.0	493830 ppb	10769.0	2.18%	
QC value within limits for Mg 279.077 IEC Recovery = 98.77%							
Mn 257.610†	380077.4	487.92 µg/L	1.083	487.92 ppb	1.083	0.22%	
QC value within limits for Mn 257.610 Recovery = 97.58%							
Mo 202.031†	15290.7	503.21 µg/L	4.607	503.21 ppb	4.607	0.92%	
QC value within limits for Mo 202.031 Recovery = 100.64%							
Na 589.592 Radial†	35926.2	5450.1 µg/L	128.88	5450.1 ppb	128.88	2.36%	
QC value within limits for Na 589.592 Radial Recovery = 109.00%							
Ni 231.604†	36783.1	462.65 µg/L	4.196	462.65 ppb	4.196	0.91%	
QC value within limits for Ni 231.604 Recovery = 92.53%							
P 214.914†	11184.0	2643.3 µg/L	4.70	2643.3 ppb	4.70	0.18%	
QC value within limits for P 214.914 Recovery = 105.73%							
Pb 220.353†	7276.7	472.42 µg/L	9.899	472.42 ppb	9.899	2.10%	
QC value within limits for Pb 220.353 Recovery = 94.48%							
S 181.975 Axial†	3396.2	2788.1 µg/L	22.86	2788.1 ppb	22.86	0.82%	
QC value within limits for S 181.975 Axial Recovery = 111.52%							
Sb 206.836†	3918.3	509.11 µg/L	8.121	509.11 ppb	8.121	1.60%	
QC value within limits for Sb 206.836 Recovery = 101.82%							
Se 196.026†	5999.6	2470 µg/L	43.2	2470 ppb	43.2	1.75%	
QC value within limits for Se 196.026 Recovery = 98.76%							
SiO2†	104770.8	11188 µg/L	4.2	11188 ppb	4.2	0.04%	
QC value within limits for SiO2 Recovery = 104.61%							
Si 251.611†	324394.5	5241.0 µg/L	9.12	5241.0 ppb	9.12	0.17%	
QC value within limits for Si 251.611 Recovery = 104.82%							
Sn 189.927†	7148.3	496.70 µg/L	0.817	496.70 ppb	0.817	0.16%	
QC value within limits for Sn 189.927 Recovery = 99.34%							
Sr 421.552†	230396.7	527.68 µg/L	14.874	527.68 ppb	14.874	2.82%	
QC value within limits for Sr 421.552 Recovery = 105.54%							
Ti 334.940†	537360.8	510.43 µg/L	1.713	510.43 ppb	1.713	0.34%	
QC value within limits for Ti 334.940 Recovery = 102.09%							
Tl 190.801†	3439.8	470.67 µg/L	3.758	470.67 ppb	3.758	0.80%	
QC value within limits for Tl 190.801 Recovery = 94.13%							
U 409.014†	8438.8	539.25 µg/L	3.108	539.25 ppb	3.108	0.58%	
QC value within limits for U 409.014 Recovery = 107.85%							
V 292.402†	101092.3	523.39 µg/L	0.936	523.39 ppb	0.936	0.18%	
QC value within limits for V 292.402 Recovery = 104.68%							
Zn 213.857†	83589.1	498.71 µg/L	1.427	498.71 ppb	1.427	0.29%	
QC value within limits for Zn 213.857 Recovery = 99.74%							

All analyte(s) passed QC.



Sequence No.: 11  
 Sample ID: LRL  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 105  
 Date Collected: 3/30/2010 15:27:03  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: LRL

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	136437.1	136437.1	92.3 %		15:27:35
1	Al 396.153Radial†	2201698.9	2385608.2	491610 µg/L	491610 ppb	15:27:33
1	Ca 317.933Radial†	7214807.5	7816561.1	470300 µg/L	470300 ppb	15:27:33
1	Fe 238.204 Radial†	6118140.6	6628877.5	446050 µg/L	446050 ppb	15:27:33
1	K 766.490 Radial†	1829.8	669.7	-38.783 µg/L	-38.783 ppb	15:27:35
1	Mg 279.077 IEC†	1054744.4	1142649.0	468350 µg/L	468350 ppb	15:27:33
1	Na 589.592 Radial†	3004311.9	3253971.6	494110 µg/L	494110 ppb	15:27:33
1	Sr 421.552†	4865.0	5492.9	8.9901 µg/L	8.9901 ppb	15:27:35
1	Sc 361.383	1479324.6	1479324.6	84.288 %		15:27:49
1	Y 371.029	877883.5	877883.5	82.504 %		15:27:49
1	Ag 328.068†	2175.4	-866.2	2.3746 µg/L	2.3746 ppb	15:27:49
1	As 188.979†	-230.5	-255.8	10.757 µg/L	10.757 ppb	15:28:09
1	B 249.677†	4044.4	1567.9	25.520 µg/L	25.520 ppb	15:27:49
1	Ba 233.527†	614.2	890.8	-1.8194 µg/L	-1.8194 ppb	15:28:09
1	Be 313.107†	-14328.5	-16213.8	0.0899 µg/L	0.0899 ppb	15:27:49
1	Cd 226.502†	5667.7	6834.2	0.0189 µg/L	0.0189 ppb	15:27:49
1	Co 228.616†	648.7	942.0	-10.524 µg/L	-10.524 ppb	15:28:09
1	Cr 267.716†	423.8	324.2	-0.4000 µg/L	-0.4000 ppb	15:28:09
1	Cu 324.752†	-15616.5	-21316.4	1.3548 µg/L	1.3548 ppb	15:27:49
1	Mn 257.610†	16797.3	19752.8	6.6460 µg/L	6.6460 ppb	15:27:49
1	Mo 202.031†	-897.8	-1030.4	-6.5604 µg/L	-6.5604 ppb	15:27:49
1	Ni 231.604†	211.2	328.5	4.1319 µg/L	4.1319 ppb	15:28:09
1	P 214.914†	924.8	1092.2	67.436 µg/L	67.436 ppb	15:28:09
1	Pb 220.353†	-15.3	-115.1	-3.2134 µg/L	-3.2134 ppb	15:28:09
1	S 181.975 Axial†	174.3	119.1	97.381 µg/L	97.381 ppb	15:28:09
1	Sb 206.836†	113.6	56.7	-1.8998 µg/L	-1.8998 ppb	15:28:09
1	Se 196.026†	-352.5	-431.8	-2.26 µg/L	-2.26 ppb	15:28:09
1	SiO2†	1807.3	391.1	42.666 µg/L	42.666 ppb	15:28:09
1	Si 251.611†	-1781.3	-3062.0	-49.173 µg/L	-49.173 ppb	15:27:49
1	Sn 189.927†	87.2	106.0	7.4350 µg/L	7.4350 ppb	15:28:09
1	Ti 334.940†	24073.9	27675.7	-4.9000 µg/L	-4.9000 ppb	15:27:49
1	Tl 190.801†	-177.4	-93.4	-11.930 µg/L	-11.930 ppb	15:28:09
1	U 409.014†	220380.3	261743.9	16316 µg/L	16316 ppb	15:27:49
1	V 292.402†	7565.3	8665.6	9.6187 µg/L	9.6187 ppb	15:27:49
1	Zn 213.857†	7862.1	8803.1	11.198 µg/L	11.198 ppb	15:28:09
2	Sc RADIAL	133662.6	133662.6	90.4 %		15:27:40
2	Al 396.153Radial†	2208386.1	2442521.6	503340 µg/L	503340 ppb	15:27:38
2	Ca 317.933Radial†	7235360.6	8001557.4	481430 µg/L	481430 ppb	15:27:38
2	Fe 238.204 Radial†	6131145.7	6780861.1	456280 µg/L	456280 ppb	15:27:38
2	K 766.490 Radial†	1926.9	818.3	14.893 µg/L	14.893 ppb	15:27:40
2	Mg 279.077 IEC†	1057709.3	1169649.9	479420 µg/L	479420 ppb	15:27:38
2	Na 589.592 Radial†	3012824.9	3330955.4	505800 µg/L	505800 ppb	15:27:38
2	Sr 421.552†	4780.7	5509.1	8.9403 µg/L	8.9403 ppb	15:27:40
2	Sc 361.383	1491945.8	1491945.8	85.007 %		15:28:12
2	Y 371.029	884642.3	884642.3	83.140 %		15:28:12
2	Ag 328.068†	2189.1	-871.9	1.9264 µg/L	1.9264 ppb	15:28:12
2	As 188.979†	-239.5	-264.0	10.187 µg/L	10.187 ppb	15:28:32
2	B 249.677†	4005.3	1481.3	24.110 µg/L	24.110 ppb	15:28:12
2	Ba 233.527†	580.5	845.0	-2.1494 µg/L	-2.1494 ppb	15:28:32
2	Be 313.107†	-14594.1	-16382.5	0.0185 µg/L	0.0185 ppb	15:28:12
2	Cd 226.502†	5774.9	6903.5	-0.5813 µg/L	-0.5813 ppb	15:28:12
2	Co 228.616†	624.1	906.6	-11.537 µg/L	-11.537 ppb	15:28:32
2	Cr 267.716†	416.0	310.8	-0.2391 µg/L	-0.2391 ppb	15:28:32
2	Cu 324.752†	-15844.3	-21427.7	2.6175 µg/L	2.6175 ppb	15:28:12
2	Mn 257.610†	16681.9	19448.5	5.7732 µg/L	5.7732 ppb	15:28:12
2	Mo 202.031†	-885.2	-1006.6	-5.1979 µg/L	-5.1979 ppb	15:28:12
2	Ni 231.604†	194.7	306.9	3.8599 µg/L	3.8599 ppb	15:28:32
2	P 214.914†	903.2	1057.5	54.786 µg/L	54.786 ppb	15:28:32
2	Pb 220.353†	-9.7	-108.4	-2.3505 µg/L	-2.3505 ppb	15:28:32

2	S 181.975 Axial†	162.6	103.6	84.638 µg/L	84.638 ppb	15:28:32
2	Sb 206.836†	103.8	44.0	-3.7528 µg/L	-3.7528 ppb	15:28:32
2	Se 196.026†	-363.4	-441.0	-2.47 µg/L	-2.47 ppb	15:28:32
2	SiO2†	1787.0	349.0	38.154 µg/L	38.154 ppb	15:28:32
2	Si 251.611†	-1775.4	-3037.1	-48.774 µg/L	-48.774 ppb	15:28:12
2	Sn 189.927†	75.0	90.8	6.3853 µg/L	6.3853 ppb	15:28:32
2	Ti 334.940†	25851.7	29525.6	-3.6306 µg/L	-3.6306 ppb	15:28:12
2	Tl 190.801†	-199.4	-117.5	-15.139 µg/L	-15.139 ppb	15:28:32
2	U 409.014†	221329.4	260648.6	16245 µg/L	16245 ppb	15:28:12
2	V 292.402†	7749.2	8806.1	9.2452 µg/L	9.2452 ppb	15:28:12
2	Zn 213.857†	7893.7	8761.3	9.9501 µg/L	9.9501 ppb	15:28:32
3	Sc RADIAL	132134.1	132134.1	89.4 %		15:27:44
3	Al 396.153Radial†	2215858.4	2479134.6	510880 µg/L	510880 ppb	15:27:42
3	Ca 317.933Radial†	7272268.0	8135414.9	489490 µg/L	489490 ppb	15:27:42
3	Fe 238.204 Radial†	6164754.1	6896900.9	464080 µg/L	464080 ppb	15:27:42
3	K 766.490 Radial†	1800.0	701.0	-38.551 µg/L	-38.551 ppb	15:27:44
3	Mg 279.077 IEC†	1064515.1	1190796.0	488090 µg/L	488090 ppb	15:27:42
3	Na 589.592 Radial†	3025200.4	3383345.7	513750 µg/L	513750 ppb	15:27:42
3	Sr 421.552†	4781.2	5570.8	9.0197 µg/L	9.0197 ppb	15:27:44
3	Sc 361.383	1476102.9	1476102.9	84.105 %		15:28:34
3	Y 371.029	876472.2	876472.2	82.372 %		15:28:34
3	Ag 328.068†	1850.6	-1246.7	0.2207 µg/L	0.2207 ppb	15:28:34
3	As 188.979†	-230.9	-256.9	14.443 µg/L	14.443 ppb	15:28:55
3	B 249.677†	3692.4	1159.9	18.868 µg/L	18.868 ppb	15:28:34
3	Ba 233.527†	608.5	885.6	-2.0717 µg/L	-2.0717 ppb	15:28:55
3	Be 313.107†	-14186.1	-16081.6	0.1172 µg/L	0.1172 ppb	15:28:34
3	Cd 226.502†	5641.6	6817.9	-1.9905 µg/L	-1.9905 ppb	15:28:34
3	Co 228.616†	619.3	908.7	-11.915 µg/L	-11.915 ppb	15:28:55
3	Cr 267.716†	455.9	363.5	0.3478 µg/L	0.3478 ppb	15:28:55
3	Cu 324.752†	-15453.9	-21163.5	5.1254 µg/L	5.1254 ppb	15:28:34
3	Mn 257.610†	16497.8	19440.3	5.3978 µg/L	5.3978 ppb	15:28:34
3	Mo 202.031†	-841.4	-965.6	-3.4268 µg/L	-3.4268 ppb	15:28:34
3	Ni 231.604†	143.2	248.2	3.1217 µg/L	3.1217 ppb	15:28:55
3	P 214.914†	894.1	1058.1	51.284 µg/L	51.284 ppb	15:28:55
3	Pb 220.353†	-28.9	-131.3	-3.5614 µg/L	-3.5614 ppb	15:28:55
3	S 181.975 Axial†	161.0	103.7	84.779 µg/L	84.779 ppb	15:28:55
3	Sb 206.836†	120.2	64.8	-1.1601 µg/L	-1.1601 ppb	15:28:55
3	Se 196.026†	-381.7	-467.4	-10.3 µg/L	-10.3 ppb	15:28:55
3	SiO2†	1817.9	408.3	44.447 µg/L	44.447 ppb	15:28:55
3	Si 251.611†	-1958.8	-3277.6	-52.691 µg/L	-52.691 ppb	15:28:34
3	Sn 189.927†	86.5	105.4	7.3929 µg/L	7.3929 ppb	15:28:55
3	Ti 334.940†	24067.1	27730.1	-5.9375 µg/L	-5.9375 ppb	15:28:34
3	Tl 190.801†	-187.6	-105.9	-13.606 µg/L	-13.606 ppb	15:28:55
3	U 409.014†	219352.6	261092.7	16272 µg/L	16272 ppb	15:28:34
3	V 292.402†	7743.9	8897.6	8.9429 µg/L	8.9429 ppb	15:28:34
3	Zn 213.857†	7836.5	8793.0	9.3727 µg/L	9.3727 ppb	15:28:55

## Mean Data: LR1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1482457.8	84.467 %	0.4771			0.56%
Sc RADIAL	134077.9	90.7 %	1.48			1.63%
Y 371.029	879666.0	82.672 %	0.4104			0.50%
Ag 328.068†	-995.0	1.5072 µg/L	1.13650	1.5072 ppb	1.13650	75.40%
Al 396.153Radial†	2435754.8	501940 µg/L	9711.9	501940 ppb	9711.9	1.93%
QC value within limits for Al 396.153Radial Recovery = 100.39%						
As 188.979†	-258.9	11.796 µg/L	2.3107	11.796 ppb	2.3107	19.59%
B 249.677†	1403.1	22.833 µg/L	3.5049	22.833 ppb	3.5049	15.35%
Ba 233.527†	873.8	-2.0135 µg/L	0.17249	-2.0135 ppb	0.17249	8.57%
Be 313.107†	-16226.0	0.0752 µg/L	0.05096	0.0752 ppb	0.05096	67.76%
Ca 317.933Radial†	7984511.1	480410 µg/L	9633.4	480410 ppb	9633.4	2.01%
QC value within limits for Ca 317.933Radial Recovery = 96.08%						
Cd 226.502†	6851.9	-0.8510 µg/L	1.03148	-0.8510 ppb	1.03148	121.21%
Co 228.616†	919.1	-11.326 µg/L	0.7193	-11.326 ppb	0.7193	6.35%
Cr 267.716†	332.8	-0.0971 µg/L	0.39360	-0.0971 ppb	0.39360	405.29%
Cu 324.752†	-21302.5	3.0326 µg/L	1.91926	3.0326 ppb	1.91926	63.29%
Fe 238.204 Radial†	6768879.8	455470 µg/L	9044.5	455470 ppb	9044.5	1.99%
QC value within limits for Fe 238.204 Radial Recovery = 91.09%						
K 766.490 Radial†	729.7	-20.814 µg/L	30.9231	-20.814 ppb	30.9231	148.57%
Mg 279.077 IEC†	1167698.3	478620 µg/L	9892.0	478620 ppb	9892.0	2.07%

QC value within limits for Mg 279.077 IEC Recovery = 95.72%							
Mn 257.610†	19547.2	5.9390 µg/L	0.64043	5.9390 ppb	0.64043	10.78%	
Mo 202.031†	-1000.9	-5.0617 µg/L	1.57123	-5.0617 ppb	1.57123	31.04%	
Na 589.592 Radial†	3322757.6	504550 µg/L	9881.5	504550 ppb	9881.5	1.96%	
QC value within limits for Na 589.592 Radial Recovery = 100.91%							
Ni 231.604†	294.5	3.7045 µg/L	0.52272	3.7045 ppb	0.52272	14.11%	
P 214.914†	1069.3	57.835 µg/L	8.4971	57.835 ppb	8.4971	14.69%	
Pb 220.353†	-118.3	-3.0417 µg/L	0.62343	-3.0417 ppb	0.62343	20.50%	
S 181.975 Axial†	108.8	88.932 µg/L	7.3171	88.932 ppb	7.3171	8.23%	
Sb 206.836†	55.2	-2.2709 µg/L	1.33559	-2.2709 ppb	1.33559	58.81%	
Se 196.026†	-446.7	-5.01 µg/L	4.588	-5.01 ppb	4.588	91.56%	
SiO2†	382.8	41.756 µg/L	3.2436	41.756 ppb	3.2436	7.77%	
Si 251.611†	-3125.6	-50.213 µg/L	2.1553	-50.213 ppb	2.1553	4.29%	
Sn 189.927†	100.8	7.0710 µg/L	0.59428	7.0710 ppb	0.59428	8.40%	
Sr 421.552†	5524.3	8.9834 µg/L	0.04013	8.9834 ppb	0.04013	0.45%	
Ti 334.940†	28310.5	-4.8227 µg/L	1.15537	-4.8227 ppb	1.15537	23.96%	
Tl 190.801†	-105.6	-13.558 µg/L	1.6047	-13.558 ppb	1.6047	11.84%	
U 409.014†	261161.7	16278 µg/L	35.6	16278 ppb	35.6	0.22%	
QC value within limits for U 409.014 Recovery = 108.52%							
V 292.402†	8789.8	9.2689 µg/L	0.33852	9.2689 ppb	0.33852	3.65%	
Zn 213.857†	8785.8	10.174 µg/L	0.9330	10.174 ppb	0.9330	9.17%	
All analyte(s) passed QC.							

Sequence No.: 12  
 Sample ID: LR2  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 108  
 Date Collected: 3/30/2010 15:29:03  
 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	144237.0	144237.0	97.6 %		15:29:37
1	Al 396.153Radial†	2225.8	2344.2	31.470 µg/L	31.470 ppb	15:29:39
1	Ca 317.933Radial†	1195.6	527.4	31.732 µg/L	31.732 ppb	15:29:39
1	Fe 238.204 Radial†	-828.0	-989.3	-66.568 µg/L	-66.568 ppb	15:29:39
1	K 766.490 Radial†	705257.6	721512.5	296950 µg/L	296950 ppb	15:29:37
1	Mg 279.077 IEC†	-489.5	-670.5	-37.134 µg/L	-37.134 ppb	15:29:39
1	Na 589.592 Radial†	5220.5	4143.9	365.14 µg/L	365.14 ppb	15:29:39
1	Sr 421.552†	4186503.5	4291009.0	9898.7 µg/L	9898.7 ppb	15:29:35
1	Sc 361.383	1663697.1	1663697.1	94.793 %		15:30:01
1	Y 371.029	981892.5	981892.5	92.279 %		15:30:01
1	Ag 328.068†	-23773.7	-28526.5	5.2873 µg/L	5.2873 ppb	15:30:03
1	As 188.979†	27146.9	28655.7	10253 µg/L	10253 ppb	15:30:03
1	B 249.677†	294226.0	307156.3	4975.3 µg/L	4975.3 ppb	15:30:01
1	Ba 233.527†	3027478.9	3193928.4	13916 µg/L	13916 ppb	15:30:01
1	Be 313.107†	8944351.3	9436414.6	2831.8 µg/L	2831.8 ppb	15:29:57
1	Cd 226.502†	1332439.6	1405735.3	9656.4 µg/L	9656.4 ppb	15:30:01
1	Co 228.616†	659087.3	695460.8	9423.0 µg/L	9423.0 ppb	15:30:01
1	Cr 267.716†	2697213.0	2845181.7	23977 µg/L	23977 ppb	15:30:01
1	Cu 324.752†	4547393.6	4794374.9	20208 µg/L	20208 ppb	15:30:01
1	Mn 257.610†	6649756.4	7014825.5	9376.1 µg/L	9376.1 ppb	15:30:01
1	Mo 202.031†	289733.3	305681.9	9726.8 µg/L	9726.8 ppb	15:30:03
1	Ni 231.604†	734586.5	775012.3	9747.9 µg/L	9747.9 ppb	15:30:01
1	P 214.914†	60333.5	63642.4	14943 µg/L	14943 ppb	15:30:03
1	Pb 220.353†	364788.7	384728.2	23587 µg/L	23587 ppb	15:30:03
1	S 181.975 Axial†	59471.6	62650.4	51439 µg/L	51439 ppb	15:30:03
1	Sb 206.836†	72079.2	75960.2	9771.1 µg/L	9771.1 ppb	15:30:03
1	Se 196.026†	22882.5	24125.7	9660 µg/L	9660 ppb	15:30:03
1	SiO2†	894874.0	942272.7	100390 µg/L	100390 ppb	15:30:01
1	Si 251.611†	2754729.3	2905086.9	46828 µg/L	46828 ppb	15:30:01
1	Sn 189.927†	134561.0	141954.4	9861.0 µg/L	9861.0 ppb	15:30:03
1	Ti 334.940†	9355396.9	9868366.1	9878.7 µg/L	9878.7 ppb	15:29:57
1	Tl 190.801†	66599.1	70374.2	9608.7 µg/L	9608.7 ppb	15:30:03
1	U 409.014†	-8124.9	-8287.4	91.396 µg/L	91.396 ppb	15:30:03
1	V 292.402†	1792814.5	1890976.9	10234 µg/L	10234 ppb	15:30:01
1	Zn 213.857†	2209060.9	2329871.3	14375 µg/L	14375 ppb	15:30:01
2	Sc RADIAL	143986.9	143986.9	97.4 %		15:29:43
2	Al 396.153Radial†	2195.1	2316.5	19.993 µg/L	19.993 ppb	15:29:45
2	Ca 317.933Radial†	1141.8	474.3	28.538 µg/L	28.538 ppb	15:29:45
2	Fe 238.204 Radial†	-802.9	-965.1	-64.938 µg/L	-64.938 ppb	15:29:45
2	K 766.490 Radial†	707310.9	724875.9	298330 µg/L	298330 ppb	15:29:43
2	Mg 279.077 IEC†	-481.5	-663.1	-31.044 µg/L	-31.044 ppb	15:29:45
2	Na 589.592 Radial†	5011.9	3939.1	332.81 µg/L	332.81 ppb	15:29:45
2	Sr 421.552†	4170441.9	4281970.6	9877.9 µg/L	9877.9 ppb	15:29:41
2	Sc 361.383	1652411.6	1652411.6	94.150 %		15:30:11
2	Y 371.029	975307.9	975307.9	91.660 %		15:30:11
2	Ag 328.068†	-23549.1	-28459.3	5.3021 µg/L	5.3021 ppb	15:30:13
2	As 188.979†	27298.6	29012.4	10378 µg/L	10378 ppb	15:30:13
2	B 249.677†	291433.3	306310.0	4961.5 µg/L	4961.5 ppb	15:30:11
2	Ba 233.527†	2999547.4	3186074.1	13882 µg/L	13882 ppb	15:30:11
2	Be 313.107†	9002117.0	9562212.2	2869.5 µg/L	2869.5 ppb	15:30:07
2	Cd 226.502†	1319189.5	1401262.0	9625.7 µg/L	9625.7 ppb	15:30:11
2	Co 228.616†	653056.4	693803.8	9400.6 µg/L	9400.6 ppb	15:30:11
2	Cr 267.716†	2673331.9	2839249.8	23927 µg/L	23927 ppb	15:30:11
2	Cu 324.752†	4508860.7	4786211.3	20173 µg/L	20173 ppb	15:30:11
2	Mn 257.610†	6592131.1	7001530.5	9358.4 µg/L	9358.4 ppb	15:30:11
2	Mo 202.031†	291456.6	309599.8	9851.4 µg/L	9851.4 ppb	15:30:13
2	Ni 231.604†	727344.3	772612.7	9717.7 µg/L	9717.7 ppb	15:30:11
2	P 214.914†	60767.2	64537.7	15157 µg/L	15157 ppb	15:30:13
2	Pb 220.353†	367598.0	390340.2	23931 µg/L	23931 ppb	15:30:13

2	S 181.975 Axial†	60050.6	63693.9	52295 µg/L	52295 ppb	15:30:13
2	Sb 206.836†	72605.5	77038.4	9915.2 µg/L	9915.2 ppb	15:30:13
2	Se 196.026†	23187.2	24614.2	9850 µg/L	9850 ppb	15:30:13
2	SiO2†	886511.8	939838.4	100120 µg/L	100120 ppb	15:30:11
2	Si 251.611†	2730380.4	2899072.8	46728 µg/L	46728 ppb	15:30:11
2	Sn 189.927†	135964.5	144414.7	10032 µg/L	10032 ppb	15:30:13
2	Ti 334.940†	9415705.5	9999826.1	10010 µg/L	10010 ppb	15:30:07
2	Tl 190.801†	67195.6	71487.6	9759.6 µg/L	9759.6 ppb	15:30:13
2	U 409.014†	-7767.0	-7965.8	110.12 µg/L	110.12 ppb	15:30:13
2	V 292.402†	1776456.8	1886519.8	10211 µg/L	10211 ppb	15:30:11
2	Zn 213.857†	2189903.3	2325439.4	14348 µg/L	14348 ppb	15:30:11
3	Sc RADIAL	144822.6	144822.6	98.0 %		15:29:50
3	Al 396.153Radial†	2092.1	2198.4	-0.8903 µg/L	-0.8903 ppb	15:29:52
3	Ca 317.933Radial†	1203.7	530.7	31.929 µg/L	31.929 ppb	15:29:52
3	Fe 238.204 Radial†	-857.2	-1015.7	-68.345 µg/L	-68.345 ppb	15:29:52
3	K 766.490 Radial†	711651.3	725116.0	298430 µg/L	298430 ppb	15:29:50
3	Mg 279.077 IEC†	-463.8	-642.2	-24.276 µg/L	-24.276 ppb	15:29:52
3	Na 589.592 Radial†	4742.0	3633.8	286.38 µg/L	286.38 ppb	15:29:52
3	Sr 421.552†	4172633.3	4259499.7	9826.0 µg/L	9826.0 ppb	15:29:48
3	Sc 361.383	1657044.9	1657044.9	94.414 %		15:30:20
3	Y 371.029	978361.9	978361.9	91.947 %		15:30:20
3	Ag 328.068†	-23261.7	-28085.0	6.8804 µg/L	6.8804 ppb	15:30:22
3	As 188.979†	26976.3	28590.0	10231 µg/L	10231 ppb	15:30:22
3	B 249.677†	292997.5	307101.2	4974.4 µg/L	4974.4 ppb	15:30:20
3	Ba 233.527†	3012217.2	3190585.1	13902 µg/L	13902 ppb	15:30:20
3	Be 313.107†	8910545.1	9438487.5	2832.4 µg/L	2832.4 ppb	15:30:17
3	Cd 226.502†	1326786.2	1405390.3	9654.0 µg/L	9654.0 ppb	15:30:20
3	Co 228.616†	655684.4	694647.7	9412.0 µg/L	9412.0 ppb	15:30:20
3	Cr 267.716†	2685859.8	2844579.4	23972 µg/L	23972 ppb	15:30:20
3	Cu 324.752†	4522887.5	4787677.1	20179 µg/L	20179 ppb	15:30:20
3	Mn 257.610†	6615553.1	7006760.3	9365.4 µg/L	9365.4 ppb	15:30:20
3	Mo 202.031†	290065.6	307260.9	9777.0 µg/L	9777.0 ppb	15:30:22
3	Ni 231.604†	731039.6	774366.6	9739.8 µg/L	9739.8 ppb	15:30:20
3	P 214.914†	60515.4	64090.6	15051 µg/L	15051 ppb	15:30:22
3	Pb 220.353†	365639.3	387174.0	23737 µg/L	23737 ppb	15:30:22
3	S 181.975 Axial†	59594.5	63032.5	51752 µg/L	51752 ppb	15:30:22
3	Sb 206.836†	72374.1	76577.8	9853.0 µg/L	9853.0 ppb	15:30:22
3	Se 196.026†	23069.3	24420.5	9770 µg/L	9770 ppb	15:30:22
3	SiO2†	891398.7	942381.5	100400 µg/L	100400 ppb	15:30:20
3	Si 251.611†	2745197.8	2906657.8	46852 µg/L	46852 ppb	15:30:20
3	Sn 189.927†	135116.5	143112.7	9941.3 µg/L	9941.3 ppb	15:30:22
3	Ti 334.940†	9334301.8	9885642.8	9896.0 µg/L	9896.0 ppb	15:30:17
3	Tl 190.801†	66740.2	70805.7	9666.8 µg/L	9666.8 ppb	15:30:22
3	U 409.014†	-8268.5	-8473.9	78.920 µg/L	78.920 ppb	15:30:22
3	V 292.402†	1783384.1	1888581.0	10222 µg/L	10222 ppb	15:30:20
3	Zn 213.857†	2199491.6	2329091.1	14370 µg/L	14370 ppb	15:30:20

## Mean Data: LR2

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1657717.9	94.453 %	0.3232			0.34%
Sc RADIAL	144348.8	97.6 %	0.29			0.30%
Y 371.029	978520.8	91.962 %	0.3097			0.34%
Ag 328.068†	-28357.0	5.8233 µg/L	0.91551	5.8233 ppb	0.91551	15.72%
Al 396.153Radial†	2286.4	16.858 µg/L	16.4064	16.858 ppb	16.4064	97.32%
As 188.979†	28752.7	10287 µg/L	79.2	10287 ppb	79.2	0.77%
QC value within limits for As 188.979 Recovery = 102.87%						
B 249.677†	306855.8	4970.4 µg/L	7.69	4970.4 ppb	7.69	0.15%
QC value within limits for B 249.677 Recovery = 99.41%						
Ba 233.527†	3190195.9	13900 µg/L	17.1	13900 ppb	17.1	0.12%
QC value within limits for Ba 233.527 Recovery = 92.67%						
Be 313.107†	9479038.1	2844.6 µg/L	21.62	2844.6 ppb	21.62	0.76%
QC value within limits for Be 313.107 Recovery = 94.82%						
Ca 317.933Radial†	510.8	30.733 µg/L	1.9038	30.733 ppb	1.9038	6.19%
Cd 226.502†	1404129.2	9645.4 µg/L	17.10	9645.4 ppb	17.10	0.18%
QC value within limits for Cd 226.502 Recovery = 96.45%						
Co 228.616†	694637.5	9411.9 µg/L	11.23	9411.9 ppb	11.23	0.12%
QC value within limits for Co 228.616 Recovery = 94.12%						
Cr 267.716†	2843003.6	23958 µg/L	27.5	23958 ppb	27.5	0.11%
QC value within limits for Cr 267.716 Recovery = 95.83%						

Cu 324.752†	4789421.1	20187 µg/L	18.3	20187 ppb	18.3	0.09%
QC value within limits for Cu 324.752 Recovery = 100.93%						
Fe 238.204 Radial†	-990.0	-66.617 µg/L	1.7042	-66.617 ppb	1.7042	2.56%
K 766.490 Radial†	723834.8	297900 µg/L	829.2	297900 ppb	829.2	0.28%
QC value within limits for K 766.490 Radial Recovery = 99.30%						
Mg 279.077 IEC†	-658.6	-30.818 µg/L	6.4320	-30.818 ppb	6.4320	20.87%
Mn 257.610†	7007705.4	9366.6 µg/L	8.95	9366.6 ppb	8.95	0.10%
QC value within limits for Mn 257.610 Recovery = 93.67%						
Mo 202.031†	307514.2	9785.1 µg/L	62.70	9785.1 ppb	62.70	0.64%
QC value within limits for Mo 202.031 Recovery = 97.85%						
Na 589.592 Radial†	3905.6	328.11 µg/L	39.594	328.11 ppb	39.594	12.07%
Ni 231.604†	773997.2	9735.1 µg/L	15.62	9735.1 ppb	15.62	0.16%
QC value within limits for Ni 231.604 Recovery = 97.35%						
P 214.914†	64090.2	15051 µg/L	107.1	15051 ppb	107.1	0.71%
QC value within limits for P 214.914 Recovery = 100.34%						
Pb 220.353†	387414.1	23751 µg/L	172.5	23751 ppb	172.5	0.73%
QC value within limits for Pb 220.353 Recovery = 95.01%						
S 181.975 Axial†	63125.6	51829 µg/L	433.3	51829 ppb	433.3	0.84%
QC value within limits for S 181.975 Axial Recovery = 103.66%						
Sb 206.836†	76525.5	9846.4 µg/L	72.30	9846.4 ppb	72.30	0.73%
QC value within limits for Sb 206.836 Recovery = 98.46%						
Se 196.026†	24386.8	9760 µg/L	98.5	9760 ppb	98.5	1.01%
QC value within limits for Se 196.026 Recovery = 97.61%						
SiO2†	941497.5	100300 µg/L	156.5	100300 ppb	156.5	0.16%
QC value within limits for SiO2 Recovery = 93.74%						
Si 251.611†	2903605.8	46802 µg/L	65.9	46802 ppb	65.9	0.14%
QC value within limits for Si 251.611 Recovery = 93.60%						
Sn 189.927†	143160.6	9944.7 µg/L	85.44	9944.7 ppb	85.44	0.86%
QC value within limits for Sn 189.927 Recovery = 99.45%						
Sr 421.552†	4277493.1	9867.5 µg/L	37.43	9867.5 ppb	37.43	0.38%
QC value within limits for Sr 421.552 Recovery = 98.68%						
Ti 334.940†	9917945.0	9928.3 µg/L	71.57	9928.3 ppb	71.57	0.72%
QC value within limits for Ti 334.940 Recovery = 99.28%						
Tl 190.801†	70889.2	9678.4 µg/L	76.09	9678.4 ppb	76.09	0.79%
QC value within limits for Tl 190.801 Recovery = 96.78%						
U 409.014†	-8242.4	93.479 µg/L	15.7042	93.479 ppb	15.7042	16.80%
V 292.402†	1888692.6	10222 µg/L	11.4	10222 ppb	11.4	0.11%
QC value within limits for V 292.402 Recovery = 102.22%						
Zn 213.857†	2328133.9	14364 µg/L	14.5	14364 ppb	14.5	0.10%
QC value within limits for Zn 213.857 Recovery = 95.76%						
All analyte(s) passed QC.						

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Analysis Begun

Start Time: 3/30/2010 15:38:03

Plasma On Time: 3/29/2010 18:07:58

Logged In Analyst: optima4

Technique: ICP Continuous

Spectrometer Model: Optima 7300 DV, S/N 077C0022701 Autosampler Model: AS-93plus

Sample Information File: C:\pe\optima4\Sample Information\033010.sif

Batch ID:

Results Data Set: 033010B

Results Library: C:\pe\optima4\Results\Results.mdb  
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## Method Loaded

Method Name: Gen Eng fast\_new Si

Method Last Saved: 3/30/2010 14:42:21

IEC File: 031810.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	No
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	Yes
Ni 231.604	Lin Thru 0	Peak Area	Axial	Sc 361.383	No
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
SiO2	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

Sequence No.: 1

Autosampler Location: 7

Sample ID: CCV

Date Collected: 3/30/2010 15:38:05

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	151504.5	151504.5	102 %		15:38:38
1	Al 396.153Radial†	25127.4	24580.8	5041.9 µg/L	5041.9 ppb	15:38:38
1	Ca 317.933Radial†	86568.9	83771.3	5040.3 µg/L	5040.3 ppb	15:38:38
1	Fe 238.204 Radial†	76327.0	74335.0	5001.9 µg/L	5001.9 ppb	15:38:38

1	K 766.490 Radial†	14132.9	12477.3	5131.1 µg/L	5131.1 ppb	15:38:38
1	Mg 279.077 IEC†	12891.5	12410.0	5098.9 µg/L	5098.9 ppb	15:38:38
1	Na 589.592 Radial†	69008.8	66128.4	10037 µg/L	10037 ppb	15:38:38
1	Sr 421.552†	226574.4	221300.6	510.47 µg/L	510.47 ppb	15:38:36
1	Sc 361.383	1759627.0	1759627.0	100.26 %		15:39:05
1	Y 371.029	1053204.5	1053204.5	98.981 %		15:39:05
1	Ag 328.068†	128951.6	125171.1	503.81 µg/L	503.81 ppb	15:39:05
1	As 188.979†	1422.1	1436.1	508.39 µg/L	508.39 ppb	15:39:25
1	B 249.677†	33989.6	30671.4	498.32 µg/L	498.32 ppb	15:39:05
1	Ba 233.527†	115707.9	115570.8	503.62 µg/L	503.62 ppb	15:39:05
1	Be 313.107†	1680446.8	1676887.5	503.39 µg/L	503.39 ppb	15:39:05
1	Cd 226.502†	73648.0	73567.6	504.83 µg/L	504.83 ppb	15:39:05
1	Co 228.616†	37203.9	37280.2	504.48 µg/L	504.48 ppb	15:39:05
1	Cr 267.716†	59799.2	59466.0	500.92 µg/L	500.92 ppb	15:39:05
1	Cu 324.752†	121918.4	118814.3	502.21 µg/L	502.21 ppb	15:39:05
1	Mn 257.610†	378583.6	377429.2	504.26 µg/L	504.26 ppb	15:39:05
1	Mo 202.031†	15912.6	15906.2	506.42 µg/L	506.42 ppb	15:39:25
1	Ni 231.604†	40265.5	40239.2	506.12 µg/L	506.12 ppb	15:39:05
1	P 214.914†	10703.2	10670.6	2536.6 µg/L	2536.6 ppb	15:39:25
1	Pb 220.353†	8477.2	8358.3	513.39 µg/L	513.39 ppb	15:39:25
1	S 181.975 Axial†	1327.5	1236.3	1017.7 µg/L	1017.7 ppb	15:39:25
1	Sb 206.836†	3955.7	3867.4	508.32 µg/L	508.32 ppb	15:39:25
1	Se 196.026†	1278.1	1261.2	507 µg/L	507 ppb	15:39:25
1	SiO2†	52159.9	50271.9	5356.6 µg/L	5356.6 ppb	15:39:05
1	Si 251.611†	156911.9	155557.5	2507.8 µg/L	2507.8 ppb	15:39:05
1	Sn 189.927†	7362.3	7345.9	510.26 µg/L	510.26 ppb	15:39:25
1	Ti 334.940†	504167.2	501978.0	502.26 µg/L	502.26 ppb	15:39:05
1	Tl 190.801†	3668.6	3776.2	515.02 µg/L	515.02 ppb	15:39:25
1	U 409.014†	7195.7	7460.8	497.79 µg/L	497.79 ppb	15:39:05
1	V 292.402†	94524.8	93970.6	505.63 µg/L	505.63 ppb	15:39:05
1	Zn 213.857†	82270.9	81533.6	501.71 µg/L	501.71 ppb	15:39:05
2	Sc RADIAL	151631.1	151631.1	103 %		15:38:42
2	Al 396.153Radial†	25213.3	24644.1	5055.0 µg/L	5055.0 ppb	15:38:42
2	Ca 317.933Radial†	87483.6	84592.5	5089.7 µg/L	5089.7 ppb	15:38:42
2	Fe 238.204 Radial†	77201.5	75125.4	5055.1 µg/L	5055.1 ppb	15:38:42
2	K 766.490 Radial†	14019.2	12355.0	5080.7 µg/L	5080.7 ppb	15:38:42
2	Mg 279.077 IEC†	13203.3	12703.5	5219.2 µg/L	5219.2 ppb	15:38:42
2	Na 589.592 Radial†	69553.7	66603.4	10109 µg/L	10109 ppb	15:38:42
2	Sr 421.552†	226352.0	220899.3	509.54 µg/L	509.54 ppb	15:38:40
2	Sc 361.383	1767397.7	1767397.7	100.70 %		15:39:28
2	Y 371.029	1058646.7	1058646.7	99.493 %		15:39:28
2	Ag 328.068†	130859.4	126500.1	509.15 µg/L	509.15 ppb	15:39:28
2	As 188.979†	1436.5	1444.1	511.22 µg/L	511.22 ppb	15:39:48
2	B 249.677†	34379.8	30909.8	502.19 µg/L	502.19 ppb	15:39:28
2	Ba 233.527†	116901.8	116249.1	506.58 µg/L	506.58 ppb	15:39:28
2	Be 313.107†	1699340.4	1688280.0	506.81 µg/L	506.81 ppb	15:39:28
2	Cd 226.502†	74684.6	74274.0	509.68 µg/L	509.68 ppb	15:39:28
2	Co 228.616†	37834.3	37743.0	510.74 µg/L	510.74 ppb	15:39:28
2	Cr 267.716†	60466.1	59866.0	504.29 µg/L	504.29 ppb	15:39:28
2	Cu 324.752†	122933.7	119287.8	504.23 µg/L	504.23 ppb	15:39:28
2	Mn 257.610†	382584.1	379741.6	507.35 µg/L	507.35 ppb	15:39:28
2	Mo 202.031†	15964.7	15888.1	505.85 µg/L	505.85 ppb	15:39:48
2	Ni 231.604†	40711.4	40505.5	509.47 µg/L	509.47 ppb	15:39:28
2	P 214.914†	10678.1	10598.7	2519.4 µg/L	2519.4 ppb	15:39:48
2	Pb 220.353†	8471.7	8315.7	510.77 µg/L	510.77 ppb	15:39:48
2	S 181.975 Axial†	1340.2	1243.1	1023.3 µg/L	1023.3 ppb	15:39:48
2	Sb 206.836†	3947.9	3842.3	504.98 µg/L	504.98 ppb	15:39:48
2	Se 196.026†	1275.0	1252.5	504 µg/L	504 ppb	15:39:48
2	SiO2†	52564.4	50444.8	5375.1 µg/L	5375.1 ppb	15:39:28
2	Si 251.611†	158508.2	156454.6	2522.3 µg/L	2522.3 ppb	15:39:28
2	Sn 189.927†	7380.4	7331.5	509.27 µg/L	509.27 ppb	15:39:48
2	Ti 334.940†	508780.8	504388.6	504.62 µg/L	504.62 ppb	15:39:28
2	Tl 190.801†	3664.4	3755.9	512.33 µg/L	512.33 ppb	15:39:48
2	U 409.014†	7366.9	7599.3	506.72 µg/L	506.72 ppb	15:39:28
2	V 292.402†	95762.2	94784.8	509.95 µg/L	509.95 ppb	15:39:28
2	Zn 213.857†	83402.5	82296.5	506.42 µg/L	506.42 ppb	15:39:28
3	Sc RADIAL	151391.2	151391.2	102 %		15:38:46
3	Al 396.153Radial†	25270.0	24738.4	5074.3 µg/L	5074.3 ppb	15:38:46
3	Ca 317.933Radial†	87371.5	84618.2	5091.3 µg/L	5091.3 ppb	15:38:46
3	Fe 238.204 Radial†	77219.5	75262.3	5064.3 µg/L	5064.3 ppb	15:38:46
3	K 766.490 Radial†	14248.8	12600.8	5181.9 µg/L	5181.9 ppb	15:38:46



3	Mg 279.077 IEC†	13166.9	12688.3	5213.0 µg/L	5213.0 ppb	15:38:46
3	Na 589.592 Radial†	69635.2	66790.4	10137 µg/L	10137 ppb	15:38:46
3	Sr 421.552†	229157.3	223988.2	516.67 µg/L	516.67 ppb	15:38:44
3	Sc 361.383	1755860.8	1755860.8	100.04 %		15:39:51
3	Y 371.029	1051150.6	1051150.6	98.788 %		15:39:51
3	Ag 328.068†	129337.0	125832.2	506.50 µg/L	506.50 ppb	15:39:51
3	As 188.979†	1421.3	1438.3	509.21 µg/L	509.21 ppb	15:40:11
3	B 249.677†	34212.5	30966.9	503.12 µg/L	503.12 ppb	15:39:51
3	Ba 233.527†	115940.4	116050.8	505.72 µg/L	505.72 ppb	15:39:51
3	Be 313.107†	1687416.9	1687449.6	506.56 µg/L	506.56 ppb	15:39:51
3	Cd 226.502†	73921.5	73998.5	507.78 µg/L	507.78 ppb	15:39:51
3	Co 228.616†	37565.8	37721.5	510.45 µg/L	510.45 ppb	15:39:51
3	Cr 267.716†	60098.6	59893.2	504.51 µg/L	504.51 ppb	15:39:51
3	Cu 324.752†	122263.6	119420.1	504.79 µg/L	504.79 ppb	15:39:51
3	Mn 257.610†	379537.3	379192.3	506.61 µg/L	506.61 ppb	15:39:51
3	Mo 202.031†	15914.9	15942.5	507.58 µg/L	507.58 ppb	15:40:11
3	Ni 231.604†	40391.8	40451.7	508.79 µg/L	508.79 ppb	15:39:51
3	P 214.914†	10679.2	10669.4	2536.2 µg/L	2536.2 ppb	15:40:11
3	Pb 220.353†	8465.8	8365.1	513.80 µg/L	513.80 ppb	15:40:11
3	S 181.975 Axial†	1323.1	1234.8	1016.5 µg/L	1016.5 ppb	15:40:11
3	Sb 206.836†	3956.0	3876.1	509.43 µg/L	509.43 ppb	15:40:11
3	Se 196.026†	1279.2	1265.1	509 µg/L	509 ppb	15:40:11
3	SiO2†	52368.9	50592.4	5390.8 µg/L	5390.8 ppb	15:39:51
3	Si 251.611†	157439.7	156420.8	2521.7 µg/L	2521.7 ppb	15:39:51
3	Sn 189.927†	7339.1	7338.4	509.75 µg/L	509.75 ppb	15:40:11
3	Ti 334.940†	505640.1	504528.9	504.80 µg/L	504.80 ppb	15:39:51
3	Tl 190.801†	3657.4	3772.9	514.61 µg/L	514.61 ppb	15:40:11
3	U 409.014†	7450.5	7730.9	514.89 µg/L	514.89 ppb	15:39:51
3	V 292.402†	94903.2	94551.0	508.74 µg/L	508.74 ppb	15:39:51
3	Zn 213.857†	82565.8	82004.4	504.61 µg/L	504.61 ppb	15:39:51

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1760961.8	100.34 %	0.335			0.33%
Sc RADIAL	151508.9	102 %	0.1			0.08%
Y 371.029	1054333.9	99.087 %	0.3640			0.37%
Ag 328.068†	125834.5	506.49 µg/L	2.671	506.49 ppb	2.671	0.53%
QC value within limits for Ag 328.068 Recovery = 101.30%						
Al 396.153Radial†	24654.5	5057.1 µg/L	16.32	5057.1 ppb	16.32	0.32%
QC value within limits for Al 396.153Radial Recovery = 101.14%						
As 188.979†	1439.5	509.60 µg/L	1.458	509.60 ppb	1.458	0.29%
QC value within limits for As 188.979 Recovery = 101.92%						
B 249.677†	30849.4	501.21 µg/L	2.544	501.21 ppb	2.544	0.51%
QC value within limits for B 249.677 Recovery = 100.24%						
Ba 233.527†	115956.9	505.31 µg/L	1.519	505.31 ppb	1.519	0.30%
QC value within limits for Ba 233.527 Recovery = 101.06%						
Be 313.107†	1684205.7	505.59 µg/L	1.908	505.59 ppb	1.908	0.38%
QC value within limits for Be 313.107 Recovery = 101.12%						
Ca 317.933Radial†	84327.3	5073.8 µg/L	28.98	5073.8 ppb	28.98	0.57%
QC value within limits for Ca 317.933Radial Recovery = 101.48%						
Cd 226.502†	73946.7	507.43 µg/L	2.442	507.43 ppb	2.442	0.48%
QC value within limits for Cd 226.502 Recovery = 101.49%						
Co 228.616†	37581.5	508.55 µg/L	3.533	508.55 ppb	3.533	0.69%
QC value within limits for Co 228.616 Recovery = 101.71%						
Cr 267.716†	59741.7	503.24 µg/L	2.010	503.24 ppb	2.010	0.40%
QC value within limits for Cr 267.716 Recovery = 100.65%						
Cu 324.752†	119174.0	503.74 µg/L	1.358	503.74 ppb	1.358	0.27%
QC value within limits for Cu 324.752 Recovery = 100.75%						
Fe 238.204 Radial†	74907.6	5040.4 µg/L	33.68	5040.4 ppb	33.68	0.67%
QC value within limits for Fe 238.204 Radial Recovery = 100.81%						
K 766.490 Radial†	12477.7	5131.2 µg/L	50.59	5131.2 ppb	50.59	0.99%
QC value within limits for K 766.490 Radial Recovery = 102.62%						
Mg 279.077 IEC†	12600.6	5177.1 µg/L	67.76	5177.1 ppb	67.76	1.31%
QC value within limits for Mg 279.077 IEC Recovery = 103.54%						
Mn 257.610†	378787.7	506.08 µg/L	1.612	506.08 ppb	1.612	0.32%
QC value within limits for Mn 257.610 Recovery = 101.22%						
Mo 202.031†	15912.3	506.62 µg/L	0.882	506.62 ppb	0.882	0.17%
QC value within limits for Mo 202.031 Recovery = 101.32%						
Na 589.592 Radial†	66507.4	10094 µg/L	51.8	10094 ppb	51.8	0.51%

QC value within limits for Na 589.592 Radial Recovery = 100.94%

Ni 231.604†	40398.8	508.13 µg/L	1.771	508.13 ppb	1.771	0.35%
QC value within limits for Ni 231.604 Recovery = 101.63%						
P 214.914†	10646.2	2530.7 µg/L	9.83	2530.7 ppb	9.83	0.39%
QC value within limits for P 214.914 Recovery = 101.23%						
Pb 220.353†	8346.3	512.65 µg/L	1.641	512.65 ppb	1.641	0.32%
QC value within limits for Pb 220.353 Recovery = 102.53%						
S 181.975 Axial†	1238.1	1019.2 µg/L	3.61	1019.2 ppb	3.61	0.35%
QC value within limits for S 181.975 Axial Recovery = 101.92%						
Sb 206.836†	3861.9	507.58 µg/L	2.318	507.58 ppb	2.318	0.46%
QC value within limits for Sb 206.836 Recovery = 101.52%						
Se 196.026†	1259.6	506 µg/L	2.6	506 ppb	2.6	0.51%
QC value within limits for Se 196.026 Recovery = 101.28%						
SiO2†	50436.4	5374.2 µg/L	17.15	5374.2 ppb	17.15	0.32%
QC value within limits for SiO2 Recovery = 100.50%						
Si 251.611†	156144.3	2517.3 µg/L	8.23	2517.3 ppb	8.23	0.33%
QC value within limits for Si 251.611 Recovery = 100.69%						
Sn 189.927†	7338.6	509.76 µg/L	0.493	509.76 ppb	0.493	0.10%
QC value within limits for Sn 189.927 Recovery = 101.95%						
Sr 421.552†	222062.7	512.23 µg/L	3.874	512.23 ppb	3.874	0.76%
QC value within limits for Sr 421.552 Recovery = 102.45%						
Ti 334.940†	503618.5	503.89 µg/L	1.418	503.89 ppb	1.418	0.28%
QC value within limits for Ti 334.940 Recovery = 100.78%						
Tl 190.801†	3768.3	513.99 µg/L	1.448	513.99 ppb	1.448	0.28%
QC value within limits for Tl 190.801 Recovery = 102.80%						
U 409.014†	7597.0	506.47 µg/L	8.551	506.47 ppb	8.551	1.69%
QC value within limits for U 409.014 Recovery = 101.29%						
V 292.402†	94435.5	508.11 µg/L	2.233	508.11 ppb	2.233	0.44%
QC value within limits for V 292.402 Recovery = 101.62%						
Zn 213.857†	81944.8	504.24 µg/L	2.372	504.24 ppb	2.372	0.47%
QC value within limits for Zn 213.857 Recovery = 100.85%						

All analyte(s) passed QC.

Sequence No.: 2

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 3/30/2010 15:40:19

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	152271.6	152271.6	103 %		15:40:49
1	Al 396.153Radial†	-38.2	25.8	5.3134 µg/L	5.3134 ppb	15:41:09
1	Ca 317.933Radial†	593.7	-121.6	-7.3179 µg/L	-7.3179 ppb	15:41:09
1	Fe 238.204 Radial†	146.8	1.9	0.1250 µg/L	0.1250 ppb	15:41:09
1	K 766.490 Radial†	1582.5	223.6	91.992 µg/L	91.992 ppb	15:40:49
1	Mg 279.077 IEC†	171.9	-1.9	-0.7624 µg/L	-0.7624 ppb	15:41:09
1	Na 589.592 Radial†	1948.7	685.2	103.97 µg/L	103.97 ppb	15:40:49
1	Sr 421.552†	-262.3	-33.0	-0.0760 µg/L	-0.0760 ppb	15:40:49
1	Sc 361.383	1761746.1	1761746.1	100.38 %		15:42:11
1	Y 371.029	1068118.8	1068118.8	100.38 %		15:42:11
1	Ag 328.068†	3245.5	-213.9	-0.8439 µg/L	-0.8439 ppb	15:42:13
1	As 188.979†	-13.3	4.5	1.5509 µg/L	1.5509 ppb	15:42:33
1	B 249.677†	3249.5	6.9	0.1116 µg/L	0.1116 ppb	15:42:33
1	Ba 233.527†	-156.2	6.5	0.0280 µg/L	0.0280 ppb	15:42:33
1	Be 313.107†	-658.9	129.2	0.0424 µg/L	0.0424 ppb	15:42:13
1	Cd 226.502†	-73.5	36.8	0.2528 µg/L	0.2528 ppb	15:42:33
1	Co 228.616†	-169.4	3.7	0.0497 µg/L	0.0497 ppb	15:42:33
1	Cr 267.716†	146.3	-32.8	-0.2859 µg/L	-0.2859 ppb	15:42:33
1	Cu 324.752†	2940.0	139.9	0.5993 µg/L	0.5993 ppb	15:42:13
1	Mn 257.610†	146.6	-29.6	-0.0395 µg/L	-0.0395 ppb	15:42:33
1	Mo 202.031†	-31.7	3.2	0.1017 µg/L	0.1017 ppb	15:42:33
1	Ni 231.604†	-80.5	-2.3	-0.0290 µg/L	-0.0290 ppb	15:42:33
1	P 214.914†	10.9	5.9	1.4022 µg/L	1.4022 ppb	15:42:33
1	Pb 220.353†	91.1	-6.2	-0.3899 µg/L	-0.3899 ppb	15:42:33
1	S 181.975 Axial†	91.1	3.1	2.5246 µg/L	2.5246 ppb	15:42:33
1	Sb 206.836†	82.7	4.4	0.5766 µg/L	0.5766 ppb	15:42:33
1	Se 196.026†	16.5	2.9	1.16 µg/L	1.16 ppb	15:42:33
1	SiO2†	1686.5	-73.0	-7.8262 µg/L	-7.8262 ppb	15:42:33
1	Si 251.611†	796.3	-155.3	-2.5203 µg/L	-2.5203 ppb	15:42:33
1	Sn 189.927†	8.2	10.7	0.7386 µg/L	0.7386 ppb	15:42:33
1	Ti 334.940†	880.2	-8.7	-0.0137 µg/L	-0.0137 ppb	15:42:13
1	Tl 190.801†	-115.7	1.9	0.2434 µg/L	0.2434 ppb	15:42:33
1	U 409.014†	-94.2	189.9	11.851 µg/L	11.851 ppb	15:42:13
1	V 292.402†	174.7	-135.8	-0.7133 µg/L	-0.7133 ppb	15:42:13
1	Zn 213.857†	549.9	23.3	0.1441 µg/L	0.1441 ppb	15:42:33
2	Sc RADIAL	150618.8	150618.8	102 %		15:41:11
2	Al 396.153Radial†	-53.4	10.5	2.1418 µg/L	2.1418 ppb	15:41:31
2	Ca 317.933Radial†	581.3	-127.4	-7.6675 µg/L	-7.6675 ppb	15:41:31
2	Fe 238.204 Radial†	171.2	27.3	1.8369 µg/L	1.8369 ppb	15:41:31
2	K 766.490 Radial†	1606.1	263.5	108.45 µg/L	108.45 ppb	15:41:11
2	Mg 279.077 IEC†	179.0	6.9	2.8302 µg/L	2.8302 ppb	15:41:31
2	Na 589.592 Radial†	1952.8	710.0	107.71 µg/L	107.71 ppb	15:41:11
2	Sr 421.552†	-168.0	56.8	0.1310 µg/L	0.1310 ppb	15:41:11
2	Sc 361.383	1744841.8	1744841.8	99.417 %		15:42:35
2	Y 371.029	1059308.4	1059308.4	99.555 %		15:42:35
2	Ag 328.068†	3616.7	190.8	0.7580 µg/L	0.7580 ppb	15:42:37
2	As 188.979†	-24.5	-7.0	-2.4263 µg/L	-2.4263 ppb	15:42:57
2	B 249.677†	3270.5	59.3	0.9680 µg/L	0.9680 ppb	15:42:57
2	Ba 233.527†	-154.1	7.2	0.0313 µg/L	0.0313 ppb	15:42:57
2	Be 313.107†	-485.0	297.7	0.0894 µg/L	0.0894 ppb	15:42:37
2	Cd 226.502†	-103.0	6.4	0.0440 µg/L	0.0440 ppb	15:42:57
2	Co 228.616†	-197.0	-25.7	-0.3482 µg/L	-0.3482 ppb	15:42:57
2	Cr 267.716†	149.9	-27.8	-0.2344 µg/L	-0.2344 ppb	15:42:57
2	Cu 324.752†	2688.9	-84.2	-0.3548 µg/L	-0.3548 ppb	15:42:37
2	Mn 257.610†	185.8	11.3	0.0150 µg/L	0.0150 ppb	15:42:57
2	Mo 202.031†	-25.5	9.1	0.2905 µg/L	0.2905 ppb	15:42:57
2	Ni 231.604†	-56.6	20.9	0.2635 µg/L	0.2635 ppb	15:42:57
2	P 214.914†	13.3	8.4	2.0004 µg/L	2.0004 ppb	15:42:57
2	Pb 220.353†	110.4	14.1	0.8625 µg/L	0.8625 ppb	15:42:57

2	S 181.975 Axial†	98.4	11.2	9.2093 µg/L	9.2093 ppb	15:42:57
2	Sb 206.836†	81.8	4.2	0.5540 µg/L	0.5540 ppb	15:42:57
2	Se 196.026†	12.4	-1.1	-0.426 µg/L	-0.426 ppb	15:42:57
2	SiO2†	1708.7	-34.4	-3.6920 µg/L	-3.6920 ppb	15:42:57
2	Si 251.611†	793.5	-150.5	-2.4395 µg/L	-2.4395 ppb	15:42:57
2	Sn 189.927†	-3.9	-1.4	-0.0980 µg/L	-0.0980 ppb	15:42:57
2	Ti 334.940†	736.5	-144.8	-0.1454 µg/L	-0.1454 ppb	15:42:37
2	Tl 190.801†	-120.7	-4.3	-0.5836 µg/L	-0.5836 ppb	15:42:57
2	U 409.014†	-281.2	0.9	0.0544 µg/L	0.0544 ppb	15:42:37
2	V 292.402†	298.4	-9.7	-0.0495 µg/L	-0.0495 ppb	15:42:37
2	Zn 213.857†	548.3	27.0	0.1659 µg/L	0.1659 ppb	15:42:57
3	Sc RADIAL	150276.3	150276.3	102 %		15:41:33
3	Al 396.153Radial†	-42.9	20.6	4.2398 µg/L	4.2398 ppb	15:41:53
3	Ca 317.933Radial†	575.7	-131.7	-7.9223 µg/L	-7.9223 ppb	15:41:53
3	Fe 238.204 Radial†	159.4	16.1	1.0819 µg/L	1.0819 ppb	15:41:53
3	K 766.490 Radial†	1605.7	266.8	109.77 µg/L	109.77 ppb	15:41:33
3	Mg 279.077 IEC†	158.6	-12.8	-5.2449 µg/L	-5.2449 ppb	15:41:53
3	Na 589.592 Radial†	1794.4	558.5	84.715 µg/L	84.715 ppb	15:41:33
3	Sr 421.552†	-256.8	-31.0	-0.0714 µg/L	-0.0714 ppb	15:41:33
3	Sc 361.383	1748415.8	1748415.8	99.620 %		15:42:59
3	Y 371.029	1061132.7	1061132.7	99.726 %		15:42:59
3	Ag 328.068†	3479.1	45.3	0.1721 µg/L	0.1721 ppb	15:43:01
3	As 188.979†	-15.1	2.5	0.8709 µg/L	0.8709 ppb	15:43:21
3	B 249.677†	3242.7	24.7	0.4031 µg/L	0.4031 ppb	15:43:21
3	Ba 233.527†	-211.2	-49.8	-0.2173 µg/L	-0.2173 ppb	15:43:21
3	Be 313.107†	-621.8	161.4	0.0478 µg/L	0.0478 ppb	15:43:01
3	Cd 226.502†	-106.4	3.2	0.0217 µg/L	0.0217 ppb	15:43:21
3	Co 228.616†	-168.4	3.4	0.0451 µg/L	0.0451 ppb	15:43:21
3	Cr 267.716†	182.8	4.9	0.0428 µg/L	0.0428 ppb	15:43:21
3	Cu 324.752†	2822.4	44.2	0.1848 µg/L	0.1848 ppb	15:43:01
3	Mn 257.610†	163.1	-11.8	-0.0156 µg/L	-0.0156 ppb	15:43:21
3	Mo 202.031†	-27.1	7.5	0.2393 µg/L	0.2393 ppb	15:43:21
3	Ni 231.604†	-73.8	3.8	0.0482 µg/L	0.0482 ppb	15:43:21
3	P 214.914†	21.6	16.6	3.9756 µg/L	3.9756 ppb	15:43:21
3	Pb 220.353†	107.7	11.1	0.6820 µg/L	0.6820 ppb	15:43:21
3	S 181.975 Axial†	89.1	1.7	1.3920 µg/L	1.3920 ppb	15:43:21
3	Sb 206.836†	74.7	-3.1	-0.3965 µg/L	-0.3965 ppb	15:43:21
3	Se 196.026†	12.9	-0.6	-0.241 µg/L	-0.241 ppb	15:43:21
3	SiO2†	1708.0	-38.6	-4.1618 µg/L	-4.1618 ppb	15:43:21
3	Si 251.611†	777.3	-168.4	-2.7378 µg/L	-2.7378 ppb	15:43:21
3	Sn 189.927†	17.4	20.0	1.3815 µg/L	1.3815 ppb	15:43:21
3	Ti 334.940†	767.6	-115.0	-0.1142 µg/L	-0.1142 ppb	15:43:01
3	Tl 190.801†	-132.3	-15.7	-2.1132 µg/L	-2.1132 ppb	15:43:21
3	U 409.014†	-314.3	-31.8	-2.0187 µg/L	-2.0187 ppb	15:43:01
3	V 292.402†	220.4	-88.6	-0.4693 µg/L	-0.4693 ppb	15:43:01
3	Zn 213.857†	528.4	5.8	0.0357 µg/L	0.0357 ppb	15:43:21

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Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1751667.9	99.806 %	0.5076			0.51%
Sc RADIAL	151055.6	102 %	0.7			0.71%
Y 371.029	1062853.3	99.888 %	0.4370			0.44%
Ag 328.068†	7.4	0.0288 µg/L	0.81049	0.0288 ppb	0.81049	>999.9%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	19.0	3.8983 µg/L	1.61314	3.8983 ppb	1.61314	41.38%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-0.0	-0.0015 µg/L	2.12733	-0.0015 ppb	2.12733	>999.9%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	30.3	0.4942 µg/L	0.43544	0.4942 ppb	0.43544	88.10%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-12.0	-0.0527 µg/L	0.14255	-0.0527 ppb	0.14255	270.66%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	196.1	0.0599 µg/L	0.02571	0.0599 ppb	0.02571	42.95%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-126.9	-7.6359 µg/L	0.30344	-7.6359 ppb	0.30344	3.97%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	15.5	0.1061 µg/L	0.12749	0.1061 ppb	0.12749	120.11%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	-6.2	-0.0845 µg/L	0.22840	-0.0845 ppb	0.22840	270.40%

QC value within limits for Co 228.616	Recovery = Not calculated		
Cr 267.716†	-18.6 -0.1592 µg/L	0.17679 -0.1592 ppb	0.17679 111.07%
QC value within limits for Cr 267.716	Recovery = Not calculated		
Cu 324.752†	33.3 0.1431 µg/L	0.47842 0.1431 ppb	0.47842 334.35%
QC value within limits for Cu 324.752	Recovery = Not calculated		
Fe 238.204 Radial†	15.1 1.0146 µg/L	0.85793 1.0146 ppb	0.85793 84.56%
QC value within limits for Fe 238.204 Radial	Recovery = Not calculated		
K 766.490 Radial†	251.3 103.40 µg/L	9.906 103.40 ppb	9.906 9.58%
QC value within limits for K 766.490 Radial	Recovery = Not calculated		
Mg 279.077 IEC†	-2.6 -1.0590 µg/L	4.04567 -1.0590 ppb	4.04567 382.01%
QC value within limits for Mg 279.077 IEC	Recovery = Not calculated		
Mn 257.610†	-10.0 -0.0134 µg/L	0.02732 -0.0134 ppb	0.02732 204.49%
QC value within limits for Mn 257.610	Recovery = Not calculated		
Mo 202.031†	6.6 0.2105 µg/L	0.09765 0.2105 ppb	0.09765 46.40%
QC value within limits for Mo 202.031	Recovery = Not calculated		
Na 589.592 Radial†	651.2 98.798 µg/L	12.3396 98.798 ppb	12.3396 12.49%
QC value within limits for Na 589.592 Radial	Recovery = Not calculated		
Ni 231.604†	7.5 0.0942 µg/L	0.15155 0.0942 ppb	0.15155 160.83%
QC value within limits for Ni 231.604	Recovery = Not calculated		
P 214.914†	10.3 2.4594 µg/L	1.34672 2.4594 ppb	1.34672 54.76%
QC value within limits for P 214.914	Recovery = Not calculated		
Pb 220.353†	6.3 0.3849 µg/L	0.67701 0.3849 ppb	0.67701 175.89%
QC value within limits for Pb 220.353	Recovery = Not calculated		
S 181.975 Axial†	5.3 4.3753 µg/L	4.22448 4.3753 ppb	4.22448 96.55%
QC value within limits for S 181.975 Axial	Recovery = Not calculated		
Sb 206.836†	1.8 0.2447 µg/L	0.55538 0.2447 ppb	0.55538 226.96%
QC value within limits for Sb 206.836	Recovery = Not calculated		
Se 196.026†	0.4 0.163 µg/L	0.8651 0.163 ppb	0.8651 529.21%
QC value within limits for Se 196.026	Recovery = Not calculated		
SiO2†	-48.7 -5.2267 µg/L	2.26347 -5.2267 ppb	2.26347 43.31%
QC value within limits for SiO2	Recovery = Not calculated		
Si 251.611†	-158.1 -2.5658 µg/L	0.15427 -2.5658 ppb	0.15427 6.01%
QC value within limits for Si 251.611	Recovery = Not calculated		
Sn 189.927†	9.7 0.6740 µg/L	0.74189 0.6740 ppb	0.74189 110.07%
QC value within limits for Sn 189.927	Recovery = Not calculated		
Sr 421.552†	-2.4 -0.0055 µg/L	0.11824 -0.0055 ppb	0.11824 >999.9%
QC value within limits for Sr 421.552	Recovery = Not calculated		
Ti 334.940†	-89.5 -0.0911 µg/L	0.06887 -0.0911 ppb	0.06887 75.59%
QC value within limits for Ti 334.940	Recovery = Not calculated		
Tl 190.801†	-6.1 -0.8178 µg/L	1.19565 -0.8178 ppb	1.19565 146.20%
QC value within limits for Tl 190.801	Recovery = Not calculated		
U 409.014†	53.0 3.2957 µg/L	7.48152 3.2957 ppb	7.48152 227.01%
QC value within limits for U 409.014	Recovery = Not calculated		
V 292.402†	-78.1 -0.4107 µg/L	0.33575 -0.4107 ppb	0.33575 81.75%
QC value within limits for V 292.402	Recovery = Not calculated		
Zn 213.857†	18.7 0.1152 µg/L	0.06972 0.1152 ppb	0.06972 60.49%
QC value within limits for Zn 213.857	Recovery = Not calculated		

All analyte(s) passed QC.

Sequence No.: 8

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 3/30/2010 15:54:07

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	152898.0	152898.0	103 %			15:54:41
1	Al 396.153Radial†	25494.9	24712.6	5069.0 µg/L		5069.0 ppb	15:54:41
1	Ca 317.933Radial†	88550.4	84917.2	5109.3 µg/L		5109.3 ppb	15:54:41
1	Fe 238.204 Radial†	78113.2	75383.3	5072.4 µg/L		5072.4 ppb	15:54:41
1	K 766.490 Radial†	14245.1	12460.1	5124.0 µg/L		5124.0 ppb	15:54:41
1	Mg 279.077 IEC†	13260.3	12651.9	5198.1 µg/L		5198.1 ppb	15:54:41
1	Na 589.592 Radial†	69947.5	66422.3	10081 µg/L		10081 ppb	15:54:41
1	Sr 421.552†	225954.2	218686.1	504.44 µg/L		504.44 ppb	15:54:39
1	Sc 361.383	1766476.2	1766476.2	100.65 %			15:54:53
1	Y 371.029	1056827.3	1056827.3	99.322 %			15:54:53
1	Ag 328.068†	130821.0	126529.7	509.27 µg/L		509.27 ppb	15:54:53
1	As 188.979†	1449.4	1457.7	516.01 µg/L		516.01 ppb	15:55:14
1	B 249.677†	34337.2	30885.3	501.79 µg/L		501.79 ppb	15:54:53
1	Ba 233.527†	116922.3	116330.0	506.93 µg/L		506.93 ppb	15:54:53
1	Be 313.107†	1701022.2	1690831.4	507.58 µg/L		507.58 ppb	15:54:53
1	Cd 226.502†	74763.6	74391.2	510.48 µg/L		510.48 ppb	15:54:53
1	Co 228.616†	37890.8	37818.7	511.76 µg/L		511.76 ppb	15:54:53
1	Cr 267.716†	60801.9	60231.0	507.36 µg/L		507.36 ppb	15:54:53
1	Cu 324.752†	123064.6	119481.6	505.05 µg/L		505.05 ppb	15:54:53
1	Mn 257.610†	383529.0	380878.5	508.87 µg/L		508.87 ppb	15:54:53
1	Mo 202.031†	16006.9	15938.4	507.45 µg/L		507.45 ppb	15:55:14
1	Ni 231.604†	40839.2	40653.6	511.33 µg/L		511.33 ppb	15:54:53
1	P 214.914†	10798.6	10723.9	2549.2 µg/L		2549.2 ppb	15:55:14
1	Pb 220.353†	8511.4	8359.5	513.46 µg/L		513.46 ppb	15:55:14
1	S 181.975 Axial†	1341.1	1244.7	1024.6 µg/L		1024.6 ppb	15:55:14
1	Sb 206.836†	3967.2	3863.5	507.74 µg/L		507.74 ppb	15:55:14
1	Se 196.026†	1297.6	1275.7	513 µg/L		513 ppb	15:55:14
1	SiO2†	53075.1	50979.5	5432.2 µg/L		5432.2 ppb	15:54:53
1	Si 251.611†	159406.2	157429.0	2538.1 µg/L		2538.1 ppb	15:54:53
1	Sn 189.927†	7400.1	7354.9	510.89 µg/L		510.89 ppb	15:55:14
1	Ti 334.940†	509982.0	505805.6	506.08 µg/L		506.08 ppb	15:54:53
1	Tl 190.801†	3697.9	3791.1	517.08 µg/L		517.08 ppb	15:55:14
1	U 409.014†	7385.3	7621.4	508.08 µg/L		508.08 ppb	15:54:53
1	V 292.402†	95602.3	94675.5	509.40 µg/L		509.40 ppb	15:54:53
1	Zn 213.857†	83405.4	82342.7	506.69 µg/L		506.69 ppb	15:54:53
2	Sc RADIAL	153813.3	153813.3	104 %			15:54:45
2	Al 396.153Radial†	25906.1	24961.2	5120.3 µg/L		5120.3 ppb	15:54:45
2	Ca 317.933Radial†	90324.6	86113.0	5181.2 µg/L		5181.2 ppb	15:54:45
2	Fe 238.204 Radial†	79894.0	76645.4	5157.4 µg/L		5157.4 ppb	15:54:45
2	K 766.490 Radial†	14489.5	12613.1	5186.9 µg/L		5186.9 ppb	15:54:45
2	Mg 279.077 IEC†	13565.2	12868.7	5286.9 µg/L		5286.9 ppb	15:54:45
2	Na 589.592 Radial†	71256.6	67278.0	10211 µg/L		10211 ppb	15:54:45
2	Sr 421.552†	230368.6	221628.8	511.22 µg/L		511.22 ppb	15:54:43
2	Sc 361.383	1761903.1	1761903.1	100.39 %			15:55:17
2	Y 371.029	1054491.7	1054491.7	99.102 %			15:55:17
2	Ag 328.068†	130499.2	126546.5	509.34 µg/L		509.34 ppb	15:55:17
2	As 188.979†	1426.1	1438.2	509.18 µg/L		509.18 ppb	15:55:37
2	B 249.677†	34599.7	31235.3	507.49 µg/L		507.49 ppb	15:55:17
2	Ba 233.527†	116559.6	116270.2	506.67 µg/L		506.67 ppb	15:55:17
2	Be 313.107†	1696997.8	1691209.1	507.69 µg/L		507.69 ppb	15:55:17
2	Cd 226.502†	74443.4	74265.1	509.60 µg/L		509.60 ppb	15:55:17
2	Co 228.616†	37855.1	37880.8	512.60 µg/L		512.60 ppb	15:55:17
2	Cr 267.716†	60290.1	59878.0	504.39 µg/L		504.39 ppb	15:55:17
2	Cu 324.752†	122978.4	119713.0	506.04 µg/L		506.04 ppb	15:55:17
2	Mn 257.610†	382160.3	380504.2	508.37 µg/L		508.37 ppb	15:55:17
2	Mo 202.031†	15939.1	15912.1	506.62 µg/L		506.62 ppb	15:55:37
2	Ni 231.604†	40586.6	40507.2	509.49 µg/L		509.49 ppb	15:55:17
2	P 214.914†	10736.5	10689.9	2541.1 µg/L		2541.1 ppb	15:55:37
2	Pb 220.353†	8464.9	8335.1	511.96 µg/L		511.96 ppb	15:55:37

2	S 181.975 Axial†	1327.2	1234.3	1016.1 µg/L	1016.1 ppb	15:55:37
2	Sb 206.836†	3978.2	3884.7	510.55 µg/L	510.55 ppb	15:55:37
2	Se 196.026†	1299.1	1280.5	515 µg/L	515 ppb	15:55:37
2	SiO2†	52598.8	50641.9	5396.2 µg/L	5396.2 ppb	15:55:17
2	Si 251.611†	158393.7	156831.4	2528.4 µg/L	2528.4 ppb	15:55:17
2	Sn 189.927†	7363.2	7337.2	509.67 µg/L	509.67 ppb	15:55:37
2	Ti 334.940†	508335.3	505480.4	505.75 µg/L	505.75 ppb	15:55:17
2	Tl 190.801†	3693.7	3796.5	517.79 µg/L	517.79 ppb	15:55:37
2	U 409.014†	7366.6	7621.9	508.14 µg/L	508.14 ppb	15:55:17
2	V 292.402†	95533.2	94853.3	510.32 µg/L	510.32 ppb	15:55:17
2	Zn 213.857†	83149.2	82302.5	506.44 µg/L	506.44 ppb	15:55:17
3	Sc RADIAL	153503.9	153503.9	104 %		15:54:49
3	Al 396.153Radial†	25953.2	25056.8	5139.8 µg/L	5139.8 ppb	15:54:49
3	Ca 317.933Radial†	89994.6	85970.1	5172.6 µg/L	5172.6 ppb	15:54:49
3	Fe 238.204 Radial†	79338.5	76265.2	5131.8 µg/L	5131.8 ppb	15:54:49
3	K 766.490 Radial†	14412.9	12567.4	5168.1 µg/L	5168.1 ppb	15:54:49
3	Mg 279.077 IEC†	13512.1	12843.9	5276.9 µg/L	5276.9 ppb	15:54:49
3	Na 589.592 Radial†	70773.4	66950.7	10162 µg/L	10162 ppb	15:54:49
3	Sr 421.552†	228639.3	220409.6	508.41 µg/L	508.41 ppb	15:54:47
3	Sc 361.383	1744601.8	1744601.8	99.403 %		15:55:40
3	Y 371.029	1045173.0	1045173.0	98.226 %		15:55:40
3	Ag 328.068†	129131.8	126460.1	509.00 µg/L	509.00 ppb	15:55:40
3	As 188.979†	1420.2	1446.5	512.07 µg/L	512.07 ppb	15:56:00
3	B 249.677†	33934.1	30907.5	502.15 µg/L	502.15 ppb	15:55:40
3	Ba 233.527†	115526.7	116382.5	507.16 µg/L	507.16 ppb	15:55:40
3	Be 313.107†	1678703.4	1689568.9	507.20 µg/L	507.20 ppb	15:55:40
3	Cd 226.502†	73616.8	74168.8	508.94 µg/L	508.94 ppb	15:55:40
3	Co 228.616†	37455.8	37853.1	512.22 µg/L	512.22 ppb	15:55:40
3	Cr 267.716†	59770.6	59950.9	505.00 µg/L	505.00 ppb	15:55:40
3	Cu 324.752†	121792.5	119734.9	506.13 µg/L	506.13 ppb	15:55:40
3	Mn 257.610†	378385.7	380482.1	508.34 µg/L	508.34 ppb	15:55:40
3	Mo 202.031†	15905.8	16036.1	510.56 µg/L	510.56 ppb	15:56:00
3	Ni 231.604†	40232.3	40551.8	510.05 µg/L	510.05 ppb	15:55:40
3	P 214.914†	10667.1	10726.2	2549.7 µg/L	2549.7 ppb	15:56:00
3	Pb 220.353†	8410.1	8363.6	513.72 µg/L	513.72 ppb	15:56:00
3	S 181.975 Axial†	1333.4	1253.7	1032.0 µg/L	1032.0 ppb	15:56:00
3	Sb 206.836†	3953.6	3899.3	512.51 µg/L	512.51 ppb	15:56:00
3	Se 196.026†	1280.3	1274.4	512 µg/L	512 ppb	15:56:00
3	SiO2†	52227.3	50787.7	5411.6 µg/L	5411.6 ppb	15:55:40
3	Si 251.611†	156966.4	156960.3	2530.4 µg/L	2530.4 ppb	15:55:40
3	Sn 189.927†	7357.1	7403.9	514.29 µg/L	514.29 ppb	15:56:00
3	Ti 334.940†	503753.2	505892.4	506.16 µg/L	506.16 ppb	15:55:40
3	Tl 190.801†	3662.1	3801.2	518.43 µg/L	518.43 ppb	15:56:00
3	U 409.014†	7305.2	7632.8	508.81 µg/L	508.81 ppb	15:55:40
3	V 292.402†	94531.3	94789.1	510.02 µg/L	510.02 ppb	15:55:40
3	Zn 213.857†	82414.1	82384.4	506.95 µg/L	506.95 ppb	15:55:40

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1757660.4	100.15 %	0.657			0.66%
Sc RADIAL	153405.1	104 %	0.3			0.30%
Y 371.029	1052164.0	98.883 %	0.5795			0.59%
Ag 328.068†	126512.1	509.20 µg/L	0.182	509.20 ppb	0.182	0.04%
QC value within limits for Ag 328.068 Recovery = 101.84%						
Al 396.153Radial†	24910.2	5109.7 µg/L	36.55	5109.7 ppb	36.55	0.72%
QC value within limits for Al 396.153Radial Recovery = 102.19%						
As 188.979†	1447.5	512.42 µg/L	3.425	512.42 ppb	3.425	0.67%
QC value within limits for As 188.979 Recovery = 102.48%						
B 249.677†	31009.4	503.81 µg/L	3.194	503.81 ppb	3.194	0.63%
QC value within limits for B 249.677 Recovery = 100.76%						
Ba 233.527†	116327.6	506.92 µg/L	0.245	506.92 ppb	0.245	0.05%
QC value within limits for Ba 233.527 Recovery = 101.38%						
Be 313.107†	1690536.5	507.49 µg/L	0.258	507.49 ppb	0.258	0.05%
QC value within limits for Be 313.107 Recovery = 101.50%						
Ca 317.933Radial†	85666.7	5154.4 µg/L	39.29	5154.4 ppb	39.29	0.76%
QC value within limits for Ca 317.933Radial Recovery = 103.09%						
Cd 226.502†	74275.0	509.68 µg/L	0.769	509.68 ppb	0.769	0.15%
QC value within limits for Cd 226.502 Recovery = 101.94%						
Co 228.616†	37850.9	512.19 µg/L	0.418	512.19 ppb	0.418	0.08%

QC value within limits for Co 228.616 Recovery = 102.44%							
Cr 267.716†	60020.0	505.58 µg/L	1.569	505.58 ppb	1.569	0.31%	
QC value within limits for Cr 267.716 Recovery = 101.12%							
Cu 324.752†	119643.1	505.74 µg/L	0.599	505.74 ppb	0.599	0.12%	
QC value within limits for Cu 324.752 Recovery = 101.15%							
Fe 238.204 Radial†	76097.9	5120.5 µg/L	43.57	5120.5 ppb	43.57	0.85%	
QC value within limits for Fe 238.204 Radial Recovery = 102.41%							
K 766.490 Radial†	12546.8	5159.6 µg/L	32.29	5159.6 ppb	32.29	0.63%	
QC value within limits for K 766.490 Radial Recovery = 103.19%							
Mg 279.077 IEC†	12788.2	5254.0 µg/L	48.64	5254.0 ppb	48.64	0.93%	
QC value within limits for Mg 279.077 IEC Recovery = 105.08%							
Mn 257.610†	380621.6	508.52 µg/L	0.300	508.52 ppb	0.300	0.06%	
QC value within limits for Mn 257.610 Recovery = 101.70%							
Mo 202.031†	15962.2	508.21 µg/L	2.079	508.21 ppb	2.079	0.41%	
QC value within limits for Mo 202.031 Recovery = 101.64%							
Na 589.592 Radial†	66883.7	10152 µg/L	65.5	10152 ppb	65.5	0.65%	
QC value within limits for Na 589.592 Radial Recovery = 101.52%							
Ni 231.604†	40570.9	510.29 µg/L	0.944	510.29 ppb	0.944	0.18%	
QC value within limits for Ni 231.604 Recovery = 102.06%							
P 214.914†	10713.3	2546.7 µg/L	4.86	2546.7 ppb	4.86	0.19%	
QC value within limits for P 214.914 Recovery = 101.87%							
Pb 220.353†	8352.7	513.05 µg/L	0.948	513.05 ppb	0.948	0.18%	
QC value within limits for Pb 220.353 Recovery = 102.61%							
S 181.975 Axial†	1244.2	1024.2 µg/L	7.94	1024.2 ppb	7.94	0.78%	
QC value within limits for S 181.975 Axial Recovery = 102.42%							
Sb 206.836†	3882.5	510.27 µg/L	2.400	510.27 ppb	2.400	0.47%	
QC value within limits for Sb 206.836 Recovery = 102.05%							
Se 196.026†	1276.9	513 µg/L	1.3	513 ppb	1.3	0.25%	
QC value within limits for Se 196.026 Recovery = 102.67%							
SiO2†	50803.0	5413.3 µg/L	18.10	5413.3 ppb	18.10	0.33%	
QC value within limits for SiO2 Recovery = 101.23%							
Si 251.611†	157073.6	2532.3 µg/L	5.09	2532.3 ppb	5.09	0.20%	
QC value within limits for Si 251.611 Recovery = 101.29%							
Sn 189.927†	7365.3	511.62 µg/L	2.390	511.62 ppb	2.390	0.47%	
QC value within limits for Sn 189.927 Recovery = 102.32%							
Sr 421.552†	220241.5	508.02 µg/L	3.410	508.02 ppb	3.410	0.67%	
QC value within limits for Sr 421.552 Recovery = 101.60%							
Ti 334.940†	505726.1	506.00 µg/L	0.218	506.00 ppb	0.218	0.04%	
QC value within limits for Ti 334.940 Recovery = 101.20%							
Tl 190.801†	3796.3	517.77 µg/L	0.678	517.77 ppb	0.678	0.13%	
QC value within limits for Tl 190.801 Recovery = 103.55%							
U 409.014†	7625.4	508.34 µg/L	0.406	508.34 ppb	0.406	0.08%	
QC value within limits for U 409.014 Recovery = 101.67%							
V 292.402†	94772.6	509.91 µg/L	0.466	509.91 ppb	0.466	0.09%	
QC value within limits for V 292.402 Recovery = 101.98%							
Zn 213.857†	82343.2	506.69 µg/L	0.254	506.69 ppb	0.254	0.05%	
QC value within limits for Zn 213.857 Recovery = 101.34%							
All analyte(s) passed QC.							



Sequence No.: 9

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 3/30/2010 15:56:07

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	151439.2	151439.2	102 %		15:56:36
1	Al 396.153Radial†	-72.0	-7.4	-1.5426 µg/L	-1.5426 ppb	15:56:56
1	Ca 317.933Radial†	616.3	-96.4	-5.7988 µg/L	-5.7988 ppb	15:56:56
1	Fe 238.204 Radial†	169.0	24.3	1.6349 µg/L	1.6349 ppb	15:56:56
1	K 766.490 Radial†	1445.7	98.4	40.501 µg/L	40.501 ppb	15:56:36
1	Mg 279.077 IEC†	154.2	-18.3	-7.4960 µg/L	-7.4960 ppb	15:56:56
1	Na 589.592 Radial†	1619.2	374.0	56.749 µg/L	56.749 ppb	15:56:36
1	Sr 421.552†	-165.2	60.4	0.1393 µg/L	0.1393 ppb	15:56:36
1	Sc 361.383	1780635.7	1780635.7	101.46 %		15:57:44
1	Y 371.029	1078953.6	1078953.6	101.40 %		15:57:44
1	Ag 328.068†	3244.7	-249.0	-0.9690 µg/L	-0.9690 ppb	15:57:46
1	As 188.979†	-21.9	-3.9	-1.3519 µg/L	-1.3519 ppb	15:58:06
1	B 249.677†	3281.0	3.6	0.0578 µg/L	0.0578 ppb	15:58:06
1	Ba 233.527†	-154.7	9.6	0.0424 µg/L	0.0424 ppb	15:58:06
1	Be 313.107†	-762.3	34.2	0.0139 µg/L	0.0139 ppb	15:57:46
1	Cd 226.502†	-101.4	10.1	0.0691 µg/L	0.0691 ppb	15:58:06
1	Co 228.616†	-173.3	1.6	0.0220 µg/L	0.0220 ppb	15:58:06
1	Cr 267.716†	179.0	-2.1	-0.0268 µg/L	-0.0268 ppb	15:58:06
1	Cu 324.752†	2941.0	109.8	0.4727 µg/L	0.4727 ppb	15:57:46
1	Mn 257.610†	182.1	3.9	0.0055 µg/L	0.0055 ppb	15:58:06
1	Mo 202.031†	-29.1	6.1	0.1930 µg/L	0.1930 ppb	15:58:06
1	Ni 231.604†	-53.4	25.3	0.3179 µg/L	0.3179 ppb	15:58:06
1	P 214.914†	-6.7	-11.6	-2.7718 µg/L	-2.7718 ppb	15:58:06
1	Pb 220.353†	74.0	-24.0	-1.4785 µg/L	-1.4785 ppb	15:58:06
1	S 181.975 Axial†	91.2	2.2	1.8313 µg/L	1.8313 ppb	15:58:06
1	Sb 206.836†	88.4	9.1	1.1933 µg/L	1.1933 ppb	15:58:06
1	Se 196.026†	5.5	-8.2	-3.26 µg/L	-3.26 ppb	15:58:06
1	SiO2†	1722.5	-55.4	-5.9330 µg/L	-5.9330 ppb	15:58:06
1	Si 251.611†	814.0	-146.4	-2.3730 µg/L	-2.3730 ppb	15:57:46
1	Sn 189.927†	0.5	3.0	0.2076 µg/L	0.2076 ppb	15:58:06
1	Ti 334.940†	800.0	-97.0	-0.1016 µg/L	-0.1016 ppb	15:57:46
1	Tl 190.801†	-108.0	10.6	1.4336 µg/L	1.4336 ppb	15:58:06
1	U 409.014†	-95.3	189.8	11.916 µg/L	11.916 ppb	15:57:46
1	V 292.402†	409.5	93.8	0.5079 µg/L	0.5079 ppb	15:57:46
1	Zn 213.857†	545.2	12.8	0.0767 µg/L	0.0767 ppb	15:58:06
2	Sc RADIAL	151193.9	151193.9	102 %		15:56:58
2	Al 396.153Radial†	-43.5	20.3	4.1777 µg/L	4.1777 ppb	15:57:18
2	Ca 317.933Radial†	606.3	-105.1	-6.3262 µg/L	-6.3262 ppb	15:57:18
2	Fe 238.204 Radial†	149.4	5.4	0.3634 µg/L	0.3634 ppb	15:57:18
2	K 766.490 Radial†	1567.7	220.0	90.539 µg/L	90.539 ppb	15:56:58
2	Mg 279.077 IEC†	165.7	-6.8	-2.7730 µg/L	-2.7730 ppb	15:57:18
2	Na 589.592 Radial†	1434.7	196.2	29.707 µg/L	29.707 ppb	15:56:58
2	Sr 421.552†	-144.2	80.6	0.1860 µg/L	0.1860 ppb	15:56:58
2	Sc 361.383	1788543.9	1788543.9	101.91 %		15:58:08
2	Y 371.029	1084926.2	1084926.2	101.96 %		15:58:08
2	Ag 328.068†	3467.9	-44.1	-0.1775 µg/L	-0.1775 ppb	15:58:10
2	As 188.979†	-14.5	3.4	1.1993 µg/L	1.1993 ppb	15:58:31
2	B 249.677†	3282.6	-9.2	-0.1495 µg/L	-0.1495 ppb	15:58:31
2	Ba 233.527†	-160.2	5.0	0.0214 µg/L	0.0214 ppb	15:58:31
2	Be 313.107†	-876.6	-74.6	-0.0216 µg/L	-0.0216 ppb	15:58:10
2	Cd 226.502†	-88.5	23.2	0.1594 µg/L	0.1594 ppb	15:58:31
2	Co 228.616†	-168.8	6.8	0.0915 µg/L	0.0915 ppb	15:58:31
2	Cr 267.716†	172.5	-9.3	-0.0809 µg/L	-0.0809 ppb	15:58:31
2	Cu 324.752†	2798.2	-43.1	-0.1793 µg/L	-0.1793 ppb	15:58:10
2	Mn 257.610†	188.0	8.9	0.0120 µg/L	0.0120 ppb	15:58:31
2	Mo 202.031†	-30.5	4.8	0.1539 µg/L	0.1539 ppb	15:58:31
2	Ni 231.604†	-56.6	22.4	0.2813 µg/L	0.2813 ppb	15:58:31
2	P 214.914†	16.7	11.4	2.7279 µg/L	2.7279 ppb	15:58:31
2	Pb 220.353†	87.8	-10.8	-0.6657 µg/L	-0.6657 ppb	15:58:31

2	S 181.975 Axial†	84.4	-4.9	-3.9753 µg/L	-3.9753 ppb	15:58:31
2	Sb 206.836†	83.3	3.7	0.4863 µg/L	0.4863 ppb	15:58:31
2	Se 196.026†	10.9	-2.8	-1.14 µg/L	-1.14 ppb	15:58:31
2	SiO2†	1694.0	-90.8	-9.7342 µg/L	-9.7342 ppb	15:58:31
2	Si 251.611†	679.6	-281.8	-4.5682 µg/L	-4.5682 ppb	15:58:10
2	Sn 189.927†	8.5	10.8	0.7504 µg/L	0.7504 ppb	15:58:31
2	Ti 334.940†	780.2	-120.0	-0.1212 µg/L	-0.1212 ppb	15:58:10
2	Tl 190.801†	-120.1	-0.8	-0.1139 µg/L	-0.1139 ppb	15:58:31
2	U 409.014†	-244.9	43.5	2.6943 µg/L	2.6943 ppb	15:58:10
2	V 292.402†	222.5	-91.5	-0.4827 µg/L	-0.4827 ppb	15:58:10
2	Zn 213.857†	522.6	-11.7	-0.0744 µg/L	-0.0744 ppb	15:58:31
3	Sc RADIAL	154076.6	154076.6	104 %		15:57:20
3	Al 396.153Radial†	-54.3	10.8	2.1942 µg/L	2.1942 ppb	15:57:40
3	Ca 317.933Radial†	596.1	-126.0	-7.5815 µg/L	-7.5815 ppb	15:57:40
3	Fe 238.204 Radial†	155.3	8.3	0.5568 µg/L	0.5568 ppb	15:57:40
3	K 766.490 Radial†	1553.2	177.5	73.025 µg/L	73.025 ppb	15:57:20
3	Mg 279.077 IEC†	169.5	-6.1	-2.5093 µg/L	-2.5093 ppb	15:57:40
3	Na 589.592 Radial†	1594.2	322.9	48.967 µg/L	48.967 ppb	15:57:20
3	Sr 421.552†	-178.8	50.1	0.1157 µg/L	0.1157 ppb	15:57:20
3	Sc 361.383	1782784.5	1782784.5	101.58 %		15:58:33
3	Y 371.029	1079758.6	1079758.6	101.48 %		15:58:33
3	Ag 328.068†	3519.5	17.7	0.0810 µg/L	0.0810 ppb	15:58:35
3	As 188.979†	-20.0	-2.0	-0.7016 µg/L	-0.7016 ppb	15:58:55
3	B 249.677†	3260.4	-20.6	-0.3346 µg/L	-0.3346 ppb	15:58:55
3	Ba 233.527†	-168.8	-4.1	-0.0174 µg/L	-0.0174 ppb	15:58:55
3	Be 313.107†	-744.6	52.6	0.0175 µg/L	0.0175 ppb	15:58:35
3	Cd 226.502†	-119.6	-7.7	-0.0530 µg/L	-0.0530 ppb	15:58:55
3	Co 228.616†	-192.4	-17.0	-0.2302 µg/L	-0.2302 ppb	15:58:55
3	Cr 267.716†	193.8	12.2	0.0986 µg/L	0.0986 ppb	15:58:55
3	Cu 324.752†	2820.2	-12.5	-0.0483 µg/L	-0.0483 ppb	15:58:35
3	Mn 257.610†	192.7	14.1	0.0190 µg/L	0.0190 ppb	15:58:55
3	Mo 202.031†	-18.1	16.9	0.5389 µg/L	0.5389 ppb	15:58:55
3	Ni 231.604†	-65.1	13.9	0.1742 µg/L	0.1742 ppb	15:58:55
3	P 214.914†	28.6	23.1	5.5155 µg/L	5.5155 ppb	15:58:55
3	Pb 220.353†	86.4	-11.9	-0.7331 µg/L	-0.7331 ppb	15:58:55
3	S 181.975 Axial†	100.3	11.1	9.0775 µg/L	9.0775 ppb	15:58:55
3	Sb 206.836†	82.3	2.9	0.3909 µg/L	0.3909 ppb	15:58:55
3	Se 196.026†	27.7	13.7	5.49 µg/L	5.49 ppb	15:58:55
3	SiO2†	1706.2	-73.4	-7.8720 µg/L	-7.8720 ppb	15:58:55
3	Si 251.611†	625.5	-332.9	-5.3961 µg/L	-5.3961 ppb	15:58:35
3	Sn 189.927†	-0.2	2.4	0.1627 µg/L	0.1627 ppb	15:58:55
3	Ti 334.940†	859.2	-39.7	-0.0422 µg/L	-0.0422 ppb	15:58:35
3	Tl 190.801†	-110.1	8.7	1.1743 µg/L	1.1743 ppb	15:58:55
3	U 409.014†	-196.3	90.5	5.6852 µg/L	5.6852 ppb	15:58:35
3	V 292.402†	371.6	56.0	0.3070 µg/L	0.3070 ppb	15:58:35
3	Zn 213.857†	538.8	5.9	0.0355 µg/L	0.0355 ppb	15:58:55

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample	Std.Dev.	RSD
Sc 361.383	1783988.0	101.65 %		0.233				0.23%
Sc RADIAL	152236.5	103 %		1.1				1.05%
Y 371.029	1081212.8	101.61 %		0.305				0.30%
Ag 328.068†	-91.8	-0.3551 µg/L		0.54711	-0.3551 ppb		0.54711	154.05%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	7.9	1.6098 µg/L		2.90460	1.6098 ppb		2.90460	180.44%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	-0.8	-0.2847 µg/L		1.32573	-0.2847 ppb		1.32573	465.63%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	-8.7	-0.1421 µg/L		0.19630	-0.1421 ppb		0.19630	138.15%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	3.5	0.0155 µg/L		0.03030	0.0155 ppb		0.03030	196.03%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	4.1	0.0033 µg/L		0.02159	0.0033 ppb		0.02159	661.63%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-109.2	-6.5688 µg/L		0.91577	-6.5688 ppb		0.91577	13.94%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	8.5	0.0585 µg/L		0.10659	0.0585 ppb		0.10659	182.23%
QC value within limits for Cd 226.502 Recovery = Not calculated								
Co 228.616†	-2.9	-0.0389 µg/L		0.16924	-0.0389 ppb		0.16924	435.19%

QC value within limits for Co 228.616	Recovery = Not calculated		
Cr 267.716†	0.3 -0.0031 µg/L	0.09209 -0.0031 ppb	0.09209 >999.9%
QC value within limits for Cr 267.716	Recovery = Not calculated		
Cu 324.752†	18.1 0.0817 µg/L	0.34488 0.0817 ppb	0.34488 421.99%
QC value within limits for Cu 324.752	Recovery = Not calculated		
Fe 238.204 Radial†	12.7 0.8517 µg/L	0.68511 0.8517 ppb	0.68511 80.44%
QC value within limits for Fe 238.204 Radial	Recovery = Not calculated		
K 766.490 Radial†	165.3 68.022 µg/L	25.3917 68.022 ppb	25.3917 37.33%
QC value within limits for K 766.490 Radial	Recovery = Not calculated		
Mg 279.077 IEC†	-10.4 -4.2595 µg/L	2.80607 -4.2595 ppb	2.80607 65.88%
QC value within limits for Mg 279.077 IEC	Recovery = Not calculated		
Mn 257.610†	9.0 0.0122 µg/L	0.00674 0.0122 ppb	0.00674 55.45%
QC value within limits for Mn 257.610	Recovery = Not calculated		
Mo 202.031†	9.3 0.2953 µg/L	0.21192 0.2953 ppb	0.21192 71.77%
QC value within limits for Mo 202.031	Recovery = Not calculated		
Na 589.592 Radial†	297.7 45.141 µg/L	13.9213 45.141 ppb	13.9213 30.84%
QC value within limits for Na 589.592 Radial	Recovery = Not calculated		
Ni 231.604†	20.5 0.2578 µg/L	0.07467 0.2578 ppb	0.07467 28.96%
QC value within limits for Ni 231.604	Recovery = Not calculated		
P 214.914†	7.7 1.8239 µg/L	4.21694 1.8239 ppb	4.21694 231.21%
QC value within limits for P 214.914	Recovery = Not calculated		
Pb 220.353†	-15.6 -0.9591 µg/L	0.45107 -0.9591 ppb	0.45107 47.03%
QC value within limits for Pb 220.353	Recovery = Not calculated		
S 181.975 Axial†	2.8 2.3112 µg/L	6.53963 2.3112 ppb	6.53963 282.96%
QC value within limits for S 181.975 Axial	Recovery = Not calculated		
Sb 206.836†	5.2 0.6902 µg/L	0.43831 0.6902 ppb	0.43831 63.51%
QC value within limits for Sb 206.836	Recovery = Not calculated		
Se 196.026†	0.9 0.365 µg/L	4.5653 0.365 ppb	4.5653 >999.9%
QC value within limits for Se 196.026	Recovery = Not calculated		
SiO2†	-73.2 -7.8464 µg/L	1.90075 -7.8464 ppb	1.90075 24.22%
QC value within limits for SiO2	Recovery = Not calculated		
Si 251.611†	-253.7 -4.1124 µg/L	1.56225 -4.1124 ppb	1.56225 37.99%
QC value within limits for Si 251.611	Recovery = Not calculated		
Sn 189.927†	5.4 0.3736 µg/L	0.32709 0.3736 ppb	0.32709 87.56%
QC value within limits for Sn 189.927	Recovery = Not calculated		
Sr 421.552†	63.7 0.1470 µg/L	0.03582 0.1470 ppb	0.03582 24.37%
QC value within limits for Sr 421.552	Recovery = Not calculated		
Ti 334.940†	-85.6 -0.0883 µg/L	0.04118 -0.0883 ppb	0.04118 46.62%
QC value within limits for Ti 334.940	Recovery = Not calculated		
Tl 190.801†	6.2 0.8313 µg/L	0.82883 0.8313 ppb	0.82883 99.70%
QC value within limits for Tl 190.801	Recovery = Not calculated		
U 409.014†	107.9 6.7652 µg/L	4.70490 6.7652 ppb	4.70490 69.55%
QC value within limits for U 409.014	Recovery = Not calculated		
V 292.402†	19.4 0.1107 µg/L	0.52363 0.1107 ppb	0.52363 472.88%
QC value within limits for V 292.402	Recovery = Not calculated		
Zn 213.857†	2.3 0.0126 µg/L	0.07813 0.0126 ppb	0.07813 619.86%
QC value within limits for Zn 213.857	Recovery = Not calculated		

All analyte(s) passed QC.

Sequence No.: 9

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 3/30/2010 16:14:43

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	149150.0	149150.0	101 %		16:15:17
1	Al 396.153Radial†	25269.6	25108.8	5150.9 µg/L	5150.9 ppb	16:15:17
1	Ca 317.933Radial†	86235.0	84773.7	5100.6 µg/L	5100.6 ppb	16:15:17
1	Fe 238.204 Radial†	76185.8	75370.7	5071.6 µg/L	5071.6 ppb	16:15:17
1	K 766.490 Radial†	14043.6	12606.4	5184.2 µg/L	5184.2 ppb	16:15:17
1	Mg 279.077 IEC†	12863.8	12581.1	5168.9 µg/L	5168.9 ppb	16:15:17
1	Na 589.592 Radial†	68590.1	66776.4	10135 µg/L	10135 ppb	16:15:17
1	Sr 421.552†	226232.4	224451.5	517.74 µg/L	517.74 ppb	16:15:15
1	Sc 361.383	1743830.1	1743830.1	99.359 %		16:15:30
1	Y 371.029	1045853.2	1045853.2	98.290 %		16:15:30
1	Ag 328.068†	129026.3	126411.4	508.82 µg/L	508.82 ppb	16:15:30
1	As 188.979†	1380.4	1407.0	498.27 µg/L	498.27 ppb	16:15:50
1	B 249.677†	33705.9	30692.9	498.66 µg/L	498.66 ppb	16:15:30
1	Ba 233.527†	115037.9	115942.0	505.24 µg/L	505.24 ppb	16:15:30
1	Be 313.107†	1673671.2	1685251.5	505.91 µg/L	505.91 ppb	16:15:30
1	Cd 226.502†	72899.8	73480.1	504.22 µg/L	504.22 ppb	16:15:30
1	Co 228.616†	37152.7	37564.8	508.33 µg/L	508.33 ppb	16:15:30
1	Cr 267.716†	59737.2	59944.0	504.93 µg/L	504.93 ppb	16:15:30
1	Cu 324.752†	121910.0	119907.4	506.85 µg/L	506.85 ppb	16:15:30
1	Mn 257.610†	377168.2	379425.3	506.93 µg/L	506.93 ppb	16:15:30
1	Mo 202.031†	15653.7	15789.4	502.71 µg/L	502.71 ppb	16:15:50
1	Ni 231.604†	39991.2	40327.0	507.22 µg/L	507.22 ppb	16:15:30
1	P 214.914†	10343.3	10405.0	2473.1 µg/L	2473.1 ppb	16:15:50
1	Pb 220.353†	8250.5	8206.7	504.09 µg/L	504.09 ppb	16:15:50
1	S 181.975 Axial†	1280.3	1200.9	988.62 µg/L	988.62 ppb	16:15:50
1	Sb 206.836†	3859.6	3806.5	500.20 µg/L	500.20 ppb	16:15:50
1	Se 196.026†	1249.2	1243.7	500 µg/L	500 ppb	16:15:50
1	SiO2†	51956.5	50538.4	5385.4 µg/L	5385.4 ppb	16:15:30
1	Si 251.611†	156244.0	156303.0	2520.0 µg/L	2520.0 ppb	16:15:30
1	Sn 189.927†	7115.0	7163.4	497.64 µg/L	497.64 ppb	16:15:50
1	Ti 334.940†	504315.4	506682.5	506.96 µg/L	506.96 ppb	16:15:30
1	Tl 190.801†	3596.9	3737.2	509.85 µg/L	509.85 ppb	16:15:50
1	U 409.014†	7486.7	7818.7	520.48 µg/L	520.48 ppb	16:15:30
1	V 292.402†	94549.0	94848.9	510.27 µg/L	510.27 ppb	16:15:30
1	Zn 213.857†	81765.0	81767.8	503.15 µg/L	503.15 ppb	16:15:30
2	Sc RADIAL	149765.3	149765.3	101 %		16:15:21
2	Al 396.153Radial†	25441.5	25175.6	5164.4 µg/L	5164.4 ppb	16:15:21
2	Ca 317.933Radial†	86840.7	85020.4	5115.5 µg/L	5115.5 ppb	16:15:21
2	Fe 238.204 Radial†	76775.6	75642.7	5089.9 µg/L	5089.9 ppb	16:15:21
2	K 766.490 Radial†	14122.8	12627.5	5192.8 µg/L	5192.8 ppb	16:15:21
2	Mg 279.077 IEC†	13015.9	12678.9	5209.2 µg/L	5209.2 ppb	16:15:21
2	Na 589.592 Radial†	68934.4	66836.9	10144 µg/L	10144 ppb	16:15:21
2	Sr 421.552†	225922.3	223224.2	514.90 µg/L	514.90 ppb	16:15:19
2	Sc 361.383	1730132.7	1730132.7	98.579 %		16:15:53
2	Y 371.029	1036374.9	1036374.9	97.400 %		16:15:53
2	Ag 328.068†	128093.5	126493.2	509.15 µg/L	509.15 ppb	16:15:53
2	As 188.979†	1394.4	1432.2	507.08 µg/L	507.08 ppb	16:16:13
2	B 249.677†	33578.7	30832.5	500.93 µg/L	500.93 ppb	16:15:53
2	Ba 233.527†	114507.8	116320.9	506.89 µg/L	506.89 ppb	16:15:53
2	Be 313.107†	1660528.3	1685255.0	505.90 µg/L	505.90 ppb	16:15:53
2	Cd 226.502†	72288.3	73440.5	503.95 µg/L	503.95 ppb	16:15:53
2	Co 228.616†	36888.2	37592.4	508.70 µg/L	508.70 ppb	16:15:53
2	Cr 267.716†	59261.1	59936.9	504.88 µg/L	504.88 ppb	16:15:53
2	Cu 324.752†	120688.4	119639.5	505.72 µg/L	505.72 ppb	16:15:53
2	Mn 257.610†	374567.3	379792.1	507.42 µg/L	507.42 ppb	16:15:53
2	Mo 202.031†	15682.3	15943.1	507.60 µg/L	507.60 ppb	16:16:13
2	Ni 231.604†	39635.9	40285.2	506.70 µg/L	506.70 ppb	16:15:53
2	P 214.914†	10438.2	10583.7	2515.7 µg/L	2515.7 ppb	16:16:13
2	Pb 220.353†	8260.4	8282.6	508.75 µg/L	508.75 ppb	16:16:13

2	S 181.975 Axial†	1292.4	1223.3	1007.1 µg/L	1007.1 ppb	16:16:13
2	Sb 206.836†	3885.2	3863.2	507.73 µg/L	507.73 ppb	16:16:13
2	Se 196.026†	1263.8	1268.5	510 µg/L	510 ppb	16:16:13
2	SiO2†	51585.6	50576.2	5389.2 µg/L	5389.2 ppb	16:15:53
2	Si 251.611†	155023.4	156309.8	2520.0 µg/L	2520.0 ppb	16:15:53
2	Sn 189.927†	7177.9	7284.0	505.99 µg/L	505.99 ppb	16:16:13
2	Ti 334.940†	500412.6	506741.9	507.01 µg/L	507.01 ppb	16:15:53
2	Tl 190.801†	3606.0	3775.0	514.95 µg/L	514.95 ppb	16:16:13
2	U 409.014†	7358.1	7747.9	516.08 µg/L	516.08 ppb	16:15:53
2	V 292.402†	93924.9	94969.3	510.96 µg/L	510.96 ppb	16:15:53
2	Zn 213.857†	80946.3	81588.8	502.04 µg/L	502.04 ppb	16:15:53
3	Sc RADIAL	149946.8	149946.8	101 %		16:15:25
3	Al 396.153Radial†	25414.1	25118.2	5152.4 µg/L	5152.4 ppb	16:15:25
3	Ca 317.933Radial†	86403.6	84485.8	5083.3 µg/L	5083.3 ppb	16:15:25
3	Fe 238.204 Radial†	76499.4	75278.7	5065.4 µg/L	5065.4 ppb	16:15:25
3	K 766.490 Radial†	13924.5	12415.1	5105.4 µg/L	5105.4 ppb	16:15:25
3	Mg 279.077 IEC†	12917.9	12566.7	5163.3 µg/L	5163.3 ppb	16:15:25
3	Na 589.592 Radial†	68643.3	66467.5	10088 µg/L	10088 ppb	16:15:25
3	Sr 421.552†	226189.9	223218.1	514.89 µg/L	514.89 ppb	16:15:23
3	Sc 361.383	1725431.7	1725431.7	98.311 %		16:16:16
3	Y 371.029	1034770.8	1034770.8	97.249 %		16:16:16
3	Ag 328.068†	128336.4	127094.3	511.56 µg/L	511.56 ppb	16:16:16
3	As 188.979†	1389.6	1431.2	506.75 µg/L	506.75 ppb	16:16:36
3	B 249.677†	33509.2	30854.7	501.29 µg/L	501.29 ppb	16:16:16
3	Ba 233.527†	114602.5	116733.7	508.69 µg/L	508.69 ppb	16:16:16
3	Be 313.107†	1661309.7	1690639.2	507.52 µg/L	507.52 ppb	16:16:16
3	Cd 226.502†	72576.2	73933.2	507.33 µg/L	507.33 ppb	16:16:16
3	Co 228.616†	37001.5	37809.7	511.64 µg/L	511.64 ppb	16:16:16
3	Cr 267.716†	59258.1	60097.7	506.23 µg/L	506.23 ppb	16:16:16
3	Cu 324.752†	120857.8	120145.4	507.86 µg/L	507.86 ppb	16:16:16
3	Mn 257.610†	375185.0	381455.7	509.64 µg/L	509.64 ppb	16:16:16
3	Mo 202.031†	15775.7	16081.5	512.00 µg/L	512.00 ppb	16:16:36
3	Ni 231.604†	39815.9	40577.9	510.38 µg/L	510.38 ppb	16:16:16
3	P 214.914†	10530.8	10706.7	2545.1 µg/L	2545.1 ppb	16:16:36
3	Pb 220.353†	8329.8	8376.0	514.48 µg/L	514.48 ppb	16:16:36
3	S 181.975 Axial†	1303.5	1238.2	1019.3 µg/L	1019.3 ppb	16:16:36
3	Sb 206.836†	3907.5	3896.6	512.17 µg/L	512.17 ppb	16:16:36
3	Se 196.026†	1269.8	1278.0	514 µg/L	514 ppb	16:16:36
3	SiO2†	51617.4	50751.2	5407.7 µg/L	5407.7 ppb	16:16:16
3	Si 251.611†	155063.4	156779.0	2527.5 µg/L	2527.5 ppb	16:16:16
3	Sn 189.927†	7252.3	7379.4	512.60 µg/L	512.60 ppb	16:16:36
3	Ti 334.940†	500784.6	508503.3	508.78 µg/L	508.78 ppb	16:16:16
3	Tl 190.801†	3630.7	3810.1	519.68 µg/L	519.68 ppb	16:16:36
3	U 409.014†	7461.6	7873.5	524.02 µg/L	524.02 ppb	16:16:16
3	V 292.402†	93864.9	95167.9	512.07 µg/L	512.07 ppb	16:16:16
3	Zn 213.857†	81102.7	81971.6	504.39 µg/L	504.39 ppb	16:16:16

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1733131.5	98.750 %	0.5446			0.55%
Sc RADIAL	149620.7	101 %	0.3			0.28%
Y 371.029	1038999.7	97.646 %	0.5629			0.58%
Ag 328.068†	126666.3	509.84 µg/L	1.496	509.84 ppb	1.496	0.29%
QC value within limits for Ag 328.068 Recovery = 101.97%						
Al 396.153Radial†	25134.2	5155.9 µg/L	7.42	5155.9 ppb	7.42	0.14%
QC value within limits for Al 396.153Radial Recovery = 103.12%						
As 188.979†	1423.5	504.03 µg/L	4.990	504.03 ppb	4.990	0.99%
QC value within limits for As 188.979 Recovery = 100.81%						
B 249.677†	30793.4	500.29 µg/L	1.425	500.29 ppb	1.425	0.28%
QC value within limits for B 249.677 Recovery = 100.06%						
Ba 233.527†	116332.2	506.94 µg/L	1.726	506.94 ppb	1.726	0.34%
QC value within limits for Ba 233.527 Recovery = 101.39%						
Be 313.107†	1687048.6	506.44 µg/L	0.934	506.44 ppb	0.934	0.18%
QC value within limits for Be 313.107 Recovery = 101.29%						
Ca 317.933Radial†	84760.0	5099.8 µg/L	16.10	5099.8 ppb	16.10	0.32%
QC value within limits for Ca 317.933Radial Recovery = 102.00%						
Cd 226.502†	73617.9	505.17 µg/L	1.882	505.17 ppb	1.882	0.37%
QC value within limits for Cd 226.502 Recovery = 101.03%						
Co 228.616†	37655.6	509.56 µg/L	1.816	509.56 ppb	1.816	0.36%

QC value within limits for Co 228.616	Recovery = 101.91%			
Cr 267.716†	59992.9	505.35 µg/L	0.763	0.15%
QC value within limits for Cr 267.716	Recovery = 101.07%			
Cu 324.752†	119897.4	506.81 µg/L	1.068	0.21%
QC value within limits for Cu 324.752	Recovery = 101.36%			
Fe 238.204 Radial†	75430.7	5075.6 µg/L	12.74	0.25%
QC value within limits for Fe 238.204 Radial	Recovery = 101.51%			
K 766.490 Radial†	12549.7	5160.8 µg/L	48.15	0.93%
QC value within limits for K 766.490 Radial	Recovery = 103.22%			
Mg 279.077 IEC†	12608.9	5180.5 µg/L	25.01	0.48%
QC value within limits for Mg 279.077 IEC	Recovery = 103.61%			
Mn 257.610†	380224.4	508.00 µg/L	1.447	0.28%
QC value within limits for Mn 257.610	Recovery = 101.60%			
Mo 202.031†	15938.0	507.44 µg/L	4.647	0.92%
QC value within limits for Mo 202.031	Recovery = 101.49%			
Na 589.592 Radial†	66693.6	10123 µg/L	30.0	0.30%
QC value within limits for Na 589.592 Radial	Recovery = 101.23%			
Ni 231.604†	40396.7	508.10 µg/L	1.991	0.39%
QC value within limits for Ni 231.604	Recovery = 101.62%			
P 214.914†	10565.1	2511.3 µg/L	36.21	1.44%
QC value within limits for P 214.914	Recovery = 100.45%			
Pb 220.353†	8288.4	509.11 µg/L	5.203	1.02%
QC value within limits for Pb 220.353	Recovery = 101.82%			
S 181.975 Axial†	1220.8	1005.0 µg/L	15.45	1.54%
QC value within limits for S 181.975 Axial	Recovery = 100.50%			
Sb 206.836†	3855.4	506.70 µg/L	6.046	1.19%
QC value within limits for Sb 206.836	Recovery = 101.34%			
Se 196.026†	1263.4	508 µg/L	7.1	1.40%
QC value within limits for Se 196.026	Recovery = 101.59%			
SiO2†	50621.9	5394.1 µg/L	11.92	0.22%
QC value within limits for SiO2	Recovery = 100.87%			
Si 251.611†	156464.0	2522.5 µg/L	4.32	0.17%
QC value within limits for Si 251.611	Recovery = 100.90%			
Sn 189.927†	7275.6	505.41 µg/L	7.497	1.48%
QC value within limits for Sn 189.927	Recovery = 101.08%			
Sr 421.552†	223631.3	515.84 µg/L	1.639	0.32%
QC value within limits for Sr 421.552	Recovery = 103.17%			
Ti 334.940†	507309.2	507.58 µg/L	1.036	0.20%
QC value within limits for Ti 334.940	Recovery = 101.52%			
Tl 190.801†	3774.1	514.82 µg/L	4.916	0.95%
QC value within limits for Tl 190.801	Recovery = 102.96%			
U 409.014†	7813.4	520.19 µg/L	3.979	0.76%
QC value within limits for U 409.014	Recovery = 104.04%			
V 292.402†	94995.4	511.10 µg/L	0.907	0.18%
QC value within limits for V 292.402	Recovery = 102.22%			
Zn 213.857†	81776.1	503.20 µg/L	1.177	0.23%
QC value within limits for Zn 213.857	Recovery = 100.64%			

All analyte(s) passed QC.

Sequence No.: 10

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 3/30/2010 16:16:44

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	152510.8	152510.8	103 %		16:17:13
1	Al 396.153Radial†	-68.3	-3.3	-0.6778 µg/L	-0.6778 ppb	16:17:33
1	Ca 317.933Radial†	643.7	-74.0	-4.4537 µg/L	-4.4537 ppb	16:17:33
1	Fe 238.204 Radial†	170.7	24.8	1.6683 µg/L	1.6683 ppb	16:17:33
1	K 766.490 Radial†	1615.7	253.3	104.22 µg/L	104.22 ppb	16:17:13
1	Mg 279.077 IEC†	181.7	7.3	3.0013 µg/L	3.0013 ppb	16:17:33
1	Na 589.592 Radial†	1660.0	402.4	61.015 µg/L	61.015 ppb	16:17:13
1	Sr 421.552†	-303.7	-72.7	-0.1677 µg/L	-0.1677 ppb	16:17:13
1	Sc 361.383	1759072.3	1759072.3	100.23 %		16:18:35
1	Y 371.029	1067700.7	1067700.7	100.34 %		16:18:35
1	Ag 328.068†	3299.8	-154.8	-0.6092 µg/L	-0.6092 ppb	16:18:37
1	As 188.979†	-9.7	8.0	2.7973 µg/L	2.7973 ppb	16:18:57
1	B 249.677†	3239.6	1.9	0.0316 µg/L	0.0316 ppb	16:18:57
1	Ba 233.527†	-126.7	35.8	0.1559 µg/L	0.1559 ppb	16:18:57
1	Be 313.107†	-608.6	178.4	0.0540 µg/L	0.0540 ppb	16:18:37
1	Cd 226.502†	-84.9	25.3	0.1738 µg/L	0.1738 ppb	16:18:57
1	Co 228.616†	-181.9	-9.1	-0.1227 µg/L	-0.1227 ppb	16:18:57
1	Cr 267.716†	197.4	18.4	0.1538 µg/L	0.1538 ppb	16:18:57
1	Cu 324.752†	2726.7	-68.4	-0.2868 µg/L	-0.2868 ppb	16:18:37
1	Mn 257.610†	182.0	6.0	0.0078 µg/L	0.0078 ppb	16:18:57
1	Mo 202.031†	-34.1	0.7	0.0222 µg/L	0.0222 ppb	16:18:57
1	Ni 231.604†	-52.6	25.4	0.3196 µg/L	0.3196 ppb	16:18:57
1	P 214.914†	19.6	14.5	3.4755 µg/L	3.4755 ppb	16:18:57
1	Pb 220.353†	72.0	-25.1	-1.5369 µg/L	-1.5369 ppb	16:18:57
1	S 181.975 Axial†	79.9	-7.9	-6.5165 µg/L	-6.5165 ppb	16:18:57
1	Sb 206.836†	94.4	16.1	2.1104 µg/L	2.1104 ppb	16:18:57
1	Se 196.026†	15.5	1.9	0.753 µg/L	0.753 ppb	16:18:57
1	SiO2†	1694.7	-62.3	-6.6745 µg/L	-6.6745 ppb	16:18:57
1	Si 251.611†	776.4	-174.1	-2.8231 µg/L	-2.8231 ppb	16:18:57
1	Sn 189.927†	9.6	12.1	0.8404 µg/L	0.8404 ppb	16:18:57
1	Ti 334.940†	742.0	-145.3	-0.1466 µg/L	-0.1466 ppb	16:18:37
1	Tl 190.801†	-106.0	11.3	1.5216 µg/L	1.5216 ppb	16:18:57
1	U 409.014†	-258.8	25.5	1.6179 µg/L	1.6179 ppb	16:18:37
1	V 292.402†	373.2	62.5	0.3338 µg/L	0.3338 ppb	16:18:37
1	Zn 213.857†	535.1	9.3	0.0558 µg/L	0.0558 ppb	16:18:57
2	Sc RADIAL	151582.4	151582.4	103 %		16:17:35
2	Al 396.153Radial†	-55.1	9.1	1.8727 µg/L	1.8727 ppb	16:17:55
2	Ca 317.933Radial†	630.1	-83.4	-5.0209 µg/L	-5.0209 ppb	16:17:55
2	Fe 238.204 Radial†	171.5	26.6	1.7868 µg/L	1.7868 ppb	16:17:55
2	K 766.490 Radial†	1635.4	282.1	116.08 µg/L	116.08 ppb	16:17:35
2	Mg 279.077 IEC†	165.2	-7.7	-3.1386 µg/L	-3.1386 ppb	16:17:55
2	Na 589.592 Radial†	1719.4	470.2	71.292 µg/L	71.292 ppb	16:17:35
2	Sr 421.552†	-209.5	17.3	0.0401 µg/L	0.0401 ppb	16:17:35
2	Sc 361.383	1753832.5	1753832.5	99.929 %		16:18:59
2	Y 371.029	1063469.2	1063469.2	99.946 %		16:18:59
2	Ag 328.068†	3412.7	-31.9	-0.1532 µg/L	-0.1532 ppb	16:19:02
2	As 188.979†	-15.2	2.5	0.8643 µg/L	0.8643 ppb	16:19:22
2	B 249.677†	3187.6	-40.5	-0.6608 µg/L	-0.6608 ppb	16:19:22
2	Ba 233.527†	-166.9	-4.9	-0.0217 µg/L	-0.0217 ppb	16:19:22
2	Be 313.107†	-546.6	238.6	0.0668 µg/L	0.0668 ppb	16:19:02
2	Cd 226.502†	-96.9	13.0	0.0892 µg/L	0.0892 ppb	16:19:22
2	Co 228.616†	-157.9	14.5	0.1955 µg/L	0.1955 ppb	16:19:22
2	Cr 267.716†	176.0	-2.5	-0.0085 µg/L	-0.0085 ppb	16:19:22
2	Cu 324.752†	2780.5	-6.4	-0.0400 µg/L	-0.0400 ppb	16:19:02
2	Mn 257.610†	169.9	-5.6	-0.0073 µg/L	-0.0073 ppb	16:19:22
2	Mo 202.031†	-32.0	2.8	0.0877 µg/L	0.0877 ppb	16:19:22
2	Ni 231.604†	-73.4	4.5	0.0561 µg/L	0.0561 ppb	16:19:22
2	P 214.914†	-19.7	-24.7	-5.8854 µg/L	-5.8854 ppb	16:19:22
2	Pb 220.353†	88.9	-8.0	-0.4789 µg/L	-0.4789 ppb	16:19:22

2	S 181.975 Axial†	82.2	-5.4	-4.4658 µg/L	-4.4658 ppb	16:19:22
2	Sb 206.836†	74.7	-3.3	-0.4337 µg/L	-0.4337 ppb	16:19:22
2	Se 196.026†	28.8	15.3	6.10 µg/L	6.10 ppb	16:19:22
2	SiO2†	1697.3	-54.7	-5.8600 µg/L	-5.8600 ppb	16:19:22
2	Si 251.611†	778.3	-169.8	-2.7541 µg/L	-2.7541 ppb	16:19:22
2	Sn 189.927†	8.2	10.7	0.7420 µg/L	0.7420 ppb	16:19:22
2	Ti 334.940†	832.1	-52.8	-0.0463 µg/L	-0.0463 ppb	16:19:02
2	Tl 190.801†	-117.4	-0.4	-0.0659 µg/L	-0.0659 ppb	16:19:22
2	U 409.014†	-537.9	-254.5	-15.974 µg/L	-15.974 ppb	16:19:02
2	V 292.402†	201.3	-108.4	-0.5855 µg/L	-0.5855 ppb	16:19:02
2	Zn 213.857†	517.9	-6.3	-0.0395 µg/L	-0.0395 ppb	16:19:22
3	Sc RADIAL	150090.6	150090.6	102 %		16:17:57
3	Al 396.153Radial†	-27.8	35.5	7.2924 µg/L	7.2924 ppb	16:18:17
3	Ca 317.933Radial†	602.3	-104.7	-6.3004 µg/L	-6.3004 ppb	16:18:17
3	Fe 238.204 Radial†	165.7	22.5	1.5162 µg/L	1.5162 ppb	16:18:17
3	K 766.490 Radial†	1500.0	164.6	67.743 µg/L	67.743 ppb	16:17:57
3	Mg 279.077 IEC†	180.4	8.9	3.6518 µg/L	3.6518 ppb	16:18:17
3	Na 589.592 Radial†	1423.7	195.7	29.652 µg/L	29.652 ppb	16:17:57
3	Sr 421.552†	-280.9	-55.0	-0.1268 µg/L	-0.1268 ppb	16:17:57
3	Sc 361.383	1757181.1	1757181.1	100.12 %		16:19:24
3	Y 371.029	1066334.2	1066334.2	100.22 %		16:19:24
3	Ag 328.068†	3335.3	-115.8	-0.4663 µg/L	-0.4663 ppb	16:19:26
3	As 188.979†	-22.6	-4.9	-1.6980 µg/L	-1.6980 ppb	16:19:46
3	B 249.677†	3210.1	-24.1	-0.3941 µg/L	-0.3941 ppb	16:19:46
3	Ba 233.527†	-133.3	29.1	0.1267 µg/L	0.1267 ppb	16:19:46
3	Be 313.107†	-716.2	70.2	0.0188 µg/L	0.0188 ppb	16:19:26
3	Cd 226.502†	-95.4	14.7	0.1010 µg/L	0.1010 ppb	16:19:46
3	Co 228.616†	-145.4	27.2	0.3675 µg/L	0.3675 ppb	16:19:46
3	Cr 267.716†	174.6	-4.2	-0.0294 µg/L	-0.0294 ppb	16:19:46
3	Cu 324.752†	2840.0	47.7	0.1953 µg/L	0.1953 ppb	16:19:26
3	Mn 257.610†	201.4	25.5	0.0340 µg/L	0.0340 ppb	16:19:46
3	Mo 202.031†	-24.7	10.1	0.3221 µg/L	0.3221 ppb	16:19:46
3	Ni 231.604†	-54.3	23.6	0.2973 µg/L	0.2973 ppb	16:19:46
3	P 214.914†	-12.8	-17.8	-4.2554 µg/L	-4.2554 ppb	16:19:46
3	Pb 220.353†	63.7	-33.3	-2.0332 µg/L	-2.0332 ppb	16:19:46
3	S 181.975 Axial†	86.2	-1.6	-1.2766 µg/L	-1.2766 ppb	16:19:46
3	Sb 206.836†	86.5	8.3	1.0959 µg/L	1.0959 ppb	16:19:46
3	Se 196.026†	16.3	2.7	1.07 µg/L	1.07 ppb	16:19:46
3	SiO2†	1672.5	-82.6	-8.8396 µg/L	-8.8396 ppb	16:19:46
3	Si 251.611†	786.6	-163.0	-2.6400 µg/L	-2.6400 ppb	16:19:46
3	Sn 189.927†	-9.1	-6.5	-0.4517 µg/L	-0.4517 ppb	16:19:46
3	Ti 334.940†	893.3	6.7	0.0093 µg/L	0.0093 ppb	16:19:26
3	Tl 190.801†	-122.2	-5.0	-0.6666 µg/L	-0.6666 ppb	16:19:46
3	U 409.014†	-403.6	-119.4	-7.4646 µg/L	-7.4646 ppb	16:19:26
3	V 292.402†	355.2	44.9	0.2363 µg/L	0.2363 ppb	16:19:26
3	Zn 213.857†	535.3	10.1	0.0605 µg/L	0.0605 ppb	16:19:46

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1756695.3	100.09 %	0.151			0.15%
Sc RADIAL	151394.6	102 %	0.8			0.81%
Y 371.029	1065834.7	100.17 %	0.203			0.20%
Ag 328.068†	-100.8	-0.4096 µg/L	0.23321	-0.4096 ppb	0.23321	56.94%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	13.8	2.8291 µg/L	4.07026	2.8291 ppb	4.07026	143.87%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	1.9	0.6545 µg/L	2.25498	0.6545 ppb	2.25498	344.51%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	-20.9	-0.3411 µg/L	0.34923	-0.3411 ppb	0.34923	102.38%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	20.0	0.0870 µg/L	0.09526	0.0870 ppb	0.09526	109.53%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	162.4	0.0465 µg/L	0.02485	0.0465 ppb	0.02485	53.38%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-87.4	-5.2583 µg/L	0.94599	-5.2583 ppb	0.94599	17.99%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	17.7	0.1213 µg/L	0.04585	0.1213 ppb	0.04585	37.79%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	10.9	0.1468 µg/L	0.24872	0.1468 ppb	0.24872	169.48%



Cr	267.716†	3.9	0.0386 µg/L	0.10032	0.0386 ppb	0.10032	259.61%
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu	324.752†	-9.1	-0.0438 µg/L	0.24105	-0.0438 ppb	0.24105	550.17%
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe	238.204 Radial†	24.6	1.6571 µg/L	0.13567	1.6571 ppb	0.13567	8.19%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K	766.490 Radial†	233.3	96.014 µg/L	25.1904	96.014 ppb	25.1904	26.24%
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg	279.077 IEC†	2.9	1.1715 µg/L	3.74683	1.1715 ppb	3.74683	319.83%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn	257.610†	8.6	0.0115 µg/L	0.02091	0.0115 ppb	0.02091	181.76%
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo	202.031†	4.5	0.1440 µg/L	0.15766	0.1440 ppb	0.15766	109.48%
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na	589.592 Radial†	356.1	53.987 µg/L	21.6918	53.987 ppb	21.6918	40.18%
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni	231.604†	17.8	0.2244 µg/L	0.14611	0.2244 ppb	0.14611	65.12%
QC value within limits for Ni 231.604 Recovery = Not calculated							
P	214.914†	-9.3	-2.2218 µg/L	5.00083	-2.2218 ppb	5.00083	225.08%
QC value within limits for P 214.914 Recovery = Not calculated							
Pb	220.353†	-22.1	-1.3497 µg/L	0.79388	-1.3497 ppb	0.79388	58.82%
QC value within limits for Pb 220.353 Recovery = Not calculated							
S	181.975 Axial†	-5.0	-4.0863 µg/L	2.64049	-4.0863 ppb	2.64049	64.62%
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb	206.836†	7.0	0.9242 µg/L	1.28071	0.9242 ppb	1.28071	138.58%
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se	196.026†	6.6	2.64 µg/L	3.002	2.64 ppb	3.002	113.67%
QC value within limits for Se 196.026 Recovery = Not calculated							
SiO2†		-66.5	-7.1247 µg/L	1.53996	-7.1247 ppb	1.53996	21.61%
QC value within limits for SiO2 Recovery = Not calculated							
Si	251.611†	-168.9	-2.7391 µg/L	0.09245	-2.7391 ppb	0.09245	3.38%
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn	189.927†	5.4	0.3769 µg/L	0.71929	0.3769 ppb	0.71929	190.85%
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr	421.552†	-36.8	-0.0848 µg/L	0.11006	-0.0848 ppb	0.11006	129.76%
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti	334.940†	-63.8	-0.0612 µg/L	0.07902	-0.0612 ppb	0.07902	129.09%
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl	190.801†	2.0	0.2630 µg/L	1.13061	0.2630 ppb	1.13061	429.84%
QC value within limits for Tl 190.801 Recovery = Not calculated							
U	409.014†	-116.1	-7.2736 µg/L	8.79754	-7.2736 ppb	8.79754	120.95%
QC value within limits for U 409.014 Recovery = Not calculated							
V	292.402†	-0.3	-0.0051 µg/L	0.50496	-0.0051 ppb	0.50496	>999.9%
QC value within limits for V 292.402 Recovery = Not calculated							
Zn	213.857†	4.4	0.0256 µg/L	0.05641	0.0256 ppb	0.05641	220.56%
QC value within limits for Zn 213.857 Recovery = Not calculated							

All analyte(s) passed QC.

Sequence No.: 18

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 3/30/2010 16:33:11

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	151139.0	151139.0	102 %		16:33:44
1	Al 396.153Radial†	25196.3	24707.6	5068.1 µg/L	5068.1 ppb	16:33:44
1	Ca 317.933Radial†	86402.3	83812.5	5042.8 µg/L	5042.8 ppb	16:33:44
1	Fe 238.204 Radial†	76395.7	74582.4	5018.6 µg/L	5018.6 ppb	16:33:44
1	K 766.490 Radial†	14135.0	12512.7	5145.6 µg/L	5145.6 ppb	16:33:44
1	Mg 279.077 IEC†	12839.4	12389.5	5090.4 µg/L	5090.4 ppb	16:33:44
1	Na 589.592 Radial†	68823.9	66110.4	10034 µg/L	10034 ppb	16:33:44
1	Sr 421.552†	226964.0	222216.3	512.58 µg/L	512.58 ppb	16:33:42
1	Sc 361.383	1738736.4	1738736.4	99.069 %		16:34:12
1	Y 371.029	1041662.6	1041662.6	97.897 %		16:34:12
1	Ag 328.068†	127423.7	125174.2	503.84 µg/L	503.84 ppb	16:34:12
1	As 188.979†	1389.7	1420.5	502.92 µg/L	502.92 ppb	16:34:32
1	B 249.677†	33453.0	30537.1	496.13 µg/L	496.13 ppb	16:34:12
1	Ba 233.527†	113987.1	115220.6	502.10 µg/L	502.10 ppb	16:34:12
1	Be 313.107†	1653159.2	1669481.5	501.17 µg/L	501.17 ppb	16:34:12
1	Cd 226.502†	72224.6	73013.4	501.02 µg/L	501.02 ppb	16:34:12
1	Co 228.616†	36766.5	37284.5	504.53 µg/L	504.53 ppb	16:34:12
1	Cr 267.716†	59072.0	59448.6	500.77 µg/L	500.77 ppb	16:34:12
1	Cu 324.752†	120311.3	118653.0	501.54 µg/L	501.54 ppb	16:34:12
1	Mn 257.610†	373179.3	376510.9	503.04 µg/L	503.04 ppb	16:34:12
1	Mo 202.031†	15677.5	15859.6	504.94 µg/L	504.94 ppb	16:34:32
1	Ni 231.604†	39543.7	39993.2	503.02 µg/L	503.02 ppb	16:34:12
1	P 214.914†	10442.2	10535.4	2504.3 µg/L	2504.3 ppb	16:34:32
1	Pb 220.353†	8280.1	8260.9	507.41 µg/L	507.41 ppb	16:34:32
1	S 181.975 Axial†	1296.7	1221.2	1005.3 µg/L	1005.3 ppb	16:34:32
1	Sb 206.836†	3864.6	3822.8	502.45 µg/L	502.45 ppb	16:34:32
1	Se 196.026†	1254.0	1252.2	503 µg/L	503 ppb	16:34:32
1	SiO2†	51275.4	50004.2	5328.1 µg/L	5328.1 ppb	16:34:12
1	Si 251.611†	154864.0	155370.8	2504.8 µg/L	2504.8 ppb	16:34:12
1	Sn 189.927†	7172.7	7242.6	503.11 µg/L	503.11 ppb	16:34:32
1	Ti 334.940†	498220.5	502017.3	502.29 µg/L	502.29 ppb	16:34:12
1	Tl 190.801†	3613.1	3764.1	513.40 µg/L	513.40 ppb	16:34:32
1	U 409.014†	7323.5	7676.1	511.26 µg/L	511.26 ppb	16:34:12
1	V 292.402†	93382.5	93950.3	505.51 µg/L	505.51 ppb	16:34:12
1	Zn 213.857†	80909.7	81145.6	499.32 µg/L	499.32 ppb	16:34:12
2	Sc RADIAL	148387.4	148387.4	100 %		16:33:48
2	Al 396.153Radial†	25003.7	24972.6	5122.4 µg/L	5122.4 ppb	16:33:48
2	Ca 317.933Radial†	85779.0	84758.7	5099.7 µg/L	5099.7 ppb	16:33:48
2	Fe 238.204 Radial†	75791.8	75366.3	5071.3 µg/L	5071.3 ppb	16:33:48
2	K 766.490 Radial†	14052.4	12686.8	5217.2 µg/L	5217.2 ppb	16:33:48
2	Mg 279.077 IEC†	12862.3	12645.2	5195.4 µg/L	5195.4 ppb	16:33:48
2	Na 589.592 Radial†	68425.7	66962.0	10163 µg/L	10163 ppb	16:33:48
2	Sr 421.552†	225755.6	225128.9	519.30 µg/L	519.30 ppb	16:33:46
2	Sc 361.383	1732689.3	1732689.3	98.724 %		16:34:35
2	Y 371.029	1037776.0	1037776.0	97.531 %		16:34:35
2	Ag 328.068†	127823.1	126027.7	507.26 µg/L	507.26 ppb	16:34:35
2	As 188.979†	1426.9	1463.0	517.81 µg/L	517.81 ppb	16:34:55
2	B 249.677†	33275.5	30475.1	495.12 µg/L	495.12 ppb	16:34:35
2	Ba 233.527†	113937.6	115572.0	503.63 µg/L	503.63 ppb	16:34:35
2	Be 313.107†	1651670.0	1673796.8	502.47 µg/L	502.47 ppb	16:34:35
2	Cd 226.502†	71981.5	73021.6	501.07 µg/L	501.07 ppb	16:34:35
2	Co 228.616†	36746.8	37394.0	506.02 µg/L	506.02 ppb	16:34:35
2	Cr 267.716†	59002.6	59586.4	501.92 µg/L	501.92 ppb	16:34:35
2	Cu 324.752†	120225.8	118990.3	502.99 µg/L	502.99 ppb	16:34:35
2	Mn 257.610†	372559.0	377197.3	503.95 µg/L	503.95 ppb	16:34:35
2	Mo 202.031†	15857.3	16096.9	512.49 µg/L	512.49 ppb	16:34:55
2	Ni 231.604†	39495.0	40083.2	504.16 µg/L	504.16 ppb	16:34:35
2	P 214.914†	10624.2	10756.4	2557.0 µg/L	2557.0 ppb	16:34:55
2	Pb 220.353†	8415.5	8427.3	517.61 µg/L	517.61 ppb	16:34:55

2	S 181.975 Axial†	1322.3	1251.7	1030.4 µg/L	1030.4 ppb	16:34:55
2	Sb 206.836†	3941.4	3914.2	514.54 µg/L	514.54 ppb	16:34:55
2	Se 196.026†	1272.2	1275.1	513 µg/L	513 ppb	16:34:55
2	SiO2†	51298.9	50208.6	5349.6 µg/L	5349.6 ppb	16:34:35
2	Si 251.611†	154113.0	155155.6	2501.2 µg/L	2501.2 ppb	16:34:35
2	Sn 189.927†	7288.6	7385.3	512.99 µg/L	512.99 ppb	16:34:55
2	Ti 334.940†	497492.0	503034.5	503.30 µg/L	503.30 ppb	16:34:35
2	Tl 190.801†	3651.1	3815.4	520.30 µg/L	520.30 ppb	16:34:55
2	U 409.014†	7472.3	7852.6	522.37 µg/L	522.37 ppb	16:34:35
2	V 292.402†	93254.4	94149.5	506.65 µg/L	506.65 ppb	16:34:35
2	Zn 213.857†	80620.4	81137.6	499.26 µg/L	499.26 ppb	16:34:35
3	Sc RADIAL	149756.5	149756.5	101 %		16:33:53
3	Al 396.153Radial†	25384.2	25120.5	5153.1 µg/L	5153.1 ppb	16:33:53
3	Ca 317.933Radial†	86609.2	84797.0	5102.0 µg/L	5102.0 ppb	16:33:53
3	Fe 238.204 Radial†	76492.1	75367.4	5071.4 µg/L	5071.4 ppb	16:33:53
3	K 766.490 Radial†	13940.1	12448.0	5118.9 µg/L	5118.9 ppb	16:33:53
3	Mg 279.077 IEC†	12945.8	12610.5	5181.1 µg/L	5181.1 ppb	16:33:53
3	Na 589.592 Radial†	68594.3	66505.2	10094 µg/L	10094 ppb	16:33:53
3	Sr 421.552†	224007.7	221347.5	510.58 µg/L	510.58 ppb	16:33:51
3	Sc 361.383	1751130.8	1751130.8	99.775 %		16:34:58
3	Y 371.029	1048597.3	1048597.3	98.548 %		16:34:58
3	Ag 328.068†	129529.0	126373.9	508.64 µg/L	508.64 ppb	16:34:58
3	As 188.979†	1411.3	1432.2	507.05 µg/L	507.05 ppb	16:35:18
3	B 249.677†	33887.0	30733.0	499.31 µg/L	499.31 ppb	16:34:58
3	Ba 233.527†	115619.9	116042.6	505.68 µg/L	505.68 ppb	16:34:58
3	Be 313.107†	1676617.7	1681181.9	504.68 µg/L	504.68 ppb	16:34:58
3	Cd 226.502†	73368.7	73644.1	505.35 µg/L	505.35 ppb	16:34:58
3	Co 228.616†	37328.7	37585.3	508.60 µg/L	508.60 ppb	16:34:58
3	Cr 267.716†	59733.8	59689.9	502.80 µg/L	502.80 ppb	16:34:58
3	Cu 324.752†	121792.3	119277.8	504.19 µg/L	504.19 ppb	16:34:58
3	Mn 257.610†	378088.5	378765.0	506.04 µg/L	506.04 ppb	16:34:58
3	Mo 202.031†	15858.6	15929.1	507.15 µg/L	507.15 ppb	16:35:18
3	Ni 231.604†	40204.0	40372.5	507.79 µg/L	507.79 ppb	16:34:58
3	P 214.914†	10611.8	10630.7	2527.0 µg/L	2527.0 ppb	16:35:18
3	Pb 220.353†	8416.7	8338.7	512.19 µg/L	512.19 ppb	16:35:18
3	S 181.975 Axial†	1321.9	1237.1	1018.4 µg/L	1018.4 ppb	16:35:18
3	Sb 206.836†	3931.6	3862.4	507.66 µg/L	507.66 ppb	16:35:18
3	Se 196.026†	1279.4	1268.7	510 µg/L	510 ppb	16:35:18
3	SiO2†	52016.0	50380.1	5368.1 µg/L	5368.1 ppb	16:34:58
3	Si 251.611†	156602.6	156006.9	2515.0 µg/L	2515.0 ppb	16:34:58
3	Sn 189.927†	7321.0	7340.0	509.86 µg/L	509.86 ppb	16:35:18
3	Ti 334.940†	504195.1	504445.9	504.72 µg/L	504.72 ppb	16:34:58
3	Tl 190.801†	3645.8	3771.1	514.37 µg/L	514.37 ppb	16:35:18
3	U 409.014†	7418.7	7719.2	514.12 µg/L	514.12 ppb	16:34:58
3	V 292.402†	94555.7	94459.0	508.23 µg/L	508.23 ppb	16:34:58
3	Zn 213.857†	81983.3	81643.6	502.38 µg/L	502.38 ppb	16:34:58

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1740852.2	99.189 %	0.5356			0.54%
Sc RADIAL	149761.0	101 %	0.9			0.92%
Y 371.029	1042678.6	97.992 %	0.5152			0.53%
Ag 328.068†	125858.6	506.58 µg/L	2.472	506.58 ppb	2.472	0.49%
QC value within limits for Ag 328.068 Recovery = 101.32%						
Al 396.153Radial†	24933.6	5114.5 µg/L	43.04	5114.5 ppb	43.04	0.84%
QC value within limits for Al 396.153Radial Recovery = 102.29%						
As 188.979†	1438.6	509.26 µg/L	7.683	509.26 ppb	7.683	1.51%
QC value within limits for As 188.979 Recovery = 101.85%						
B 249.677†	30581.7	496.85 µg/L	2.189	496.85 ppb	2.189	0.44%
QC value within limits for B 249.677 Recovery = 99.37%						
Ba 233.527†	115611.7	503.80 µg/L	1.797	503.80 ppb	1.797	0.36%
QC value within limits for Ba 233.527 Recovery = 100.76%						
Be 313.107†	1674820.1	502.77 µg/L	1.776	502.77 ppb	1.776	0.35%
QC value within limits for Be 313.107 Recovery = 100.55%						
Ca 317.933Radial†	84456.1	5081.5 µg/L	33.55	5081.5 ppb	33.55	0.66%
QC value within limits for Ca 317.933Radial Recovery = 101.63%						
Cd 226.502†	73226.4	502.48 µg/L	2.483	502.48 ppb	2.483	0.49%
QC value within limits for Cd 226.502 Recovery = 100.50%						
Co 228.616†	37421.3	506.38 µg/L	2.060	506.38 ppb	2.060	0.41%

QC value within limits for Co 228.616 Recovery = 101.28%							
Cr 267.716†	59575.0	501.83 µg/L	1.019	501.83 ppb	1.019	0.20%	
QC value within limits for Cr 267.716 Recovery = 100.37%							
Cu 324.752†	118973.7	502.91 µg/L	1.326	502.91 ppb	1.326	0.26%	
QC value within limits for Cu 324.752 Recovery = 100.58%							
Fe 238.204 Radial†	75105.4	5053.7 µg/L	30.48	5053.7 ppb	30.48	0.60%	
QC value within limits for Fe 238.204 Radial Recovery = 101.07%							
K 766.490 Radial†	12549.1	5160.6 µg/L	50.82	5160.6 ppb	50.82	0.98%	
QC value within limits for K 766.490 Radial Recovery = 103.21%							
Mg 279.077 IEC†	12548.4	5155.7 µg/L	56.94	5155.7 ppb	56.94	1.10%	
QC value within limits for Mg 279.077 IEC Recovery = 103.11%							
Mn 257.610†	377491.1	504.34 µg/L	1.543	504.34 ppb	1.543	0.31%	
QC value within limits for Mn 257.610 Recovery = 100.87%							
Mo 202.031†	15961.9	508.19 µg/L	3.883	508.19 ppb	3.883	0.76%	
QC value within limits for Mo 202.031 Recovery = 101.64%							
Na 589.592 Radial†	66525.8	10097 µg/L	64.7	10097 ppb	64.7	0.64%	
QC value within limits for Na 589.592 Radial Recovery = 100.97%							
Ni 231.604†	40149.6	504.99 µg/L	2.493	504.99 ppb	2.493	0.49%	
QC value within limits for Ni 231.604 Recovery = 101.00%							
P 214.914†	10640.8	2529.4 µg/L	26.43	2529.4 ppb	26.43	1.05%	
QC value within limits for P 214.914 Recovery = 101.18%							
Pb 220.353†	8342.3	512.41 µg/L	5.103	512.41 ppb	5.103	1.00%	
QC value within limits for Pb 220.353 Recovery = 102.48%							
S 181.975 Axial†	1236.7	1018.0 µg/L	12.54	1018.0 ppb	12.54	1.23%	
QC value within limits for S 181.975 Axial Recovery = 101.80%							
Sb 206.836†	3866.5	508.21 µg/L	6.063	508.21 ppb	6.063	1.19%	
QC value within limits for Sb 206.836 Recovery = 101.64%							
Se 196.026†	1265.3	509 µg/L	4.7	509 ppb	4.7	0.93%	
QC value within limits for Se 196.026 Recovery = 101.75%							
SiO2†	50197.6	5348.6 µg/L	20.05	5348.6 ppb	20.05	0.37%	
QC value within limits for SiO2 Recovery = 100.02%							
Si 251.611†	155511.1	2507.0 µg/L	7.19	2507.0 ppb	7.19	0.29%	
QC value within limits for Si 251.611 Recovery = 100.28%							
Sn 189.927†	7322.7	508.66 µg/L	5.051	508.66 ppb	5.051	0.99%	
QC value within limits for Sn 189.927 Recovery = 101.73%							
Sr 421.552†	222897.6	514.15 µg/L	4.569	514.15 ppb	4.569	0.89%	
QC value within limits for Sr 421.552 Recovery = 102.83%							
Ti 334.940†	503165.9	503.44 µg/L	1.219	503.44 ppb	1.219	0.24%	
QC value within limits for Ti 334.940 Recovery = 100.69%							
Tl 190.801†	3783.5	516.02 µg/L	3.736	516.02 ppb	3.736	0.72%	
QC value within limits for Tl 190.801 Recovery = 103.20%							
U 409.014†	7749.3	515.92 µg/L	5.770	515.92 ppb	5.770	1.12%	
QC value within limits for U 409.014 Recovery = 103.18%							
V 292.402†	94186.3	506.80 µg/L	1.369	506.80 ppb	1.369	0.27%	
QC value within limits for V 292.402 Recovery = 101.36%							
Zn 213.857†	81308.9	500.32 µg/L	1.780	500.32 ppb	1.780	0.36%	
QC value within limits for Zn 213.857 Recovery = 100.06%							
All analyte(s) passed QC.							

Sequence No.: 19

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 3/30/2010 16:35:27

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	151878.1	151878.1	103 %		16:35:56
1	Al 396.153Radial†	-27.3	36.3	7.4811 µg/L	7.4811 ppb	16:36:16
1	Ca 317.933Radial†	686.6	-29.7	-1.7857 µg/L	-1.7857 ppb	16:36:16
1	Fe 238.204 Radial†	172.4	27.1	1.8263 µg/L	1.8263 ppb	16:36:16
1	K 766.490 Radial†	1493.5	140.9	57.964 µg/L	57.964 ppb	16:35:56
1	Mg 279.077 IEC†	188.2	14.4	5.9196 µg/L	5.9196 ppb	16:36:16
1	Na 589.592 Radial†	1596.6	347.4	52.696 µg/L	52.696 ppb	16:35:56
1	Sr 421.552†	-187.5	39.2	0.0904 µg/L	0.0904 ppb	16:35:56
1	Sc 361.383	1775966.4	1775966.4	101.19 %		16:37:18
1	Y 371.029	1075816.3	1075816.3	101.11 %		16:37:18
1	Ag 328.068†	3637.8	148.0	0.5819 µg/L	0.5819 ppb	16:37:20
1	As 188.979†	-2.5	15.2	5.2981 µg/L	5.2981 ppb	16:37:40
1	B 249.677†	3304.0	34.8	0.5663 µg/L	0.5663 ppb	16:37:40
1	Ba 233.527†	-170.2	-6.0	-0.0264 µg/L	-0.0264 ppb	16:37:40
1	Be 313.107†	-529.3	262.5	0.0783 µg/L	0.0783 ppb	16:37:20
1	Cd 226.502†	-78.1	32.8	0.2250 µg/L	0.2250 ppb	16:37:40
1	Co 228.616†	-156.5	17.7	0.2396 µg/L	0.2396 ppb	16:37:40
1	Cr 267.716†	134.1	-46.0	-0.3871 µg/L	-0.3871 ppb	16:37:40
1	Cu 324.752†	2726.1	-94.9	-0.4005 µg/L	-0.4005 ppb	16:37:20
1	Mn 257.610†	181.0	3.3	0.0042 µg/L	0.0042 ppb	16:37:40
1	Mo 202.031†	-31.8	3.4	0.1071 µg/L	0.1071 ppb	16:37:40
1	Ni 231.604†	-78.8	0.0	0.0002 µg/L	0.0002 ppb	16:37:40
1	P 214.914†	11.7	6.6	1.5795 µg/L	1.5795 ppb	16:37:40
1	Pb 220.353†	104.7	6.5	0.4021 µg/L	0.4021 ppb	16:37:40
1	S 181.975 Axial†	97.8	9.0	7.3534 µg/L	7.3534 ppb	16:37:40
1	Sb 206.836†	78.3	-0.7	-0.0809 µg/L	-0.0809 ppb	16:37:40
1	Se 196.026†	26.0	12.1	4.86 µg/L	4.86 ppb	16:37:40
1	SiO2†	1712.3	-61.0	-6.5292 µg/L	-6.5292 ppb	16:37:40
1	Si 251.611†	932.1	-27.5	-0.4477 µg/L	-0.4477 ppb	16:37:20
1	Sn 189.927†	-1.2	1.4	0.0971 µg/L	0.0971 ppb	16:37:40
1	Ti 334.940†	836.6	-58.8	-0.0587 µg/L	-0.0587 ppb	16:37:20
1	Tl 190.801†	-101.3	17.0	2.2738 µg/L	2.2738 ppb	16:37:40
1	U 409.014†	-310.8	-23.4	-1.4888 µg/L	-1.4888 ppb	16:37:20
1	V 292.402†	243.1	-69.6	-0.3711 µg/L	-0.3711 ppb	16:37:20
1	Zn 213.857†	533.2	2.3	0.0148 µg/L	0.0148 ppb	16:37:40
2	Sc RADIAL	150766.1	150766.1	102 %		16:36:18
2	Al 396.153Radial†	-29.1	34.4	7.0870 µg/L	7.0870 ppb	16:36:38
2	Ca 317.933Radial†	682.2	-29.1	-1.7514 µg/L	-1.7514 ppb	16:36:38
2	Fe 238.204 Radial†	166.3	22.4	1.5048 µg/L	1.5048 ppb	16:36:38
2	K 766.490 Radial†	1525.1	182.6	75.152 µg/L	75.152 ppb	16:36:18
2	Mg 279.077 IEC†	179.6	7.3	2.9938 µg/L	2.9938 ppb	16:36:38
2	Na 589.592 Radial†	1371.5	138.2	20.914 µg/L	20.914 ppb	16:36:18
2	Sr 421.552†	-190.0	35.3	0.0815 µg/L	0.0815 ppb	16:36:18
2	Sc 361.383	1781472.1	1781472.1	101.50 %		16:37:42
2	Y 371.029	1078812.6	1078812.6	101.39 %		16:37:42
2	Ag 328.068†	3322.4	-173.9	-0.6936 µg/L	-0.6936 ppb	16:37:44
2	As 188.979†	-9.9	7.9	2.7584 µg/L	2.7584 ppb	16:38:05
2	B 249.677†	3225.9	-52.2	-0.8523 µg/L	-0.8523 ppb	16:38:05
2	Ba 233.527†	-165.6	-1.0	-0.0040 µg/L	-0.0040 ppb	16:38:05
2	Be 313.107†	-662.6	132.8	0.0378 µg/L	0.0378 ppb	16:37:44
2	Cd 226.502†	-107.6	4.0	0.0272 µg/L	0.0272 ppb	16:38:05
2	Co 228.616†	-153.4	21.3	0.2875 µg/L	0.2875 ppb	16:38:05
2	Cr 267.716†	167.4	-13.7	-0.1095 µg/L	-0.1095 ppb	16:38:05
2	Cu 324.752†	2776.0	-54.1	-0.2330 µg/L	-0.2330 ppb	16:37:44
2	Mn 257.610†	220.5	41.7	0.0556 µg/L	0.0556 ppb	16:38:05
2	Mo 202.031†	-36.8	-1.5	-0.0478 µg/L	-0.0478 ppb	16:38:05
2	Ni 231.604†	-80.5	-1.4	-0.0180 µg/L	-0.0180 ppb	16:38:05
2	P 214.914†	12.5	7.3	1.7603 µg/L	1.7603 ppb	16:38:05
2	Pb 220.353†	90.3	-8.0	-0.4821 µg/L	-0.4821 ppb	16:38:05

2	S 181.975 Axial†	91.8	2.7	2.2316 µg/L	2.2316 ppb	16:38:05
2	Sb 206.836†	83.6	4.3	0.5702 µg/L	0.5702 ppb	16:38:05
2	Se 196.026†	1.8	-11.8	-4.75 µg/L	-4.75 ppb	16:38:05
2	SiO2†	1691.8	-86.4	-9.2496 µg/L	-9.2496 ppb	16:38:05
2	Si 251.611†	787.2	-173.1	-2.8052 µg/L	-2.8052 ppb	16:37:44
2	Sn 189.927†	7.4	9.9	0.6835 µg/L	0.6835 ppb	16:38:05
2	Ti 334.940†	827.4	-70.5	-0.0680 µg/L	-0.0680 ppb	16:37:44
2	Tl 190.801†	-117.6	1.3	0.1723 µg/L	0.1723 ppb	16:38:05
2	U 409.014†	-399.5	-109.8	-6.8488 µg/L	-6.8488 ppb	16:37:44
2	V 292.402†	412.9	96.9	0.5089 µg/L	0.5089 ppb	16:37:44
2	Zn 213.857†	530.6	-1.8	-0.0109 µg/L	-0.0109 ppb	16:38:05
3	Sc RADIAL	151659.3	151659.3	103 %		16:36:40
3	Al 396.153Radial†	-28.3	35.3	7.2531 µg/L	7.2531 ppb	16:37:00
3	Ca 317.933Radial†	646.0	-68.3	-4.1086 µg/L	-4.1086 ppb	16:37:00
3	Fe 238.204 Radial†	199.0	53.3	3.5851 µg/L	3.5851 ppb	16:37:00
3	K 766.490 Radial†	1519.9	168.8	69.446 µg/L	69.446 ppb	16:36:40
3	Mg 279.077 IEC†	179.2	5.9	2.4278 µg/L	2.4278 ppb	16:37:00
3	Na 589.592 Radial†	1454.5	211.2	32.007 µg/L	32.007 ppb	16:36:40
3	Sr 421.552†	-167.3	58.5	0.1351 µg/L	0.1351 ppb	16:36:40
3	Sc 361.383	1777415.3	1777415.3	101.27 %		16:38:07
3	Y 371.029	1077075.4	1077075.4	101.22 %		16:38:07
3	Ag 328.068†	3547.2	55.6	0.2339 µg/L	0.2339 ppb	16:38:09
3	As 188.979†	-14.0	3.8	1.3299 µg/L	1.3299 ppb	16:38:29
3	B 249.677†	3244.0	-27.1	-0.4430 µg/L	-0.4430 ppb	16:38:29
3	Ba 233.527†	-186.1	-21.6	-0.0937 µg/L	-0.0937 ppb	16:38:29
3	Be 313.107†	-746.5	48.4	0.0159 µg/L	0.0159 ppb	16:38:09
3	Cd 226.502†	-82.7	28.3	0.1941 µg/L	0.1941 ppb	16:38:29
3	Co 228.616†	-162.0	12.5	0.1686 µg/L	0.1686 ppb	16:38:29
3	Cr 267.716†	143.6	-36.8	-0.3130 µg/L	-0.3130 ppb	16:38:29
3	Cu 324.752†	2855.6	30.7	0.1338 µg/L	0.1338 ppb	16:38:09
3	Mn 257.610†	204.7	26.6	0.0354 µg/L	0.0354 ppb	16:38:29
3	Mo 202.031†	-21.9	13.1	0.4182 µg/L	0.4182 ppb	16:38:29
3	Ni 231.604†	-69.6	9.2	0.1151 µg/L	0.1151 ppb	16:38:29
3	P 214.914†	1.4	-3.6	-0.8646 µg/L	-0.8646 ppb	16:38:29
3	Pb 220.353†	84.4	-13.6	-0.8367 µg/L	-0.8367 ppb	16:38:29
3	S 181.975 Axial†	90.3	1.5	1.2325 µg/L	1.2325 ppb	16:38:29
3	Sb 206.836†	80.7	1.6	0.2186 µg/L	0.2186 ppb	16:38:29
3	Se 196.026†	8.3	-5.3	-2.13 µg/L	-2.13 ppb	16:38:29
3	SiO2†	1696.0	-78.5	-8.4316 µg/L	-8.4316 ppb	16:38:29
3	Si 251.611†	738.0	-219.9	-3.5748 µg/L	-3.5748 ppb	16:38:09
3	Sn 189.927†	18.0	20.3	1.4069 µg/L	1.4069 ppb	16:38:29
3	Ti 334.940†	846.9	-49.3	-0.0514 µg/L	-0.0514 ppb	16:38:09
3	Tl 190.801†	-120.1	-1.5	-0.1973 µg/L	-0.1973 ppb	16:38:29
3	U 409.014†	-216.0	70.5	4.4517 µg/L	4.4517 ppb	16:38:09
3	V 292.402†	433.2	117.9	0.6318 µg/L	0.6318 ppb	16:38:09
3	Zn 213.857†	526.7	-4.5	-0.0291 µg/L	-0.0291 ppb	16:38:29

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1778284.6	101.32 %	0.163			0.16%
Sc RADIAL	151434.5	102 %	0.4			0.39%
Y 371.029	1077234.8	101.24 %	0.141			0.14%
Ag 328.068†	9.9	0.0407 µg/L	0.65930	0.0407 ppb	0.65930	>999.9%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	35.3	7.2737 µg/L	0.19788	7.2737 ppb	0.19788	2.72%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	9.0	3.1288 µg/L	2.00985	3.1288 ppb	2.00985	64.24%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	-14.9	-0.2430 µg/L	0.73013	-0.2430 ppb	0.73013	300.47%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-9.5	-0.0414 µg/L	0.04672	-0.0414 ppb	0.04672	112.91%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	147.9	0.0440 µg/L	0.03169	0.0440 ppb	0.03169	72.04%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-42.4	-2.5486 µg/L	1.35112	-2.5486 ppb	1.35112	53.02%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	21.7	0.1488 µg/L	0.10645	0.1488 ppb	0.10645	71.55%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	17.2	0.2319 µg/L	0.05984	0.2319 ppb	0.05984	25.81%

Cr	267.716†	-32.2	-0.2698 µg/L	0.14373	-0.2698 ppb	0.14373	53.27%
QC value within limits for Co 228.616 Recovery = Not calculated							
Cu	324.752†	-39.4	-0.1666 µg/L	0.27327	-0.1666 ppb	0.27327	164.06%
QC value within limits for Cr 267.716 Recovery = Not calculated							
Fe	238.204 Radial†	34.3	2.3054 µg/L	1.11984	2.3054 ppb	1.11984	48.57%
QC value within limits for Cu 324.752 Recovery = Not calculated							
K	766.490 Radial†	164.1	67.521 µg/L	8.7540	67.521 ppb	8.7540	12.96%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
Mg	279.077 IEC†	9.2	3.7804 µg/L	1.87409	3.7804 ppb	1.87409	49.57%
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mn	257.610†	23.9	0.0317 µg/L	0.02590	0.0317 ppb	0.02590	81.64%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mo	202.031†	5.0	0.1592 µg/L	0.23731	0.1592 ppb	0.23731	149.11%
QC value within limits for Mn 257.610 Recovery = Not calculated							
Na	589.592 Radial†	232.2	35.206 µg/L	16.1307	35.206 ppb	16.1307	45.82%
QC value within limits for Mo 202.031 Recovery = Not calculated							
Ni	231.604†	2.6	0.0324 µg/L	0.07220	0.0324 ppb	0.07220	222.64%
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
P	214.914†	3.4	0.8250 µg/L	1.46608	0.8250 ppb	1.46608	177.70%
QC value within limits for Ni 231.604 Recovery = Not calculated							
Pb	220.353†	-5.0	-0.3056 µg/L	0.63802	-0.3056 ppb	0.63802	208.80%
QC value within limits for P 214.914 Recovery = Not calculated							
S	181.975 Axial†	4.4	3.6058 µg/L	3.28371	3.6058 ppb	3.28371	91.07%
QC value within limits for Pb 220.353 Recovery = Not calculated							
Sb	206.836†	1.7	0.2360 µg/L	0.32585	0.2360 ppb	0.32585	138.10%
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Se	196.026†	-1.7	-0.675 µg/L	4.9659	-0.675 ppb	4.9659	736.21%
QC value within limits for Sb 206.836 Recovery = Not calculated							
SiO2†		-75.3	-8.0701 µg/L	1.39574	-8.0701 ppb	1.39574	17.30%
QC value within limits for Se 196.026 Recovery = Not calculated							
Si	251.611†	-140.2	-2.2759 µg/L	1.62935	-2.2759 ppb	1.62935	71.59%
QC value within limits for SiO2 Recovery = Not calculated							
Sn	189.927†	10.5	0.7292 µg/L	0.65610	0.7292 ppb	0.65610	89.98%
QC value within limits for Si 251.611 Recovery = Not calculated							
Sr	421.552†	44.3	0.1023 µg/L	0.02870	0.1023 ppb	0.02870	28.05%
QC value within limits for Sn 189.927 Recovery = Not calculated							
Ti	334.940†	-59.5	-0.0594 µg/L	0.00835	-0.0594 ppb	0.00835	14.06%
QC value within limits for Sr 421.552 Recovery = Not calculated							
Tl	190.801†	5.6	0.7496 µg/L	1.33288	0.7496 ppb	1.33288	177.82%
QC value within limits for Ti 334.940 Recovery = Not calculated							
U	409.014†	-20.9	-1.2953 µg/L	5.65273	-1.2953 ppb	5.65273	436.40%
QC value within limits for Tl 190.801 Recovery = Not calculated							
V	292.402†	48.4	0.2565 µg/L	0.54704	0.2565 ppb	0.54704	213.25%
QC value within limits for U 409.014 Recovery = Not calculated							
Zn	213.857†	-1.3	-0.0084 µg/L	0.02204	-0.0084 ppb	0.02204	262.12%
QC value within limits for V 292.402 Recovery = Not calculated							
QC value within limits for Zn 213.857 Recovery = Not calculated							

All analyte(s) passed QC.

=====  
Analysis Begun

Start Time: 3/30/2010 16:57:39

Plasma On Time: 3/29/2010 18:07:58

Logged In Analyst: optima4

Technique: ICP Continuous

Spectrometer Model: Optima 7300 DV, S/N 077C0022701 Autosampler Model: AS-93plus

Sample Information File: C:\pe\optima4\Sample Information\033010.sif

Batch ID:

Results Data Set: 033010B

Results Library: C:\pe\optima4\Results\Results.mdb

Sequence No.: 1

Autosampler Location: 7

Sample ID: CCV

Date Collected: 3/30/2010 16:57:41

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	Conc. Units	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	149199.2	149199.2	101 %			16:58:14
1	Al 396.153Radial†	25133.4	24965.6	5121.0 µg/L		5121.0 ppb	16:58:14
1	Ca 317.933Radial†	86291.1	84801.1	5102.3 µg/L		5102.3 ppb	16:58:14
1	Fe 238.204 Radial†	76166.0	75326.2	5068.6 µg/L		5068.6 ppb	16:58:14
1	K 766.490 Radial†	13784.3	12344.9	5076.5 µg/L		5076.5 ppb	16:58:14
1	Mg 279.077 IEC†	13036.4	12747.9	5237.5 µg/L		5237.5 ppb	16:58:14
1	Na 589.592 Radial†	68524.1	66688.5	10122 µg/L		10122 ppb	16:58:14
1	Sr 421.552†	222273.3	220454.9	508.52 µg/L		508.52 ppb	16:58:12
1	Sc 361.383	1729437.6	1729437.6	98.539 %			16:58:26
1	Y 371.029	1036324.1	1036324.1	97.395 %			16:58:26
1	Ag 328.068†	127198.8	125637.5	505.71 µg/L		505.71 ppb	16:58:26
1	As 188.979†	1397.3	1435.7	508.27 µg/L		508.27 ppb	16:58:46
1	B 249.677†	33342.8	30606.8	497.26 µg/L		497.26 ppb	16:58:26
1	Ba 233.527†	113491.6	115336.4	502.60 µg/L		502.60 ppb	16:58:26
1	Be 313.107†	1652988.4	1678280.3	503.82 µg/L		503.82 ppb	16:58:26
1	Cd 226.502†	72383.9	73567.0	504.82 µg/L		504.82 ppb	16:58:26
1	Co 228.616†	36695.5	37411.9	506.26 µg/L		506.26 ppb	16:58:26
1	Cr 267.716†	58963.9	59659.5	502.53 µg/L		502.53 ppb	16:58:26
1	Cu 324.752†	119751.4	118737.8	501.93 µg/L		501.93 ppb	16:58:26
1	Mn 257.610†	372127.1	377468.5	504.31 µg/L		504.31 ppb	16:58:26
1	Mo 202.031†	15742.5	16010.6	509.75 µg/L		509.75 ppb	16:58:46
1	Ni 231.604†	39503.2	40166.7	505.21 µg/L		505.21 ppb	16:58:26
1	P 214.914†	10540.5	10691.7	2541.6 µg/L		2541.6 ppb	16:58:46
1	Pb 220.353†	8315.2	8341.5	512.35 µg/L		512.35 ppb	16:58:46
1	S 181.975 Axial†	1305.5	1237.2	1018.5 µg/L		1018.5 ppb	16:58:46
1	Sb 206.836†	3903.1	3882.9	510.37 µg/L		510.37 ppb	16:58:46
1	Se 196.026†	1270.8	1276.1	513 µg/L		513 ppb	16:58:46
1	SiO2†	51353.9	50362.1	5366.1 µg/L		5366.1 ppb	16:58:26
1	Si 251.611†	154170.2	155507.2	2506.9 µg/L		2506.9 ppb	16:58:26
1	Sn 189.927†	7252.0	7362.1	511.38 µg/L		511.38 ppb	16:58:46
1	Ti 334.940†	496039.9	502508.3	502.77 µg/L		502.77 ppb	16:58:26
1	Tl 190.801†	3625.2	3796.0	517.69 µg/L		517.69 ppb	16:58:46
1	U 409.014†	7556.6	7952.4	528.59 µg/L		528.59 ppb	16:58:26
1	V 292.402†	92970.0	94038.4	506.04 µg/L		506.04 ppb	16:58:26
1	Zn 213.857†	80596.8	81267.1	500.06 µg/L		500.06 ppb	16:58:26
2	Sc RADIAL	148989.5	148989.5	101 %			16:58:18
2	Al 396.153Radial†	25062.8	24930.6	5113.9 µg/L		5113.9 ppb	16:58:18
2	Ca 317.933Radial†	86125.4	84757.0	5099.6 µg/L		5099.6 ppb	16:58:18
2	Fe 238.204 Radial†	76239.8	75505.7	5080.7 µg/L		5080.7 ppb	16:58:18
2	K 766.490 Radial†	13841.1	12420.6	5107.7 µg/L		5107.7 ppb	16:58:18
2	Mg 279.077 IEC†	12962.5	12692.8	5214.9 µg/L		5214.9 ppb	16:58:18
2	Na 589.592 Radial†	68179.9	66442.6	10085 µg/L		10085 ppb	16:58:18
2	Sr 421.552†	224560.5	223034.3	514.47 µg/L		514.47 ppb	16:58:16
2	Sc 361.383	1722198.8	1722198.8	98.127 %			16:58:50
2	Y 371.029	1031025.1	1031025.1	96.897 %			16:58:50
2	Ag 328.068†	126600.1	125570.0	505.41 µg/L		505.41 ppb	16:58:50
2	As 188.979†	1403.2	1447.6	512.43 µg/L		512.43 ppb	16:59:10



2	B 249.677†	33328.8	30734.7	499.34 µg/L	499.34 ppb	16:58:50
2	Ba 233.527†	113413.5	115740.8	504.36 µg/L	504.36 ppb	16:58:50
2	Be 313.107†	1647320.5	1679555.1	504.19 µg/L	504.19 ppb	16:58:50
2	Cd 226.502†	72125.6	73612.6	505.13 µg/L	505.13 ppb	16:58:50
2	Co 228.616†	36642.3	37514.2	507.64 µg/L	507.64 ppb	16:58:50
2	Cr 267.716†	58539.2	59478.2	501.02 µg/L	501.02 ppb	16:58:50
2	Cu 324.752†	119171.5	118657.7	501.57 µg/L	501.57 ppb	16:58:50
2	Mn 257.610†	370900.9	377806.2	504.76 µg/L	504.76 ppb	16:58:50
2	Mo 202.031†	15642.4	15975.8	508.64 µg/L	508.64 ppb	16:59:10
2	Ni 231.604†	39353.6	40182.8	505.41 µg/L	505.41 ppb	16:58:50
2	P 214.914†	10458.6	10653.2	2532.4 µg/L	2532.4 ppb	16:59:10
2	Pb 220.353†	8291.2	8352.5	513.04 µg/L	513.04 ppb	16:59:10
2	S 181.975 Axial†	1304.5	1241.7	1022.1 µg/L	1022.1 ppb	16:59:10
2	Sb 206.836†	3865.5	3861.2	507.54 µg/L	507.54 ppb	16:59:10
2	Se 196.026†	1274.2	1284.9	517 µg/L	517 ppb	16:59:10
2	SiO2†	51206.2	50430.6	5373.5 µg/L	5373.5 ppb	16:58:50
2	Si 251.611†	154157.0	156151.3	2517.4 µg/L	2517.4 ppb	16:58:50
2	Sn 189.927†	7197.1	7337.0	509.65 µg/L	509.65 ppb	16:59:10
2	Ti 334.940†	494104.3	502651.7	502.92 µg/L	502.92 ppb	16:58:50
2	Tl 190.801†	3603.4	3789.3	516.79 µg/L	516.79 ppb	16:59:10
2	U 409.014†	7104.1	7523.4	501.74 µg/L	501.74 ppb	16:58:50
2	V 292.402†	92620.1	94078.5	506.21 µg/L	506.21 ppb	16:58:50
2	Zn 213.857†	80704.2	81720.3	502.87 µg/L	502.87 ppb	16:58:50
3	Sc RADIAL	150443.3	150443.3	102 %		16:58:22
3	Al 396.153Radial†	25179.7	24805.1	5087.6 µg/L	5087.6 ppb	16:58:22
3	Ca 317.933Radial†	86584.9	84382.8	5077.1 µg/L	5077.1 ppb	16:58:22
3	Fe 238.204 Radial†	76433.0	74964.6	5044.3 µg/L	5044.3 ppb	16:58:22
3	K 766.490 Radial†	13825.6	12272.6	5046.8 µg/L	5046.8 ppb	16:58:22
3	Mg 279.077 IEC†	12960.3	12566.4	5163.3 µg/L	5163.3 ppb	16:58:22
3	Na 589.592 Radial†	68734.3	66333.7	10068 µg/L	10068 ppb	16:58:22
3	Sr 421.552†	224638.4	220957.7	509.68 µg/L	509.68 ppb	16:58:20
3	Sc 361.383	1703789.7	1703789.7	97.078 %		16:59:13
3	Y 371.029	1020310.6	1020310.6	95.890 %		16:59:13
3	Ag 328.068†	125841.1	126182.1	507.85 µg/L	507.85 ppb	16:59:13
3	As 188.979†	1399.0	1458.8	516.35 µg/L	516.35 ppb	16:59:33
3	B 249.677†	32938.4	30699.6	498.77 µg/L	498.77 ppb	16:59:13
3	Ba 233.527†	112303.0	115845.7	504.83 µg/L	504.83 ppb	16:59:13
3	Be 313.107†	1628078.9	1677873.0	503.68 µg/L	503.68 ppb	16:59:13
3	Cd 226.502†	71318.3	73575.2	504.88 µg/L	504.88 ppb	16:59:13
3	Co 228.616†	36250.4	37514.0	507.64 µg/L	507.64 ppb	16:59:13
3	Cr 267.716†	58103.9	59674.4	502.68 µg/L	502.68 ppb	16:59:13
3	Cu 324.752†	118475.5	119252.9	504.07 µg/L	504.07 ppb	16:59:13
3	Mn 257.610†	367522.6	378410.2	505.57 µg/L	505.57 ppb	16:59:13
3	Mo 202.031†	15766.0	16275.3	518.16 µg/L	518.16 ppb	16:59:33
3	Ni 231.604†	39046.2	40299.5	506.88 µg/L	506.88 ppb	16:59:13
3	P 214.914†	10539.3	10851.5	2579.6 µg/L	2579.6 ppb	16:59:33
3	Pb 220.353†	8372.9	8528.0	523.81 µg/L	523.81 ppb	16:59:33
3	S 181.975 Axial†	1311.9	1263.7	1040.2 µg/L	1040.2 ppb	16:59:33
3	Sb 206.836†	3881.3	3920.0	515.38 µg/L	515.38 ppb	16:59:33
3	Se 196.026†	1263.3	1287.7	518 µg/L	518 ppb	16:59:33
3	SiO2†	50416.9	50181.4	5346.4 µg/L	5346.4 ppb	16:59:13
3	Si 251.611†	151913.4	155537.7	2507.2 µg/L	2507.2 ppb	16:59:13
3	Sn 189.927†	7245.0	7465.6	518.55 µg/L	518.55 ppb	16:59:33
3	Ti 334.940†	489941.5	503804.1	504.08 µg/L	504.08 ppb	16:59:13
3	Tl 190.801†	3643.4	3870.2	527.67 µg/L	527.67 ppb	16:59:33
3	U 409.014†	6984.8	7478.9	499.01 µg/L	499.01 ppb	16:59:13
3	V 292.402†	91797.2	94250.7	507.24 µg/L	507.24 ppb	16:59:13
3	Zn 213.857†	79534.1	81403.7	500.90 µg/L	500.90 ppb	16:59:13

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Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1718475.4	97.915 %	0.7534			0.77%
Sc RADIAL	149544.0	101 %	0.5			0.53%
Y 371.029	1029219.9	96.727 %	0.7667			0.79%
Ag 328.068†	125796.5	506.32 µg/L	1.332	506.32 ppb	1.332	0.26%
QC value within limits for Ag 328.068 Recovery = 101.26%						
Al 396.153Radial†	24900.4	5107.5 µg/L	17.62	5107.5 ppb	17.62	0.34%
QC value within limits for Al 396.153Radial Recovery = 102.15%						
As 188.979†	1447.4	512.35 µg/L	4.040	512.35 ppb	4.040	0.79%

QC value within limits for As 188.979 Recovery = 102.47%							
B 249.677†	30680.4	498.46 µg/L	1.075	498.46 ppb	1.075	0.22%	
QC value within limits for B 249.677 Recovery = 99.69%							
Ba 233.527†	115641.0	503.93 µg/L	1.172	503.93 ppb	1.172	0.23%	
QC value within limits for Ba 233.527 Recovery = 100.79%							
Be 313.107†	1678569.5	503.90 µg/L	0.262	503.90 ppb	0.262	0.05%	
QC value within limits for Be 313.107 Recovery = 100.78%							
Ca 317.933Radial†	84647.0	5093.0 µg/L	13.83	5093.0 ppb	13.83	0.27%	
QC value within limits for Ca 317.933Radial Recovery = 101.86%							
Cd 226.502†	73584.9	504.94 µg/L	0.166	504.94 ppb	0.166	0.03%	
QC value within limits for Cd 226.502 Recovery = 100.99%							
Co 228.616†	37480.1	507.18 µg/L	0.799	507.18 ppb	0.799	0.16%	
QC value within limits for Co 228.616 Recovery = 101.44%							
Cr 267.716†	59604.0	502.08 µg/L	0.915	502.08 ppb	0.915	0.18%	
QC value within limits for Cr 267.716 Recovery = 100.42%							
Cu 324.752†	118882.8	502.52 µg/L	1.352	502.52 ppb	1.352	0.27%	
QC value within limits for Cu 324.752 Recovery = 100.50%							
Fe 238.204 Radial†	75265.5	5064.5 µg/L	18.55	5064.5 ppb	18.55	0.37%	
QC value within limits for Fe 238.204 Radial Recovery = 101.29%							
K 766.490 Radial†	12346.1	5077.0 µg/L	30.44	5077.0 ppb	30.44	0.60%	
QC value within limits for K 766.490 Radial Recovery = 101.54%							
Mg 279.077 IEC†	12669.1	5205.2 µg/L	38.04	5205.2 ppb	38.04	0.73%	
QC value within limits for Mg 279.077 IEC Recovery = 104.10%							
Mn 257.610†	377895.0	504.88 µg/L	0.639	504.88 ppb	0.639	0.13%	
QC value within limits for Mn 257.610 Recovery = 100.98%							
Mo 202.031†	16087.2	512.18 µg/L	5.210	512.18 ppb	5.210	1.02%	
QC value within limits for Mo 202.031 Recovery = 102.44%							
Na 589.592 Radial†	66488.3	10092 µg/L	27.6	10092 ppb	27.6	0.27%	
QC value within limits for Na 589.592 Radial Recovery = 100.92%							
Ni 231.604†	40216.3	505.83 µg/L	0.911	505.83 ppb	0.911	0.18%	
QC value within limits for Ni 231.604 Recovery = 101.17%							
P 214.914†	10732.2	2551.2 µg/L	25.06	2551.2 ppb	25.06	0.98%	
QC value within limits for P 214.914 Recovery = 102.05%							
Pb 220.353†	8407.3	516.40 µg/L	6.426	516.40 ppb	6.426	1.24%	
QC value within limits for Pb 220.353 Recovery = 103.28%							
S 181.975 Axial†	1247.5	1026.9 µg/L	11.66	1026.9 ppb	11.66	1.14%	
QC value within limits for S 181.975 Axial Recovery = 102.69%							
Sb 206.836†	3888.0	511.10 µg/L	3.970	511.10 ppb	3.970	0.78%	
QC value within limits for Sb 206.836 Recovery = 102.22%							
Se 196.026†	1282.9	516 µg/L	2.4	516 ppb	2.4	0.47%	
QC value within limits for Se 196.026 Recovery = 103.15%							
SiO2†	50324.7	5362.0 µg/L	13.99	5362.0 ppb	13.99	0.26%	
QC value within limits for SiO2 Recovery = 100.27%							
Si 251.611†	155732.1	2510.5 µg/L	5.94	2510.5 ppb	5.94	0.24%	
QC value within limits for Si 251.611 Recovery = 100.42%							
Sn 189.927†	7388.2	513.19 µg/L	4.721	513.19 ppb	4.721	0.92%	
QC value within limits for Sn 189.927 Recovery = 102.64%							
Sr 421.552†	221482.3	510.89 µg/L	3.154	510.89 ppb	3.154	0.62%	
QC value within limits for Sr 421.552 Recovery = 102.18%							
Ti 334.940†	502988.1	503.26 µg/L	0.719	503.26 ppb	0.719	0.14%	
QC value within limits for Ti 334.940 Recovery = 100.65%							
Tl 190.801†	3818.5	520.72 µg/L	6.041	520.72 ppb	6.041	1.16%	
QC value within limits for Tl 190.801 Recovery = 104.14%							
U 409.014†	7651.6	509.78 µg/L	16.349	509.78 ppb	16.349	3.21%	
QC value within limits for U 409.014 Recovery = 101.96%							
V 292.402†	94122.5	506.50 µg/L	0.646	506.50 ppb	0.646	0.13%	
QC value within limits for V 292.402 Recovery = 101.30%							
Zn 213.857†	81463.7	501.27 µg/L	1.442	501.27 ppb	1.442	0.29%	
QC value within limits for Zn 213.857 Recovery = 100.25%							
All analyte(s) passed QC.							

Sequence No.: 2  
 Sample ID: CCB  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 8  
 Date Collected: 3/30/2010 16:59:41  
 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	149825.5	149825.5	101 %		17:00:10
1	Al 396.153Radial†	-41.4	22.0	4.5262 µg/L	4.5262 ppb	17:00:30
1	Ca 317.933Radial†	670.9	-36.0	-2.1668 µg/L	-2.1668 ppb	17:00:30
1	Fe 238.204 Radial†	145.6	2.9	0.1962 µg/L	0.1962 ppb	17:00:30
1	K 766.490 Radial†	1426.9	95.1	39.120 µg/L	39.120 ppb	17:00:10
1	Mg 279.077 IEC†	176.4	5.2	2.1463 µg/L	2.1463 ppb	17:00:30
1	Na 589.592 Radial†	1352.8	128.1	19.422 µg/L	19.422 ppb	17:00:10
1	Sr 421.552†	-227.6	-3.0	-0.0068 µg/L	-0.0068 ppb	17:00:10
1	Sc 361.383	1764835.2	1764835.2	100.56 %		17:01:32
1	Y 371.029	1069900.1	1069900.1	100.55 %		17:01:32
1	Ag 328.068†	3768.3	300.4	1.1888 µg/L	1.1888 ppb	17:01:34
1	As 188.979†	-11.1	6.7	2.3224 µg/L	2.3224 ppb	17:01:54
1	B 249.677†	3263.2	14.8	0.2419 µg/L	0.2419 ppb	17:01:54
1	Ba 233.527†	-157.4	5.6	0.0243 µg/L	0.0243 ppb	17:01:54
1	Be 313.107†	-752.2	37.6	0.0106 µg/L	0.0106 ppb	17:01:34
1	Cd 226.502†	-106.0	4.6	0.0315 µg/L	0.0315 ppb	17:01:54
1	Co 228.616†	-180.5	-7.1	-0.0954 µg/L	-0.0954 ppb	17:01:54
1	Cr 267.716†	189.3	9.7	0.0836 µg/L	0.0836 ppb	17:01:54
1	Cu 324.752†	2837.6	32.9	0.1369 µg/L	0.1369 ppb	17:01:34
1	Mn 257.610†	168.5	-8.0	-0.0108 µg/L	-0.0108 ppb	17:01:54
1	Mo 202.031†	-27.2	7.7	0.2445 µg/L	0.2445 ppb	17:01:54
1	Ni 231.604†	-71.9	6.4	0.0807 µg/L	0.0807 ppb	17:01:54
1	P 214.914†	26.2	21.1	5.0333 µg/L	5.0333 ppb	17:01:54
1	Pb 220.353†	90.4	-7.1	-0.4327 µg/L	-0.4327 ppb	17:01:54
1	S 181.975 Axial†	89.0	0.8	0.6968 µg/L	0.6968 ppb	17:01:54
1	Sb 206.836†	80.1	1.6	0.2148 µg/L	0.2148 ppb	17:01:54
1	Se 196.026†	12.1	-1.5	-0.605 µg/L	-0.605 ppb	17:01:54
1	SiO2†	1691.2	-71.3	-7.6443 µg/L	-7.6443 ppb	17:01:54
1	Si 251.611†	802.7	-150.3	-2.4405 µg/L	-2.4405 ppb	17:01:54
1	Sn 189.927†	5.6	8.1	0.5622 µg/L	0.5622 ppb	17:01:54
1	Ti 334.940†	648.3	-240.9	-0.2406 µg/L	-0.2406 ppb	17:01:34
1	Tl 190.801†	-113.4	4.3	0.5811 µg/L	0.5811 ppb	17:01:54
1	U 409.014†	-322.0	-36.5	-2.2948 µg/L	-2.2948 ppb	17:01:34
1	V 292.402†	274.6	-36.7	-0.1933 µg/L	-0.1933 ppb	17:01:34
1	Zn 213.857†	538.9	11.3	0.0695 µg/L	0.0695 ppb	17:01:54
2	Sc RADIAL	154358.9	154358.9	104 %		17:00:32
2	Al 396.153Radial†	-68.9	-3.1	-0.6411 µg/L	-0.6411 ppb	17:00:52
2	Ca 317.933Radial†	649.5	-75.9	-4.5693 µg/L	-4.5693 ppb	17:00:52
2	Fe 238.204 Radial†	162.3	14.7	0.9910 µg/L	0.9910 ppb	17:00:52
2	K 766.490 Radial†	1496.9	120.8	49.716 µg/L	49.716 ppb	17:00:32
2	Mg 279.077 IEC†	172.4	-3.7	-1.5219 µg/L	-1.5219 ppb	17:00:52
2	Na 589.592 Radial†	1529.5	258.2	39.157 µg/L	39.157 ppb	17:00:32
2	Sr 421.552†	-214.6	16.2	0.0373 µg/L	0.0373 ppb	17:00:32
2	Sc 361.383	1766136.3	1766136.3	100.63 %		17:01:56
2	Y 371.029	1069430.1	1069430.1	100.51 %		17:01:56
2	Ag 328.068†	3213.8	-253.4	-1.0074 µg/L	-1.0074 ppb	17:01:58
2	As 188.979†	-17.3	0.5	0.1849 µg/L	0.1849 ppb	17:02:19
2	B 249.677†	3210.2	-40.2	-0.6565 µg/L	-0.6565 ppb	17:02:19
2	Ba 233.527†	-146.3	16.8	0.0730 µg/L	0.0730 ppb	17:02:19
2	Be 313.107†	-621.4	168.1	0.0500 µg/L	0.0500 ppb	17:01:58
2	Cd 226.502†	-122.3	-11.5	-0.0790 µg/L	-0.0790 ppb	17:02:19
2	Co 228.616†	-167.3	6.2	0.0841 µg/L	0.0841 ppb	17:02:19
2	Cr 267.716†	156.6	-22.9	-0.1919 µg/L	-0.1919 ppb	17:02:19
2	Cu 324.752†	2744.8	-61.3	-0.2595 µg/L	-0.2595 ppb	17:01:58
2	Mn 257.610†	188.7	11.9	0.0160 µg/L	0.0160 ppb	17:02:19
2	Mo 202.031†	-39.1	-4.1	-0.1293 µg/L	-0.1293 ppb	17:02:19
2	Ni 231.604†	-60.6	17.7	0.2227 µg/L	0.2227 ppb	17:02:19
2	P 214.914†	0.6	-4.4	-1.0487 µg/L	-1.0487 ppb	17:02:19
2	Pb 220.353†	74.0	-23.4	-1.4319 µg/L	-1.4319 ppb	17:02:19

2	S 181.975 Axial†	92.2	3.9	3.2288 µg/L	3.2288 ppb	17:02:19
2	Sb 206.836†	77.6	-0.9	-0.1180 µg/L	-0.1180 ppb	17:02:19
2	Se 196.026†	1.0	-12.5	-5.02 µg/L	-5.02 ppb	17:02:19
2	SiO2†	1685.5	-78.2	-8.3720 µg/L	-8.3720 ppb	17:02:19
2	Si 251.611†	746.6	-206.7	-3.3496 µg/L	-3.3496 ppb	17:02:19
2	Sn 189.927†	10.3	12.7	0.8809 µg/L	0.8809 ppb	17:02:19
2	Ti 334.940†	719.8	-170.3	-0.1700 µg/L	-0.1700 ppb	17:01:58
2	Tl 190.801†	-109.7	8.1	1.0864 µg/L	1.0864 ppb	17:02:19
2	U 409.014†	-308.2	-22.5	-1.4032 µg/L	-1.4032 ppb	17:01:58
2	V 292.402†	337.0	25.0	0.1297 µg/L	0.1297 ppb	17:01:58
2	Zn 213.857†	520.1	-7.7	-0.0490 µg/L	-0.0490 ppb	17:02:19
3	Sc RADIAL	151821.2	151821.2	103 %		17:00:54
3	Al 396.153Radial†	-35.8	28.1	5.7660 µg/L	5.7660 ppb	17:01:14
3	Ca 317.933Radial†	649.0	-66.1	-3.9762 µg/L	-3.9762 ppb	17:01:14
3	Fe 238.204 Radial†	152.9	8.2	0.5536 µg/L	0.5536 ppb	17:01:14
3	K 766.490 Radial†	1341.6	-6.4	-2.6589 µg/L	-2.6589 ppb	17:00:54
3	Mg 279.077 IEC†	176.0	2.6	1.0683 µg/L	1.0683 ppb	17:01:14
3	Na 589.592 Radial†	1495.8	249.9	37.942 µg/L	37.942 ppb	17:00:54
3	Sc 421.552†	-325.5	-95.3	-0.2198 µg/L	-0.2198 ppb	17:00:54
3	Sc 361.383	1779477.4	1779477.4	101.39 %		17:02:21
3	Y 371.029	1078016.4	1078016.4	101.31 %		17:02:21
3	Ag 328.068†	3389.2	-104.4	-0.4278 µg/L	-0.4278 ppb	17:02:23
3	As 188.979†	-17.2	0.7	0.2529 µg/L	0.2529 ppb	17:02:43
3	B 249.677†	3239.4	-35.4	-0.5764 µg/L	-0.5764 ppb	17:02:43
3	Ba 233.527†	-167.6	-3.1	-0.0137 µg/L	-0.0137 ppb	17:02:43
3	Be 313.107†	-756.0	40.0	0.0096 µg/L	0.0096 ppb	17:02:23
3	Cd 226.502†	-100.9	10.5	0.0724 µg/L	0.0724 ppb	17:02:43
3	Co 228.616†	-186.2	-11.2	-0.1522 µg/L	-0.1522 ppb	17:02:43
3	Cr 267.716†	173.8	-7.2	-0.0544 µg/L	-0.0544 ppb	17:02:43
3	Cu 324.752†	2874.1	45.7	0.1860 µg/L	0.1860 ppb	17:02:23
3	Mn 257.610†	174.4	-3.5	-0.0048 µg/L	-0.0048 ppb	17:02:43
3	Mo 202.031†	-24.1	11.0	0.3501 µg/L	0.3501 ppb	17:02:43
3	Ni 231.604†	-59.8	18.9	0.2376 µg/L	0.2376 ppb	17:02:43
3	P 214.914†	11.8	6.6	1.5759 µg/L	1.5759 ppb	17:02:43
3	Pb 220.353†	73.9	-24.0	-1.4651 µg/L	-1.4651 ppb	17:02:43
3	S 181.975 Axial†	95.0	6.0	4.8862 µg/L	4.8862 ppb	17:02:43
3	Sb 206.836†	84.7	5.4	0.7191 µg/L	0.7191 ppb	17:02:43
3	Se 196.026†	13.3	-0.4	-0.175 µg/L	-0.175 ppb	17:02:43
3	SiO2†	1699.4	-77.0	-8.2473 µg/L	-8.2473 ppb	17:02:43
3	Si 251.611†	782.0	-177.4	-2.8742 µg/L	-2.8742 ppb	17:02:43
3	Sn 189.927†	-6.6	-4.0	-0.2753 µg/L	-0.2753 ppb	17:02:43
3	Ti 334.940†	871.2	-26.3	-0.0232 µg/L	-0.0232 ppb	17:02:23
3	Tl 190.801†	-113.4	5.2	0.6959 µg/L	0.6959 ppb	17:02:43
3	U 409.014†	-417.5	-128.0	-8.0312 µg/L	-8.0312 ppb	17:02:23
3	V 292.402†	265.4	-48.1	-0.2572 µg/L	-0.2572 ppb	17:02:23
3	Zn 213.857†	508.3	-23.2	-0.1456 µg/L	-0.1456 ppb	17:02:43

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1770149.6	100.86 %	0.462			0.46%
Sc RADIAL	152001.9	103 %	1.5			1.49%
Y 371.029	1072448.9	100.79 %	0.454			0.45%
Ag 328.068†	-19.2	-0.0821 µg/L	1.13817	-0.0821 ppb	1.13817	>999.9%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	15.6	3.2170 µg/L	3.39828	3.2170 ppb	3.39828	105.63%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	2.6	0.9201 µg/L	1.21495	0.9201 ppb	1.21495	132.05%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	-20.3	-0.3303 µg/L	0.49719	-0.3303 ppb	0.49719	150.52%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	6.4	0.0278 µg/L	0.04348	0.0278 ppb	0.04348	156.19%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	81.9	0.0234 µg/L	0.02306	0.0234 ppb	0.02306	98.58%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-59.3	-3.5708 µg/L	1.25151	-3.5708 ppb	1.25151	35.05%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	1.2	0.0083 µg/L	0.07832	0.0083 ppb	0.07832	948.51%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	-4.0	-0.0545 µg/L	0.12330	-0.0545 ppb	0.12330	226.30%

QC value within limits for Co 228.616	Recovery = Not calculated		
Cr 267.716†	-6.8 -0.0542 µg/L	0.13777 -0.0542 ppb	0.13777 254.07%
QC value within limits for Cr 267.716	Recovery = Not calculated		
Cu 324.752†	5.8 0.0212 µg/L	0.24425 0.0212 ppb	0.24425 >999.9%
QC value within limits for Cu 324.752	Recovery = Not calculated		
Fe 238.204 Radial†	8.6 0.5803 µg/L	0.39803 0.5803 ppb	0.39803 68.60%
QC value within limits for Fe 238.204 Radial	Recovery = Not calculated		
K 766.490 Radial†	69.8 28.726 µg/L	27.6913 28.726 ppb	27.6913 96.40%
QC value within limits for K 766.490 Radial	Recovery = Not calculated		
Mg 279.077 IEC†	1.4 0.5642 µg/L	1.88533 0.5642 ppb	1.88533 334.16%
QC value within limits for Mg 279.077 IEC	Recovery = Not calculated		
Mn 257.610†	0.1 0.0001 µg/L	0.01404 0.0001 ppb	0.01404 >999.9%
QC value within limits for Mn 257.610	Recovery = Not calculated		
Mo 202.031†	4.9 0.1551 µg/L	0.25191 0.1551 ppb	0.25191 162.41%
QC value within limits for Mo 202.031	Recovery = Not calculated		
Na 589.592 Radial†	212.0 32.174 µg/L	11.0603 32.174 ppb	11.0603 34.38%
QC value within limits for Na 589.592 Radial	Recovery = Not calculated		
Ni 231.604†	14.3 0.1804 µg/L	0.08661 0.1804 ppb	0.08661 48.02%
QC value within limits for Ni 231.604	Recovery = Not calculated		
P 214.914†	7.8 1.8535 µg/L	3.05049 1.8535 ppb	3.05049 164.58%
QC value within limits for P 214.914	Recovery = Not calculated		
Pb 220.353†	-18.2 -1.1099 µg/L	0.58669 -1.1099 ppb	0.58669 52.86%
QC value within limits for Pb 220.353	Recovery = Not calculated		
S 181.975 Axial†	3.6 2.9373 µg/L	2.10985 2.9373 ppb	2.10985 71.83%
QC value within limits for S 181.975 Axial	Recovery = Not calculated		
Sb 206.836†	2.0 0.2720 µg/L	0.42149 0.2720 ppb	0.42149 154.97%
QC value within limits for Sb 206.836	Recovery = Not calculated		
Se 196.026†	-4.8 -1.93 µg/L	2.683 -1.93 ppb	2.683 138.72%
QC value within limits for Se 196.026	Recovery = Not calculated		
SiO2†	-75.5 -8.0878 µg/L	0.38919 -8.0878 ppb	0.38919 4.81%
QC value within limits for SiO2	Recovery = Not calculated		
Si 251.611†	-178.1 -2.8881 µg/L	0.45468 -2.8881 ppb	0.45468 15.74%
QC value within limits for Si 251.611	Recovery = Not calculated		
Sn 189.927†	5.6 0.3892 µg/L	0.59721 0.3892 ppb	0.59721 153.43%
QC value within limits for Sn 189.927	Recovery = Not calculated		
Sr 421.552†	-27.4 -0.0631 µg/L	0.13749 -0.0631 ppb	0.13749 217.84%
QC value within limits for Sr 421.552	Recovery = Not calculated		
Ti 334.940†	-145.8 -0.1446 µg/L	0.11091 -0.1446 ppb	0.11091 76.69%
QC value within limits for Ti 334.940	Recovery = Not calculated		
Tl 190.801†	5.9 0.7878 µg/L	0.26491 0.7878 ppb	0.26491 33.63%
QC value within limits for Tl 190.801	Recovery = Not calculated		
U 409.014†	-62.3 -3.9097 µg/L	3.59701 -3.9097 ppb	3.59701 92.00%
QC value within limits for U 409.014	Recovery = Not calculated		
V 292.402†	-19.9 -0.1069 µg/L	0.20744 -0.1069 ppb	0.20744 194.00%
QC value within limits for V 292.402	Recovery = Not calculated		
Zn 213.857†	-6.5 -0.0417 µg/L	0.10773 -0.0417 ppb	0.10773 258.22%
QC value within limits for Zn 213.857	Recovery = Not calculated		

All analyte(s) passed QC.

Sequence No.: 9

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 3/30/2010 17:18:48

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	150447.1	150447.1	102 %		17:19:22
1	Al 396.153Radial†	25401.2	25022.2	5132.7 µg/L	5132.7 ppb	17:19:22
1	Ca 317.933Radial†	86818.2	84609.9	5090.8 µg/L	5090.8 ppb	17:19:22
1	Fe 238.204 Radial†	76699.6	75224.6	5061.8 µg/L	5061.8 ppb	17:19:22
1	K 766.490 Radial†	13929.7	12374.5	5088.7 µg/L	5088.7 ppb	17:19:22
1	Mg 279.077 IEC†	12998.2	12603.3	5178.2 µg/L	5178.2 ppb	17:19:22
1	Na 589.592 Radial†	68511.6	66113.1	10035 µg/L	10035 ppb	17:19:22
1	Sr 421.552†	228277.5	224527.9	517.91 µg/L	517.91 ppb	17:19:20
1	Sc 361.383	1756736.2	1756736.2	100.09 %		17:19:49
1	Y 371.029	1051471.7	1051471.7	98.818 %		17:19:49
1	Ag 328.068†	129586.2	126016.7	507.22 µg/L	507.22 ppb	17:19:49
1	As 188.979†	1431.2	1447.5	512.40 µg/L	512.40 ppb	17:20:09
1	B 249.677†	34020.5	30758.0	499.72 µg/L	499.72 ppb	17:19:49
1	Ba 233.527†	115660.0	115713.0	504.25 µg/L	504.25 ppb	17:19:49
1	Be 313.107†	1683097.6	1682293.9	505.01 µg/L	505.01 ppb	17:19:49
1	Cd 226.502†	73552.2	73592.8	505.00 µg/L	505.00 ppb	17:19:49
1	Co 228.616†	37413.9	37551.0	508.14 µg/L	508.14 ppb	17:19:49
1	Cr 267.716†	59943.1	59707.9	502.95 µg/L	502.95 ppb	17:19:49
1	Cu 324.752†	122063.0	119158.8	503.68 µg/L	503.68 ppb	17:19:49
1	Mn 257.610†	378802.5	378269.2	505.38 µg/L	505.38 ppb	17:19:49
1	Mo 202.031†	16008.3	16027.9	510.30 µg/L	510.30 ppb	17:20:09
1	Ni 231.604†	40299.1	40338.9	507.37 µg/L	507.37 ppb	17:19:49
1	P 214.914†	10741.1	10725.9	2549.7 µg/L	2549.7 ppb	17:20:09
1	Pb 220.353†	8473.7	8368.8	514.04 µg/L	514.04 ppb	17:20:09
1	S 181.975 Axial†	1329.1	1240.2	1020.9 µg/L	1020.9 ppb	17:20:09
1	Sb 206.836†	3973.9	3892.0	511.59 µg/L	511.59 ppb	17:20:09
1	Se 196.026†	1283.6	1268.8	510 µg/L	510 ppb	17:20:09
1	SiO2†	52268.2	50465.7	5377.2 µg/L	5377.2 ppb	17:19:49
1	Si 251.611†	156995.9	155899.0	2513.2 µg/L	2513.2 ppb	17:19:49
1	Sn 189.927†	7392.9	7388.5	513.21 µg/L	513.21 ppb	17:20:09
1	Ti 334.940†	505007.8	503645.4	503.92 µg/L	503.92 ppb	17:19:49
1	Tl 190.801†	3682.4	3796.0	517.71 µg/L	517.71 ppb	17:20:09
1	U 409.014†	7336.0	7612.8	507.49 µg/L	507.49 ppb	17:19:49
1	V 292.402†	94964.3	94564.8	508.83 µg/L	508.83 ppb	17:19:49
1	Zn 213.857†	82267.7	81665.5	502.52 µg/L	502.52 ppb	17:19:49
2	Sc RADIAL	153172.3	153172.3	104 %		17:19:26
2	Al 396.153Radial†	25695.3	24862.0	5099.7 µg/L	5099.7 ppb	17:19:26
2	Ca 317.933Radial†	88610.7	84822.1	5103.5 µg/L	5103.5 ppb	17:19:26
2	Fe 238.204 Radial†	78237.5	75368.0	5071.4 µg/L	5071.4 ppb	17:19:26
2	K 766.490 Radial†	14116.8	12311.6	5062.8 µg/L	5062.8 ppb	17:19:26
2	Mg 279.077 IEC†	13282.0	12649.9	5197.3 µg/L	5197.3 ppb	17:19:26
2	Na 589.592 Radial†	70025.6	66376.5	10075 µg/L	10075 ppb	17:19:26
2	Sr 421.552†	229523.7	221739.8	511.48 µg/L	511.48 ppb	17:19:24
2	Sc 361.383	1762706.8	1762706.8	100.43 %		17:20:12
2	Y 371.029	1055600.2	1055600.2	99.206 %		17:20:12
2	Ag 328.068†	130291.0	126280.0	508.30 µg/L	508.30 ppb	17:20:12
2	As 188.979†	1437.7	1449.1	512.97 µg/L	512.97 ppb	17:20:32
2	B 249.677†	34155.5	30777.4	500.03 µg/L	500.03 ppb	17:20:12
2	Ba 233.527†	116399.1	116057.5	505.75 µg/L	505.75 ppb	17:20:12
2	Be 313.107†	1693458.0	1686913.9	506.40 µg/L	506.40 ppb	17:20:12
2	Cd 226.502†	74111.5	73900.8	507.11 µg/L	507.11 ppb	17:20:12
2	Co 228.616†	37664.8	37674.2	509.81 µg/L	509.81 ppb	17:20:12
2	Cr 267.716†	60247.9	59808.5	503.80 µg/L	503.80 ppb	17:20:12
2	Cu 324.752†	122964.9	119643.7	505.74 µg/L	505.74 ppb	17:20:12
2	Mn 257.610†	381536.3	379709.3	507.31 µg/L	507.31 ppb	17:20:12
2	Mo 202.031†	16061.8	16027.0	510.27 µg/L	510.27 ppb	17:20:32
2	Ni 231.604†	40512.3	40414.9	508.33 µg/L	508.33 ppb	17:20:12
2	P 214.914†	10769.9	10718.3	2547.9 µg/L	2547.9 ppb	17:20:32
2	Pb 220.353†	8523.3	8389.5	515.30 µg/L	515.30 ppb	17:20:32

2	S 181.975 Axial†	1334.7	1241.2	1021.8 µg/L	1021.8 ppb	17:20:32
2	Sb 206.836†	3976.6	3881.3	510.17 µg/L	510.17 ppb	17:20:32
2	Se 196.026†	1295.2	1276.0	513 µg/L	513 ppb	17:20:32
2	SiO2†	52513.8	50533.4	5384.4 µg/L	5384.4 ppb	17:20:12
2	Si 251.611†	158194.5	156561.2	2524.0 µg/L	2524.0 ppb	17:20:12
2	Sn 189.927†	7405.6	7376.1	512.37 µg/L	512.37 ppb	17:20:32
2	Ti 334.940†	509340.5	506250.4	506.52 µg/L	506.52 ppb	17:20:12
2	Tl 190.801†	3689.5	3790.6	517.02 µg/L	517.02 ppb	17:20:32
2	U 409.014†	7505.9	7757.1	516.63 µg/L	516.63 ppb	17:20:12
2	V 292.402†	95608.6	94885.0	510.53 µg/L	510.53 ppb	17:20:12
2	Zn 213.857†	82875.7	81992.4	504.54 µg/L	504.54 ppb	17:20:12
3	Sc RADIAL	152045.9	152045.9	103 %		17:19:30
3	Al 396.153Radial†	25587.5	24940.8	5115.9 µg/L	5115.9 ppb	17:19:30
3	Ca 317.933Radial†	87880.1	84745.3	5098.9 µg/L	5098.9 ppb	17:19:30
3	Fe 238.204 Radial†	77397.9	75111.0	5054.1 µg/L	5054.1 ppb	17:19:30
3	K 766.490 Radial†	14139.5	12434.6	5113.4 µg/L	5113.4 ppb	17:19:30
3	Mg 279.077 IEC†	13163.6	12629.8	5189.1 µg/L	5189.1 ppb	17:19:30
3	Na 589.592 Radial†	69543.6	66408.6	10079 µg/L	10079 ppb	17:19:30
3	Sr 421.552†	226721.6	220656.4	508.98 µg/L	508.98 ppb	17:19:28
3	Sc 361.383	1744223.5	1744223.5	99.382 %		17:20:35
3	Y 371.029	1044447.8	1044447.8	98.158 %		17:20:35
3	Ag 328.068†	128861.6	126216.4	508.02 µg/L	508.02 ppb	17:20:35
3	As 188.979†	1418.6	1445.1	511.56 µg/L	511.56 ppb	17:20:55
3	B 249.677†	34051.2	31032.7	504.20 µg/L	504.20 ppb	17:20:35
3	Ba 233.527†	114922.7	115799.9	504.62 µg/L	504.62 ppb	17:20:35
3	Be 313.107†	1672379.2	1683571.6	505.40 µg/L	505.40 ppb	17:20:35
3	Cd 226.502†	73206.3	73771.8	506.23 µg/L	506.23 ppb	17:20:35
3	Co 228.616†	37218.9	37622.9	509.11 µg/L	509.11 ppb	17:20:35
3	Cr 267.716†	59519.2	59711.0	502.98 µg/L	502.98 ppb	17:20:35
3	Cu 324.752†	121680.7	119649.0	505.75 µg/L	505.75 ppb	17:20:35
3	Mn 257.610†	376948.2	379118.2	506.52 µg/L	506.52 ppb	17:20:35
3	Mo 202.031†	15874.2	16007.7	509.65 µg/L	509.65 ppb	17:20:55
3	Ni 231.604†	40030.7	40357.7	507.61 µg/L	507.61 ppb	17:20:35
3	P 214.914†	10643.0	10704.2	2544.5 µg/L	2544.5 ppb	17:20:55
3	Pb 220.353†	8430.7	8386.1	515.10 µg/L	515.10 ppb	17:20:55
3	S 181.975 Axial†	1321.8	1242.3	1022.7 µg/L	1022.7 ppb	17:20:55
3	Sb 206.836†	3916.5	3862.8	507.74 µg/L	507.74 ppb	17:20:55
3	Se 196.026†	1283.9	1278.3	514 µg/L	514 ppb	17:20:55
3	SiO2†	51951.5	50521.6	5383.2 µg/L	5383.2 ppb	17:20:35
3	Si 251.611†	156290.5	156314.4	2520.0 µg/L	2520.0 ppb	17:20:35
3	Sn 189.927†	7333.8	7381.9	512.77 µg/L	512.77 ppb	17:20:55
3	Ti 334.940†	502776.2	505019.3	505.29 µg/L	505.29 ppb	17:20:35
3	Tl 190.801†	3676.0	3816.0	520.41 µg/L	520.41 ppb	17:20:55
3	U 409.014†	7327.7	7657.0	510.29 µg/L	510.29 ppb	17:20:35
3	V 292.402†	94376.7	94654.2	509.30 µg/L	509.30 ppb	17:20:35
3	Zn 213.857†	81702.2	81686.1	502.64 µg/L	502.64 ppb	17:20:35

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1754555.5	99.970 %	0.5374			0.54%
Sc RADIAL	151888.5	103 %	0.9			0.90%
Y 371.029	1050506.6	98.728 %	0.5299			0.54%
Ag 328.068†	126171.0	507.85 µg/L	0.560	507.85 ppb	0.560	0.11%
QC value within limits for Ag 328.068 Recovery = 101.57%						
Al 396.153Radial†	24941.7	5116.1 µg/L	16.51	5116.1 ppb	16.51	0.32%
QC value within limits for Al 396.153Radial Recovery = 102.32%						
As 188.979†	1447.2	512.31 µg/L	0.710	512.31 ppb	0.710	0.14%
QC value within limits for As 188.979 Recovery = 102.46%						
B 249.677†	30856.0	501.32 µg/L	2.500	501.32 ppb	2.500	0.50%
QC value within limits for B 249.677 Recovery = 100.26%						
Ba 233.527†	115856.8	504.87 µg/L	0.781	504.87 ppb	0.781	0.15%
QC value within limits for Ba 233.527 Recovery = 100.97%						
Be 313.107†	1684259.8	505.60 µg/L	0.717	505.60 ppb	0.717	0.14%
QC value within limits for Be 313.107 Recovery = 101.12%						
Ca 317.933Radial†	84725.8	5097.7 µg/L	6.46	5097.7 ppb	6.46	0.13%
QC value within limits for Ca 317.933Radial Recovery = 101.95%						
Cd 226.502†	73755.1	506.11 µg/L	1.062	506.11 ppb	1.062	0.21%
QC value within limits for Cd 226.502 Recovery = 101.22%						
Co 228.616†	37616.0	509.02 µg/L	0.837	509.02 ppb	0.837	0.16%

QC value within limits for Co	228.616	Recovery = 101.80%			
Cr 267.716†	59742.5	503.24 µg/L	0.479	503.24 ppb	0.10%
QC value within limits for Cr	267.716	Recovery = 100.65%			
Cu 324.752†	119483.8	505.06 µg/L	1.190	505.06 ppb	0.24%
QC value within limits for Cu	324.752	Recovery = 101.01%			
Fe 238.204 Radial†	75234.5	5062.4 µg/L	8.67	5062.4 ppb	0.17%
QC value within limits for Fe	238.204 Radial	Recovery = 101.25%			
K 766.490 Radial†	12373.6	5088.3 µg/L	25.32	5088.3 ppb	0.50%
QC value within limits for K	766.490 Radial	Recovery = 101.77%			
Mg 279.077 IEC†	12627.7	5188.2 µg/L	9.58	5188.2 ppb	0.18%
QC value within limits for Mg	279.077 IEC	Recovery = 103.76%			
Mn 257.610†	379032.3	506.40 µg/L	0.967	506.40 ppb	0.19%
QC value within limits for Mn	257.610	Recovery = 101.28%			
Mo 202.031†	16020.9	510.07 µg/L	0.363	510.07 ppb	0.07%
QC value within limits for Mo	202.031	Recovery = 102.01%			
Na 589.592 Radial†	66299.4	10063 µg/L	24.6	10063 ppb	0.24%
QC value within limits for Na	589.592 Radial	Recovery = 100.63%			
Ni 231.604†	40370.5	507.77 µg/L	0.497	507.77 ppb	0.10%
QC value within limits for Ni	231.604	Recovery = 101.55%			
P 214.914†	10716.1	2547.4 µg/L	2.63	2547.4 ppb	0.10%
QC value within limits for P	214.914	Recovery = 101.89%			
Pb 220.353†	8381.5	514.81 µg/L	0.677	514.81 ppb	0.13%
QC value within limits for Pb	220.353	Recovery = 102.96%			
S 181.975 Axial†	1241.2	1021.8 µg/L	0.88	1021.8 ppb	0.09%
QC value within limits for S	181.975 Axial	Recovery = 102.18%			
Sb 206.836†	3878.7	509.83 µg/L	1.944	509.83 ppb	0.38%
QC value within limits for Sb	206.836	Recovery = 101.97%			
Se 196.026†	1274.4	512 µg/L	2.0	512 ppb	0.39%
QC value within limits for Se	196.026	Recovery = 102.47%			
SiO2†	50506.9	5381.6 µg/L	3.88	5381.6 ppb	0.07%
QC value within limits for SiO2		Recovery = 100.64%			
Si 251.611†	156258.2	2519.1 µg/L	5.42	2519.1 ppb	0.22%
QC value within limits for Si	251.611	Recovery = 100.76%			
Sn 189.927†	7382.2	512.78 µg/L	0.424	512.78 ppb	0.08%
QC value within limits for Sn	189.927	Recovery = 102.56%			
Sr 421.552†	222308.0	512.79 µg/L	4.608	512.79 ppb	0.90%
QC value within limits for Sr	421.552	Recovery = 102.56%			
Ti 334.940†	504971.7	505.24 µg/L	1.303	505.24 ppb	0.26%
QC value within limits for Ti	334.940	Recovery = 101.05%			
Tl 190.801†	3800.8	518.38 µg/L	1.791	518.38 ppb	0.35%
QC value within limits for Tl	190.801	Recovery = 103.68%			
U 409.014†	7675.7	511.47 µg/L	4.685	511.47 ppb	0.92%
QC value within limits for U	409.014	Recovery = 102.29%			
V 292.402†	94701.3	509.55 µg/L	0.881	509.55 ppb	0.17%
QC value within limits for V	292.402	Recovery = 101.91%			
Zn 213.857†	81781.3	503.23 µg/L	1.132	503.23 ppb	0.22%
QC value within limits for Zn	213.857	Recovery = 100.65%			

All analyte(s) passed QC.



Sequence No.: 10

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 3/30/2010 17:21:02

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	151612.6	151612.6	103 %		17:21:31
1	Al 396.153Radial†	-56.0	8.2	1.6789 µg/L	1.6789 ppb	17:21:51
1	Ca 317.933Radial†	667.4	-47.3	-2.8438 µg/L	-2.8438 ppb	17:21:51
1	Fe 238.204 Radial†	163.6	18.8	1.2660 µg/L	1.2660 ppb	17:21:51
1	K 766.490 Radial†	1549.7	198.2	81.562 µg/L	81.562 ppb	17:21:31
1	Mg 279.077 IEC†	197.6	23.9	9.8035 µg/L	9.8035 ppb	17:21:51
1	Na 589.592 Radial†	1504.5	260.3	39.459 µg/L	39.459 ppb	17:21:31
1	Sr 421.552†	-197.6	29.0	0.0669 µg/L	0.0669 ppb	17:21:31
1	Sc 361.383	1786652.6	1786652.6	101.80 %		17:22:39
1	Y 371.029	1082214.6	1082214.6	101.71 %		17:22:39
1	Ag 328.068†	3829.2	314.5	1.2474 µg/L	1.2474 ppb	17:22:41
1	As 188.979†	-12.2	5.7	1.9850 µg/L	1.9850 ppb	17:23:01
1	B 249.677†	3259.7	-28.3	-0.4609 µg/L	-0.4609 ppb	17:23:01
1	Ba 233.527†	-146.1	18.7	0.0814 µg/L	0.0814 ppb	17:23:01
1	Be 313.107†	-808.0	-8.2	-0.0030 µg/L	-0.0030 ppb	17:22:41
1	Cd 226.502†	-124.0	-11.8	-0.0807 µg/L	-0.0807 ppb	17:23:01
1	Co 228.616†	-172.8	2.7	0.0368 µg/L	0.0368 ppb	17:23:01
1	Cr 267.716†	168.4	-13.2	-0.1097 µg/L	-0.1097 ppb	17:23:01
1	Cu 324.752†	2861.6	22.1	0.0918 µg/L	0.0918 ppb	17:22:41
1	Mn 257.610†	203.5	24.3	0.0321 µg/L	0.0321 ppb	17:23:01
1	Mo 202.031†	-21.0	14.2	0.4512 µg/L	0.4512 ppb	17:23:01
1	Ni 231.604†	-43.7	35.0	0.4399 µg/L	0.4399 ppb	17:23:01
1	P 214.914†	16.6	11.3	2.6998 µg/L	2.6998 ppb	17:23:01
1	Pb 220.353†	85.6	-12.9	-0.7865 µg/L	-0.7865 ppb	17:23:01
1	S 181.975 Axial†	90.7	1.4	1.1791 µg/L	1.1791 ppb	17:23:01
1	Sb 206.836†	92.8	13.1	1.7284 µg/L	1.7284 ppb	17:23:01
1	Se 196.026†	20.3	6.4	2.54 µg/L	2.54 ppb	17:23:01
1	SiO2†	1716.5	-67.0	-7.1932 µg/L	-7.1932 ppb	17:23:01
1	Si 251.611†	786.3	-176.3	-2.8660 µg/L	-2.8660 ppb	17:23:01
1	Sn 189.927†	12.2	14.5	1.0060 µg/L	1.0060 ppb	17:23:01
1	Ti 334.940†	822.6	-77.5	-0.0777 µg/L	-0.0777 ppb	17:22:41
1	Tl 190.801†	-99.1	19.8	2.6569 µg/L	2.6569 ppb	17:23:01
1	U 409.014†	-320.3	-30.9	-1.9385 µg/L	-1.9385 ppb	17:22:41
1	V 292.402†	311.2	-4.2	-0.0194 µg/L	-0.0194 ppb	17:22:41
1	Zn 213.857†	539.4	5.3	0.0299 µg/L	0.0299 ppb	17:23:01
2	Sc RADIAL	151711.2	151711.2	103 %		17:21:53
2	Al 396.153Radial†	-61.3	3.2	0.6395 µg/L	0.6395 ppb	17:22:13
2	Ca 317.933Radial†	632.0	-82.1	-4.9402 µg/L	-4.9402 ppb	17:22:13
2	Fe 238.204 Radial†	152.2	7.6	0.5125 µg/L	0.5125 ppb	17:22:13
2	K 766.490 Radial†	1537.5	185.4	76.289 µg/L	76.289 ppb	17:21:53
2	Mg 279.077 IEC†	173.8	0.6	0.2447 µg/L	0.2447 ppb	17:22:13
2	Na 589.592 Radial†	1416.7	173.8	26.320 µg/L	26.320 ppb	17:21:53
2	Sr 421.552†	-295.9	-66.7	-0.1537 µg/L	-0.1537 ppb	17:21:53
2	Sc 361.383	1800964.8	1800964.8	102.61 %		17:23:03
2	Y 371.029	1089468.5	1089468.5	102.39 %		17:23:03
2	Ag 328.068†	3309.5	-221.9	-0.8860 µg/L	-0.8860 ppb	17:23:05
2	As 188.979†	-17.3	0.8	0.2871 µg/L	0.2871 ppb	17:23:26
2	B 249.677†	3208.8	-103.3	-1.6830 µg/L	-1.6830 ppb	17:23:26
2	Ba 233.527†	-167.1	-0.7	-0.0027 µg/L	-0.0027 ppb	17:23:26
2	Be 313.107†	-614.2	187.0	0.0548 µg/L	0.0548 ppb	17:23:05
2	Cd 226.502†	-73.2	38.7	0.2657 µg/L	0.2657 ppb	17:23:26
2	Co 228.616†	-188.1	-10.8	-0.1466 µg/L	-0.1466 ppb	17:23:26
2	Cr 267.716†	158.3	-24.3	-0.2015 µg/L	-0.2015 ppb	17:23:26
2	Cu 324.752†	2677.3	-179.9	-0.7614 µg/L	-0.7614 ppb	17:23:05
2	Mn 257.610†	177.7	-2.4	-0.0032 µg/L	-0.0032 ppb	17:23:26
2	Mo 202.031†	-24.4	11.0	0.3508 µg/L	0.3508 ppb	17:23:26
2	Ni 231.604†	-78.6	1.3	0.0163 µg/L	0.0163 ppb	17:23:26
2	P 214.914†	5.6	0.5	0.1210 µg/L	0.1210 ppb	17:23:26
2	Pb 220.353†	99.5	0.0	0.0062 µg/L	0.0062 ppb	17:23:26

2	S 181.975 Axial†	88.6	-1.3	-1.0766 µg/L	-1.0766 ppb	17:23:26
2	Sb 206.836†	81.5	1.3	0.1826 µg/L	0.1826 ppb	17:23:26
2	Se 196.026†	-3.8	-17.2	-6.90 µg/L	-6.90 ppb	17:23:26
2	SiO2†	1740.4	-57.1	-6.1143 µg/L	-6.1143 ppb	17:23:26
2	Si 251.611†	757.6	-210.4	-3.4098 µg/L	-3.4098 ppb	17:23:26
2	Sn 189.927†	-2.7	-0.1	-0.0082 µg/L	-0.0082 ppb	17:23:26
2	Ti 334.940†	623.6	-277.8	-0.2767 µg/L	-0.2767 ppb	17:23:05
2	Tl 190.801†	-113.2	6.7	0.9019 µg/L	0.9019 ppb	17:23:26
2	U 409.014†	-361.4	-68.4	-4.2789 µg/L	-4.2789 ppb	17:23:05
2	V 292.402†	336.0	17.6	0.0936 µg/L	0.0936 ppb	17:23:05
2	Zn 213.857†	519.1	-18.7	-0.1155 µg/L	-0.1155 ppb	17:23:26
3	Sc RADIAL	149965.0	149965.0	101 %		17:22:15
3	Al 396.153Radial†	-31.6	31.7	6.5334 µg/L	6.5334 ppb	17:22:35
3	Ca 317.933Radial†	652.8	-54.4	-3.2756 µg/L	-3.2756 ppb	17:22:35
3	Fe 238.204 Radial†	143.2	0.5	0.0329 µg/L	0.0329 ppb	17:22:35
3	K 766.490 Radial†	1418.5	85.5	35.164 µg/L	35.164 ppb	17:22:15
3	Mg 279.077 IEC†	153.3	-17.6	-7.2349 µg/L	-7.2349 ppb	17:22:35
3	Na 589.592 Radial†	1488.2	260.4	39.503 µg/L	39.503 ppb	17:22:15
3	Sr 421.552†	-208.2	16.4	0.0379 µg/L	0.0379 ppb	17:22:15
3	Sc 361.383	1752421.7	1752421.7	99.849 %		17:23:28
3	Y 371.029	1062426.9	1062426.9	99.848 %		17:23:28
3	Ag 328.068†	3395.4	-46.5	-0.1971 µg/L	-0.1971 ppb	17:23:30
3	As 188.979†	-14.9	2.7	0.9525 µg/L	0.9525 ppb	17:23:50
3	B 249.677†	3249.0	23.6	0.3844 µg/L	0.3844 ppb	17:23:50
3	Ba 233.527†	-163.8	-1.9	-0.0085 µg/L	-0.0085 ppb	17:23:50
3	Be 313.107†	-691.4	93.2	0.0254 µg/L	0.0254 ppb	17:23:30
3	Cd 226.502†	-84.5	25.4	0.1744 µg/L	0.1744 ppb	17:23:50
3	Co 228.616†	-169.0	3.2	0.0435 µg/L	0.0435 ppb	17:23:50
3	Cr 267.716†	148.8	-29.5	-0.2422 µg/L	-0.2422 ppb	17:23:50
3	Cu 324.752†	2779.8	-4.9	-0.0279 µg/L	-0.0279 ppb	17:23:30
3	Mn 257.610†	176.4	1.1	0.0018 µg/L	0.0018 ppb	17:23:50
3	Mo 202.031†	-30.5	4.2	0.1327 µg/L	0.1327 ppb	17:23:50
3	Ni 231.604†	-69.8	8.0	0.1010 µg/L	0.1010 ppb	17:23:50
3	P 214.914†	30.9	26.0	6.1996 µg/L	6.1996 ppb	17:23:50
3	Pb 220.353†	101.9	5.1	0.3202 µg/L	0.3202 ppb	17:23:50
3	S 181.975 Axial†	94.9	7.3	6.0180 µg/L	6.0180 ppb	17:23:50
3	Sb 206.836†	85.1	7.1	0.9397 µg/L	0.9397 ppb	17:23:50
3	Se 196.026†	15.4	1.8	0.725 µg/L	0.725 ppb	17:23:50
3	SiO2†	1680.4	-70.2	-7.5145 µg/L	-7.5145 ppb	17:23:50
3	Si 251.611†	760.4	-187.1	-3.0316 µg/L	-3.0316 ppb	17:23:50
3	Sn 189.927†	-0.2	2.4	0.1634 µg/L	0.1634 ppb	17:23:50
3	Ti 334.940†	528.0	-356.8	-0.3534 µg/L	-0.3534 ppb	17:23:30
3	Tl 190.801†	-100.9	16.0	2.1437 µg/L	2.1437 ppb	17:23:50
3	U 409.014†	-418.3	-135.2	-8.4743 µg/L	-8.4743 ppb	17:23:30
3	V 292.402†	281.8	-27.6	-0.1515 µg/L	-0.1515 ppb	17:23:30
3	Zn 213.857†	523.6	-0.2	-0.0020 µg/L	-0.0020 ppb	17:23:50

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1780013.1	101.42 %	1.421			1.40%
Sc RADIAL	151096.3	102 %	0.7			0.65%
Y 371.029	1078036.7	101.32 %	1.315			1.30%
Ag 328.068†	15.3	0.0548 µg/L	1.08877	0.0548 ppb	1.08877	>999.9%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	14.4	2.9506 µg/L	3.14602	2.9506 ppb	3.14602	106.62%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	3.1	1.0749 µg/L	0.85558	1.0749 ppb	0.85558	79.60%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	-36.0	-0.5865 µg/L	1.03942	-0.5865 ppb	1.03942	177.22%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	5.4	0.0234 µg/L	0.05028	0.0234 ppb	0.05028	214.84%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	90.7	0.0257 µg/L	0.02894	0.0257 ppb	0.02894	112.47%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-61.3	-3.6865 µg/L	1.10699	-3.6865 ppb	1.10699	30.03%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	17.4	0.1198 µg/L	0.17957	0.1198 ppb	0.17957	149.88%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	-1.6	-0.0221 µg/L	0.10788	-0.0221 ppb	0.10788	488.25%

QC value within limits for Co 228.616	Recovery = Not calculated		
Cr 267.716†	-22.3 -0.1845 µg/L	0.06787 -0.1845 ppb	0.06787 36.80%
QC value within limits for Cr 267.716	Recovery = Not calculated		
Cu 324.752†	-54.2 -0.2325 µg/L	0.46196 -0.2325 ppb	0.46196 198.68%
QC value within limits for Cu 324.752	Recovery = Not calculated		
Fe 238.204 Radial†	9.0 0.6038 µg/L	0.62161 0.6038 ppb	0.62161 102.94%
QC value within limits for Fe 238.204 Radial	Recovery = Not calculated		
K 766.490 Radial†	156.3 64.338 µg/L	25.4031 64.338 ppb	25.4031 39.48%
QC value within limits for K 766.490 Radial	Recovery = Not calculated		
Mg 279.077 IEC†	2.3 0.9378 µg/L	8.54036 0.9378 ppb	8.54036 910.72%
QC value within limits for Mg 279.077 IEC	Recovery = Not calculated		
Mn 257.610†	7.7 0.0102 µg/L	0.01910 0.0102 ppb	0.01910 186.81%
QC value within limits for Mn 257.610	Recovery = Not calculated		
Mo 202.031†	9.8 0.3116 µg/L	0.16283 0.3116 ppb	0.16283 52.26%
QC value within limits for Mo 202.031	Recovery = Not calculated		
Na 589.592 Radial†	231.5 35.094 µg/L	7.5987 35.094 ppb	7.5987 21.65%
QC value within limits for Na 589.592 Radial	Recovery = Not calculated		
Ni 231.604†	14.8 0.1857 µg/L	0.22414 0.1857 ppb	0.22414 120.67%
QC value within limits for Ni 231.604	Recovery = Not calculated		
P 214.914†	12.6 3.0068 µg/L	3.05088 3.0068 ppb	3.05088 101.47%
QC value within limits for P 214.914	Recovery = Not calculated		
Pb 220.353†	-2.6 -0.1534 µg/L	0.57034 -0.1534 ppb	0.57034 371.90%
QC value within limits for Pb 220.353	Recovery = Not calculated		
S 181.975 Axial†	2.5 2.0402 µg/L	3.62485 2.0402 ppb	3.62485 177.67%
QC value within limits for S 181.975 Axial	Recovery = Not calculated		
Sb 206.836†	7.2 0.9502 µg/L	0.77295 0.9502 ppb	0.77295 81.34%
QC value within limits for Sb 206.836	Recovery = Not calculated		
Se 196.026†	-3.0 -1.21 µg/L	5.010 -1.21 ppb	5.010 413.51%
QC value within limits for Se 196.026	Recovery = Not calculated		
SiO2†	-64.7 -6.9407 µg/L	0.73346 -6.9407 ppb	0.73346 10.57%
QC value within limits for SiO2	Recovery = Not calculated		
Si 251.611†	-191.3 -3.1025 µg/L	0.27874 -3.1025 ppb	0.27874 8.98%
QC value within limits for Si 251.611	Recovery = Not calculated		
Sn 189.927†	5.6 0.3871 µg/L	0.54288 0.3871 ppb	0.54288 140.26%
QC value within limits for Sn 189.927	Recovery = Not calculated		
Sr 421.552†	-7.1 -0.0163 µg/L	0.11990 -0.0163 ppb	0.11990 735.65%
QC value within limits for Sr 421.552	Recovery = Not calculated		
Ti 334.940†	-237.4 -0.2359 µg/L	0.14230 -0.2359 ppb	0.14230 60.32%
QC value within limits for Ti 334.940	Recovery = Not calculated		
Tl 190.801†	14.2 1.9008 µg/L	0.90235 1.9008 ppb	0.90235 47.47%
QC value within limits for Tl 190.801	Recovery = Not calculated		
U 409.014†	-78.2 -4.8972 µg/L	3.31148 -4.8972 ppb	3.31148 67.62%
QC value within limits for U 409.014	Recovery = Not calculated		
V 292.402†	-4.7 -0.0257 µg/L	0.12269 -0.0257 ppb	0.12269 476.71%
QC value within limits for V 292.402	Recovery = Not calculated		
Zn 213.857†	-4.5 -0.0292 µg/L	0.07644 -0.0292 ppb	0.07644 261.65%
QC value within limits for Zn 213.857	Recovery = Not calculated		

All analyte(s) passed QC.

Sequence No.: 11

Sample ID: 1202065055|962580|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 143

Date Collected: 3/30/2010 17:23:57

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202065055|962580|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	150370.1	150370.1	102 %		17:24:29
1	Al 396.153Radial†	-26.5	36.9	7.6001 µg/L	7.6001 ppb	17:24:49
1	Ca 317.933Radial†	747.6	37.0	2.2239 µg/L	2.2239 ppb	17:24:49
1	Fe 238.204 Radial†	181.4	37.7	2.5338 µg/L	2.5338 ppb	17:24:49
1	K 766.490 Radial†	1375.3	39.2	16.134 µg/L	16.134 ppb	17:24:29
1	Mg 279.077 IEC†	190.9	18.9	7.7450 µg/L	7.7450 ppb	17:24:49
1	Na 589.592 Radial†	1471.0	239.5	36.351 µg/L	36.351 ppb	17:24:29
1	Sr 421.552†	-132.4	91.5	0.2110 µg/L	0.2110 ppb	17:24:29
1	Sc 361.383	1789169.7	1789169.7	101.94 %		17:25:51
1	Y 371.029	1079375.9	1079375.9	101.44 %		17:25:51
1	Ag 328.068†	3466.4	-46.8	-0.1951 µg/L	-0.1951 ppb	17:25:53
1	As 188.979†	-14.4	3.6	1.2425 µg/L	1.2425 ppb	17:26:13
1	B 249.677†	3268.2	-24.4	-0.3981 µg/L	-0.3981 ppb	17:26:13
1	Ba 233.527†	-153.6	11.5	0.0501 µg/L	0.0501 ppb	17:26:13
1	Be 313.107†	-844.0	-42.3	-0.0163 µg/L	-0.0163 ppb	17:25:53
1	Cd 226.502†	-88.6	23.1	0.1586 µg/L	0.1586 ppb	17:26:13
1	Co 228.616†	-183.2	-7.3	-0.0988 µg/L	-0.0988 ppb	17:26:13
1	Cr 267.716†	170.6	-11.2	-0.0848 µg/L	-0.0848 ppb	17:26:13
1	Cu 324.752†	2762.8	-78.8	-0.3413 µg/L	-0.3413 ppb	17:25:53
1	Mn 257.610†	303.9	122.5	0.1635 µg/L	0.1635 ppb	17:26:13
1	Mo 202.031†	-38.3	-2.8	-0.0876 µg/L	-0.0876 ppb	17:26:13
1	Ni 231.604†	-62.6	16.4	0.2068 µg/L	0.2068 ppb	17:26:13
1	P 214.914†	25.4	19.9	4.7588 µg/L	4.7588 ppb	17:26:13
1	Pb 220.353†	68.5	-29.7	-1.8115 µg/L	-1.8115 ppb	17:26:13
1	S 181.975 Axial†	100.1	10.5	8.6187 µg/L	8.6187 ppb	17:26:13
1	Sb 206.836†	95.0	15.1	1.9792 µg/L	1.9792 ppb	17:26:13
1	Se 196.026†	9.7	-4.0	-1.62 µg/L	-1.62 ppb	17:26:13
1	SiO2†	1963.1	172.6	18.464 µg/L	18.464 ppb	17:26:13
1	Si 251.611†	1487.9	510.9	8.2684 µg/L	8.2684 ppb	17:25:53
1	Sn 189.927†	0.9	3.4	0.2354 µg/L	0.2354 ppb	17:26:13
1	Ti 334.940†	889.4	-13.1	-0.0088 µg/L	-0.0088 ppb	17:25:53
1	Tl 190.801†	-111.1	8.1	1.0888 µg/L	1.0888 ppb	17:26:13
1	U 409.014†	-483.2	-190.2	-11.888 µg/L	-11.888 ppb	17:25:53
1	V 292.402†	405.1	87.6	0.4553 µg/L	0.4553 ppb	17:25:53
1	Zn 213.857†	625.6	89.1	0.5517 µg/L	0.5517 ppb	17:26:13
2	Sc RADIAL	154693.2	154693.2	105 %		17:24:51
2	Al 396.153Radial†	-65.6	0.2	0.0422 µg/L	0.0422 ppb	17:25:11
2	Ca 317.933Radial†	706.6	-22.7	-1.3676 µg/L	-1.3676 ppb	17:25:11
2	Fe 238.204 Radial†	168.4	20.2	1.3615 µg/L	1.3615 ppb	17:25:11
2	K 766.490 Radial†	1294.9	-75.3	-31.009 µg/L	-31.009 ppb	17:24:51
2	Mg 279.077 IEC†	175.1	-1.4	-0.5888 µg/L	-0.5888 ppb	17:25:11
2	Na 589.592 Radial†	1547.1	271.9	41.307 µg/L	41.307 ppb	17:24:51
2	Sr 421.552†	-241.4	-9.1	-0.0209 µg/L	-0.0209 ppb	17:24:51
2	Sc 361.383	1787521.1	1787521.1	101.85 %		17:26:15
2	Y 371.029	1078920.1	1078920.1	101.40 %		17:26:15
2	Ag 328.068†	3462.8	-47.2	-0.1893 µg/L	-0.1893 ppb	17:26:17
2	As 188.979†	-15.2	2.7	0.9488 µg/L	0.9488 ppb	17:26:37
2	B 249.677†	3241.5	-47.7	-0.7767 µg/L	-0.7767 ppb	17:26:37
2	Ba 233.527†	-173.7	-8.4	-0.0369 µg/L	-0.0369 ppb	17:26:37
2	Be 313.107†	-881.5	-79.9	-0.0238 µg/L	-0.0238 ppb	17:26:17
2	Cd 226.502†	-115.6	-3.5	-0.0239 µg/L	-0.0239 ppb	17:26:37
2	Co 228.616†	-181.4	-5.6	-0.0764 µg/L	-0.0764 ppb	17:26:37
2	Cr 267.716†	162.7	-18.8	-0.1590 µg/L	-0.1590 ppb	17:26:37
2	Cu 324.752†	2880.8	39.5	0.1673 µg/L	0.1673 ppb	17:26:17
2	Mn 257.610†	295.1	114.1	0.1526 µg/L	0.1526 ppb	17:26:37
2	Mo 202.031†	-32.2	3.1	0.0989 µg/L	0.0989 ppb	17:26:37
2	Ni 231.604†	-63.1	15.9	0.1999 µg/L	0.1999 ppb	17:26:37
2	P 214.914†	24.5	19.1	4.5506 µg/L	4.5506 ppb	17:26:37
2	Pb 220.353†	90.5	-8.1	-0.4962 µg/L	-0.4962 ppb	17:26:37

2	S 181.975 Axial†	99.9	10.4	8.5253 µg/L	8.5253 ppb	17:26:37
2	Sb 206.836†	78.2	-1.3	-0.1636 µg/L	-0.1636 ppb	17:26:37
2	Se 196.026†	3.2	-10.4	-4.18 µg/L	-4.18 ppb	17:26:37
2	SiO2†	1944.7	156.3	16.709 µg/L	16.709 ppb	17:26:37
2	Si 251.611†	1554.7	577.9	9.3498 µg/L	9.3498 ppb	17:26:17
2	Sn 189.927†	2.9	5.4	0.3714 µg/L	0.3714 ppb	17:26:37
2	Ti 334.940†	806.4	-93.8	-0.0942 µg/L	-0.0942 ppb	17:26:17
2	Tl 190.801†	-113.0	6.2	0.8284 µg/L	0.8284 ppb	17:26:37
2	U 409.014†	-277.0	11.8	0.7281 µg/L	0.7281 ppb	17:26:17
2	V 292.402†	271.8	-42.9	-0.2272 µg/L	-0.2272 ppb	17:26:17
2	Zn 213.857†	615.1	79.3	0.4905 µg/L	0.4905 ppb	17:26:37
3	Sc RADIAL	152248.5	152248.5	103 %		17:25:13
3	Al 396.153Radial†	-33.8	30.1	6.1829 µg/L	6.1829 ppb	17:25:33
3	Ca 317.933Radial†	712.3	-6.3	-0.3804 µg/L	-0.3804 ppb	17:25:33
3	Fe 238.204 Radial†	170.7	25.0	1.6843 µg/L	1.6843 ppb	17:25:33
3	K 766.490 Radial†	1486.9	131.0	53.898 µg/L	53.898 ppb	17:25:13
3	Mg 279.077 IEC†	163.1	-10.5	-4.2876 µg/L	-4.2876 ppb	17:25:33
3	Na 589.592 Radial†	1431.3	183.2	27.767 µg/L	27.767 ppb	17:25:13
3	Sr 421.552†	-197.5	29.9	0.0690 µg/L	0.0690 ppb	17:25:13
3	Sc 361.383	1798411.2	1798411.2	102.47 %		17:26:39
3	Y 371.029	1084882.4	1084882.4	101.96 %		17:26:39
3	Ag 328.068†	3244.0	-281.3	-1.1115 µg/L	-1.1115 ppb	17:26:42
3	As 188.979†	-20.1	-1.9	-0.6735 µg/L	-0.6735 ppb	17:27:02
3	B 249.677†	3241.4	-67.1	-1.0927 µg/L	-1.0927 ppb	17:27:02
3	Ba 233.527†	-164.7	1.4	0.0063 µg/L	0.0063 ppb	17:27:02
3	Be 313.107†	-632.4	168.4	0.0511 µg/L	0.0511 ppb	17:26:42
3	Cd 226.502†	-102.8	9.7	0.0662 µg/L	0.0662 ppb	17:27:02
3	Co 228.616†	-191.1	-14.1	-0.1904 µg/L	-0.1904 ppb	17:27:02
3	Cr 267.716†	168.6	-14.0	-0.1193 µg/L	-0.1193 ppb	17:27:02
3	Cu 324.752†	2872.8	14.7	0.0634 µg/L	0.0634 ppb	17:26:42
3	Mn 257.610†	273.3	91.1	0.1219 µg/L	0.1219 ppb	17:27:02
3	Mo 202.031†	-27.1	8.3	0.2638 µg/L	0.2638 ppb	17:27:02
3	Ni 231.604†	-66.9	12.6	0.1585 µg/L	0.1585 ppb	17:27:02
3	P 214.914†	23.2	17.6	4.2055 µg/L	4.2055 ppb	17:27:02
3	Pb 220.353†	88.4	-10.7	-0.6539 µg/L	-0.6539 ppb	17:27:02
3	S 181.975 Axial†	90.0	0.2	0.1289 µg/L	0.1289 ppb	17:27:02
3	Sb 206.836†	81.0	1.0	0.1356 µg/L	0.1356 ppb	17:27:02
3	Se 196.026†	7.1	-6.6	-2.65 µg/L	-2.65 ppb	17:27:02
3	SiO2†	1967.1	166.5	17.797 µg/L	17.797 ppb	17:27:02
3	Si 251.611†	1595.7	608.6	9.8420 µg/L	9.8420 ppb	17:26:42
3	Sn 189.927†	9.6	11.9	0.8217 µg/L	0.8217 ppb	17:27:02
3	Ti 334.940†	1030.3	119.9	0.1198 µg/L	0.1198 ppb	17:26:42
3	Tl 190.801†	-126.0	-5.8	-0.7806 µg/L	-0.7806 ppb	17:27:02
3	U 409.014†	-260.2	29.8	1.8904 µg/L	1.8904 ppb	17:26:42
3	V 292.402†	387.1	68.0	0.3641 µg/L	0.3641 ppb	17:26:42
3	Zn 213.857†	642.2	102.2	0.6326 µg/L	0.6326 ppb	17:27:02

Mean Data: 1202065055|962580|1

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1791700.7	102.09 %	%	0.334			0.33%
Sc RADIAL	152437.2	103 %	%	1.5			1.42%
Y 371.029	1081059.4	101.60 %	%	0.312			0.31%
Ag 328.068†	-125.1	-0.4986 µg/L	µg/L	0.53080	-0.4986 ppb	0.53080	106.45%
Al 396.153Radial†	22.4	4.6084 µg/L	µg/L	4.01744	4.6084 ppb	4.01744	87.18%
As 188.979†	1.5	0.5060 µg/L	µg/L	1.03191	0.5060 ppb	1.03191	203.95%
B 249.677†	-46.4	-0.7559 µg/L	µg/L	0.34777	-0.7559 ppb	0.34777	46.01%
Ba 233.527†	1.5	0.0065 µg/L	µg/L	0.04348	0.0065 ppb	0.04348	668.79%
Be 313.107†	15.4	0.0037 µg/L	µg/L	0.04123	0.0037 ppb	0.04123	>999.9%
Ca 317.933Radial†	2.6	0.1586 µg/L	µg/L	1.85546	0.1586 ppb	1.85546	>999.9%
Cd 226.502†	9.8	0.0670 µg/L	µg/L	0.09125	0.0670 ppb	0.09125	136.27%
Co 228.616†	-9.0	-0.1219 µg/L	µg/L	0.06038	-0.1219 ppb	0.06038	49.55%
Cr 267.716†	-14.7	-0.1210 µg/L	µg/L	0.03711	-0.1210 ppb	0.03711	30.66%
Cu 324.752†	-8.2	-0.0369 µg/L	µg/L	0.26875	-0.0369 ppb	0.26875	728.86%
Fe 238.204 Radial†	27.6	1.8599 µg/L	µg/L	0.60557	1.8599 ppb	0.60557	32.56%
K 766.490 Radial†	31.6	13.008 µg/L	µg/L	42.5402	13.008 ppb	42.5402	327.04%
Mg 279.077 IEC†	2.3	0.9562 µg/L	µg/L	6.16329	0.9562 ppb	6.16329	644.55%
Mn 257.610†	109.3	0.1460 µg/L	µg/L	0.02153	0.1460 ppb	0.02153	14.75%
Mo 202.031†	2.9	0.0917 µg/L	µg/L	0.17585	0.0917 ppb	0.17585	191.76%
Na 589.592 Radial†	231.5	35.142 µg/L	µg/L	6.8506	35.142 ppb	6.8506	19.49%

Ni 231.604†	15.0	0.1884 µg/L	0.02613	0.1884 ppb	0.02613	13.87%
P 214.914†	18.9	4.5050 µg/L	0.27943	4.5050 ppb	0.27943	6.20%
Pb 220.353†	-16.2	-0.9872 µg/L	0.71818	-0.9872 ppb	0.71818	72.75%
S 181.975 Axial†	7.0	5.7577 µg/L	4.87483	5.7577 ppb	4.87483	84.67%
Sb 206.836†	4.9	0.6504 µg/L	1.16044	0.6504 ppb	1.16044	178.42%
Se 196.026†	-7.0	-2.82 µg/L	1.288	-2.82 ppb	1.288	45.72%
SiO2†	165.1	17.657 µg/L	0.8862	17.657 ppb	0.8862	5.02%
Si 251.611†	565.8	9.1534 µg/L	0.80500	9.1534 ppb	0.80500	8.79%
Sn 189.927†	6.9	0.4762 µg/L	0.30688	0.4762 ppb	0.30688	64.45%
Sr 421.552†	37.4	0.0864 µg/L	0.11693	0.0864 ppb	0.11693	135.39%
Ti 334.940†	4.3	0.0056 µg/L	0.10772	0.0056 ppb	0.10772	>999.9%
Tl 190.801†	2.8	0.3789 µg/L	1.01257	0.3789 ppb	1.01257	267.26%
U 409.014†	-49.5	-3.0898 µg/L	7.64147	-3.0898 ppb	7.64147	247.32%
V 292.402†	37.5	0.1974 µg/L	0.37053	0.1974 ppb	0.37053	187.69%
Zn 213.857†	90.2	0.5583 µg/L	0.07129	0.5583 ppb	0.07129	12.77%

Sequence No.: 12

Sample ID: 1202065056|962580|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 144

Date Collected: 3/30/2010 17:27:09

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202065056|962580|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	152492.7	152492.7	103 %		17:27:41
1	Al 396.153Radial†	25958.7	25227.9	5175.7 µg/L	5175.7 ppb	17:27:41
1	Ca 317.933Radial†	89451.6	86018.4	5175.5 µg/L	5175.5 ppb	17:27:41
1	Fe 238.204 Radial†	78319.8	75784.3	5099.4 µg/L	5099.4 ppb	17:27:41
1	K 766.490 Radial†	14436.7	12682.4	5216.2 µg/L	5216.2 ppb	17:27:41
1	Mg 279.077 IEC†	13513.4	12931.4	5312.4 µg/L	5312.4 ppb	17:27:41
1	Na 589.592 Radial†	36052.1	33743.0	5119.1 µg/L	5119.1 ppb	17:27:41
1	Sr 421.552†	230373.9	223551.3	515.66 µg/L	515.66 ppb	17:27:39
1	Sc 361.383	1799897.1	1799897.1	102.55 %		17:28:08
1	Y 371.029	1076262.5	1076262.5	101.15 %		17:28:08
1	Ag 328.068†	130657.7	123957.1	499.12 µg/L	499.12 ppb	17:28:08
1	As 188.979†	1457.3	1438.7	509.33 µg/L	509.33 ppb	17:28:28
1	B 249.677†	35003.2	30901.2	502.06 µg/L	502.06 ppb	17:28:08
1	Ba 233.527†	121321.0	118462.1	516.21 µg/L	516.21 ppb	17:28:08
1	Be 313.107†	1741849.8	1699261.1	510.11 µg/L	510.11 ppb	17:28:08
1	Cd 226.502†	75780.7	74003.7	507.82 µg/L	507.82 ppb	17:28:08
1	Co 228.616†	38302.2	37520.8	507.74 µg/L	507.74 ppb	17:28:08
1	Cr 267.716†	61793.3	60076.0	506.04 µg/L	506.04 ppb	17:28:08
1	Cu 324.752†	127129.6	121175.0	512.20 µg/L	512.20 ppb	17:28:08
1	Mn 257.610†	390573.3	380672.0	508.59 µg/L	508.59 ppb	17:28:08
1	Mo 202.031†	15963.6	15600.9	496.72 µg/L	496.72 ppb	17:28:28
1	Ni 231.604†	41842.2	40878.2	514.15 µg/L	514.15 ppb	17:28:08
1	P 214.914†	2227.2	2166.7	508.11 µg/L	508.11 ppb	17:28:28
1	Pb 220.353†	8589.0	8278.2	508.44 µg/L	508.44 ppb	17:28:28
1	S 181.975 Axial†	6428.6	6180.8	5070.8 µg/L	5070.8 ppb	17:28:28
1	Sb 206.836†	3999.1	3821.4	502.08 µg/L	502.08 ppb	17:28:28
1	Se 196.026†	1266.7	1221.6	491 µg/L	491 ppb	17:28:28
1	SiO2†	104216.9	99868.6	10663 µg/L	10663 ppb	17:28:08
1	Si 251.611†	317896.5	309031.8	4992.1 µg/L	4992.1 ppb	17:28:08
1	Sn 189.927†	7461.7	7278.4	505.60 µg/L	505.60 ppb	17:28:28
1	Ti 334.940†	518483.9	504687.4	504.94 µg/L	504.94 ppb	17:28:08
1	Tl 190.801†	3731.7	3755.8	512.37 µg/L	512.37 ppb	17:28:28
1	U 409.014†	7849.9	7938.2	528.18 µg/L	528.18 ppb	17:28:08
1	V 292.402†	98311.1	95553.2	513.96 µg/L	513.96 ppb	17:28:08
1	Zn 213.857†	83554.9	80949.7	498.02 µg/L	498.02 ppb	17:28:08
2	Sc RADIAL	152401.9	152401.9	103 %		17:27:45
2	Al 396.153Radial†	25799.1	25088.0	5146.5 µg/L	5146.5 ppb	17:27:45
2	Ca 317.933Radial†	89177.9	85804.6	5162.7 µg/L	5162.7 ppb	17:27:45
2	Fe 238.204 Radial†	77937.7	75458.9	5077.5 µg/L	5077.5 ppb	17:27:45
2	K 766.490 Radial†	14239.3	12499.3	5140.9 µg/L	5140.9 ppb	17:27:45
2	Mg 279.077 IEC†	13421.3	12849.9	5279.3 µg/L	5279.3 ppb	17:27:45
2	Na 589.592 Radial†	36333.1	34036.4	5163.8 µg/L	5163.8 ppb	17:27:45
2	Sr 421.552†	231747.7	225016.8	519.04 µg/L	519.04 ppb	17:27:43
2	Sc 361.383	1778801.4	1778801.4	101.35 %		17:28:31
2	Y 371.029	1064216.7	1064216.7	100.02 %		17:28:31
2	Ag 328.068†	128927.1	123760.5	498.30 µg/L	498.30 ppb	17:28:31
2	As 188.979†	1462.1	1460.3	516.89 µg/L	516.89 ppb	17:28:51
2	B 249.677†	34650.0	30957.5	502.98 µg/L	502.98 ppb	17:28:31
2	Ba 233.527†	119812.2	118376.4	515.84 µg/L	515.84 ppb	17:28:31
2	Be 313.107†	1715324.1	1693232.2	508.30 µg/L	508.30 ppb	17:28:31
2	Cd 226.502†	74641.2	73755.7	506.12 µg/L	506.12 ppb	17:28:31
2	Co 228.616†	37713.8	37383.3	505.88 µg/L	505.88 ppb	17:28:31
2	Cr 267.716†	60954.8	59963.3	505.10 µg/L	505.10 ppb	17:28:31
2	Cu 324.752†	125223.8	120764.7	510.46 µg/L	510.46 ppb	17:28:31
2	Mn 257.610†	384953.6	379643.9	507.22 µg/L	507.22 ppb	17:28:31
2	Mo 202.031†	16058.7	15879.3	505.57 µg/L	505.57 ppb	17:28:51
2	Ni 231.604†	41289.2	40816.4	513.38 µg/L	513.38 ppb	17:28:31
2	P 214.914†	2236.9	2202.0	516.56 µg/L	516.56 ppb	17:28:51
2	Pb 220.353†	8634.4	8422.3	517.29 µg/L	517.29 ppb	17:28:51

2	S 181.975 Axial†	6472.3	6298.3	5167.2 µg/L	5167.2 ppb	17:28:51
2	Sb 206.836†	4010.1	3878.5	509.73 µg/L	509.73 ppb	17:28:51
2	Se 196.026†	1281.1	1250.4	503 µg/L	503 ppb	17:28:51
2	SiO2†	102728.8	99605.5	10634 µg/L	10634 ppb	17:28:31
2	Si 251.611†	313381.5	308253.3	4979.3 µg/L	4979.3 ppb	17:28:31
2	Sn 189.927†	7519.7	7422.0	515.53 µg/L	515.53 ppb	17:28:51
2	Ti 334.940†	511003.0	503302.1	503.56 µg/L	503.56 ppb	17:28:31
2	Tl 190.801†	3757.8	3824.7	521.61 µg/L	521.61 ppb	17:28:51
2	U 409.014†	7621.9	7804.0	519.63 µg/L	519.63 ppb	17:28:31
2	V 292.402†	96700.1	95100.5	511.64 µg/L	511.64 ppb	17:28:31
2	Zn 213.857†	82179.1	80558.5	495.60 µg/L	495.60 ppb	17:28:31
3	Sc RADIAL	153475.3	153475.3	104 %		17:27:49
3	Al 396.153Radial†	26195.9	25295.2	5189.3 µg/L	5189.3 ppb	17:27:49
3	Ca 317.933Radial†	89933.6	85927.5	5170.0 µg/L	5170.0 ppb	17:27:49
3	Fe 238.204 Radial†	78845.5	75804.5	5100.8 µg/L	5100.8 ppb	17:27:49
3	K 766.490 Radial†	14394.9	12552.5	5162.8 µg/L	5162.8 ppb	17:27:49
3	Mg 279.077 IEC†	13483.3	12818.6	5266.3 µg/L	5266.3 ppb	17:27:49
3	Na 589.592 Radial†	36479.7	33931.2	5147.8 µg/L	5147.8 ppb	17:27:49
3	Sr 421.552†	233674.2	225300.3	519.69 µg/L	519.69 ppb	17:27:47
3	Sc 361.383	1787411.7	1787411.7	101.84 %		17:28:54
3	Y 371.029	1068271.6	1068271.6	100.40 %		17:28:54
3	Ag 328.068†	129184.5	123400.4	496.88 µg/L	496.88 ppb	17:28:54
3	As 188.979†	1477.9	1468.8	519.84 µg/L	519.84 ppb	17:29:14
3	B 249.677†	34594.6	30738.4	499.42 µg/L	499.42 ppb	17:28:54
3	Ba 233.527†	120425.0	118408.7	515.98 µg/L	515.98 ppb	17:28:54
3	Be 313.107†	1721702.1	1691342.0	507.74 µg/L	507.74 ppb	17:28:54
3	Cd 226.502†	74968.4	73722.3	505.88 µg/L	505.88 ppb	17:28:54
3	Co 228.616†	37706.2	37196.6	503.36 µg/L	503.36 ppb	17:28:54
3	Cr 267.716†	61176.3	59891.0	504.48 µg/L	504.48 ppb	17:28:54
3	Cu 324.752†	125890.8	120824.5	510.73 µg/L	510.73 ppb	17:28:54
3	Mn 257.610†	386313.8	379149.8	506.56 µg/L	506.56 ppb	17:28:54
3	Mo 202.031†	16051.3	15795.6	502.91 µg/L	502.91 ppb	17:29:14
3	Ni 231.604†	41298.3	40629.1	511.02 µg/L	511.02 ppb	17:28:54
3	P 214.914†	2204.9	2160.0	506.53 µg/L	506.53 ppb	17:29:14
3	Pb 220.353†	8648.2	8394.7	515.59 µg/L	515.59 ppb	17:29:14
3	S 181.975 Axial†	6496.6	6291.4	5161.5 µg/L	5161.5 ppb	17:29:14
3	Sb 206.836†	4022.2	3871.3	508.75 µg/L	508.75 ppb	17:29:14
3	Se 196.026†	1268.7	1232.2	495 µg/L	495 ppb	17:29:14
3	SiO2†	103208.0	99587.8	10633 µg/L	10633 ppb	17:28:54
3	Si 251.611†	314525.4	307887.0	4973.5 µg/L	4973.5 ppb	17:28:54
3	Sn 189.927†	7505.5	7372.3	512.09 µg/L	512.09 ppb	17:29:14
3	Ti 334.940†	512871.0	502707.5	502.96 µg/L	502.96 ppb	17:28:54
3	Tl 190.801†	3767.7	3816.6	520.52 µg/L	520.52 ppb	17:29:14
3	U 409.014†	7892.8	8033.8	534.01 µg/L	534.01 ppb	17:28:54
3	V 292.402†	97125.4	95058.5	511.39 µg/L	511.39 ppb	17:28:54
3	Zn 213.857†	82846.5	80823.3	497.26 µg/L	497.26 ppb	17:28:54

Mean Data: 1202065056|962580|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1788703.4	101.92 %	0.604			0.59%
Sc RADIAL	152790.0	103 %	0.4			0.39%
Y 371.029	1069583.6	100.52 %	0.576			0.57%
Ag 328.068†	123706.0	498.10 µg/L	1.131	498.10 ppb	1.131	0.23%
Al 396.153Radial†	25203.7	5170.5 µg/L	21.88	5170.5 ppb	21.88	0.42%
As 188.979†	1455.9	515.35 µg/L	5.420	515.35 ppb	5.420	1.05%
B 249.677†	30865.7	501.49 µg/L	1.849	501.49 ppb	1.849	0.37%
Ba 233.527†	118415.7	516.01 µg/L	0.188	516.01 ppb	0.188	0.04%
Be 313.107†	1694611.8	508.72 µg/L	1.241	508.72 ppb	1.241	0.24%
Ca 317.933Radial†	85916.8	5169.4 µg/L	6.46	5169.4 ppb	6.46	0.12%
Cd 226.502†	73827.2	506.60 µg/L	1.056	506.60 ppb	1.056	0.21%
Co 228.616†	37366.9	505.66 µg/L	2.201	505.66 ppb	2.201	0.44%
Cr 267.716†	59976.8	505.21 µg/L	0.787	505.21 ppb	0.787	0.16%
Cu 324.752†	120921.4	511.13 µg/L	0.938	511.13 ppb	0.938	0.18%
Fe 238.204 Radial†	75682.6	5092.6 µg/L	13.05	5092.6 ppb	13.05	0.26%
K 766.490 Radial†	12578.1	5173.3 µg/L	38.77	5173.3 ppb	38.77	0.75%
Mg 279.077 IEC†	12866.6	5286.0 µg/L	23.79	5286.0 ppb	23.79	0.45%
Mn 257.610†	379821.9	507.45 µg/L	1.037	507.45 ppb	1.037	0.20%
Mo 202.031†	15758.6	501.73 µg/L	4.544	501.73 ppb	4.544	0.91%
Na 589.592 Radial†	33903.6	5143.6 µg/L	22.61	5143.6 ppb	22.61	0.44%



Ni 231.604†	40774.6	512.85 µg/L	1.632	512.85 ppb	1.632	0.32%
P 214.914†	2176.3	510.40 µg/L	5.392	510.40 ppb	5.392	1.06%
Pb 220.353†	8365.1	513.77 µg/L	4.696	513.77 ppb	4.696	0.91%
S 181.975 Axial†	6256.8	5133.2 µg/L	54.07	5133.2 ppb	54.07	1.05%
Sb 206.836†	3857.1	506.85 µg/L	4.159	506.85 ppb	4.159	0.82%
Se 196.026†	1234.7	496 µg/L	5.8	496 ppb	5.8	1.17%
SiO2†	99687.3	10643 µg/L	17.0	10643 ppb	17.0	0.16%
Si 251.611†	308390.7	4981.6 µg/L	9.54	4981.6 ppb	9.54	0.19%
Sn 189.927†	7357.5	511.07 µg/L	5.044	511.07 ppb	5.044	0.99%
Sr 421.552†	224622.8	518.13 µg/L	2.166	518.13 ppb	2.166	0.42%
Ti 334.940†	503565.7	503.82 µg/L	1.016	503.82 ppb	1.016	0.20%
Tl 190.801†	3799.1	518.17 µg/L	5.047	518.17 ppb	5.047	0.97%
U 409.014†	7925.3	527.27 µg/L	7.229	527.27 ppb	7.229	1.37%
V 292.402†	95237.4	512.33 µg/L	1.414	512.33 ppb	1.414	0.28%
Zn 213.857†	80777.2	496.96 µg/L	1.236	496.96 ppb	1.236	0.25%

Sequence No.: 14

Sample ID: 1202065057|962580|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 146

Date Collected: 3/30/2010 17:32:20

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202065057|962580|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	157020.9	157020.9	106 %			17:32:50
1	Al 396.153Radial†	-37.2	27.9	5.7633 µg/L		5.7633 ppb	17:33:10
1	Ca 317.933Radial†	1340.1	563.6	33.913 µg/L		33.913 ppb	17:33:10
1	Fe 238.204 Radial†	243.0	88.1	5.9285 µg/L		5.9285 ppb	17:33:10
1	K 766.490 Radial†	2566.9	1103.8	454.25 µg/L		454.25 ppb	17:32:50
1	Mg 279.077 IEC†	192.3	12.3	5.0273 µg/L		5.0273 ppb	17:33:10
1	Na 589.592 Radial†	3123.0	1733.6	262.83 µg/L		262.83 ppb	17:32:50
1	Sr 421.552†	-116.9	111.6	0.2571 µg/L		0.2571 ppb	17:32:50
1	Sc 361.383	1809583.9	1809583.9	103.11 %			17:33:58
1	Y 371.029	1089975.5	1089975.5	102.44 %			17:33:58
1	Ag 328.068†	3350.4	-197.6	-0.7895 µg/L		-0.7895 ppb	17:34:00
1	As 188.979†	-16.3	1.9	0.6503 µg/L		0.6503 ppb	17:34:20
1	B 249.677†	4673.0	1301.9	21.226 µg/L		21.226 ppb	17:34:00
1	Ba 233.527†	-111.0	54.5	0.2370 µg/L		0.2370 ppb	17:34:20
1	Be 313.107†	-826.9	-16.4	-0.0052 µg/L		-0.0052 ppb	17:34:00
1	Cd 226.502†	-110.8	2.6	0.0171 µg/L		0.0171 ppb	17:34:20
1	Co 228.616†	-169.8	7.7	0.1041 µg/L		0.1041 ppb	17:34:20
1	Cr 267.716†	191.8	7.5	0.0636 µg/L		0.0636 ppb	17:34:20
1	Cu 324.752†	3186.0	301.0	1.2687 µg/L		1.2687 ppb	17:34:00
1	Mn 257.610†	711.9	514.9	0.6880 µg/L		0.6880 ppb	17:34:20
1	Mo 202.031†	-46.4	-10.3	-0.3259 µg/L		-0.3259 ppb	17:34:20
1	Ni 231.604†	-52.4	27.1	0.3410 µg/L		0.3410 ppb	17:34:20
1	P 214.914†	20.6	15.0	3.5650 µg/L		3.5650 ppb	17:34:20
1	Pb 220.353†	89.4	-10.2	-0.6277 µg/L		-0.6277 ppb	17:34:20
1	S 181.975 Axial†	135.7	43.9	35.988 µg/L		35.988 ppb	17:34:20
1	Sb 206.836†	67.5	-12.6	-1.6517 µg/L		-1.6517 ppb	17:34:20
1	Se 196.026†	17.1	3.0	1.20 µg/L		1.20 ppb	17:34:20
1	SiO2†	34746.8	31947.1	3417.9 µg/L		3417.9 ppb	17:34:00
1	Si 251.611†	102848.5	98801.9	1599.2 µg/L		1599.2 ppb	17:34:00
1	Sn 189.927†	10.7	12.9	0.8942 µg/L		0.8942 ppb	17:34:20
1	Ti 334.940†	959.7	45.2	0.0461 µg/L		0.0461 ppb	17:34:00
1	Tl 190.801†	-114.6	6.0	0.8033 µg/L		0.8033 ppb	17:34:20
1	U 409.014†	-309.4	-16.3	-1.0273 µg/L		-1.0273 ppb	17:34:00
1	V 292.402†	291.8	-26.8	-0.1468 µg/L		-0.1468 ppb	17:34:00
1	Zn 213.857†	766.8	219.1	1.3550 µg/L		1.3550 ppb	17:34:20
2	Sc RADIAL	155922.2	155922.2	105 %			17:33:12
2	Al 396.153Radial†	-20.7	43.3	8.9173 µg/L		8.9173 ppb	17:33:32
2	Ca 317.933Radial†	1372.3	603.1	36.284 µg/L		36.284 ppb	17:33:32
2	Fe 238.204 Radial†	255.4	101.4	6.8247 µg/L		6.8247 ppb	17:33:32
2	K 766.490 Radial†	2603.7	1155.7	475.60 µg/L		475.60 ppb	17:33:12
2	Mg 279.077 IEC†	214.4	34.5	14.159 µg/L		14.159 ppb	17:33:32
2	Na 589.592 Radial†	3040.1	1675.7	254.03 µg/L		254.03 ppb	17:33:12
2	Sr 421.552†	-58.1	166.5	0.3839 µg/L		0.3839 ppb	17:33:12
2	Sc 361.383	1814240.2	1814240.2	103.37 %			17:34:22
2	Y 371.029	1093172.0	1093172.0	102.74 %			17:34:22
2	Ag 328.068†	3595.6	31.2	0.1124 µg/L		0.1124 ppb	17:34:24
2	As 188.979†	-15.9	2.3	0.8136 µg/L		0.8136 ppb	17:34:45
2	B 249.677†	4440.7	1065.6	17.373 µg/L		17.373 ppb	17:34:24
2	Ba 233.527†	-131.6	34.8	0.1515 µg/L		0.1515 ppb	17:34:45
2	Be 313.107†	-729.8	79.6	0.0215 µg/L		0.0215 ppb	17:34:24
2	Cd 226.502†	-101.7	11.7	0.0795 µg/L		0.0795 ppb	17:34:45
2	Co 228.616†	-165.1	12.8	0.1723 µg/L		0.1723 ppb	17:34:45
2	Cr 267.716†	196.9	11.9	0.1065 µg/L		0.1065 ppb	17:34:45
2	Cu 324.752†	3085.1	195.6	0.8189 µg/L		0.8189 ppb	17:34:24
2	Mn 257.610†	661.7	464.5	0.6203 µg/L		0.6203 ppb	17:34:45
2	Mo 202.031†	-35.6	0.3	0.0115 µg/L		0.0115 ppb	17:34:45
2	Ni 231.604†	-57.8	22.0	0.2768 µg/L		0.2768 ppb	17:34:45
2	P 214.914†	3.9	-1.2	-0.2895 µg/L		-0.2895 ppb	17:34:45
2	Pb 220.353†	115.3	14.6	0.8990 µg/L		0.8990 ppb	17:34:45

2	S 181.975 Axial†	145.2	52.8	43.252 µg/L	43.252 ppb	17:34:45
2	Sb 206.836†	93.9	12.8	1.6733 µg/L	1.6733 ppb	17:34:45
2	Se 196.026†	17.6	3.5	1.38 µg/L	1.38 ppb	17:34:45
2	SiO2†	34626.1	31743.8	3396.1 µg/L	3396.1 ppb	17:34:24
2	Si 251.611†	102523.8	98231.8	1590.0 µg/L	1590.0 ppb	17:34:24
2	Sn 189.927†	11.4	13.6	0.9435 µg/L	0.9435 ppb	17:34:45
2	Ti 334.940†	1245.9	319.6	0.3233 µg/L	0.3233 ppb	17:34:24
2	Tl 190.801†	-127.9	-6.6	-0.8889 µg/L	-0.8889 ppb	17:34:45
2	U 409.014†	-426.6	-129.0	-8.0774 µg/L	-8.0774 ppb	17:34:24
2	V 292.402†	307.7	-12.2	-0.0705 µg/L	-0.0705 ppb	17:34:24
2	Zn 213.857†	754.5	205.3	1.2702 µg/L	1.2702 ppb	17:34:45
3	Sc RADIAL	155838.3	155838.3	105 %		17:33:34
3	Al 396.153Radial†	-31.5	33.0	6.7894 µg/L	6.7894 ppb	17:33:54
3	Ca 317.933Radial†	1353.1	585.6	35.234 µg/L	35.234 ppb	17:33:54
3	Fe 238.204 Radial†	246.6	93.2	6.2725 µg/L	6.2725 ppb	17:33:54
3	K 766.490 Radial†	2396.7	960.7	395.33 µg/L	395.33 ppb	17:33:34
3	Mg 279.077 IEC†	221.1	41.0	16.809 µg/L	16.809 ppb	17:33:54
3	Na 589.592 Radial†	3045.3	1682.2	255.08 µg/L	255.08 ppb	17:33:34
3	Sr 421.552†	-146.3	82.8	0.1908 µg/L	0.1908 ppb	17:33:34
3	Sc 361.383	1887679.6	1887679.6	107.56 %		17:34:47
3	Y 371.029	1135263.7	1135263.7	106.69 %		17:34:47
3	Ag 328.068†	3889.6	169.3	0.6573 µg/L	0.6573 ppb	17:34:49
3	As 188.979†	-7.9	10.4	3.6108 µg/L	3.6108 ppb	17:35:09
3	B 249.677†	4619.4	1064.6	17.357 µg/L	17.357 ppb	17:34:49
3	Ba 233.527†	-126.7	44.4	0.1931 µg/L	0.1931 ppb	17:35:09
3	Be 313.107†	-704.2	130.8	0.0362 µg/L	0.0362 ppb	17:34:49
3	Cd 226.502†	-96.5	20.3	0.1388 µg/L	0.1388 ppb	17:35:09
3	Co 228.616†	-183.6	1.7	0.0226 µg/L	0.0226 ppb	17:35:09
3	Cr 267.716†	158.7	-31.0	-0.2533 µg/L	-0.2533 ppb	17:35:09
3	Cu 324.752†	3312.8	291.1	1.2198 µg/L	1.2198 ppb	17:34:49
3	Mn 257.610†	655.9	434.2	0.5797 µg/L	0.5797 ppb	17:35:09
3	Mo 202.031†	-32.6	4.5	0.1433 µg/L	0.1433 ppb	17:35:09
3	Ni 231.604†	-59.2	22.9	0.2879 µg/L	0.2879 ppb	17:35:09
3	P 214.914†	23.5	16.8	4.0064 µg/L	4.0064 ppb	17:35:09
3	Pb 220.353†	118.2	12.9	0.8001 µg/L	0.8001 ppb	17:35:09
3	S 181.975 Axial†	139.6	42.1	34.545 µg/L	34.545 ppb	17:35:09
3	Sb 206.836†	76.5	-6.9	-0.9037 µg/L	-0.9037 ppb	17:35:09
3	Se 196.026†	6.4	-7.6	-3.05 µg/L	-3.05 ppb	17:35:09
3	SiO2†	34626.6	30441.0	3256.7 µg/L	3256.7 ppb	17:34:49
3	Si 251.611†	102049.9	93932.6	1520.4 µg/L	1520.4 ppb	17:34:49
3	Sn 189.927†	9.2	11.1	0.7651 µg/L	0.7651 ppb	17:35:09
3	Ti 334.940†	973.1	19.1	0.0229 µg/L	0.0229 ppb	17:34:49
3	Tl 190.801†	-114.1	11.0	1.4816 µg/L	1.4816 ppb	17:35:09
3	U 409.014†	-478.7	-161.3	-10.108 µg/L	-10.108 ppb	17:34:49
3	V 292.402†	300.5	-30.4	-0.1687 µg/L	-0.1687 ppb	17:34:49
3	Zn 213.857†	785.3	205.6	1.2715 µg/L	1.2715 ppb	17:35:09

Mean Data: 1202065057|962580|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1837167.9	104.68 %	2.496			2.38%
Sc RADIAL	156260.5	106 %	0.4			0.42%
Y 371.029	1106137.1	103.96 %	2.375			2.28%
Ag 328.068†	1.0	-0.0066 µg/L	0.73072	-0.0066 ppb	0.73072	>999.9%
Al 396.153Radial†	34.7	7.1567 µg/L	1.60873	7.1567 ppb	1.60873	22.48%
As 188.979†	4.8	1.6916 µg/L	1.66412	1.6916 ppb	1.66412	98.38%
B 249.677†	1144.0	18.652 µg/L	2.2294	18.652 ppb	2.2294	11.95%
Ba 233.527†	44.6	0.1939 µg/L	0.04272	0.1939 ppb	0.04272	22.03%
Be 313.107†	64.7	0.0175 µg/L	0.02100	0.0175 ppb	0.02100	120.17%
Ca 317.933Radial†	584.1	35.144 µg/L	1.1881	35.144 ppb	1.1881	3.38%
Cd 226.502†	11.5	0.0785 µg/L	0.06088	0.0785 ppb	0.06088	77.60%
Co 228.616†	7.4	0.0997 µg/L	0.07492	0.0997 ppb	0.07492	75.17%
Cr 267.716†	-3.9	-0.0277 µg/L	0.19649	-0.0277 ppb	0.19649	708.93%
Cu 324.752†	262.6	1.1025 µg/L	0.24681	1.1025 ppb	0.24681	22.39%
Fe 238.204 Radial†	94.2	6.3419 µg/L	0.45212	6.3419 ppb	0.45212	7.13%
K 766.490 Radial†	1073.4	441.73 µg/L	41.573	441.73 ppb	41.573	9.41%
Mg 279.077 IEC†	29.3	11.999 µg/L	6.1811	11.999 ppb	6.1811	51.52%
Mn 257.610†	471.2	0.6293 µg/L	0.05470	0.6293 ppb	0.05470	8.69%
Mo 202.031†	-1.8	-0.0571 µg/L	0.24200	-0.0571 ppb	0.24200	424.16%
Na 589.592 Radial†	1697.2	257.32 µg/L	4.809	257.32 ppb	4.809	1.87%

Ni 231.604†	24.0	0.3019 µg/L	0.03431	0.3019 ppb	0.03431	11.36%
P 214.914†	10.2	2.4273 µg/L	2.36311	2.4273 ppb	2.36311	97.36%
Pb 220.353†	5.8	0.3571 µg/L	0.85430	0.3571 ppb	0.85430	239.22%
S 181.975 Axial†	46.3	37.928 µg/L	4.6665	37.928 ppb	4.6665	12.30%
Sb 206.836†	-2.2	-0.2941 µg/L	1.74434	-0.2941 ppb	1.74434	593.21%
Se 196.026†	-0.4	-0.155 µg/L	2.5103	-0.155 ppb	2.5103	>999.9%
SiO2†	31377.3	3356.9 µg/L	87.43	3356.9 ppb	87.43	2.60%
Si 251.611†	96988.8	1569.9 µg/L	43.09	1569.9 ppb	43.09	2.74%
Sn 189.927†	12.5	0.8676 µg/L	0.09212	0.8676 ppb	0.09212	10.62%
Sr 421.552†	120.3	0.2773 µg/L	0.09811	0.2773 ppb	0.09811	35.39%
Ti 334.940†	128.0	0.1308 µg/L	0.16712	0.1308 ppb	0.16712	127.77%
Tl 190.801†	3.5	0.4653 µg/L	1.22086	0.4653 ppb	1.22086	262.37%
U 409.014†	-102.2	-6.4044 µg/L	4.76609	-6.4044 ppb	4.76609	74.42%
V 292.402†	-23.1	-0.1287 µg/L	0.05158	-0.1287 ppb	0.05158	40.09%
Zn 213.857†	210.0	1.2989 µg/L	0.04859	1.2989 ppb	0.04859	3.74%

Sequence No.: 15

Sample ID: 1202065058|962580|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 147

Date Collected: 3/30/2010 17:35:16

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202065058|962580|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	153516.2	153516.2	104 %		17:35:48
1	Al 396.153Radial†	26350.2	25437.0	5218.4 µg/L	5218.4 ppb	17:35:48
1	Ca 317.933Radial†	91436.7	87351.8	5255.7 µg/L	5255.7 ppb	17:35:48
1	Fe 238.204 Radial†	79920.4	76819.3	5169.1 µg/L	5169.1 ppb	17:35:48
1	K 766.490 Radial†	15385.8	13503.1	5553.9 µg/L	5553.9 ppb	17:35:48
1	Mg 279.077 IEC†	13651.7	12977.3	5331.4 µg/L	5331.4 ppb	17:35:48
1	Na 589.592 Radial†	38292.0	35667.0	5411.0 µg/L	5411.0 ppb	17:35:48
1	Sr 421.552†	234562.9	226096.1	521.53 µg/L	521.53 ppb	17:35:46
1	Sc 361.383	1778676.9	1778676.9	101.34 %		17:36:01
1	Y 371.029	1062140.6	1062140.6	99.821 %		17:36:01
1	Ag 328.068†	129764.8	124596.0	501.66 µg/L	501.66 ppb	17:36:01
1	As 188.979†	1461.3	1459.6	516.65 µg/L	516.65 ppb	17:36:21
1	B 249.677†	35854.1	32148.0	522.39 µg/L	522.39 ppb	17:36:01
1	Ba 233.527†	120198.0	118765.3	517.54 µg/L	517.54 ppb	17:36:01
1	Be 313.107†	1719600.8	1697570.6	509.60 µg/L	509.60 ppb	17:36:01
1	Cd 226.502†	75106.8	74220.3	509.30 µg/L	509.30 ppb	17:36:01
1	Co 228.616†	37857.2	37527.3	507.83 µg/L	507.83 ppb	17:36:01
1	Cr 267.716†	61020.1	60031.9	505.67 µg/L	505.67 ppb	17:36:01
1	Cu 324.752†	125899.3	121440.0	513.33 µg/L	513.33 ppb	17:36:01
1	Mn 257.610†	386743.5	381436.6	509.61 µg/L	509.61 ppb	17:36:01
1	Mo 202.031†	16018.7	15840.9	504.36 µg/L	504.36 ppb	17:36:21
1	Ni 231.604†	41402.0	40930.5	514.81 µg/L	514.81 ppb	17:36:01
1	P 214.914†	2238.6	2203.9	516.94 µg/L	516.94 ppb	17:36:21
1	Pb 220.353†	8688.8	8476.6	520.60 µg/L	520.60 ppb	17:36:21
1	S 181.975 Axial†	6531.4	6357.0	5215.3 µg/L	5215.3 ppb	17:36:21
1	Sb 206.836†	3988.9	3857.9	507.00 µg/L	507.00 ppb	17:36:21
1	Se 196.026†	1274.3	1243.8	500 µg/L	500 ppb	17:36:21
1	SiO2†	137215.6	133641.9	14276 µg/L	14276 ppb	17:36:01
1	Si 251.611†	419497.1	412982.6	6674.5 µg/L	6674.5 ppb	17:36:01
1	Sn 189.927†	7527.5	7430.2	516.10 µg/L	516.10 ppb	17:36:21
1	Ti 334.940†	511634.6	503960.6	504.22 µg/L	504.22 ppb	17:36:01
1	Tl 190.801†	3725.5	3793.1	517.38 µg/L	517.38 ppb	17:36:21
1	U 409.014†	7777.1	7957.7	529.40 µg/L	529.40 ppb	17:36:01
1	V 292.402†	97136.7	95538.1	513.95 µg/L	513.95 ppb	17:36:01
1	Zn 213.857†	82449.4	80830.9	497.27 µg/L	497.27 ppb	17:36:01
2	Sc RADIAL	152917.0	152917.0	103 %		17:35:52
2	Al 396.153Radial†	26209.1	25400.0	5210.7 µg/L	5210.7 ppb	17:35:52
2	Ca 317.933Radial†	90688.1	86973.1	5233.0 µg/L	5233.0 ppb	17:35:52
2	Fe 238.204 Radial†	79051.1	76280.5	5132.8 µg/L	5132.8 ppb	17:35:52
2	K 766.490 Radial†	15447.1	13620.4	5602.2 µg/L	5602.2 ppb	17:35:52
2	Mg 279.077 IEC†	13540.8	12921.6	5308.6 µg/L	5308.6 ppb	17:35:52
2	Na 589.592 Radial†	37835.2	35369.9	5365.8 µg/L	5365.8 ppb	17:35:52
2	Sr 421.552†	233056.9	225525.3	520.21 µg/L	520.21 ppb	17:35:50
2	Sc 361.383	1779908.4	1779908.4	101.41 %		17:36:24
2	Y 371.029	1063631.4	1063631.4	99.961 %		17:36:24
2	Ag 328.068†	129328.1	124076.8	499.55 µg/L	499.55 ppb	17:36:24
2	As 188.979†	1476.9	1474.0	521.65 µg/L	521.65 ppb	17:36:44
2	B 249.677†	35773.3	32043.9	520.70 µg/L	520.70 ppb	17:36:24
2	Ba 233.527†	119555.3	118049.6	514.42 µg/L	514.42 ppb	17:36:24
2	Be 313.107†	1712838.3	1689728.5	507.25 µg/L	507.25 ppb	17:36:24
2	Cd 226.502†	74690.6	73758.6	506.13 µg/L	506.13 ppb	17:36:24
2	Co 228.616†	37595.4	37243.3	503.98 µg/L	503.98 ppb	17:36:24
2	Cr 267.716†	60786.8	59760.2	503.39 µg/L	503.39 ppb	17:36:24
2	Cu 324.752†	125678.3	121136.1	512.04 µg/L	512.04 ppb	17:36:24
2	Mn 257.610†	384471.6	378932.3	506.26 µg/L	506.26 ppb	17:36:24
2	Mo 202.031†	16096.0	15906.2	506.43 µg/L	506.43 ppb	17:36:44
2	Ni 231.604†	41008.6	40514.4	509.58 µg/L	509.58 ppb	17:36:24
2	P 214.914†	2272.4	2235.7	524.54 µg/L	524.54 ppb	17:36:44
2	Pb 220.353†	8718.3	8499.7	522.03 µg/L	522.03 ppb	17:36:44

2	S 181.975 Axial†	6569.6	6390.2	5242.6 µg/L	5242.6 ppb	17:36:44
2	Sb 206.836†	4012.1	3878.0	509.70 µg/L	509.70 ppb	17:36:44
2	Se 196.026†	1280.8	1249.4	502 µg/L	502 ppb	17:36:44
2	SiO2†	136484.0	132826.8	14189 µg/L	14189 ppb	17:36:24
2	Si 251.611†	417272.6	410502.7	6634.3 µg/L	6634.3 ppb	17:36:24
2	Sn 189.927†	7554.1	7451.2	517.55 µg/L	517.55 ppb	17:36:44
2	Ti 334.940†	509469.0	501476.0	501.73 µg/L	501.73 ppb	17:36:24
2	Tl 190.801†	3756.1	3820.8	521.06 µg/L	521.06 ppb	17:36:44
2	U 409.014†	7640.5	7817.7	520.47 µg/L	520.47 ppb	17:36:24
2	V 292.402†	96718.5	95059.3	511.42 µg/L	511.42 ppb	17:36:24
2	Zn 213.857†	81766.8	80101.5	492.79 µg/L	492.79 ppb	17:36:24
3	Sc RADIAL	152377.3	152377.3	103 %		17:35:56
3	Al 396.153Radial†	25998.3	25285.3	5187.2 µg/L	5187.2 ppb	17:35:56
3	Ca 317.933Radial†	90311.7	86918.5	5229.7 µg/L	5229.7 ppb	17:35:56
3	Fe 238.204 Radial†	78686.6	76197.7	5127.2 µg/L	5127.2 ppb	17:35:56
3	K 766.490 Radial†	15267.7	13499.2	5552.3 µg/L	5552.3 ppb	17:35:56
3	Mg 279.077 IEC†	13587.9	13013.6	5346.3 µg/L	5346.3 ppb	17:35:56
3	Na 589.592 Radial†	37904.9	35567.0	5395.8 µg/L	5395.8 ppb	17:35:56
3	Sr 421.552†	234755.3	227971.0	525.85 µg/L	525.85 ppb	17:35:54
3	Sc 361.383	1777007.4	1777007.4	101.25 %		17:36:47
3	Y 371.029	1062476.3	1062476.3	99.853 %		17:36:47
3	Ag 328.068†	129343.0	124299.7	500.45 µg/L	500.45 ppb	17:36:47
3	As 188.979†	1454.3	1454.0	514.68 µg/L	514.68 ppb	17:37:07
3	B 249.677†	35820.2	32147.8	522.39 µg/L	522.39 ppb	17:36:47
3	Ba 233.527†	119752.4	118436.7	516.10 µg/L	516.10 ppb	17:36:47
3	Be 313.107†	1712243.0	1691897.8	507.90 µg/L	507.90 ppb	17:36:47
3	Cd 226.502†	74610.3	73799.6	506.41 µg/L	506.41 ppb	17:36:47
3	Co 228.616†	37720.3	37427.2	506.47 µg/L	506.47 ppb	17:36:47
3	Cr 267.716†	60761.6	59833.2	503.99 µg/L	503.99 ppb	17:36:47
3	Cu 324.752†	125294.5	120959.3	511.30 µg/L	511.30 ppb	17:36:47
3	Mn 257.610†	384118.8	379202.8	506.62 µg/L	506.62 ppb	17:36:47
3	Mo 202.031†	15989.9	15827.3	503.92 µg/L	503.92 ppb	17:37:07
3	Ni 231.604†	41165.5	40735.3	512.36 µg/L	512.36 ppb	17:36:47
3	P 214.914†	2216.9	2184.5	512.37 µg/L	512.37 ppb	17:37:07
3	Pb 220.353†	8652.5	8448.7	518.89 µg/L	518.89 ppb	17:37:07
3	S 181.975 Axial†	6521.8	6353.6	5212.5 µg/L	5212.5 ppb	17:37:07
3	Sb 206.836†	3987.8	3860.5	507.35 µg/L	507.35 ppb	17:37:07
3	Se 196.026†	1277.2	1247.9	502 µg/L	502 ppb	17:37:07
3	SiO2†	136690.2	133250.2	14234 µg/L	14234 ppb	17:36:47
3	Si 251.611†	417360.3	411261.0	6646.6 µg/L	6646.6 ppb	17:36:47
3	Sn 189.927†	7528.3	7437.9	516.63 µg/L	516.63 ppb	17:37:07
3	Ti 334.940†	509320.5	502149.4	502.40 µg/L	502.40 ppb	17:36:47
3	Tl 190.801†	3736.3	3807.3	519.25 µg/L	519.25 ppb	17:37:07
3	U 409.014†	7803.4	7990.9	531.29 µg/L	531.29 ppb	17:36:47
3	V 292.402†	96469.2	94968.8	510.92 µg/L	510.92 ppb	17:36:47
3	Zn 213.857†	82184.1	80645.3	496.14 µg/L	496.14 ppb	17:36:47

Mean Data: 1202065058|962580|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1778530.9	101.34 %	0.083			0.08%
Sc RADIAL	152936.8	103 %	0.4			0.37%
Y 371.029	1062749.5	99.878 %	0.0735			0.07%
Ag 328.068†	124324.2	500.55 µg/L	1.056	500.55 ppb	1.056	0.21%
Al 396.153Radial†	25374.1	5205.5 µg/L	16.28	5205.5 ppb	16.28	0.31%
As 188.979†	1462.5	517.66 µg/L	3.595	517.66 ppb	3.595	0.69%
B 249.677†	32113.2	521.83 µg/L	0.972	521.83 ppb	0.972	0.19%
Ba 233.527†	118417.2	516.02 µg/L	1.560	516.02 ppb	1.560	0.30%
Be 313.107†	1693065.7	508.25 µg/L	1.216	508.25 ppb	1.216	0.24%
Ca 317.933Radial†	87081.1	5239.5 µg/L	14.20	5239.5 ppb	14.20	0.27%
Cd 226.502†	73926.2	507.28 µg/L	1.753	507.28 ppb	1.753	0.35%
Co 228.616†	37399.3	506.09 µg/L	1.949	506.09 ppb	1.949	0.39%
Cr 267.716†	59875.1	504.35 µg/L	1.183	504.35 ppb	1.183	0.23%
Cu 324.752†	121178.4	512.22 µg/L	1.028	512.22 ppb	1.028	0.20%
Fe 238.204 Radial†	76432.5	5143.0 µg/L	22.71	5143.0 ppb	22.71	0.44%
K 766.490 Radial†	13540.9	5569.5 µg/L	28.35	5569.5 ppb	28.35	0.51%
Mg 279.077 IEC†	12970.8	5328.8 µg/L	18.98	5328.8 ppb	18.98	0.36%
Mn 257.610†	379857.2	507.50 µg/L	1.837	507.50 ppb	1.837	0.36%
Mo 202.031†	15858.1	504.90 µg/L	1.340	504.90 ppb	1.340	0.27%
Na 589.592 Radial†	35534.6	5390.9 µg/L	22.98	5390.9 ppb	22.98	0.43%

Ni 231.604†	40726.8	512.25 µg/L	2.619	512.25 ppb	2.619	0.51%
P 214.914†	2208.0	517.95 µg/L	6.148	517.95 ppb	6.148	1.19%
Pb 220.353†	8475.0	520.51 µg/L	1.569	520.51 ppb	1.569	0.30%
S 181.975 Axial†	6367.0	5223.5 µg/L	16.61	5223.5 ppb	16.61	0.32%
Sb 206.836†	3865.5	508.02 µg/L	1.471	508.02 ppb	1.471	0.29%
Se 196.026†	1247.0	501 µg/L	1.2	501 ppb	1.2	0.23%
SiO2†	133239.6	14233 µg/L	43.7	14233 ppb	43.7	0.31%
Si 251.611†	411582.1	6651.8 µg/L	20.58	6651.8 ppb	20.58	0.31%
Sn 189.927†	7439.8	516.76 µg/L	0.734	516.76 ppb	0.734	0.14%
Sr 421.552†	226530.8	522.53 µg/L	2.952	522.53 ppb	2.952	0.56%
Ti 334.940†	502528.7	502.78 µg/L	1.285	502.78 ppb	1.285	0.26%
Tl 190.801†	3807.1	519.23 µg/L	1.841	519.23 ppb	1.841	0.35%
U 409.014†	7922.1	527.05 µg/L	5.779	527.05 ppb	5.779	1.10%
V 292.402†	95188.7	512.10 µg/L	1.623	512.10 ppb	1.623	0.32%
Zn 213.857†	80525.9	495.40 µg/L	2.333	495.40 ppb	2.333	0.47%

Sequence No.: 16

Sample ID: 1202065059|962580|5

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 148

Date Collected: 3/30/2010 17:37:16

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202065059|962580|5

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	156127.6	156127.6	106 %		17:37:46
1	Al 396.153Radial†	-28.8	35.6	7.3386 µg/L	7.3386 ppb	17:38:06
1	Ca 317.933Radial†	837.8	95.3	5.7316 µg/L	5.7316 ppb	17:38:06
1	Fe 238.204 Radial†	187.4	36.7	2.4702 µg/L	2.4702 ppb	17:38:06
1	K 766.490 Radial†	1768.6	361.8	148.87 µg/L	148.87 ppb	17:37:46
1	Mg 279.077 IEC†	155.0	-22.0	-9.0339 µg/L	-9.0339 ppb	17:38:06
1	Na 589.592 Radial†	1731.5	432.9	65.600 µg/L	65.600 ppb	17:37:46
1	Sr 421.552†	-64.8	160.3	0.3696 µg/L	0.3696 ppb	17:37:46
1	Sc 361.383	1789748.9	1789748.9	101.98 %		17:38:54
1	Y 371.029	1081946.5	1081946.5	101.68 %		17:38:54
1	Ag 328.068†	3646.0	128.3	0.5023 µg/L	0.5023 ppb	17:38:56
1	As 188.979†	-15.3	2.6	0.9259 µg/L	0.9259 ppb	17:39:16
1	B 249.677†	3534.2	235.4	3.8373 µg/L	3.8373 ppb	17:39:16
1	Ba 233.527†	-151.0	14.0	0.0612 µg/L	0.0612 ppb	17:39:16
1	Be 313.107†	-851.4	-49.3	-0.0177 µg/L	-0.0177 ppb	17:38:56
1	Cd 226.502†	-103.0	9.0	0.0616 µg/L	0.0616 ppb	17:39:16
1	Co 228.616†	-174.4	1.4	0.0187 µg/L	0.0187 ppb	17:39:16
1	Cr 267.716†	200.6	18.1	0.1606 µg/L	0.1606 ppb	17:39:16
1	Cu 324.752†	2946.8	100.8	0.4169 µg/L	0.4169 ppb	17:38:56
1	Mn 257.610†	299.3	117.9	0.1580 µg/L	0.1580 ppb	17:39:16
1	Mo 202.031†	-40.1	-4.5	-0.1439 µg/L	-0.1439 ppb	17:39:16
1	Ni 231.604†	-70.0	9.3	0.1168 µg/L	0.1168 ppb	17:39:16
1	P 214.914†	27.6	22.1	5.2733 µg/L	5.2733 ppb	17:39:16
1	Pb 220.353†	77.2	-21.2	-1.2919 µg/L	-1.2919 ppb	17:39:16
1	S 181.975 Axial†	94.9	5.4	4.3873 µg/L	4.3873 ppb	17:39:16
1	Sb 206.836†	93.7	13.8	1.8040 µg/L	1.8040 ppb	17:39:16
1	Se 196.026†	5.8	-7.9	-3.17 µg/L	-3.17 ppb	17:39:16
1	SiO2†	8299.6	6385.6	683.16 µg/L	683.16 ppb	17:38:56
1	Si 251.611†	21131.8	19773.8	320.06 µg/L	320.06 ppb	17:38:56
1	Sn 189.927†	8.0	10.4	0.7180 µg/L	0.7180 ppb	17:39:16
1	Ti 334.940†	841.1	-60.8	-0.0562 µg/L	-0.0562 ppb	17:38:56
1	Tl 190.801†	-108.0	11.2	1.5045 µg/L	1.5045 ppb	17:39:16
1	U 409.014†	-444.9	-152.5	-9.5293 µg/L	-9.5293 ppb	17:38:56
1	V 292.402†	387.2	69.9	0.3634 µg/L	0.3634 ppb	17:38:56
1	Zn 213.857†	620.1	83.5	0.5165 µg/L	0.5165 ppb	17:39:16
2	Sc RADIAL	153789.2	153789.2	104 %		17:38:08
2	Al 396.153Radial†	-45.4	19.2	3.9791 µg/L	3.9791 ppb	17:38:28
2	Ca 317.933Radial†	804.8	75.6	4.5488 µg/L	4.5488 ppb	17:38:28
2	Fe 238.204 Radial†	169.8	22.6	1.5184 µg/L	1.5184 ppb	17:38:28
2	K 766.490 Radial†	1731.7	351.8	144.79 µg/L	144.79 ppb	17:38:08
2	Mg 279.077 IEC†	191.4	15.2	6.2390 µg/L	6.2390 ppb	17:38:28
2	Na 589.592 Radial†	1600.0	331.4	50.195 µg/L	50.195 ppb	17:38:08
2	Sr 421.552†	-214.2	15.7	0.0362 µg/L	0.0362 ppb	17:38:08
2	Sc 361.383	1781746.6	1781746.6	101.52 %		17:39:18
2	Y 371.029	1076300.1	1076300.1	101.15 %		17:39:18
2	Ag 328.068†	3230.3	-265.2	-1.0551 µg/L	-1.0551 ppb	17:39:20
2	As 188.979†	-23.0	-4.9	-1.7248 µg/L	-1.7248 ppb	17:39:40
2	B 249.677†	3454.0	172.0	2.8048 µg/L	2.8048 ppb	17:39:40
2	Ba 233.527†	-166.5	-1.9	-0.0083 µg/L	-0.0083 ppb	17:39:40
2	Be 313.107†	-817.7	-19.8	-0.0059 µg/L	-0.0059 ppb	17:39:20
2	Cd 226.502†	-123.8	-11.9	-0.0820 µg/L	-0.0820 ppb	17:39:40
2	Co 228.616†	-197.6	-22.2	-0.3000 µg/L	-0.3000 ppb	17:39:40
2	Cr 267.716†	171.3	-9.8	-0.0829 µg/L	-0.0829 ppb	17:39:40
2	Cu 324.752†	2911.9	79.4	0.3350 µg/L	0.3350 ppb	17:39:20
2	Mn 257.610†	305.8	125.7	0.1677 µg/L	0.1677 ppb	17:39:40
2	Mo 202.031†	-44.7	-9.2	-0.2940 µg/L	-0.2940 ppb	17:39:40
2	Ni 231.604†	-89.5	-10.2	-0.1288 µg/L	-0.1288 ppb	17:39:40
2	P 214.914†	8.7	3.6	0.8445 µg/L	0.8445 ppb	17:39:40
2	Pb 220.353†	91.6	-6.7	-0.4124 µg/L	-0.4124 ppb	17:39:40



2	S 181.975 Axial†	101.5	12.3	10.056 µg/L	10.056 ppb	17:39:40
2	Sb 206.836†	79.4	0.1	0.0096 µg/L	0.0096 ppb	17:39:40
2	Se 196.026†	17.2	3.4	1.36 µg/L	1.36 ppb	17:39:40
2	SiO2†	8319.1	6441.5	689.15 µg/L	689.15 ppb	17:39:20
2	Si 251.611†	21484.5	20214.3	327.20 µg/L	327.20 ppb	17:39:20
2	Sn 189.927†	-5.8	-3.1	-0.2184 µg/L	-0.2184 ppb	17:39:40
2	Ti 334.940†	716.4	-179.9	-0.1807 µg/L	-0.1807 ppb	17:39:20
2	Tl 190.801†	-116.4	2.4	0.3197 µg/L	0.3197 ppb	17:39:40
2	U 409.014†	-283.2	4.8	0.2952 µg/L	0.2952 ppb	17:39:20
2	V 292.402†	292.5	-21.7	-0.1184 µg/L	-0.1184 ppb	17:39:20
2	Zn 213.857†	627.7	93.8	0.5821 µg/L	0.5821 ppb	17:39:40
3	Sc RADIAL	156318.4	156318.4	106 %		17:38:30
3	Al 396.153Radial†	-68.9	-2.2	-0.4695 µg/L	-0.4695 ppb	17:38:50
3	Ca 317.933Radial†	827.5	84.6	5.0884 µg/L	5.0884 ppb	17:38:50
3	Fe 238.204 Radial†	183.4	32.7	2.2011 µg/L	2.2011 ppb	17:38:50
3	K 766.490 Radial†	1585.1	186.2	76.627 µg/L	76.627 ppb	17:38:30
3	Mg 279.077 IEC†	177.3	-1.1	-0.4699 µg/L	-0.4699 ppb	17:38:50
3	Na 589.592 Radial†	1692.9	394.4	59.818 µg/L	59.818 ppb	17:38:30
3	Sr 421.552†	-205.2	27.6	0.0637 µg/L	0.0637 ppb	17:38:30
3	Sc 361.383	1792098.6	1792098.6	102.11 %		17:39:42
3	Y 371.029	1081624.7	1081624.7	101.65 %		17:39:42
3	Ag 328.068†	3357.4	-159.0	-0.6346 µg/L	-0.6346 ppb	17:39:44
3	As 188.979†	-18.9	-0.8	-0.2902 µg/L	-0.2902 ppb	17:40:05
3	B 249.677†	3500.3	197.6	3.2224 µg/L	3.2224 ppb	17:40:05
3	Ba 233.527†	-131.8	33.0	0.1436 µg/L	0.1436 ppb	17:40:05
3	Be 313.107†	-630.2	168.4	0.0514 µg/L	0.0514 ppb	17:39:44
3	Cd 226.502†	-118.3	-5.8	-0.0400 µg/L	-0.0400 ppb	17:40:05
3	Co 228.616†	-174.4	1.6	0.0222 µg/L	0.0222 ppb	17:40:05
3	Cr 267.716†	174.2	-8.0	-0.0696 µg/L	-0.0696 ppb	17:40:05
3	Cu 324.752†	2931.6	82.1	0.3488 µg/L	0.3488 ppb	17:39:44
3	Mn 257.610†	297.3	115.6	0.1545 µg/L	0.1545 ppb	17:40:05
3	Mo 202.031†	-30.7	4.7	0.1482 µg/L	0.1482 ppb	17:40:05
3	Ni 231.604†	-69.4	9.9	0.1243 µg/L	0.1243 ppb	17:40:05
3	P 214.914†	22.4	17.0	4.0458 µg/L	4.0458 ppb	17:40:05
3	Pb 220.353†	98.7	-0.3	-0.0201 µg/L	-0.0201 ppb	17:40:05
3	S 181.975 Axial†	101.1	11.3	9.2880 µg/L	9.2880 ppb	17:40:05
3	Sb 206.836†	74.6	-5.0	-0.6517 µg/L	-0.6517 ppb	17:40:05
3	Se 196.026†	12.6	-1.2	-0.483 µg/L	-0.483 ppb	17:40:05
3	SiO2†	8270.5	6346.5	678.97 µg/L	678.97 ppb	17:39:44
3	Si 251.611†	21048.6	19665.1	318.30 µg/L	318.30 ppb	17:39:44
3	Sn 189.927†	9.5	11.9	0.8226 µg/L	0.8226 ppb	17:40:05
3	Ti 334.940†	982.7	76.8	0.0760 µg/L	0.0760 ppb	17:39:44
3	Tl 190.801†	-105.2	14.1	1.8921 µg/L	1.8921 ppb	17:40:05
3	U 409.014†	-241.6	47.2	2.9280 µg/L	2.9280 ppb	17:39:44
3	V 292.402†	221.0	-93.5	-0.4932 µg/L	-0.4932 ppb	17:39:44
3	Zn 213.857†	634.1	96.4	0.5966 µg/L	0.5966 ppb	17:40:05

Mean Data: 1202065059|962580|5

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1787864.7	101.87 %	%	0.309			0.30%
Sc RADIAL	155411.7	105 %	%	1.0			0.91%
Y 371.029	1079957.1	101.50 %	%	0.298			0.29%
Ag 328.068†	-98.6	-0.3958 µg/L	µg/L	0.80571	-0.3958 ppb	0.80571	203.56%
Al 396.153Radial†	17.5	3.6160 µg/L	µg/L	3.91671	3.6160 ppb	3.91671	108.32%
As 188.979†	-1.0	-0.3630 µg/L	µg/L	1.32684	-0.3630 ppb	1.32684	365.52%
B 249.677†	201.7	3.2882 µg/L	µg/L	0.51938	3.2882 ppb	0.51938	15.80%
Ba 233.527†	15.1	0.0655 µg/L	µg/L	0.07604	0.0655 ppb	0.07604	116.11%
Be 313.107†	33.1	0.0093 µg/L	µg/L	0.03697	0.0093 ppb	0.03697	397.74%
Ca 317.933Radial†	85.1	5.1229 µg/L	µg/L	0.59215	5.1229 ppb	0.59215	11.56%
Cd 226.502†	-2.9	-0.0201 µg/L	µg/L	0.07384	-0.0201 ppb	0.07384	366.99%
Co 228.616†	-6.4	-0.0864 µg/L	µg/L	0.18504	-0.0864 ppb	0.18504	214.25%
Cr 267.716†	0.1	0.0027 µg/L	µg/L	0.13693	0.0027 ppb	0.13693	>999.9%
Cu 324.752†	87.4	0.3669 µg/L	µg/L	0.04388	0.3669 ppb	0.04388	11.96%
Fe 238.204 Radial†	30.7	2.0632 µg/L	µg/L	0.49064	2.0632 ppb	0.49064	23.78%
K 766.490 Radial†	299.9	123.43 µg/L	µg/L	40.583	123.43 ppb	40.583	32.88%
Mg 279.077 IEC†	-2.6	-1.0883 µg/L	µg/L	7.65519	-1.0883 ppb	7.65519	703.42%
Mn 257.610†	119.7	0.1601 µg/L	µg/L	0.00687	0.1601 ppb	0.00687	4.29%
Mo 202.031†	-3.0	-0.0966 µg/L	µg/L	0.22487	-0.0966 ppb	0.22487	232.78%
Na 589.592 Radial†	386.2	58.538 µg/L	µg/L	7.7815	58.538 ppb	7.7815	13.29%

Ni 231.604†	3.0	0.0374 µg/L	0.14399	0.0374 ppb	0.14399	384.75%
P 214.914†	14.2	3.3879 µg/L	2.28654	3.3879 ppb	2.28654	67.49%
Pb 220.353†	-9.4	-0.5748 µg/L	0.65124	-0.5748 ppb	0.65124	113.30%
S 181.975 Axial†	9.7	7.9105 µg/L	3.07528	7.9105 ppb	3.07528	38.88%
Sb 206.836†	3.0	0.3873 µg/L	1.27064	0.3873 ppb	1.27064	328.08%
Se 196.026†	-1.9	-0.764 µg/L	2.2791	-0.764 ppb	2.2791	298.21%
SiO2†	6391.2	683.76 µg/L	5.120	683.76 ppb	5.120	0.75%
Si 251.611†	19884.4	321.85 µg/L	4.713	321.85 ppb	4.713	1.46%
Sn 189.927†	6.4	0.4407 µg/L	0.57322	0.4407 ppb	0.57322	130.06%
Sr 421.552†	67.9	0.1565 µg/L	0.18507	0.1565 ppb	0.18507	118.24%
Ti 334.940†	-54.6	-0.0536 µg/L	0.12833	-0.0536 ppb	0.12833	239.31%
Tl 190.801†	9.2	1.2387 µg/L	0.81920	1.2387 ppb	0.81920	66.13%
U 409.014†	-33.5	-2.1020 µg/L	6.56551	-2.1020 ppb	6.56551	312.34%
V 292.402†	-15.1	-0.0827 µg/L	0.42944	-0.0827 ppb	0.42944	518.98%
Zn 213.857†	91.2	0.5651 µg/L	0.04270	0.5651 ppb	0.04270	7.56%

Sequence No.: 17  
 Sample ID: CCV  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 7  
 Date Collected: 3/30/2010 17:40:12  
 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	154418.8	154418.8	104 %		17:40:45
1	Al 396.153Radial†	25881.5	24840.1	5095.1 µg/L	5095.1 ppb	17:40:45
1	Ca 317.933Radial†	89405.0	84892.2	5107.8 µg/L	5107.8 ppb	17:40:45
1	Fe 238.204 Radial†	78825.0	75320.8	5068.2 µg/L	5068.2 ppb	17:40:45
1	K 766.490 Radial†	14351.2	12426.0	5109.9 µg/L	5109.9 ppb	17:40:45
1	Mg 279.077 IEC†	13472.2	12728.5	5229.6 µg/L	5229.6 ppb	17:40:45
1	Na 589.592 Radial†	70371.6	66162.3	10042 µg/L	10042 ppb	17:40:45
1	Sr 421.552†	231921.2	222246.9	512.65 µg/L	512.65 ppb	17:40:43
1	Sc 361.383	1770216.3	1770216.3	100.86 %		17:41:12
1	Y 371.029	1058374.3	1058374.3	99.467 %		17:41:12
1	Ag 328.068†	130653.5	126089.1	507.50 µg/L	507.50 ppb	17:41:12
1	As 188.979†	1448.8	1454.1	514.70 µg/L	514.70 ppb	17:41:32
1	B 249.677†	34436.8	30912.0	502.23 µg/L	502.23 ppb	17:41:12
1	Ba 233.527†	116767.3	115930.9	505.19 µg/L	505.19 ppb	17:41:12
1	Be 313.107†	1699194.9	1685448.9	505.96 µg/L	505.96 ppb	17:41:12
1	Cd 226.502†	74344.1	73818.3	506.54 µg/L	506.54 ppb	17:41:12
1	Co 228.616†	37776.5	37625.9	509.15 µg/L	509.15 ppb	17:41:12
1	Cr 267.716†	60453.2	59757.6	503.37 µg/L	503.37 ppb	17:41:12
1	Cu 324.752†	123125.1	119283.2	504.21 µg/L	504.21 ppb	17:41:12
1	Mn 257.610†	382389.5	378943.7	506.28 µg/L	506.28 ppb	17:41:12
1	Mo 202.031†	16142.5	16039.2	510.65 µg/L	510.65 ppb	17:41:32
1	Ni 231.604†	40624.4	40354.8	507.57 µg/L	507.57 ppb	17:41:12
1	P 214.914†	10878.0	10780.0	2562.6 µg/L	2562.6 ppb	17:41:32
1	Pb 220.353†	8582.5	8412.1	516.69 µg/L	516.69 ppb	17:41:32
1	S 181.975 Axial†	1354.9	1255.6	1033.6 µg/L	1033.6 ppb	17:41:32
1	Sb 206.836†	4013.1	3900.7	512.73 µg/L	512.73 ppb	17:41:32
1	Se 196.026†	1310.6	1285.8	517 µg/L	517 ppb	17:41:32
1	SiO2†	52722.5	50518.5	5382.8 µg/L	5382.8 ppb	17:41:12
1	Si 251.611†	158212.1	155910.4	2513.4 µg/L	2513.4 ppb	17:41:12
1	Sn 189.927†	7470.8	7409.5	514.67 µg/L	514.67 ppb	17:41:32
1	Ti 334.940†	509168.7	503928.7	504.20 µg/L	504.20 ppb	17:41:12
1	Tl 190.801†	3749.6	3834.6	522.90 µg/L	522.90 ppb	17:41:32
1	U 409.014†	7397.7	7618.2	507.79 µg/L	507.79 ppb	17:41:12
1	V 292.402†	95558.2	94431.1	508.12 µg/L	508.12 ppb	17:41:12
1	Zn 213.857†	83202.9	81966.8	504.38 µg/L	504.38 ppb	17:41:12
2	Sc RADIAL	152256.9	152256.9	103 %		17:40:49
2	Al 396.153Radial†	25420.4	24744.1	5075.6 µg/L	5075.6 ppb	17:40:49
2	Ca 317.933Radial†	88042.4	84784.4	5101.3 µg/L	5101.3 ppb	17:40:49
2	Fe 238.204 Radial†	77781.8	75379.5	5072.2 µg/L	5072.2 ppb	17:40:49
2	K 766.490 Radial†	14172.4	12447.5	5118.8 µg/L	5118.8 ppb	17:40:49
2	Mg 279.077 IEC†	13260.1	12705.8	5220.1 µg/L	5220.1 ppb	17:40:49
2	Na 589.592 Radial†	69446.9	66221.0	10051 µg/L	10051 ppb	17:40:49
2	Sr 421.552†	231973.3	225450.1	520.04 µg/L	520.04 ppb	17:40:47
2	Sc 361.383	1750687.1	1750687.1	99.750 %		17:41:35
2	Y 371.029	1047187.7	1047187.7	98.416 %		17:41:35
2	Ag 328.068†	129307.7	126184.9	507.89 µg/L	507.89 ppb	17:41:35
2	As 188.979†	1415.4	1436.6	508.61 µg/L	508.61 ppb	17:41:55
2	B 249.677†	34174.1	31029.5	504.14 µg/L	504.14 ppb	17:41:35
2	Ba 233.527†	115618.6	116070.7	505.80 µg/L	505.80 ppb	17:41:35
2	Be 313.107†	1681827.2	1686830.4	506.38 µg/L	506.38 ppb	17:41:35
2	Cd 226.502†	73697.6	73992.4	507.74 µg/L	507.74 ppb	17:41:35
2	Co 228.616†	37362.3	37628.4	509.19 µg/L	509.19 ppb	17:41:35
2	Cr 267.716†	59945.8	59917.6	504.72 µg/L	504.72 ppb	17:41:35
2	Cu 324.752†	122121.4	119638.7	505.71 µg/L	505.71 ppb	17:41:35
2	Mn 257.610†	378960.5	379735.3	507.34 µg/L	507.34 ppb	17:41:35
2	Mo 202.031†	15799.0	15873.4	505.38 µg/L	505.38 ppb	17:41:55
2	Ni 231.604†	40245.2	40424.0	508.44 µg/L	508.44 ppb	17:41:35
2	P 214.914†	10594.8	10616.3	2523.6 µg/L	2523.6 ppb	17:41:55
2	Pb 220.353†	8346.4	8270.4	507.99 µg/L	507.99 ppb	17:41:55

2	S 181.975 Axial†	1315.0	1230.6	1013.0 µg/L	1013.0 ppb	17:41:55
2	Sb 206.836†	3926.2	3857.9	507.01 µg/L	507.01 ppb	17:41:55
2	Se 196.026†	1283.5	1273.1	512 µg/L	512 ppb	17:41:55
2	SiO2†	52198.4	50576.1	5389.2 µg/L	5389.2 ppb	17:41:35
2	Si 251.611†	157052.2	156497.4	2523.0 µg/L	2523.0 ppb	17:41:35
2	Sn 189.927†	7295.4	7316.3	508.22 µg/L	508.22 ppb	17:41:55
2	Ti 334.940†	504666.0	505046.0	505.31 µg/L	505.31 ppb	17:41:35
2	Tl 190.801†	3638.3	3764.5	513.49 µg/L	513.49 ppb	17:41:55
2	U 409.014†	7417.4	7719.8	514.19 µg/L	514.19 ppb	17:41:35
2	V 292.402†	94605.0	94532.4	508.61 µg/L	508.61 ppb	17:41:35
2	Zn 213.857†	82370.8	82052.8	504.91 µg/L	504.91 ppb	17:41:35
3	Sc RADIAL	152947.1	152947.1	103 %		17:40:53
3	Al 396.153Radial†	25668.1	24872.2	5101.8 µg/L	5101.8 ppb	17:40:53
3	Ca 317.933Radial†	88921.9	85248.8	5129.2 µg/L	5129.2 ppb	17:40:53
3	Fe 238.204 Radial†	78236.0	75477.7	5078.8 µg/L	5078.8 ppb	17:40:53
3	K 766.490 Radial†	14358.7	12565.5	5167.3 µg/L	5167.3 ppb	17:40:53
3	Mg 279.077 IEC†	13303.1	12689.2	5213.4 µg/L	5213.4 ppb	17:40:53
3	Na 589.592 Radial†	69816.7	66274.2	10059 µg/L	10059 ppb	17:40:53
3	Sr 421.552†	230012.7	222538.7	513.32 µg/L	513.32 ppb	17:40:51
3	Sc 361.383	1730890.4	1730890.4	98.622 %		17:41:58
3	Y 371.029	1036634.2	1036634.2	97.424 %		17:41:58
3	Ag 328.068†	128218.1	126562.7	509.38 µg/L	509.38 ppb	17:41:58
3	As 188.979†	1421.5	1459.1	516.45 µg/L	516.45 ppb	17:42:18
3	B 249.677†	33515.7	30753.7	499.65 µg/L	499.65 ppb	17:41:58
3	Ba 233.527†	114235.8	115994.3	505.47 µg/L	505.47 ppb	17:41:58
3	Be 313.107†	1658067.5	1682022.5	504.93 µg/L	504.93 ppb	17:41:58
3	Cd 226.502†	72585.2	73709.5	505.80 µg/L	505.80 ppb	17:41:58
3	Co 228.616†	36920.9	37609.3	508.93 µg/L	508.93 ppb	17:41:58
3	Cr 267.716†	59212.3	59861.1	504.25 µg/L	504.25 ppb	17:41:58
3	Cu 324.752†	120482.8	119377.5	504.61 µg/L	504.61 ppb	17:41:58
3	Mn 257.610†	374104.2	379156.2	506.57 µg/L	506.57 ppb	17:41:58
3	Mo 202.031†	15772.0	16027.1	510.27 µg/L	510.27 ppb	17:42:18
3	Ni 231.604†	39690.0	40322.5	507.17 µg/L	507.17 ppb	17:41:58
3	P 214.914†	10538.2	10680.4	2538.8 µg/L	2538.8 ppb	17:42:18
3	Pb 220.353†	8367.4	8387.4	515.18 µg/L	515.18 ppb	17:42:18
3	S 181.975 Axial†	1314.1	1244.8	1024.7 µg/L	1024.7 ppb	17:42:18
3	Sb 206.836†	3901.7	3878.2	509.75 µg/L	509.75 ppb	17:42:18
3	Se 196.026†	1266.3	1270.4	511 µg/L	511 ppb	17:42:18
3	SiO2†	51351.6	50316.0	5361.2 µg/L	5361.2 ppb	17:41:58
3	Si 251.611†	154950.0	156166.6	2517.6 µg/L	2517.6 ppb	17:41:58
3	Sn 189.927†	7269.1	7373.3	512.16 µg/L	512.16 ppb	17:42:18
3	Ti 334.940†	498628.4	504710.5	504.98 µg/L	504.98 ppb	17:41:58
3	Tl 190.801†	3639.4	3807.3	519.24 µg/L	519.24 ppb	17:42:18
3	U 409.014†	7213.7	7598.2	506.56 µg/L	506.56 ppb	17:41:58
3	V 292.402†	93505.2	94502.0	508.50 µg/L	508.50 ppb	17:41:58
3	Zn 213.857†	81375.0	81987.6	504.51 µg/L	504.51 ppb	17:41:58

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Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1750597.9	99.745 %	1.1204			1.12%
Sc RADIAL	153207.6	104 %	0.7			0.72%
Y 371.029	1047398.7	98.436 %	1.0217			1.04%
Ag 328.068†	126278.9	508.26 µg/L	0.994	508.26 ppb	0.994	0.20%
QC value within limits for Ag 328.068 Recovery = 101.65%						
Al 396.153Radial†	24818.8	5090.8 µg/L	13.60	5090.8 ppb	13.60	0.27%
QC value within limits for Al 396.153Radial Recovery = 101.82%						
As 188.979†	1449.9	513.25 µg/L	4.114	513.25 ppb	4.114	0.80%
QC value within limits for As 188.979 Recovery = 102.65%						
B 249.677†	30898.4	502.01 µg/L	2.256	502.01 ppb	2.256	0.45%
QC value within limits for B 249.677 Recovery = 100.40%						
Ba 233.527†	115998.6	505.49 µg/L	0.304	505.49 ppb	0.304	0.06%
QC value within limits for Ba 233.527 Recovery = 101.10%						
Be 313.107†	1684767.3	505.76 µg/L	0.744	505.76 ppb	0.744	0.15%
QC value within limits for Be 313.107 Recovery = 101.15%						
Ca 317.933Radial†	84975.2	5112.7 µg/L	14.62	5112.7 ppb	14.62	0.29%
QC value within limits for Ca 317.933Radial Recovery = 102.25%						
Cd 226.502†	73840.1	506.69 µg/L	0.980	506.69 ppb	0.980	0.19%
QC value within limits for Cd 226.502 Recovery = 101.34%						
Co 228.616†	37621.2	509.09 µg/L	0.141	509.09 ppb	0.141	0.03%

QC value within limits for Co 228.616	Recovery = 101.82%				
Cr 267.716†	59845.4	504.11 µg/L	0.682	504.11 ppb	0.682 0.14%
QC value within limits for Cr 267.716	Recovery = 100.82%				
Cu 324.752†	119433.1	504.84 µg/L	0.779	504.84 ppb	0.779 0.15%
QC value within limits for Cu 324.752	Recovery = 100.97%				
Fe 238.204 Radial†	75392.7	5073.1 µg/L	5.33	5073.1 ppb	5.33 0.11%
QC value within limits for Fe 238.204 Radial	Recovery = 101.46%				
K 766.490 Radial†	12479.7	5132.0 µg/L	30.90	5132.0 ppb	30.90 0.60%
QC value within limits for K 766.490 Radial	Recovery = 102.64%				
Mg 279.077 IEC†	12707.8	5221.1 µg/L	8.12	5221.1 ppb	8.12 0.16%
QC value within limits for Mg 279.077 IEC	Recovery = 104.42%				
Mn 257.610†	379278.4	506.73 µg/L	0.548	506.73 ppb	0.548 0.11%
QC value within limits for Mn 257.610	Recovery = 101.35%				
Mo 202.031†	15979.9	508.77 µg/L	2.941	508.77 ppb	2.941 0.58%
QC value within limits for Mo 202.031	Recovery = 101.75%				
Na 589.592 Radial†	66219.2	10051 µg/L	8.5	10051 ppb	8.5 0.08%
QC value within limits for Na 589.592 Radial	Recovery = 100.51%				
Ni 231.604†	40367.1	507.73 µg/L	0.652	507.73 ppb	0.652 0.13%
QC value within limits for Ni 231.604	Recovery = 101.55%				
P 214.914†	10692.3	2541.7 µg/L	19.68	2541.7 ppb	19.68 0.77%
QC value within limits for P 214.914	Recovery = 101.67%				
Pb 220.353†	8356.6	513.29 µg/L	4.647	513.29 ppb	4.647 0.91%
QC value within limits for Pb 220.353	Recovery = 102.66%				
S 181.975 Axial†	1243.7	1023.8 µg/L	10.32	1023.8 ppb	10.32 1.01%
QC value within limits for S 181.975 Axial	Recovery = 102.38%				
Sb 206.836†	3879.0	509.83 µg/L	2.858	509.83 ppb	2.858 0.56%
QC value within limits for Sb 206.836	Recovery = 101.97%				
Se 196.026†	1276.5	513 µg/L	3.3	513 ppb	3.3 0.64%
QC value within limits for Se 196.026	Recovery = 102.63%				
SiO2†	50470.2	5377.7 µg/L	14.69	5377.7 ppb	14.69 0.27%
QC value within limits for SiO2	Recovery = 100.56%				
Si 251.611†	156191.5	2518.0 µg/L	4.82	2518.0 ppb	4.82 0.19%
QC value within limits for Si 251.611	Recovery = 100.72%				
Sn 189.927†	7366.3	511.68 µg/L	3.252	511.68 ppb	3.252 0.64%
QC value within limits for Sn 189.927	Recovery = 102.34%				
Sr 421.552†	223411.9	515.34 µg/L	4.086	515.34 ppb	4.086 0.79%
QC value within limits for Sr 421.552	Recovery = 103.07%				
Ti 334.940†	504561.7	504.83 µg/L	0.574	504.83 ppb	0.574 0.11%
QC value within limits for Ti 334.940	Recovery = 100.97%				
Tl 190.801†	3802.2	518.55 µg/L	4.742	518.55 ppb	4.742 0.91%
QC value within limits for Tl 190.801	Recovery = 103.71%				
U 409.014†	7645.4	509.51 µg/L	4.094	509.51 ppb	4.094 0.80%
QC value within limits for U 409.014	Recovery = 101.90%				
V 292.402†	94488.5	508.41 µg/L	0.257	508.41 ppb	0.257 0.05%
QC value within limits for V 292.402	Recovery = 101.68%				
Zn 213.857†	82002.4	504.60 µg/L	0.274	504.60 ppb	0.274 0.05%
QC value within limits for Zn 213.857	Recovery = 100.92%				

All analyte(s) passed QC.

Sequence No.: 18

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 3/30/2010 17:42:27

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	149223.8	149223.8	101 %		17:42:56
1	Al 396.153Radial†	-56.0	7.4	1.5345 µg/L	1.5345 ppb	17:43:16
1	Ca 317.933Radial†	662.0	-42.2	-2.5368 µg/L	-2.5368 ppb	17:43:16
1	Fe 238.204 Radial†	154.9	12.8	0.8607 µg/L	0.8607 ppb	17:43:16
1	K 766.490 Radial†	1607.1	279.3	114.93 µg/L	114.93 ppb	17:42:56
1	Mg 279.077 IEC†	184.4	13.9	5.6942 µg/L	5.6942 ppb	17:43:16
1	Na 589.592 Radial†	1613.7	392.0	59.428 µg/L	59.428 ppb	17:42:56
1	Sr 421.552†	-96.8	125.8	0.2902 µg/L	0.2902 ppb	17:42:56
1	Sc 361.383	1740851.3	1740851.3	99.189 %		17:44:04
1	Y 371.029	1055585.6	1055585.6	99.205 %		17:44:04
1	Ag 328.068†	3751.0	334.6	1.3196 µg/L	1.3196 ppb	17:44:06
1	As 188.979†	-17.7	-0.1	-0.0475 µg/L	-0.0475 ppb	17:44:26
1	B 249.677†	3297.4	94.0	1.5332 µg/L	1.5332 ppb	17:44:26
1	Ba 233.527†	-135.0	26.1	0.1138 µg/L	0.1138 ppb	17:44:26
1	Be 313.107†	-465.5	316.3	0.0913 µg/L	0.0913 ppb	17:44:06
1	Cd 226.502†	-102.2	7.0	0.0477 µg/L	0.0477 ppb	17:44:26
1	Co 228.616†	-169.2	1.9	0.0256 µg/L	0.0256 ppb	17:44:26
1	Cr 267.716†	161.7	-15.5	-0.1210 µg/L	-0.1210 ppb	17:44:26
1	Cu 324.752†	2892.8	127.5	0.5274 µg/L	0.5274 ppb	17:44:06
1	Mn 257.610†	188.2	14.2	0.0187 µg/L	0.0187 ppb	17:44:26
1	Mo 202.031†	-34.7	-0.2	-0.0073 µg/L	-0.0073 ppb	17:44:26
1	Ni 231.604†	-81.0	-3.7	-0.0471 µg/L	-0.0471 ppb	17:44:26
1	P 214.914†	16.6	11.8	2.8139 µg/L	2.8139 ppb	17:44:26
1	Pb 220.353†	73.7	-22.7	-1.3818 µg/L	-1.3818 ppb	17:44:26
1	S 181.975 Axial†	92.6	5.7	4.6757 µg/L	4.6757 ppb	17:44:26
1	Sb 206.836†	88.1	10.7	1.4077 µg/L	1.4077 ppb	17:44:26
1	Se 196.026†	26.9	13.5	5.40 µg/L	5.40 ppb	17:44:26
1	SiO2†	1702.4	-36.8	-3.9566 µg/L	-3.9566 ppb	17:44:26
1	Si 251.611†	805.5	-136.5	-2.2166 µg/L	-2.2166 ppb	17:44:26
1	Sn 189.927†	12.1	14.8	1.0220 µg/L	1.0220 ppb	17:44:26
1	Ti 334.940†	782.8	-96.4	-0.0921 µg/L	-0.0921 ppb	17:44:06
1	Tl 190.801†	-109.4	6.8	0.9176 µg/L	0.9176 ppb	17:44:26
1	U 409.014†	-471.7	-191.8	-11.993 µg/L	-11.993 ppb	17:44:06
1	V 292.402†	376.2	69.5	0.3602 µg/L	0.3602 ppb	17:44:06
1	Zn 213.857†	507.0	-13.4	-0.0835 µg/L	-0.0835 ppb	17:44:26
2	Sc RADIAL	151236.2	151236.2	102 %		17:43:18
2	Al 396.153Radial†	-21.0	42.4	8.7168 µg/L	8.7168 ppb	17:43:38
2	Ca 317.933Radial†	653.0	-59.6	-3.5888 µg/L	-3.5888 ppb	17:43:38
2	Fe 238.204 Radial†	152.7	8.6	0.5778 µg/L	0.5778 ppb	17:43:38
2	K 766.490 Radial†	1413.4	68.8	28.307 µg/L	28.307 ppb	17:43:18
2	Mg 279.077 IEC†	159.0	-13.3	-5.4565 µg/L	-5.4565 ppb	17:43:38
2	Na 589.592 Radial†	1467.8	228.1	34.616 µg/L	34.616 ppb	17:43:18
2	Sr 421.552†	-229.5	-2.7	-0.0061 µg/L	-0.0061 ppb	17:43:18
2	Sc 361.383	1789733.9	1789733.9	101.97 %		17:44:28
2	Y 371.029	1083381.9	1083381.9	101.82 %		17:44:28
2	Ag 328.068†	3704.7	185.9	0.7594 µg/L	0.7594 ppb	17:44:30
2	As 188.979†	-20.5	-2.5	-0.8602 µg/L	-0.8602 ppb	17:44:51
2	B 249.677†	3265.6	-27.9	-0.4549 µg/L	-0.4549 ppb	17:44:51
2	Ba 233.527†	-147.6	17.4	0.0763 µg/L	0.0763 ppb	17:44:51
2	Be 313.107†	-589.1	207.9	0.0663 µg/L	0.0663 ppb	17:44:30
2	Cd 226.502†	-88.1	23.7	0.1626 µg/L	0.1626 ppb	17:44:51
2	Co 228.616†	-190.6	-14.5	-0.1957 µg/L	-0.1957 ppb	17:44:51
2	Cr 267.716†	149.7	-31.7	-0.2772 µg/L	-0.2772 ppb	17:44:51
2	Cu 324.752†	2754.5	-87.8	-0.3595 µg/L	-0.3595 ppb	17:44:30
2	Mn 257.610†	189.1	9.9	0.0134 µg/L	0.0134 ppb	17:44:51
2	Mo 202.031†	-22.2	13.0	0.4125 µg/L	0.4125 ppb	17:44:51
2	Ni 231.604†	-63.7	15.4	0.1938 µg/L	0.1938 ppb	17:44:51
2	P 214.914†	14.2	9.0	2.1371 µg/L	2.1371 ppb	17:44:51
2	Pb 220.353†	93.1	-5.6	-0.3521 µg/L	-0.3521 ppb	17:44:51

2	S 181.975 Axial†	103.3	13.6	11.162 µg/L	11.162 ppb	17:44:51
2	Sb 206.836†	65.2	-14.2	-1.8489 µg/L	-1.8489 ppb	17:44:51
2	Se 196.026†	14.8	1.0	0.409 µg/L	0.409 ppb	17:44:51
2	SiO2†	1667.3	-118.1	-12.646 µg/L	-12.646 ppb	17:44:51
2	Si 251.611†	773.3	-190.4	-3.0841 µg/L	-3.0841 ppb	17:44:51
2	Sn 189.927†	-8.6	-5.9	-0.4098 µg/L	-0.4098 ppb	17:44:51
2	Ti 334.940†	770.5	-130.0	-0.1350 µg/L	-0.1350 ppb	17:44:30
2	Tl 190.801†	-116.4	2.9	0.3948 µg/L	0.3948 ppb	17:44:51
2	U 409.014†	-81.5	203.9	12.791 µg/L	12.791 ppb	17:44:30
2	V 292.402†	391.1	73.7	0.4028 µg/L	0.4028 ppb	17:44:30
2	Zn 213.857†	509.1	-25.3	-0.1579 µg/L	-0.1579 ppb	17:44:51
3	Sc RADIAL	153128.4	153128.4	104 %		17:43:40
3	Al 396.153Radial†	-66.6	-1.4	-0.2868 µg/L	-0.2868 ppb	17:44:00
3	Ca 317.933Radial†	663.9	-57.1	-3.4340 µg/L	-3.4340 ppb	17:44:00
3	Fe 238.204 Radial†	162.3	15.9	1.0724 µg/L	1.0724 ppb	17:44:00
3	K 766.490 Radial†	1397.3	36.1	14.869 µg/L	14.869 ppb	17:43:40
3	Mg 279.077 IEC†	188.4	13.1	5.3774 µg/L	5.3774 ppb	17:44:00
3	Na 589.592 Radial†	1362.5	108.7	16.495 µg/L	16.495 ppb	17:43:40
3	Sr 421.552†	-427.6	-191.1	-0.4409 µg/L	-0.4409 ppb	17:43:40
3	Sc 361.383	1735204.4	1735204.4	98.868 %		17:44:53
3	Y 371.029	1051337.1	1051337.1	98.806 %		17:44:53
3	Ag 328.068†	3394.5	-13.7	-0.0762 µg/L	-0.0762 ppb	17:44:55
3	As 188.979†	-6.8	10.8	3.7567 µg/L	3.7567 ppb	17:45:15
3	B 249.677†	3250.6	57.4	0.9360 µg/L	0.9360 ppb	17:45:15
3	Ba 233.527†	-155.9	4.5	0.0193 µg/L	0.0193 ppb	17:45:15
3	Be 313.107†	-860.6	-84.9	-0.0295 µg/L	-0.0295 ppb	17:44:55
3	Cd 226.502†	-85.7	23.3	0.1600 µg/L	0.1600 ppb	17:45:15
3	Co 228.616†	-156.5	14.1	0.1911 µg/L	0.1911 ppb	17:45:15
3	Cr 267.716†	170.5	-6.1	-0.0410 µg/L	-0.0410 ppb	17:45:15
3	Cu 324.752†	2758.1	0.7	-0.0075 µg/L	-0.0075 ppb	17:44:55
3	Mn 257.610†	168.3	-5.4	-0.0074 µg/L	-0.0074 ppb	17:45:15
3	Mo 202.031†	-34.1	0.3	0.0091 µg/L	0.0091 ppb	17:45:15
3	Ni 231.604†	-62.8	14.3	0.1804 µg/L	0.1804 ppb	17:45:15
3	P 214.914†	9.9	5.0	1.2075 µg/L	1.2075 ppb	17:45:15
3	Pb 220.353†	88.3	-7.7	-0.4611 µg/L	-0.4611 ppb	17:45:15
3	S 181.975 Axial†	91.9	5.3	4.3277 µg/L	4.3277 ppb	17:45:15
3	Sb 206.836†	76.8	-0.4	-0.0552 µg/L	-0.0552 ppb	17:45:15
3	Se 196.026†	9.6	-3.8	-1.55 µg/L	-1.55 ppb	17:45:15
3	SiO2†	1679.3	-54.6	-5.8537 µg/L	-5.8537 ppb	17:45:15
3	Si 251.611†	744.3	-195.8	-3.1739 µg/L	-3.1739 ppb	17:45:15
3	Sn 189.927†	6.5	9.2	0.6338 µg/L	0.6338 ppb	17:45:15
3	Ti 334.940†	819.1	-57.1	-0.0523 µg/L	-0.0523 ppb	17:44:55
3	Tl 190.801†	-108.9	6.9	0.9222 µg/L	0.9222 ppb	17:45:15
3	U 409.014†	-490.6	-212.5	-13.335 µg/L	-13.335 ppb	17:44:55
3	V 292.402†	223.9	-83.4	-0.4518 µg/L	-0.4518 ppb	17:44:55
3	Zn 213.857†	524.3	5.7	0.0343 µg/L	0.0343 ppb	17:45:15

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1755263.2	100.01 %	1.709			1.71%
Sc RADIAL	151196.1	102 %	1.3			1.29%
Y 371.029	1063434.8	99.943 %	1.6357			1.64%
Ag 328.068†	168.9	0.6676 µg/L	0.70241	0.6676 ppb	0.70241	105.22%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	16.1	3.3215 µg/L	4.76035	3.3215 ppb	4.76035	143.32%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	2.7	0.9497 µg/L	2.46469	0.9497 ppb	2.46469	259.52%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	41.2	0.6714 µg/L	1.02013	0.6714 ppb	1.02013	151.93%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	16.0	0.0698 µg/L	0.04762	0.0698 ppb	0.04762	68.22%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	146.5	0.0427 µg/L	0.06375	0.0427 ppb	0.06375	149.33%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-53.0	-3.1865 µg/L	0.56796	-3.1865 ppb	0.56796	17.82%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	18.0	0.1234 µg/L	0.06561	0.1234 ppb	0.06561	53.17%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	0.5	0.0070 µg/L	0.19406	0.0070 ppb	0.19406	>999.9%

QC value within limits for Co 228.616	Recovery = Not calculated		
Cr 267.716†	-17.8 -0.1464 µg/L	0.12014 -0.1464 ppb	0.12014 82.06%
QC value within limits for Cr 267.716	Recovery = Not calculated		
Cu 324.752†	13.5 0.0535 µg/L	0.44662 0.0535 ppb	0.44662 835.30%
QC value within limits for Cu 324.752	Recovery = Not calculated		
Fe 238.204 Radial†	12.4 0.8369 µg/L	0.24815 0.8369 ppb	0.24815 29.65%
QC value within limits for Fe 238.204 Radial	Recovery = Not calculated		
K 766.490 Radial†	128.1 52.703 µg/L	54.3096 52.703 ppb	54.3096 103.05%
QC value within limits for K 766.490 Radial	Recovery = Not calculated		
Mg 279.077 IEC†	4.6 1.8717 µg/L	6.34837 1.8717 ppb	6.34837 339.17%
QC value within limits for Mg 279.077 IEC	Recovery = Not calculated		
Mn 257.610†	6.2 0.0082 µg/L	0.01382 0.0082 ppb	0.01382 167.68%
QC value within limits for Mn 257.610	Recovery = Not calculated		
Mo 202.031†	4.3 0.1381 µg/L	0.23777 0.1381 ppb	0.23777 172.20%
QC value within limits for Mo 202.031	Recovery = Not calculated		
Na 589.592 Radial†	243.0 36.846 µg/L	21.5535 36.846 ppb	21.5535 58.50%
QC value within limits for Na 589.592 Radial	Recovery = Not calculated		
Ni 231.604†	8.7 0.1090 µg/L	0.13543 0.1090 ppb	0.13543 124.19%
QC value within limits for Ni 231.604	Recovery = Not calculated		
P 214.914†	8.6 2.0528 µg/L	0.80647 2.0528 ppb	0.80647 39.29%
QC value within limits for P 214.914	Recovery = Not calculated		
Pb 220.353†	-12.0 -0.7317 µg/L	0.56567 -0.7317 ppb	0.56567 77.31%
QC value within limits for Pb 220.353	Recovery = Not calculated		
S 181.975 Axial†	8.2 6.7217 µg/L	3.84909 6.7217 ppb	3.84909 57.26%
QC value within limits for S 181.975 Axial	Recovery = Not calculated		
Sb 206.836†	-1.3 -0.1655 µg/L	1.63108 -0.1655 ppb	1.63108 985.78%
QC value within limits for Sb 206.836	Recovery = Not calculated		
Se 196.026†	3.6 1.42 µg/L	3.583 1.42 ppb	3.583 252.41%
QC value within limits for Se 196.026	Recovery = Not calculated		
SiO2†	-69.9 -7.4854 µg/L	4.56863 -7.4854 ppb	4.56863 61.03%
QC value within limits for SiO2	Recovery = Not calculated		
Si 251.611†	-174.2 -2.8248 µg/L	0.52869 -2.8248 ppb	0.52869 18.72%
QC value within limits for Si 251.611	Recovery = Not calculated		
Sn 189.927†	6.0 0.4153 µg/L	0.74044 0.4153 ppb	0.74044 178.28%
QC value within limits for Sn 189.927	Recovery = Not calculated		
Sr 421.552†	-22.7 -0.0523 µg/L	0.36773 -0.0523 ppb	0.36773 703.35%
QC value within limits for Sr 421.552	Recovery = Not calculated		
Ti 334.940†	-94.5 -0.0932 µg/L	0.04138 -0.0932 ppb	0.04138 44.41%
QC value within limits for Ti 334.940	Recovery = Not calculated		
Tl 190.801†	5.5 0.7449 µg/L	0.30318 0.7449 ppb	0.30318 40.70%
QC value within limits for Tl 190.801	Recovery = Not calculated		
U 409.014†	-66.8 -4.1790 µg/L	14.71171 -4.1790 ppb	14.71171 352.04%
QC value within limits for U 409.014	Recovery = Not calculated		
V 292.402†	19.9 0.1037 µg/L	0.48160 0.1037 ppb	0.48160 464.37%
QC value within limits for V 292.402	Recovery = Not calculated		
Zn 213.857†	-11.0 -0.0690 µg/L	0.09694 -0.0690 ppb	0.09694 140.45%
QC value within limits for Zn 213.857	Recovery = Not calculated		

All analyte(s) passed QC.



Sequence No.: 19

Sample ID: 248516001|962580|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 149

Date Collected: 3/30/2010 17:45:22

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 248516001|962580|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	150233.6	150233.6	102 %		17:45:53
1	Al 396.153Radial†	41.9	104.1	21.453 µg/L	21.453 ppb	17:46:13
1	Ca 317.933Radial†	1164.8	448.2	26.965 µg/L	26.965 ppb	17:46:13
1	Fe 238.204 Radial†	388.6	241.6	16.260 µg/L	16.260 ppb	17:46:13
1	K 766.490 Radial†	1969.7	625.4	257.33 µg/L	257.33 ppb	17:45:53
1	Mg 279.077 IEC†	194.5	22.6	9.2756 µg/L	9.2756 ppb	17:46:13
1	Na 589.592 Radial†	2720.1	1470.0	222.98 µg/L	222.98 ppb	17:45:53
1	Sr 421.552†	-129.3	94.4	0.2176 µg/L	0.2176 ppb	17:45:53
1	Sc 361.383	1756495.8	1756495.8	100.08 %		17:47:15
1	Y 371.029	1059357.3	1059357.3	99.559 %		17:47:15
1	Ag 328.068†	3361.6	-88.2	-0.3374 µg/L	-0.3374 ppb	17:47:17
1	As 188.979†	-10.2	7.5	2.6156 µg/L	2.6156 ppb	17:47:37
1	B 249.677†	4680.4	1446.3	23.579 µg/L	23.579 ppb	17:47:17
1	Ba 233.527†	-87.8	74.4	0.3245 µg/L	0.3245 ppb	17:47:37
1	Be 313.107†	-563.1	222.9	0.0676 µg/L	0.0676 ppb	17:47:17
1	Cd 226.502†	-96.2	13.9	0.0934 µg/L	0.0934 ppb	17:47:37
1	Co 228.616†	-153.6	19.0	0.2562 µg/L	0.2562 ppb	17:47:37
1	Cr 267.716†	188.4	9.7	0.0803 µg/L	0.0803 ppb	17:47:37
1	Cu 324.752†	2725.4	-65.7	-0.2723 µg/L	-0.2723 ppb	17:47:17
1	Mn 257.610†	831.7	655.4	0.8756 µg/L	0.8756 ppb	17:47:37
1	Mo 202.031†	-35.3	-0.5	-0.0149 µg/L	-0.0149 ppb	17:47:37
1	Ni 231.604†	-77.6	0.4	0.0046 µg/L	0.0046 ppb	17:47:37
1	P 214.914†	2.1	-2.9	-0.6747 µg/L	-0.6747 ppb	17:47:37
1	Pb 220.353†	86.9	-10.1	-0.6203 µg/L	-0.6203 ppb	17:47:37
1	S 181.975 Axial†	106.2	18.4	15.097 µg/L	15.097 ppb	17:47:37
1	Sb 206.836†	69.3	-8.8	-1.1521 µg/L	-1.1521 ppb	17:47:37
1	Se 196.026†	22.1	8.5	3.42 µg/L	3.42 ppb	17:47:37
1	SiO2†	29841.3	28064.1	3002.4 µg/L	3002.4 ppb	17:47:17
1	Si 251.611†	87247.0	86227.9	1395.7 µg/L	1395.7 ppb	17:47:17
1	Sn 189.927†	29.8	32.3	2.2366 µg/L	2.2366 ppb	17:47:37
1	Ti 334.940†	1398.6	511.9	0.5119 µg/L	0.5119 ppb	17:47:17
1	Tl 190.801†	-116.6	0.6	0.0886 µg/L	0.0886 ppb	17:47:37
1	U 409.014†	-248.5	35.5	2.2791 µg/L	2.2791 ppb	17:47:17
1	V 292.402†	488.8	178.5	0.9474 µg/L	0.9474 ppb	17:47:17
1	Zn 213.857†	708.8	183.7	1.1382 µg/L	1.1382 ppb	17:47:37
2	Sc RADIAL	150891.9	150891.9	102 %		17:46:15
2	Al 396.153Radial†	14.3	76.9	15.858 µg/L	15.858 ppb	17:46:35
2	Ca 317.933Radial†	1189.1	466.9	28.095 µg/L	28.095 ppb	17:46:35
2	Fe 238.204 Radial†	406.6	257.7	17.340 µg/L	17.340 ppb	17:46:35
2	K 766.490 Radial†	2067.7	712.9	293.36 µg/L	293.36 ppb	17:46:15
2	Mg 279.077 IEC†	200.7	27.8	11.380 µg/L	11.380 ppb	17:46:35
2	Na 589.592 Radial†	2674.5	1413.6	214.39 µg/L	214.39 ppb	17:46:15
2	Sr 421.552†	-48.2	174.5	0.4022 µg/L	0.4022 ppb	17:46:15
2	Sc 361.383	1774456.4	1774456.4	101.10 %		17:47:39
2	Y 371.029	1069454.8	1069454.8	100.51 %		17:47:39
2	Ag 328.068†	3610.2	123.6	0.4845 µg/L	0.4845 ppb	17:47:42
2	As 188.979†	-11.4	6.4	2.2314 µg/L	2.2314 ppb	17:48:02
2	B 249.677†	4712.7	1430.9	23.328 µg/L	23.328 ppb	17:47:42
2	Ba 233.527†	-125.1	38.4	0.1668 µg/L	0.1668 ppb	17:48:02
2	Be 313.107†	-563.7	228.1	0.0680 µg/L	0.0680 ppb	17:47:42
2	Cd 226.502†	-87.9	23.1	0.1569 µg/L	0.1569 ppb	17:48:02
2	Co 228.616†	-157.6	16.6	0.2235 µg/L	0.2235 ppb	17:48:02
2	Cr 267.716†	208.8	27.9	0.2366 µg/L	0.2366 ppb	17:48:02
2	Cu 324.752†	2982.5	161.0	0.6801 µg/L	0.6801 ppb	17:47:42
2	Mn 257.610†	828.6	644.0	0.8603 µg/L	0.8603 ppb	17:48:02
2	Mo 202.031†	-44.5	-9.3	-0.2936 µg/L	-0.2936 ppb	17:48:02
2	Ni 231.604†	-49.2	29.3	0.3681 µg/L	0.3681 ppb	17:48:02
2	P 214.914†	33.2	27.9	6.6552 µg/L	6.6552 ppb	17:48:02
2	Pb 220.353†	92.3	-5.6	-0.3443 µg/L	-0.3443 ppb	17:48:02

2	S 181.975 Axial†	116.6	27.6	22.636 µg/L	22.636 ppb	17:48:02
2	Sb 206.836†	82.2	3.2	0.4160 µg/L	0.4160 ppb	17:48:02
2	Se 196.026†	25.9	12.0	4.83 µg/L	4.83 ppb	17:48:02
2	SiO2†	29832.7	27753.7	2969.2 µg/L	2969.2 ppb	17:47:42
2	Si 251.611†	87912.2	86003.5	1392.1 µg/L	1392.1 ppb	17:47:42
2	Sn 189.927†	35.8	38.0	2.6318 µg/L	2.6318 ppb	17:48:02
2	Ti 334.940†	1301.4	401.6	0.4027 µg/L	0.4027 ppb	17:47:42
2	Tl 190.801†	-120.8	-2.4	-0.3214 µg/L	-0.3214 ppb	17:48:02
2	U 409.014†	-311.3	-24.2	-1.5309 µg/L	-1.5309 ppb	17:47:42
2	V 292.402†	248.0	-64.5	-0.3478 µg/L	-0.3478 ppb	17:47:42
2	Zn 213.857†	689.3	157.2	0.9705 µg/L	0.9705 ppb	17:48:02
3	Sc RADIAL	148238.5	148238.5	100 %		17:46:37
3	Al 396.153Radial†	43.9	106.6	21.976 µg/L	21.976 ppb	17:46:57
3	Ca 317.933Radial†	1177.3	476.0	28.642 µg/L	28.642 ppb	17:46:57
3	Fe 238.204 Radial†	394.8	253.0	17.022 µg/L	17.022 ppb	17:46:57
3	K 766.490 Radial†	1953.5	635.3	261.42 µg/L	261.42 ppb	17:46:37
3	Mg 279.077 IEC†	190.0	20.7	8.4620 µg/L	8.4620 ppb	17:46:57
3	Na 589.592 Radial†	2694.3	1480.2	224.53 µg/L	224.53 ppb	17:46:37
3	Sr 421.552†	-55.4	166.4	0.3836 µg/L	0.3836 ppb	17:46:37
3	Sc 361.383	1814745.1	1814745.1	103.40 %		17:48:04
3	Y 371.029	1092978.8	1092978.8	102.72 %		17:48:04
3	Ag 328.068†	3438.4	-121.8	-0.4890 µg/L	-0.4890 ppb	17:48:06
3	As 188.979†	-25.3	-6.8	-2.3512 µg/L	-2.3512 ppb	17:48:26
3	B 249.677†	4773.9	1386.6	22.608 µg/L	22.608 ppb	17:48:06
3	Ba 233.527†	-98.0	67.3	0.2928 µg/L	0.2928 ppb	17:48:26
3	Be 313.107†	-591.1	213.9	0.0640 µg/L	0.0640 ppb	17:48:06
3	Cd 226.502†	-104.0	9.5	0.0634 µg/L	0.0634 ppb	17:48:26
3	Co 228.616†	-192.1	-13.3	-0.1807 µg/L	-0.1807 ppb	17:48:26
3	Cr 267.716†	222.5	36.6	0.3094 µg/L	0.3094 ppb	17:48:26
3	Cu 324.752†	2898.4	14.2	0.0618 µg/L	0.0618 ppb	17:48:06
3	Mn 257.610†	857.7	653.9	0.8736 µg/L	0.8736 ppb	17:48:26
3	Mo 202.031†	-36.5	-0.6	-0.0175 µg/L	-0.0175 ppb	17:48:26
3	Ni 231.604†	-41.9	37.4	0.4707 µg/L	0.4707 ppb	17:48:26
3	P 214.914†	33.7	27.6	6.5926 µg/L	6.5926 ppb	17:48:26
3	Pb 220.353†	92.3	-7.7	-0.4714 µg/L	-0.4714 ppb	17:48:26
3	S 181.975 Axial†	120.9	29.2	23.964 µg/L	23.964 ppb	17:48:26
3	Sb 206.836†	79.8	-0.9	-0.1200 µg/L	-0.1200 ppb	17:48:26
3	Se 196.026†	15.8	1.7	0.698 µg/L	0.698 ppb	17:48:26
3	SiO2†	30248.2	27500.5	2942.1 µg/L	2942.1 ppb	17:48:06
3	Si 251.611†	88896.7	85025.1	1376.2 µg/L	1376.2 ppb	17:48:06
3	Sn 189.927†	32.4	33.8	2.3437 µg/L	2.3437 ppb	17:48:26
3	Ti 334.940†	1374.2	443.5	0.4445 µg/L	0.4445 ppb	17:48:06
3	Tl 190.801†	-119.1	1.9	0.2634 µg/L	0.2634 ppb	17:48:26
3	U 409.014†	-303.2	-9.4	-0.6039 µg/L	-0.6039 ppb	17:48:06
3	V 292.402†	268.8	-49.9	-0.2664 µg/L	-0.2664 ppb	17:48:06
3	Zn 213.857†	711.2	163.3	1.0080 µg/L	1.0080 ppb	17:48:26

Mean Data: 248516001|962580|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1781899.1	101.53 %	1.700			1.67%
Sc RADIAL	149788.0	101 %	0.9			0.92%
Y 371.029	1073930.3	100.93 %	1.621			1.61%
Ag 328.068†	-28.8	-0.1140 µg/L	0.52377	-0.1140 ppb	0.52377	459.55%
Al 396.153Radial†	95.9	19.762 µg/L	3.3910	19.762 ppb	3.3910	17.16%
As 188.979†	2.4	0.8319 µg/L	2.76335	0.8319 ppb	2.76335	332.16%
B 249.677†	1421.2	23.172 µg/L	0.5044	23.172 ppb	0.5044	2.18%
Ba 233.527†	60.1	0.2613 µg/L	0.08343	0.2613 ppb	0.08343	31.92%
Be 313.107†	221.6	0.0665 µg/L	0.00219	0.0665 ppb	0.00219	3.29%
Ca 317.933Radial†	463.7	27.901 µg/L	0.8553	27.901 ppb	0.8553	3.07%
Cd 226.502†	15.5	0.1045 µg/L	0.04775	0.1045 ppb	0.04775	45.68%
Co 228.616†	7.4	0.0997 µg/L	0.24337	0.0997 ppb	0.24337	244.14%
Cr 267.716†	24.7	0.2087 µg/L	0.11705	0.2087 ppb	0.11705	56.07%
Cu 324.752†	36.5	0.1565 µg/L	0.48320	0.1565 ppb	0.48320	308.76%
Fe 238.204 Radial†	250.8	16.874 µg/L	0.5547	16.874 ppb	0.5547	3.29%
K 766.490 Radial†	657.9	270.70 µg/L	19.724	270.70 ppb	19.724	7.29%
Mg 279.077 IEC†	23.7	9.7058 µg/L	1.50568	9.7058 ppb	1.50568	15.51%
Mn 257.610†	651.1	0.8698 µg/L	0.00835	0.8698 ppb	0.00835	0.96%
Mo 202.031†	-3.4	-0.1087 µg/L	0.16016	-0.1087 ppb	0.16016	147.40%
Na 589.592 Radial†	1454.6	220.64 µg/L	5.465	220.64 ppb	5.465	2.48%

Ni 231.604†	22.3	0.2811 µg/L	0.24492	0.2811 ppb	0.24492	87.13%
P 214.914†	17.5	4.1910 µg/L	4.21399	4.1910 ppb	4.21399	100.55%
Pb 220.353†	-7.8	-0.4787 µg/L	0.13817	-0.4787 ppb	0.13817	28.87%
S 181.975 Axial†	25.1	20.566 µg/L	4.7823	20.566 ppb	4.7823	23.25%
Sb 206.836†	-2.2	-0.2854 µg/L	0.79701	-0.2854 ppb	0.79701	279.27%
Se 196.026†	7.4	2.98 µg/L	2.099	2.98 ppb	2.099	70.39%
SiO2†	27772.8	2971.2 µg/L	30.20	2971.2 ppb	30.20	1.02%
Si 251.611†	85752.2	1388.0 µg/L	10.35	1388.0 ppb	10.35	0.75%
Sn 189.927†	34.7	2.4040 µg/L	0.20437	2.4040 ppb	0.20437	8.50%
Sr 421.552†	145.1	0.3345 µg/L	0.10162	0.3345 ppb	0.10162	30.38%
Ti 334.940†	452.3	0.4530 µg/L	0.05511	0.4530 ppb	0.05511	12.16%
Tl 190.801†	0.0	0.0102 µg/L	0.30019	0.0102 ppb	0.30019	>999.9%
U 409.014†	0.6	0.0481 µg/L	1.98693	0.0481 ppb	1.98693	>999.9%
V 292.402†	21.4	0.1111 µg/L	0.72545	0.1111 ppb	0.72545	653.16%
Zn 213.857†	168.1	1.0389 µg/L	0.08800	1.0389 ppb	0.08800	8.47%

Sequence No.: 20

Sample ID: 248516002|962580|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 150

Date Collected: 3/30/2010 17:48:34

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 248516002|962580|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	149305.0	149305.0	101 %		17:49:04
1	Al 396.153Radial†	44.9	107.4	22.137 µg/L	22.137 ppb	17:49:24
1	Ca 317.933Radial†	1221.6	511.5	30.778 µg/L	30.778 ppb	17:49:24
1	Fe 238.204 Radial†	723.3	575.5	38.722 µg/L	38.722 ppb	17:49:24
1	K 766.490 Radial†	1899.7	568.1	233.76 µg/L	233.76 ppb	17:49:04
1	Mg 279.077 IEC†	190.2	19.5	7.9773 µg/L	7.9773 ppb	17:49:24
1	Na 589.592 Radial†	2661.6	1428.7	216.73 µg/L	216.73 ppb	17:49:04
1	Sr 421.552†	-219.1	4.7	0.0106 µg/L	0.0106 ppb	17:49:04
1	Sc 361.383	1748731.2	1748731.2	99.638 %		17:50:26
1	Y 371.029	1054839.7	1054839.7	99.135 %		17:50:26
1	Ag 328.068†	3469.5	35.0	0.1519 µg/L	0.1519 ppb	17:50:28
1	As 188.979†	-16.9	0.7	0.2595 µg/L	0.2595 ppb	17:50:48
1	B 249.677†	4568.0	1354.3	22.082 µg/L	22.082 ppb	17:50:28
1	Ba 233.527†	-128.6	33.1	0.1434 µg/L	0.1434 ppb	17:50:48
1	Be 313.107†	-835.4	-52.8	-0.0117 µg/L	-0.0117 ppb	17:50:28
1	Cd 226.502†	-97.7	12.0	0.0782 µg/L	0.0782 ppb	17:50:48
1	Co 228.616†	-194.0	-22.2	-0.3027 µg/L	-0.3027 ppb	17:50:48
1	Cr 267.716†	174.7	-3.3	-0.0373 µg/L	-0.0373 ppb	17:50:48
1	Cu 324.752†	2792.2	13.4	0.0736 µg/L	0.0736 ppb	17:50:28
1	Mn 257.610†	755.7	582.8	0.7786 µg/L	0.7786 ppb	17:50:48
1	Mo 202.031†	-41.3	-6.7	-0.2104 µg/L	-0.2104 ppb	17:50:48
1	Ni 231.604†	-75.6	2.0	0.0252 µg/L	0.0252 ppb	17:50:48
1	P 214.914†	15.9	11.0	2.5981 µg/L	2.5981 ppb	17:50:48
1	Pb 220.353†	97.0	0.4	0.0128 µg/L	0.0128 ppb	17:50:48
1	S 181.975 Axial†	108.3	21.0	17.220 µg/L	17.220 ppb	17:50:48
1	Sb 206.836†	80.7	3.0	0.3843 µg/L	0.3843 ppb	17:50:48
1	Se 196.026†	23.9	10.4	4.19 µg/L	4.19 ppb	17:50:48
1	SiO2†	29742.6	28097.4	3006.0 µg/L	3006.0 ppb	17:50:28
1	Si 251.611†	87823.4	87193.4	1411.3 µg/L	1411.3 ppb	17:50:28
1	Sn 189.927†	6.1	8.7	0.6014 µg/L	0.6014 ppb	17:50:48
1	Ti 334.940†	1326.0	445.2	0.4406 µg/L	0.4406 ppb	17:50:28
1	Tl 190.801†	-131.1	-14.5	-1.9408 µg/L	-1.9408 ppb	17:50:48
1	U 409.014†	-63.6	219.9	13.758 µg/L	13.758 ppb	17:50:28
1	V 292.402†	264.8	-44.1	-0.2318 µg/L	-0.2318 ppb	17:50:28
1	Zn 213.857†	729.5	207.6	1.2838 µg/L	1.2838 ppb	17:50:48
2	Sc RADIAL	149636.8	149636.8	101 %		17:49:26
2	Al 396.153Radial†	30.7	93.2	19.194 µg/L	19.194 ppb	17:49:46
2	Ca 317.933Radial†	1200.0	487.6	29.336 µg/L	29.336 ppb	17:49:46
2	Fe 238.204 Radial†	718.9	569.5	38.321 µg/L	38.321 ppb	17:49:46
2	K 766.490 Radial†	1952.6	616.2	253.56 µg/L	253.56 ppb	17:49:26
2	Mg 279.077 IEC†	202.8	31.6	12.945 µg/L	12.945 ppb	17:49:46
2	Na 589.592 Radial†	2551.1	1313.7	199.25 µg/L	199.25 ppb	17:49:26
2	Sr 421.552†	-96.3	126.5	0.2916 µg/L	0.2916 ppb	17:49:26
2	Sc 361.383	1747434.9	1747434.9	99.565 %		17:50:50
2	Y 371.029	1054972.3	1054972.3	99.147 %		17:50:50
2	Ag 328.068†	3413.7	-18.4	-0.0875 µg/L	-0.0875 ppb	17:50:52
2	As 188.979†	-23.7	-6.2	-2.1391 µg/L	-2.1391 ppb	17:51:12
2	B 249.677†	4598.0	1387.8	22.628 µg/L	22.628 ppb	17:50:52
2	Ba 233.527†	-114.3	47.3	0.2060 µg/L	0.2060 ppb	17:51:12
2	Be 313.107†	-717.9	64.5	0.0154 µg/L	0.0154 ppb	17:50:52
2	Cd 226.502†	-83.5	26.2	0.1758 µg/L	0.1758 ppb	17:51:12
2	Co 228.616†	-201.5	-30.0	-0.4069 µg/L	-0.4069 ppb	17:51:12
2	Cr 267.716†	175.4	-2.4	-0.0084 µg/L	-0.0084 ppb	17:51:12
2	Cu 324.752†	2956.9	180.9	0.7572 µg/L	0.7572 ppb	17:50:52
2	Mn 257.610†	762.8	590.6	0.7888 µg/L	0.7888 ppb	17:51:12
2	Mo 202.031†	-22.8	11.9	0.3794 µg/L	0.3794 ppb	17:51:12
2	Ni 231.604†	-81.4	-3.8	-0.0482 µg/L	-0.0482 ppb	17:51:12
2	P 214.914†	19.9	15.0	3.5436 µg/L	3.5436 ppb	17:51:12
2	Pb 220.353†	75.8	-20.8	-1.2625 µg/L	-1.2625 ppb	17:51:12

2	S 181.975 Axial†	115.6	28.4	23.272 µg/L	23.272 ppb	17:51:12
2	Sb 206.836†	89.5	11.8	1.5543 µg/L	1.5543 ppb	17:51:12
2	Se 196.026†	22.7	9.3	3.70 µg/L	3.70 ppb	17:51:12
2	SiO2†	29683.7	28060.3	3002.0 µg/L	3002.0 ppb	17:50:52
2	Si 251.611†	87160.1	86592.6	1401.6 µg/L	1401.6 ppb	17:50:52
2	Sn 189.927†	0.9	3.5	0.2418 µg/L	0.2418 ppb	17:51:12
2	Ti 334.940†	1226.8	346.6	0.3524 µg/L	0.3524 ppb	17:50:52
2	Tl 190.801†	-122.0	-5.5	-0.7236 µg/L	-0.7236 ppb	17:51:12
2	U 409.014†	-493.1	-211.5	-13.233 µg/L	-13.233 ppb	17:50:52
2	V 292.402†	360.5	52.3	0.2680 µg/L	0.2680 ppb	17:50:52
2	Zn 213.857†	714.7	193.3	1.1946 µg/L	1.1946 ppb	17:51:12
3	Sc RADIAL	149190.8	149190.8	101 %		17:49:48
3	Al 396.153Radial†	34.4	96.9	19.997 µg/L	19.997 ppb	17:50:08
3	Ca 317.933Radial†	1223.9	514.7	30.970 µg/L	30.970 ppb	17:50:08
3	Fe 238.204 Radial†	720.4	573.1	38.565 µg/L	38.565 ppb	17:50:08
3	K 766.490 Radial†	1936.2	605.8	249.26 µg/L	249.26 ppb	17:49:48
3	Mg 279.077 IEC†	207.6	36.9	15.081 µg/L	15.081 ppb	17:50:08
3	Na 589.592 Radial†	2658.5	1427.6	216.55 µg/L	216.55 ppb	17:49:48
3	Sr 421.552†	-107.6	115.0	0.2651 µg/L	0.2651 ppb	17:49:48
3	Sc 361.383	1754440.4	1754440.4	99.964 %		17:51:14
3	Y 371.029	1057995.6	1057995.6	99.432 %		17:51:14
3	Ag 328.068†	3112.0	-334.0	-1.3370 µg/L	-1.3370 ppb	17:51:17
3	As 188.979†	-15.2	2.5	0.8713 µg/L	0.8713 ppb	17:51:37
3	B 249.677†	4664.4	1435.7	23.409 µg/L	23.409 ppb	17:51:17
3	Ba 233.527†	-139.2	22.9	0.0995 µg/L	0.0995 ppb	17:51:37
3	Be 313.107†	-837.6	-52.3	-0.0191 µg/L	-0.0191 ppb	17:51:17
3	Cd 226.502†	-135.8	-25.9	-0.1817 µg/L	-0.1817 ppb	17:51:37
3	Co 228.616†	-172.3	0.1	-0.0011 µg/L	-0.0011 ppb	17:51:37
3	Cr 267.716†	206.6	28.1	0.2470 µg/L	0.2470 ppb	17:51:37
3	Cu 324.752†	3027.9	240.1	1.0083 µg/L	1.0083 ppb	17:51:17
3	Mn 257.610†	767.0	591.7	0.7901 µg/L	0.7901 ppb	17:51:37
3	Mo 202.031†	-51.0	-16.3	-0.5150 µg/L	-0.5150 ppb	17:51:37
3	Ni 231.604†	-94.4	-16.6	-0.2083 µg/L	-0.2083 ppb	17:51:37
3	P 214.914†	4.7	-0.3	-0.0968 µg/L	-0.0968 ppb	17:51:37
3	Pb 220.353†	102.4	5.4	0.3405 µg/L	0.3405 ppb	17:51:37
3	S 181.975 Axial†	108.9	21.3	17.420 µg/L	17.420 ppb	17:51:37
3	Sb 206.836†	89.6	11.5	1.4989 µg/L	1.4989 ppb	17:51:37
3	Se 196.026†	4.2	-9.4	-3.75 µg/L	-3.75 ppb	17:51:37
3	SiO2†	29358.0	27615.5	2954.5 µg/L	2954.5 ppb	17:51:17
3	Si 251.611†	86534.8	85617.5	1385.8 µg/L	1385.8 ppb	17:51:17
3	Sn 189.927†	6.1	8.6	0.5964 µg/L	0.5964 ppb	17:51:37
3	Ti 334.940†	1241.4	356.3	0.3610 µg/L	0.3610 ppb	17:51:17
3	Tl 190.801†	-117.7	-0.7	-0.0863 µg/L	-0.0863 ppb	17:51:37
3	U 409.014†	-462.5	-178.9	-11.179 µg/L	-11.179 ppb	17:51:17
3	V 292.402†	399.1	89.4	0.4582 µg/L	0.4582 ppb	17:51:17
3	Zn 213.857†	729.5	205.2	1.2697 µg/L	1.2697 ppb	17:51:37

Mean Data: 248516002|962580|1

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1750202.2	99.722 %	%	0.2124			0.21%
Sc RADIAL	149377.5	101 %	%	0.2			0.16%
Y 371.029	1055935.8	99.238 %	%	0.1678			0.17%
Ag 328.068†	-105.8	-0.4242 µg/L	µg/L	0.79949	-0.4242 ppb	0.79949	188.47%
Al 396.153Radial†	99.2	20.443 µg/L	µg/L	1.5215	20.443 ppb	1.5215	7.44%
As 188.979†	-1.0	-0.3361 µg/L	µg/L	1.59114	-0.3361 ppb	1.59114	473.41%
B 249.677†	1392.6	22.706 µg/L	µg/L	0.6670	22.706 ppb	0.6670	2.94%
Ba 233.527†	34.5	0.1496 µg/L	µg/L	0.05350	0.1496 ppb	0.05350	35.76%
Be 313.107†	-13.5	-0.0051 µg/L	µg/L	0.01813	-0.0051 ppb	0.01813	352.69%
Ca 317.933Radial†	504.6	30.361 µg/L	µg/L	0.8934	30.361 ppb	0.8934	2.94%
Cd 226.502†	4.1	0.0241 µg/L	µg/L	0.18476	0.0241 ppb	0.18476	767.38%
Co 228.616†	-17.4	-0.2369 µg/L	µg/L	0.21077	-0.2369 ppb	0.21077	88.98%
Cr 267.716†	7.5	0.0671 µg/L	µg/L	0.15645	0.0671 ppb	0.15645	233.25%
Cu 324.752†	144.8	0.6130 µg/L	µg/L	0.48373	0.6130 ppb	0.48373	78.91%
Fe 238.204 Radial†	572.7	38.536 µg/L	µg/L	0.2019	38.536 ppb	0.2019	0.52%
K 766.490 Radial†	596.7	245.53 µg/L	µg/L	10.414	245.53 ppb	10.414	4.24%
Mg 279.077 IEC†	29.3	12.001 µg/L	µg/L	3.6446	12.001 ppb	3.6446	30.37%
Mn 257.610†	588.4	0.7858 µg/L	µg/L	0.00630	0.7858 ppb	0.00630	0.80%
Mo 202.031†	-3.7	-0.1153 µg/L	µg/L	0.45472	-0.1153 ppb	0.45472	394.24%
Na 589.592 Radial†	1390.0	210.85 µg/L	µg/L	10.039	210.85 ppb	10.039	4.76%

Ni 231.604†	-6.1	-0.0771 µg/L	0.11938	-0.0771 ppb	0.11938	154.85%
P 214.914†	8.5	2.0150 µg/L	1.88895	2.0150 ppb	1.88895	93.75%
Pb 220.353†	-5.0	-0.3031 µg/L	0.84690	-0.3031 ppb	0.84690	279.41%
S 181.975 Axial†	23.6	19.304 µg/L	3.4379	19.304 ppb	3.4379	17.81%
Sb 206.836†	8.8	1.1458 µg/L	0.66006	1.1458 ppb	0.66006	57.60%
Se 196.026†	3.4	1.38 µg/L	4.454	1.38 ppb	4.454	322.51%
SiO2†	27924.4	2987.5 µg/L	28.68	2987.5 ppb	28.68	0.96%
Si 251.611†	86467.9	1399.6 µg/L	12.87	1399.6 ppb	12.87	0.92%
Sn 189.927†	6.9	0.4799 µg/L	0.20618	0.4799 ppb	0.20618	42.96%
Sr 421.552†	82.1	0.1891 µg/L	0.15517	0.1891 ppb	0.15517	82.06%
Ti 334.940†	382.7	0.3847 µg/L	0.04862	0.3847 ppb	0.04862	12.64%
Tl 190.801†	-6.9	-0.9169 µg/L	0.94224	-0.9169 ppb	0.94224	102.76%
U 409.014†	-56.8	-3.5514 µg/L	15.02549	-3.5514 ppb	15.02549	423.09%
V 292.402†	32.5	0.1648 µg/L	0.35637	0.1648 ppb	0.35637	216.24%
Zn 213.857†	202.0	1.2494 µg/L	0.04793	1.2494 ppb	0.04793	3.84%

Sequence No.: 24

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 3/30/2010 18:00:22

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	149963.6	149963.6	101 %		18:00:56
1	Al 396.153Radial†	25208.6	24912.8	5110.3 µg/L	5110.3 ppb	18:00:56
1	Ca 317.933Radial†	86326.3	84400.0	5078.1 µg/L	5078.1 ppb	18:00:56
1	Fe 238.204 Radial†	76400.5	75172.7	5058.3 µg/L	5058.3 ppb	18:00:56
1	K 766.490 Radial†	13741.6	12233.3	5030.6 µg/L	5030.6 ppb	18:00:56
1	Mg 279.077 IEC†	12974.7	12621.3	5185.5 µg/L	5185.5 ppb	18:00:56
1	Na 589.592 Radial†	68473.2	66292.3	10062 µg/L	10062 ppb	18:00:56
1	Sr 421.552†	223153.6	220200.1	507.93 µg/L	507.93 ppb	18:00:54
1	Sc 361.383	1727309.1	1727309.1	98.418 %		18:01:08
1	Y 371.029	1034162.5	1034162.5	97.192 %		18:01:08
1	Ag 328.068†	127504.0	126106.7	507.56 µg/L	507.56 ppb	18:01:08
1	As 188.979†	1389.4	1429.4	506.06 µg/L	506.06 ppb	18:01:29
1	B 249.677†	33211.6	30515.2	495.77 µg/L	495.77 ppb	18:01:08
1	Ba 233.527†	113569.1	115556.9	503.56 µg/L	503.56 ppb	18:01:08
1	Be 313.107†	1649297.9	1676597.6	503.31 µg/L	503.31 ppb	18:01:08
1	Cd 226.502†	71908.8	73174.8	502.13 µg/L	502.13 ppb	18:01:08
1	Co 228.616†	36707.5	37470.0	507.04 µg/L	507.04 ppb	18:01:08
1	Cr 267.716†	58723.3	59488.8	501.11 µg/L	501.11 ppb	18:01:08
1	Cu 324.752†	119828.4	118965.8	502.87 µg/L	502.87 ppb	18:01:08
1	Mn 257.610†	371619.2	377417.8	504.24 µg/L	504.24 ppb	18:01:08
1	Mo 202.031†	15635.4	15921.5	506.91 µg/L	506.91 ppb	18:01:29
1	Ni 231.604†	39521.0	40234.3	506.06 µg/L	506.06 ppb	18:01:08
1	P 214.914†	10443.9	10606.8	2521.3 µg/L	2521.3 ppb	18:01:29
1	Pb 220.353†	8236.3	8271.7	508.08 µg/L	508.08 ppb	18:01:29
1	S 181.975 Axial†	1305.1	1238.3	1019.4 µg/L	1019.4 ppb	18:01:29
1	Sb 206.836†	3867.4	3851.5	506.23 µg/L	506.23 ppb	18:01:29
1	Se 196.026†	1260.5	1267.2	509 µg/L	509 ppb	18:01:29
1	SiO2†	51213.3	50283.5	5357.8 µg/L	5357.8 ppb	18:01:08
1	Si 251.611†	154028.3	155555.8	2507.8 µg/L	2507.8 ppb	18:01:08
1	Sn 189.927†	7184.1	7302.2	507.24 µg/L	507.24 ppb	18:01:29
1	Ti 334.940†	495803.0	502887.9	503.16 µg/L	503.16 ppb	18:01:08
1	Tl 190.801†	3592.4	3767.2	513.82 µg/L	513.82 ppb	18:01:29
1	U 409.014†	7260.0	7660.4	510.36 µg/L	510.36 ppb	18:01:08
1	V 292.402†	93039.1	94225.0	506.98 µg/L	506.98 ppb	18:01:08
1	Zn 213.857†	80748.7	81522.2	501.64 µg/L	501.64 ppb	18:01:08
2	Sc RADIAL	150679.1	150679.1	102 %		18:01:00
2	Al 396.153Radial†	25393.4	24976.1	5123.3 µg/L	5123.3 ppb	18:01:00
2	Ca 317.933Radial†	87448.3	85096.7	5120.1 µg/L	5120.1 ppb	18:01:00
2	Fe 238.204 Radial†	77162.3	75562.5	5084.5 µg/L	5084.5 ppb	18:01:00
2	K 766.490 Radial†	14059.0	12480.3	5132.3 µg/L	5132.3 ppb	18:01:00
2	Mg 279.077 IEC†	13106.1	12689.5	5213.5 µg/L	5213.5 ppb	18:01:00
2	Na 589.592 Radial†	69122.9	66609.2	10110 µg/L	10110 ppb	18:01:00
2	Sr 421.552†	224776.0	220747.3	509.19 µg/L	509.19 ppb	18:00:58
2	Sc 361.383	1719911.6	1719911.6	97.996 %		18:01:32
2	Y 371.029	1029896.4	1029896.4	96.791 %		18:01:32
2	Ag 328.068†	126855.3	126002.0	507.13 µg/L	507.13 ppb	18:01:32
2	As 188.979†	1392.6	1438.8	509.32 µg/L	509.32 ppb	18:01:52
2	B 249.677†	33255.8	30705.4	498.87 µg/L	498.87 ppb	18:01:32
2	Ba 233.527†	112718.1	115184.9	501.94 µg/L	501.94 ppb	18:01:32
2	Be 313.107†	1638841.3	1673135.1	502.27 µg/L	502.27 ppb	18:01:32
2	Cd 226.502†	71582.0	73155.7	501.99 µg/L	501.99 ppb	18:01:32
2	Co 228.616†	36493.4	37412.0	506.26 µg/L	506.26 ppb	18:01:32
2	Cr 267.716†	58378.6	59393.7	500.31 µg/L	500.31 ppb	18:01:32
2	Cu 324.752†	118925.8	118568.4	501.20 µg/L	501.20 ppb	18:01:32
2	Mn 257.610†	369553.2	376933.6	503.60 µg/L	503.60 ppb	18:01:32
2	Mo 202.031†	15590.5	15944.0	507.63 µg/L	507.63 ppb	18:01:52
2	Ni 231.604†	39259.9	40140.5	504.88 µg/L	504.88 ppb	18:01:32
2	P 214.914†	10376.2	10583.3	2515.7 µg/L	2515.7 ppb	18:01:52
2	Pb 220.353†	8224.0	8295.2	509.52 µg/L	509.52 ppb	18:01:52

2	S 181.975 Axial†	1280.5	1219.0	1003.5 µg/L	1003.5 ppb	18:01:52
2	Sb 206.836†	3875.7	3876.8	509.58 µg/L	509.58 ppb	18:01:52
2	Se 196.026†	1257.5	1269.6	510 µg/L	510 ppb	18:01:52
2	SiO2†	50739.1	50023.4	5330.0 µg/L	5330.0 ppb	18:01:32
2	Si 251.611†	152955.9	155134.6	2500.9 µg/L	2500.9 ppb	18:01:32
2	Sn 189.927†	7173.1	7322.3	508.62 µg/L	508.62 ppb	18:01:52
2	Ti 334.940†	492455.2	501638.5	501.91 µg/L	501.91 ppb	18:01:32
2	Tl 190.801†	3592.4	3782.9	515.92 µg/L	515.92 ppb	18:01:52
2	U 409.014†	7198.4	7629.3	508.35 µg/L	508.35 ppb	18:01:32
2	V 292.402†	92465.3	94046.0	506.03 µg/L	506.03 ppb	18:01:32
2	Zn 213.857†	80075.4	81188.1	499.57 µg/L	499.57 ppb	18:01:32
3	Sc RADIAL	150459.0	150459.0	102 %		18:01:04
3	Al 396.153Radial†	25239.2	24861.0	5099.8 µg/L	5099.8 ppb	18:01:04
3	Ca 317.933Radial†	86610.0	84398.5	5078.1 µg/L	5078.1 ppb	18:01:04
3	Fe 238.204 Radial†	76232.2	74759.3	5030.5 µg/L	5030.5 ppb	18:01:04
3	K 766.490 Radial†	14112.6	12553.2	5162.3 µg/L	5162.3 ppb	18:01:04
3	Mg 279.077 IEC†	12790.6	12398.3	5094.0 µg/L	5094.0 ppb	18:01:04
3	Na 589.592 Radial†	68460.4	66057.5	10026 µg/L	10026 ppb	18:01:04
3	Sr 421.552†	225258.6	221544.0	511.03 µg/L	511.03 ppb	18:01:02
3	Sc 361.383	1747302.6	1747302.6	99.557 %		18:01:55
3	Y 371.029	1046057.1	1046057.1	98.310 %		18:01:55
3	Ag 328.068†	127799.7	124921.3	502.82 µg/L	502.82 ppb	18:01:55
3	As 188.979†	1396.1	1420.0	502.76 µg/L	502.76 ppb	18:02:15
3	B 249.677†	33651.3	30570.7	496.68 µg/L	496.68 ppb	18:01:55
3	Ba 233.527†	114681.4	115353.8	502.68 µg/L	502.68 ppb	18:01:55
3	Be 313.107†	1666731.4	1674933.2	502.81 µg/L	502.81 ppb	18:01:55
3	Cd 226.502†	72567.6	73000.5	500.93 µg/L	500.93 ppb	18:01:55
3	Co 228.616†	36961.9	37298.8	504.73 µg/L	504.73 ppb	18:01:55
3	Cr 267.716†	59318.7	59404.1	500.39 µg/L	500.39 ppb	18:01:55
3	Cu 324.752†	120890.6	118639.6	501.49 µg/L	501.49 ppb	18:01:55
3	Mn 257.610†	374818.4	376310.6	502.77 µg/L	502.77 ppb	18:01:55
3	Mo 202.031†	15682.2	15786.7	502.62 µg/L	502.62 ppb	18:02:15
3	Ni 231.604†	39775.3	40030.2	503.49 µg/L	503.49 ppb	18:01:55
3	P 214.914†	10469.8	10511.4	2498.6 µg/L	2498.6 ppb	18:02:15
3	Pb 220.353†	8305.7	8245.7	506.48 µg/L	506.48 ppb	18:02:15
3	S 181.975 Axial†	1304.1	1222.2	1006.1 µg/L	1006.1 ppb	18:02:15
3	Sb 206.836†	3884.1	3823.3	502.48 µg/L	502.48 ppb	18:02:15
3	Se 196.026†	1277.7	1269.8	511 µg/L	511 ppb	18:02:15
3	SiO2†	51665.7	50142.4	5342.9 µg/L	5342.9 ppb	18:01:55
3	Si 251.611†	155152.4	154894.1	2497.1 µg/L	2497.1 ppb	18:01:55
3	Sn 189.927†	7193.0	7227.5	502.07 µg/L	502.07 ppb	18:02:15
3	Ti 334.940†	500401.0	501742.0	502.02 µg/L	502.02 ppb	18:01:55
3	Tl 190.801†	3619.4	3752.6	511.84 µg/L	511.84 ppb	18:02:15
3	U 409.014†	7325.0	7641.3	509.04 µg/L	509.04 ppb	18:01:55
3	V 292.402†	93720.4	93827.6	504.83 µg/L	504.83 ppb	18:01:55
3	Zn 213.857†	81318.5	81155.7	499.38 µg/L	499.38 ppb	18:01:55

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1731507.8	98.657 %	0.8074			0.82%
Sc RADIAL	150367.2	102 %	0.2			0.24%
Y 371.029	1036705.4	97.431 %	0.7871			0.81%
Ag 328.068†	125676.6	505.84 µg/L	2.620	505.84 ppb	2.620	0.52%
QC value within limits for Ag 328.068 Recovery = 101.17%						
Al 396.153Radial†	24916.6	5111.1 µg/L	11.77	5111.1 ppb	11.77	0.23%
QC value within limits for Al 396.153Radial Recovery = 102.22%						
As 188.979†	1429.4	506.05 µg/L	3.279	506.05 ppb	3.279	0.65%
QC value within limits for As 188.979 Recovery = 101.21%						
B 249.677†	30597.1	497.11 µg/L	1.595	497.11 ppb	1.595	0.32%
QC value within limits for B 249.677 Recovery = 99.42%						
Ba 233.527†	115365.2	502.73 µg/L	0.812	502.73 ppb	0.812	0.16%
QC value within limits for Ba 233.527 Recovery = 100.55%						
Be 313.107†	1674888.6	502.79 µg/L	0.520	502.79 ppb	0.520	0.10%
QC value within limits for Be 313.107 Recovery = 100.56%						
Ca 317.933Radial†	84631.7	5092.1 µg/L	24.23	5092.1 ppb	24.23	0.48%
QC value within limits for Ca 317.933Radial Recovery = 101.84%						
Cd 226.502†	73110.3	501.68 µg/L	0.654	501.68 ppb	0.654	0.13%
QC value within limits for Cd 226.502 Recovery = 100.34%						
Co 228.616†	37393.6	506.01 µg/L	1.177	506.01 ppb	1.177	0.23%



QC value within limits for Co 228.616 Recovery = 101.20%							
Cr 267.716†	59428.9	500.60 µg/L	0.439	500.60 ppb	0.439	0.09%	
QC value within limits for Cr 267.716 Recovery = 100.12%							
Cu 324.752†	118724.6	501.85 µg/L	0.894	501.85 ppb	0.894	0.18%	
QC value within limits for Cu 324.752 Recovery = 100.37%							
Fe 238.204 Radial†	75164.8	5057.7 µg/L	27.03	5057.7 ppb	27.03	0.53%	
QC value within limits for Fe 238.204 Radial Recovery = 101.15%							
K 766.490 Radial†	12422.3	5108.4 µg/L	69.01	5108.4 ppb	69.01	1.35%	
QC value within limits for K 766.490 Radial Recovery = 102.17%							
Mg 279.077 IEC†	12569.7	5164.3 µg/L	62.53	5164.3 ppb	62.53	1.21%	
QC value within limits for Mg 279.077 IEC Recovery = 103.29%							
Mn 257.610†	376887.3	503.54 µg/L	0.740	503.54 ppb	0.740	0.15%	
QC value within limits for Mn 257.610 Recovery = 100.71%							
Mo 202.031†	15884.1	505.72 µg/L	2.708	505.72 ppb	2.708	0.54%	
QC value within limits for Mo 202.031 Recovery = 101.14%							
Na 589.592 Radial†	66319.7	10066 µg/L	42.1	10066 ppb	42.1	0.42%	
QC value within limits for Na 589.592 Radial Recovery = 100.66%							
Ni 231.604†	40135.0	504.81 µg/L	1.285	504.81 ppb	1.285	0.25%	
QC value within limits for Ni 231.604 Recovery = 100.96%							
P 214.914†	10567.2	2511.9 µg/L	11.84	2511.9 ppb	11.84	0.47%	
QC value within limits for P 214.914 Recovery = 100.47%							
Pb 220.353†	8270.9	508.03 µg/L	1.522	508.03 ppb	1.522	0.30%	
QC value within limits for Pb 220.353 Recovery = 101.61%							
S 181.975 Axial†	1226.5	1009.7 µg/L	8.51	1009.7 ppb	8.51	0.84%	
QC value within limits for S 181.975 Axial Recovery = 100.97%							
Sb 206.836†	3850.5	506.10 µg/L	3.554	506.10 ppb	3.554	0.70%	
QC value within limits for Sb 206.836 Recovery = 101.22%							
Se 196.026†	1268.9	510 µg/L	0.6	510 ppb	0.6	0.12%	
QC value within limits for Se 196.026 Recovery = 102.03%							
SiO2†	50149.7	5343.6 µg/L	13.94	5343.6 ppb	13.94	0.26%	
QC value within limits for SiO2 Recovery = 99.93%							
Si 251.611†	155194.9	2501.9 µg/L	5.38	2501.9 ppb	5.38	0.22%	
QC value within limits for Si 251.611 Recovery = 100.08%							
Sn 189.927†	7284.0	505.98 µg/L	3.457	505.98 ppb	3.457	0.68%	
QC value within limits for Sn 189.927 Recovery = 101.20%							
Sr 421.552†	220830.5	509.38 µg/L	1.559	509.38 ppb	1.559	0.31%	
QC value within limits for Sr 421.552 Recovery = 101.88%							
Ti 334.940†	502089.5	502.36 µg/L	0.693	502.36 ppb	0.693	0.14%	
QC value within limits for Ti 334.940 Recovery = 100.47%							
Tl 190.801†	3767.6	513.86 µg/L	2.039	513.86 ppb	2.039	0.40%	
QC value within limits for Tl 190.801 Recovery = 102.77%							
U 409.014†	7643.7	509.25 µg/L	1.021	509.25 ppb	1.021	0.20%	
QC value within limits for U 409.014 Recovery = 101.85%							
V 292.402†	94032.9	505.95 µg/L	1.080	505.95 ppb	1.080	0.21%	
QC value within limits for V 292.402 Recovery = 101.19%							
Zn 213.857†	81288.7	500.20 µg/L	1.251	500.20 ppb	1.251	0.25%	
QC value within limits for Zn 213.857 Recovery = 100.04%							
All analyte(s) passed QC.							

Sequence No.: 25

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 3/30/2010 18:02:23

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	151780.3	151780.3	103 %		18:02:52
1	Al 396.153Radial†	-40.0	24.0	4.9524 µg/L	4.9524 ppb	18:03:12
1	Ca 317.933Radial†	686.4	-29.4	-1.7696 µg/L	-1.7696 ppb	18:03:12
1	Fe 238.204 Radial†	138.6	-5.7	-0.3811 µg/L	-0.3811 ppb	18:03:12
1	K 766.490 Radial†	1436.1	85.9	35.363 µg/L	35.363 ppb	18:02:52
1	Mg 279.077 IEC†	184.5	10.9	4.4785 µg/L	4.4785 ppb	18:03:12
1	Na 589.592 Radial†	1347.1	105.4	15.979 µg/L	15.979 ppb	18:02:52
1	Sr 421.552†	-270.8	-42.1	-0.0972 µg/L	-0.0972 ppb	18:02:52
1	Sc 361.383	1751686.4	1751686.4	99.807 %		18:04:00
1	Y 371.029	1062037.8	1062037.8	99.811 %		18:04:00
1	Ag 328.068†	3543.8	103.6	0.4081 µg/L	0.4081 ppb	18:04:02
1	As 188.979†	-6.7	11.0	3.8356 µg/L	3.8356 ppb	18:04:22
1	B 249.677†	3203.3	-20.8	-0.3392 µg/L	-0.3392 ppb	18:04:22
1	Ba 233.527†	-132.2	29.7	0.1288 µg/L	0.1288 ppb	18:04:22
1	Be 313.107†	-392.0	392.8	0.1180 µg/L	0.1180 ppb	18:04:02
1	Cd 226.502†	-121.9	-12.1	-0.0830 µg/L	-0.0830 ppb	18:04:22
1	Co 228.616†	-168.7	3.4	0.0467 µg/L	0.0467 ppb	18:04:22
1	Cr 267.716†	150.1	-28.2	-0.2379 µg/L	-0.2379 ppb	18:04:22
1	Cu 324.752†	2898.1	114.8	0.4843 µg/L	0.4843 ppb	18:04:02
1	Mn 257.610†	183.2	8.0	0.0105 µg/L	0.0105 ppb	18:04:22
1	Mo 202.031†	-44.8	-10.1	-0.3221 µg/L	-0.3221 ppb	18:04:22
1	Ni 231.604†	-60.8	17.0	0.2132 µg/L	0.2132 ppb	18:04:22
1	P 214.914†	30.0	25.0	5.9711 µg/L	5.9711 ppb	18:04:22
1	Pb 220.353†	97.6	0.8	0.0491 µg/L	0.0491 ppb	18:04:22
1	S 181.975 Axial†	102.8	15.3	12.573 µg/L	12.573 ppb	18:04:22
1	Sb 206.836†	69.7	-8.2	-1.0769 µg/L	-1.0769 ppb	18:04:22
1	Se 196.026†	1.0	-12.6	-5.04 µg/L	-5.04 ppb	18:04:22
1	SiO2†	1676.0	-73.9	-7.9004 µg/L	-7.9004 ppb	18:04:22
1	Si 251.611†	923.1	-23.8	-0.3831 µg/L	-0.3831 ppb	18:04:02
1	Sn 189.927†	3.9	6.5	0.4467 µg/L	0.4467 ppb	18:04:22
1	Ti 334.940†	772.4	-111.7	-0.1124 µg/L	-0.1124 ppb	18:04:02
1	Tl 190.801†	-112.4	4.5	0.5986 µg/L	0.5986 ppb	18:04:22
1	U 409.014†	-275.1	8.2	0.4912 µg/L	0.4912 ppb	18:04:02
1	V 292.402†	243.1	-66.3	-0.3559 µg/L	-0.3559 ppb	18:04:02
1	Zn 213.857†	522.7	-0.8	-0.0070 µg/L	-0.0070 ppb	18:04:22
2	Sc RADIAL	150352.0	150352.0	102 %		18:03:14
2	Al 396.153Radial†	-78.4	-14.2	-2.9660 µg/L	-2.9660 ppb	18:03:34
2	Ca 317.933Radial†	672.3	-37.0	-2.2240 µg/L	-2.2240 ppb	18:03:34
2	Fe 238.204 Radial†	139.7	-3.3	-0.2234 µg/L	-0.2234 ppb	18:03:34
2	K 766.490 Radial†	1509.0	170.9	70.320 µg/L	70.320 ppb	18:03:14
2	Mg 279.077 IEC†	164.0	-7.5	-3.0724 µg/L	-3.0724 ppb	18:03:34
2	Na 589.592 Radial†	1365.9	136.4	20.649 µg/L	20.649 ppb	18:03:14
2	Sr 421.552†	-117.2	106.4	0.2454 µg/L	0.2454 ppb	18:03:14
2	Sc 361.383	1757278.8	1757278.8	100.13 %		18:04:24
2	Y 371.029	1064446.3	1064446.3	100.04 %		18:04:24
2	Ag 328.068†	3368.6	-82.7	-0.3398 µg/L	-0.3398 ppb	18:04:26
2	As 188.979†	-14.3	3.4	1.1966 µg/L	1.1966 ppb	18:04:47
2	B 249.677†	3190.2	-44.1	-0.7190 µg/L	-0.7190 ppb	18:04:47
2	Ba 233.527†	-159.9	2.4	0.0111 µg/L	0.0111 ppb	18:04:47
2	Be 313.107†	-887.5	-100.8	-0.0345 µg/L	-0.0345 ppb	18:04:26
2	Cd 226.502†	-82.6	27.6	0.1892 µg/L	0.1892 ppb	18:04:47
2	Co 228.616†	-168.5	4.1	0.0555 µg/L	0.0555 ppb	18:04:47
2	Cr 267.716†	132.4	-46.4	-0.3795 µg/L	-0.3795 ppb	18:04:47
2	Cu 324.752†	2643.9	-148.3	-0.6367 µg/L	-0.6367 ppb	18:04:26
2	Mn 257.610†	145.3	-30.4	-0.0405 µg/L	-0.0405 ppb	18:04:47
2	Mo 202.031†	-13.5	21.3	0.6781 µg/L	0.6781 ppb	18:04:47
2	Ni 231.604†	-77.1	0.9	0.0111 µg/L	0.0111 ppb	18:04:47
2	P 214.914†	12.5	7.5	1.7862 µg/L	1.7862 ppb	18:04:47
2	Pb 220.353†	85.7	-11.4	-0.6841 µg/L	-0.6841 ppb	18:04:47

2	S 181.975 Axial†	89.0	1.2	1.0157 µg/L	1.0157 ppb	18:04:47
2	Sb 206.836†	71.9	-6.3	-0.8105 µg/L	-0.8105 ppb	18:04:47
2	Se 196.026†	20.3	6.7	2.68 µg/L	2.68 ppb	18:04:47
2	SiO2†	1697.0	-58.3	-6.2667 µg/L	-6.2667 ppb	18:04:47
2	Si 251.611†	933.3	-16.5	-0.2813 µg/L	-0.2813 ppb	18:04:26
2	Sn 189.927†	8.4	10.9	0.7577 µg/L	0.7577 ppb	18:04:47
2	Ti 334.940†	879.7	-7.0	-0.0010 µg/L	-0.0010 ppb	18:04:26
2	Tl 190.801†	-114.8	2.4	0.3234 µg/L	0.3234 ppb	18:04:47
2	U 409.014†	-507.2	-222.8	-13.924 µg/L	-13.924 ppb	18:04:26
2	V 292.402†	406.8	96.4	0.5080 µg/L	0.5080 ppb	18:04:26
2	Zn 213.857†	527.3	2.1	0.0134 µg/L	0.0134 ppb	18:04:47
3	Sc RADIAL	152318.3	152318.3	103 %		18:03:36
3	Al 396.153Radial†	-73.0	-8.0	-1.6470 µg/L	-1.6470 ppb	18:03:56
3	Ca 317.933Radial†	695.1	-23.4	-1.4076 µg/L	-1.4076 ppb	18:03:56
3	Fe 238.204 Radial†	147.7	2.7	0.1805 µg/L	0.1805 ppb	18:03:56
3	K 766.490 Radial†	1471.4	115.2	47.414 µg/L	47.414 ppb	18:03:36
3	Mg 279.077 IEC†	138.4	-34.5	-14.137 µg/L	-14.137 ppb	18:03:56
3	Na 589.592 Radial†	1413.1	164.8	24.982 µg/L	24.982 ppb	18:03:36
3	Sr 421.552†	-177.7	49.2	0.1135 µg/L	0.1135 ppb	18:03:36
3	Sc 361.383	1761711.7	1761711.7	100.38 %		18:04:49
3	Y 371.029	1067001.7	1067001.7	100.28 %		18:04:49
3	Ag 328.068†	3547.8	87.4	0.3472 µg/L	0.3472 ppb	18:04:51
3	As 188.979†	-20.0	-2.2	-0.7857 µg/L	-0.7857 ppb	18:05:11
3	B 249.677†	3230.5	-12.0	-0.1957 µg/L	-0.1957 ppb	18:05:11
3	Ba 233.527†	-162.5	0.3	0.0006 µg/L	0.0006 ppb	18:05:11
3	Be 313.107†	-908.1	-119.1	-0.0335 µg/L	-0.0335 ppb	18:04:51
3	Cd 226.502†	-93.1	17.3	0.1188 µg/L	0.1188 ppb	18:05:11
3	Co 228.616†	-181.8	-8.7	-0.1171 µg/L	-0.1171 ppb	18:05:11
3	Cr 267.716†	129.9	-49.1	-0.4200 µg/L	-0.4200 ppb	18:05:11
3	Cu 324.752†	2666.8	-132.2	-0.5513 µg/L	-0.5513 ppb	18:04:51
3	Mn 257.610†	186.9	10.6	0.0148 µg/L	0.0148 ppb	18:05:11
3	Mo 202.031†	-35.8	-0.9	-0.0304 µg/L	-0.0304 ppb	18:05:11
3	Ni 231.604†	-74.5	3.7	0.0466 µg/L	0.0466 ppb	18:05:11
3	P 214.914†	5.9	0.9	0.2218 µg/L	0.2218 ppb	18:05:11
3	Pb 220.353†	74.9	-22.4	-1.3753 µg/L	-1.3753 ppb	18:05:11
3	S 181.975 Axial†	84.5	-3.5	-2.8453 µg/L	-2.8453 ppb	18:05:11
3	Sb 206.836†	72.9	-5.4	-0.7086 µg/L	-0.7086 ppb	18:05:11
3	Se 196.026†	13.4	-0.2	-0.085 µg/L	-0.085 ppb	18:05:11
3	SiO2†	1672.5	-86.9	-9.3016 µg/L	-9.3016 ppb	18:05:11
3	Si 251.611†	708.7	-242.6	-3.9283 µg/L	-3.9283 ppb	18:04:51
3	Sn 189.927†	1.8	4.4	0.3022 µg/L	0.3022 ppb	18:05:11
3	Ti 334.940†	729.1	-159.2	-0.1613 µg/L	-0.1613 ppb	18:04:51
3	Tl 190.801†	-107.3	10.2	1.3632 µg/L	1.3632 ppb	18:05:11
3	U 409.014†	-165.7	118.7	7.3880 µg/L	7.3880 ppb	18:04:51
3	V 292.402†	163.6	-146.8	-0.7764 µg/L	-0.7764 ppb	18:04:51
3	Zn 213.857†	510.6	-15.9	-0.0986 µg/L	-0.0986 ppb	18:05:11

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1756892.3	100.10 %	0.286			0.29%
Sc RADIAL	151483.5	102 %	0.7			0.67%
Y 371.029	1064495.3	100.04 %	0.233			0.23%
Ag 328.068†	36.1	0.1385 µg/L	0.41530	0.1385 ppb	0.41530	299.88%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	0.6	0.1131 µg/L	4.24252	0.1131 ppb	4.24252	>999.9%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	4.1	1.4155 µg/L	2.31844	1.4155 ppb	2.31844	163.79%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	-25.6	-0.4180 µg/L	0.27043	-0.4180 ppb	0.27043	64.70%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	10.8	0.0468 µg/L	0.07118	0.0468 ppb	0.07118	151.98%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	57.6	0.0167 µg/L	0.08778	0.0167 ppb	0.08778	525.94%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-29.9	-1.8004 µg/L	0.40907	-1.8004 ppb	0.40907	22.72%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	10.9	0.0750 µg/L	0.14131	0.0750 ppb	0.14131	188.36%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	-0.4	-0.0050 µg/L	0.09722	-0.0050 ppb	0.09722	>999.9%

QC value within limits for Co 228.616 Recovery = Not calculated				
Cr 267.716†	-41.2	-0.3458 µg/L	0.09558	-0.3458 ppb 0.09558 27.64%
QC value within limits for Cr 267.716 Recovery = Not calculated				
Cu 324.752†	-55.2	-0.2346 µg/L	0.62400	-0.2346 ppb 0.62400 266.01%
QC value within limits for Cu 324.752 Recovery = Not calculated				
Fe 238.204 Radial†	-2.1	-0.1413 µg/L	0.28967	-0.1413 ppb 0.28967 204.94%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated				
K 766.490 Radial†	124.0	51.032 µg/L	17.7573	51.032 ppb 17.7573 34.80%
QC value within limits for K 766.490 Radial Recovery = Not calculated				
Mg 279.077 IEC†	-10.4	-4.2437 µg/L	9.36298	-4.2437 ppb 9.36298 220.63%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated				
Mn 257.610†	-3.9	-0.0051 µg/L	0.03077	-0.0051 ppb 0.03077 603.93%
QC value within limits for Mn 257.610 Recovery = Not calculated				
Mo 202.031†	3.4	0.1085 µg/L	0.51436	0.1085 ppb 0.51436 474.00%
QC value within limits for Mo 202.031 Recovery = Not calculated				
Na 589.592 Radial†	135.5	20.537 µg/L	4.5028	20.537 ppb 4.5028 21.93%
QC value within limits for Na 589.592 Radial Recovery = Not calculated				
Ni 231.604†	7.2	0.0903 µg/L	0.10791	0.0903 ppb 0.10791 119.51%
QC value within limits for Ni 231.604 Recovery = Not calculated				
P 214.914†	11.1	2.6597 µg/L	2.97253	2.6597 ppb 2.97253 111.76%
QC value within limits for P 214.914 Recovery = Not calculated				
Pb 220.353†	-11.0	-0.6701 µg/L	0.71232	-0.6701 ppb 0.71232 106.30%
QC value within limits for Pb 220.353 Recovery = Not calculated				
S 181.975 Axial†	4.4	3.5812 µg/L	8.02299	3.5812 ppb 8.02299 224.03%
QC value within limits for S 181.975 Axial Recovery = Not calculated				
Sb 206.836†	-6.7	-0.8653 µg/L	0.19019	-0.8653 ppb 0.19019 21.98%
QC value within limits for Sb 206.836 Recovery = Not calculated				
Se 196.026†	-2.0	-0.816 µg/L	3.9132	-0.816 ppb 3.9132 479.71%
QC value within limits for Se 196.026 Recovery = Not calculated				
SiO2†	-73.0	-7.8229 µg/L	1.51896	-7.8229 ppb 1.51896 19.42%
QC value within limits for SiO2 Recovery = Not calculated				
Si 251.611†	-94.3	-1.5309 µg/L	2.07685	-1.5309 ppb 2.07685 135.66%
QC value within limits for Si 251.611 Recovery = Not calculated				
Sn 189.927†	7.3	0.5022 µg/L	0.23278	0.5022 ppb 0.23278 46.36%
QC value within limits for Sn 189.927 Recovery = Not calculated				
Sr 421.552†	37.8	0.0872 µg/L	0.17279	0.0872 ppb 0.17279 198.10%
QC value within limits for Sr 421.552 Recovery = Not calculated				
Ti 334.940†	-92.6	-0.0916 µg/L	0.08215	-0.0916 ppb 0.08215 89.72%
QC value within limits for Ti 334.940 Recovery = Not calculated				
Tl 190.801†	5.7	0.7617 µg/L	0.53874	0.7617 ppb 0.53874 70.73%
QC value within limits for Tl 190.801 Recovery = Not calculated				
U 409.014†	-32.0	-2.0149 µg/L	10.87474	-2.0149 ppb 10.87474 539.72%
QC value within limits for U 409.014 Recovery = Not calculated				
V 292.402†	-38.9	-0.2081 µg/L	0.65482	-0.2081 ppb 0.65482 314.64%
QC value within limits for V 292.402 Recovery = Not calculated				
Zn 213.857†	-4.9	-0.0308 µg/L	0.05967	-0.0308 ppb 0.05967 194.02%
QC value within limits for Zn 213.857 Recovery = Not calculated				

All analyte(s) passed QC.

## ICPMS #5 Daily Performance Report

### Sample ID: Sample

Sample Date/Time: Monday, April 12, 2010 12:06:55

### Sample Description:

Method File: c:\elandata\Method\Daily2.mth

Dataset File: c:\elandata\Dataset\default\Sample.1047

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	1600.7	1600.690	66.606	4.2
Mg	24.0	42537.5	42537.482	1284.267	3.0
Co	58.9	65006.2	65006.172	391.198	0.6
Rh	102.9	127267.0	127267.002	942.029	0.7
In	114.9	184150.5	184150.534	1137.512	0.6
Pb	208.0	214713.3	214713.337	559.415	0.3
[> Ba	137.9	172158.1	172158.058	849.562	0.5
[ Ba++	69.0	1998.4	0.012	0.000	1.4
[> Ce	139.9	211469.3	211469.349	1635.986	0.8
[ CeO	155.9	4156.7	0.020	0.001	2.7
Bkgd	220.0	20.6	20.600	2.559	12.4

### Current Optimization File Data

Current Value	Description
0.86	Nebulizer Gas Flow
6.75	Lens Voltage
1450.00	ICP RF Power
-1812.50	Analog Stage Voltage
1300.00	Pulse Stage Voltage
200.00	Discriminator Threshold
-6.00	AC Rod Offset

### Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	21	7.0	3575.4
Co	59	21	8.3	64290.0
In	115	21	9.8	174307.3

## ICPMS #5 Instrument Tuning Report

File Name: 100412.tun  
File Path: C:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width
He	3.0	3.0	601	2072	0.537
Be	9.0	9.0	2052	2088	0.534
Mg	24.0	24.0	5693	2100	0.514
Mg	25.0	25.0	5933	2100	0.500
Mg	26.0	26.0	6180	2100	0.514
Co	58.9	58.9	14187	2125	0.535
Rh	102.9	102.9	24877	2180	0.538
In	114.9	114.9	27793	2200	0.533
Ce	139.9	139.9	33875	2220	0.545
Pb	206.0	206.0	49948	2305	0.528
Pb	207.0	207.0	50171	2240	0.592
Pb	208.0	208.0	50451	2280	0.646
U	238.1	238.0	57726	2295	0.643

## ICPMS#5 - Summary Report

Sample ID: Blank

Sample Date/Time: Monday, April 12, 2010 20:44:46

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl liquid.mth

Dataset File: C:\elandata\Dataset\100412\Blank.186

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9		ug/L		20	
>	Sc	45		ug/L		705429	
	Cr	52		ug/L		-2548	
	Cr	53		ug/L		77403	
	Mn	55		ug/L		1114	
	Ni	60		ug/L		94	
[>	Ge	74		ug/L		294519	
	As	75		ug/L		-189	
	Se	77		ug/L		5245	
	Se	82		ug/L		-4	
	Kr	83		ug/L		91	
[	Mo	98		ug/L		145	
	Ag	107		ug/L		79	
	Cd	111		ug/L		34	
	Cd	114		ug/L		92	
>	In	115		ug/L		208784	
	Sb	121		ug/L		250	
	Sb	123		ug/L		179	
[>	Lu	175		ug/L		404929	
	Tl	205		ug/L		2514	
	Pb	208		ug/L		3982	
	U	238		ug/L		978	

Sample ID: Blank

Report Date/Time: Monday, April 12, 2010 20:46:25

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	
Sc	45Linear Thru Zero	
Cr	52Simple Linear	
Cr	53Simple Linear	
Mn	55Simple Linear	
Ni	60Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	
Kr	83Linear Thru Zero	
Mo	98Simple Linear	
Ag	107Simple Linear	
Cd	111Simple Linear	
Cd	114Simple Linear	
In	115Simple Linear	
Sb	121Simple Linear	
Sb	123Simple Linear	
Lu	175Linear Thru Zero	
Tl	205Simple Linear	
Pb	208Linear Thru Zero	
U	238Simple Linear	



### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Be	9					
>	Sc	45					
	Cr	52					
	Cr	53					
	Mn	55					
	Ni	60					
>	Ge	74					
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115					
	Sb	121					
	Sb	123					
>	Lu	175					
	Tl	205					
	Pb	208					
	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, April 12, 2010 20:49:22

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl liquid.mth

Dataset File: C:\elandata\Dataset\100412\Standard 1.187

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[ Be	9	10.000	ug/L	8.153	1732	0.002
> Sc	45		ug/L		694815	694815.017
Cr	52	10.000	ug/L	1.414	32965	0.051
Cr	53		ug/L		80214	0.006
Mn	55	10.000	ug/L	1.174	65261	0.092
Ni	60	10.000	ug/L	0.292	10416	0.015
[ > Ge	74		ug/L		295023	295023.232
As	75	10.000	ug/L	7.199	7502	0.026
Se	77		ug/L		5837	0.002
Se	82	10.000	ug/L	3.319	757	0.003
Kr	83		ug/L		96	0.000
[ Mo	98	10.000	ug/L	3.879	23961	0.114
Ag	107	10.000	ug/L	2.683	42687	0.205
Cd	111	10.000	ug/L	4.258	11093	0.053
Cd	114		ug/L		27038	0.129
> In	115		ug/L		208288	208287.819
Sb	121	10.000	ug/L	5.533	40437	0.193
Sb	123		ug/L		30890	0.148
[ > Lu	175		ug/L		402374	402374.125
Tl	205	10.000	ug/L	2.497	172831	0.423
Pb	208	10.000	ug/L	2.947	312191	0.766
[ U	238	10.000	ug/L	1.620	398203	0.987

Sample ID: Standard 1

Report Date/Time: Monday, April 12, 2010 20:50:58

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
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	
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	
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[	Be	9					
>	Sc	45					
	Cr	52					
	Cr	53					
	Mn	55					
	Ni	60					
>	Ge	74					
	As	75					
	Se	77					
	Se	82					
	Kr	83					
[	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115					
	Sb	121					
	Sb	123					
>	Lu	175					
	Tl	205					
	Pb	208					
	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: Standard 2

Sample Date/Time: Monday, April 12, 2010 20:53:56

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl liquid.mth

Dataset File: C:\elandata\Dataset\100412\Standard 2.188

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	99.928	ug/L	6.898	16259	0.023
> Sc	45		ug/L		706785	706784.999
Cr	52	99.908	ug/L	1.870	327619	0.467
Cr	53		ug/L		111297	0.048
Mn	55	99.934	ug/L	2.026	612892	0.866
Ni	60	99.913	ug/L	0.952	96650	0.137
> Ge	74		ug/L		297962	297961.750
As	75	99.939	ug/L	1.511	72961	0.246
Se	77		ug/L		10430	0.017
Se	82	99.958	ug/L	0.645	7369	0.025
Kr	83		ug/L		98	0.000
Mo	98	99.958	ug/L	2.162	233524	1.097
Ag	107	99.908	ug/L	2.187	398475	1.873
Cd	111	99.946	ug/L	1.743	107242	0.504
Cd	114		ug/L		259599	1.220
> In	115		ug/L		212737	212737.489
Sb	121	99.985	ug/L	0.330	404708	1.901
Sb	123		ug/L		315964	1.484
> Lu	175		ug/L		411077	411076.654
Tl	205	99.862	ug/L	0.637	1530781	3.717
Pb	208	99.890	ug/L	2.081	2839482	6.899
U	238	99.887	ug/L	0.690	3644318	8.863

Sample ID: Standard 2

Report Date/Time: Monday, April 12, 2010 20:55:32

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
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	
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	
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Be	9					
>	Sc	45					
	Cr	52					
	Cr	53					
	Mn	55					
[	Ni	60					
>	Ge	74					
	As	75					
	Se	77					
	Se	82					
[	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115					
	Sb	121					
[	Sb	123					
>	Lu	175					
	Tl	205					
	Pb	208					
[	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

## ICPMS#5 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Monday, April 12, 2010 20:58:30

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\ani liquid.mth

Dataset File: C:\elandata\Dataset\100412\QC Std 1.189

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	54.712	ug/L	5.668	8430	0.013
>	Sc	45		ug/L		668308	668308.235
	Cr	52	54.750	ug/L	1.995	168689	0.256
	Cr	53		ug/L		93882	0.031
	Mn	55	55.200	ug/L	1.845	320618	0.478
	Ni	60	55.687	ug/L	1.232	50979	0.076
>	Ge	74		ug/L		283707	283706.686
	As	75	54.121	ug/L	2.161	37542	0.133
	Se	77		ug/L		7920	0.010
	Se	82	53.458	ug/L	0.981	3750	0.013
	Kr	83		ug/L		89	0.000
[	Mo	98	52.422	ug/L	2.001	116414	0.575
	Ag	107	54.749	ug/L	1.124	207501	1.026
	Cd	111	53.675	ug/L	1.854	54727	0.271
	Cd	114		ug/L		133355	0.659
>	In	115		ug/L		202091	202090.616
	Sb	121	56.806	ug/L	1.230	218517	1.080
	Sb	123		ug/L		170390	0.842
>	Lu	175		ug/L		390269	390268.613
	Tl	205	53.409	ug/L	0.456	778346	1.988
	Pb	208	54.897	ug/L	1.087	1483359	3.791
	U	238	54.507	ug/L	1.103	1888463	4.837

Sample ID: QC Std 1

Report Date/Time: Monday, April 12, 2010 21:00:07

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
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	
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	
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

## QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Be	9	109.425				
>	Sc	45		94.7			
	Cr	52	109.500				
	Cr	53					
	Mn	55	110.399				
	Ni	60	111.375				
[>	Ge	74		96.3			
	As	75	108.242				
	Se	77					
	Se	82	106.915				
	Kr	83					
[	Mo	98	104.845				
	Ag	107	109.499				
	Cd	111	107.349				
	Cd	114					
>	In	115		96.8			
	Sb	121	113.611				
	Sb	123					
[>	Lu	175		96.4			
	Tl	205	106.818				
	Pb	208	109.794				
	U	238	109.015				

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 1	Mn	55	ICV is out of limits (+/- 10%)
QC Std 1	Ni	60	ICV is out of limits (+/- 10%)
QC Std 1	Sb	121	ICV is out of limits (+/- 10%)

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Monday, April 12, 2010 21:03:07

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\Nani liquid.mth

Dataset File: C:\elandata\Dataset\100412\QC Std 2.190

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[ Be	9	-0.007	ug/L	339.958	17	-0.000
> Sc	45		ug/L		649508	649507.974
Cr	52	-0.044	ug/L	94.958	-2481	-0.000
Cr	53		ug/L		75087	0.006
Mn	55	0.011	ug/L	91.630	1085	0.000
Ni	60	0.013	ug/L	32.741	98	0.000
[ > Ge	74		ug/L		276880	276879.994
As	75	-0.422	ug/L	175.409	-459	-0.001
Se	77		ug/L		5109	0.001
Se	82	0.036	ug/L	184.433	-1	0.000
Kr	83		ug/L		89	0.000
[ Mo	98	0.040	ug/L	27.515	224	0.000
Ag	107	0.007	ug/L	34.109	101	0.000
Cd	111	0.007	ug/L	97.637	39	0.000
Cd	114		ug/L		96	0.000
> In	115		ug/L		196027	196027.244
Sb	121	0.316	ug/L	11.623	1410	0.006
Sb	123		ug/L		1081	0.005
[ > Lu	175		ug/L		385067	385067.137
Tl	205	0.253	ug/L	18.343	6011	0.009
Pb	208	0.005	ug/L	108.340	3917	0.000
U	238	0.000	ug/L	243.996	943	0.000

Sample ID: QC Std 2

Report Date/Time: Monday, April 12, 2010 21:04:45

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
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	
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	
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[	Be	9					
>	Sc	45		92.1			
	Cr	52					
	Cr	53					
	Mn	55					
	Ni	60					
>	Ge	74		94.0			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
[	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		93.9			
	Sb	121					
	Sb	123					
>	Lu	175		95.1			
	Tl	205					
	Pb	208					
	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

## ICPMS#5 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Monday, April 12, 2010 21:07:43

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl liquid.mth

Dataset File: C:\elandata\Dataset\100412\QC Std 3.191

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	0.557	ug/L	12.529	107	0.000
>	Sc	45		ug/L		681571	681570.769
	Cr	52	12.143	ug/L	0.809	36242	0.057
	Cr	53		ug/L		79793	0.007
	Mn	55	6.444	ug/L	0.514	39126	0.056
	Ni	60	2.469	ug/L	0.389	2392	0.003
>	Ge	74		ug/L		290814	290813.924
	As	75	6.103	ug/L	3.061	4175	0.015
	Se	77		ug/L		5387	0.001
	Se	82	6.052	ug/L	6.088	432	0.001
	Kr	83		ug/L		84	-0.000
[	Mo	98	0.568	ug/L	2.990	1448	0.006
	Ag	107	1.109	ug/L	1.672	4424	0.021
	Cd	111	1.232	ug/L	5.594	1331	0.006
	Cd	114		ug/L		3128	0.015
>	In	115		ug/L		208973	208973.355
	Sb	121	3.218	ug/L	1.812	13037	0.061
	Sb	123		ug/L		10147	0.048
>	Lu	175		ug/L		406464	406463.772
	Tl	205	1.256	ug/L	2.141	21523	0.047
	Pb	208	2.450	ug/L	1.713	72746	0.169
	U	238	0.266	ug/L	2.301	10556	0.024

Sample ID: QC Std 3

Report Date/Time: Monday, April 12, 2010 21:09:20

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
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	
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	
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Be	9	111.420				
>	Sc	45		96.6			
	Cr	52	121.431				
	Cr	53					
	Mn	55	128.877				
	Ni	60	123.463				
>	Ge	74		98.7			
	As	75	122.063				
	Se	77					
	Se	82	121.033				
	Kr	83					
[	Mo	98	113.611				
	Ag	107	110.939				
	Cd	111	123.207				
	Cd	114					
>	In	115		100.1			
	Sb	121	107.260				
	Sb	123					
>	Lu	175		100.4			
	Tl	205	125.611				
	Pb	208	122.478				
	U	238	132.768				

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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, April 12, 2010 21:12:18

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl liquid.mth

Dataset File: C:\elandata\Dataset\100412\QC Std 4.192

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.104	ug/L	64.022	33	0.000
> Sc	45		ug/L		636166	636165.522
Cr	52	2.633	ug/L	0.465	5535	0.012
Cr	53		ug/L		52133	-0.028
Mn	55	5.934	ug/L	1.479	33709	0.051
Ni	60	2.970	ug/L	2.551	2668	0.004
> Ge	74		ug/L		265413	265412.837
As	75	-0.653	ug/L	113.064	-597	-0.002
Se	77		ug/L		4547	-0.001
Se	82	-1.043	ug/L	9.140	-72	-0.000
Kr	83		ug/L		186	0.000
Mo	98	2039.427	ug/L	0.461	4209339	22.386
Ag	107	0.094	ug/L	2.369	401	0.002
Cd	111	0.361	ug/L	37.854	373	0.002
Cd	114		ug/L		5182	0.027
> In	115		ug/L		188031	188030.783
Sb	121	0.181	ug/L	12.881	873	0.003
Sb	123		ug/L		682	0.003
> Lu	175		ug/L		372361	372361.410
Tl	205	-0.022	ug/L	15.304	2014	-0.001
Pb	208	0.207	ug/L	2.259	8994	0.014
U	238	-0.021	ug/L	3.124	197	-0.002

Sample ID: QC Std 4

Report Date/Time: Monday, April 12, 2010 21:13:55

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
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	
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	
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Be	9					
>	Sc	45			90.2		
	Cr	52	79.785				
	Cr	53					
	Mn	55	102.316				
	Ni	60	89.724				
>	Ge	74			90.1		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
[	Mo	98	101.971				
	Ag	107					
	Cd	111	81.201				
	Cd	114					
>	In	115			90.1		
	Sb	121					
	Sb	123					
>	Lu	175			92.0		
	Tl	205					
	Pb	208	109.695				
	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 5

Sample Date/Time: Monday, April 12, 2010 21:16:54

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\Nanl liquid.mth

Dataset File: C:\elandata\Dataset\100412\QC Std 5.193

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	21.927	ug/L	5.051	3231	0.005
> Sc	45		ug/L		637046	637045.954
Cr	52	23.563	ug/L	1.354	67893	0.110
Cr	53		ug/L		58799	-0.017
Mn	55	26.783	ug/L	1.470	148810	0.232
Ni	60	22.655	ug/L	2.249	19818	0.031
> Ge	74		ug/L		264758	264758.443
As	75	20.807	ug/L	1.560	13366	0.051
Se	77		ug/L		5409	0.003
Se	82	20.735	ug/L	7.320	1356	0.005
Kr	83		ug/L		176	0.000
Mo	98	2100.768	ug/L	1.176	4344762	23.059
Ag	107	20.492	ug/L	0.834	72449	0.384
Cd	111	20.661	ug/L	3.514	19659	0.104
Cd	114		ug/L		51205	0.271
> In	115		ug/L		188424	188423.617
Sb	121	21.291	ug/L	0.283	76509	0.405
Sb	123		ug/L		60275	0.319
> Lu	175		ug/L		379817	379817.122
Tl	205	19.698	ug/L	1.414	280840	0.733
Pb	208	20.668	ug/L	2.066	545695	1.427
U	238	22.025	ug/L	1.021	743082	1.954

Sample ID: QC Std 5

Report Date/Time: Monday, April 12, 2010 21:18:31

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
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	
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	
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Be	9	109.634				
>	Sc	45		90.3			
	Cr	52	101.128				
	Cr	53					
	Mn	55	103.810				
	Ni	60	97.189				
>	Ge	74		89.9			
	As	75	104.035				
	Se	77					
	Se	82	103.673				
	Kr	83					
	Mo	98	105.038				
	Ag	107	102.458				
	Cd	111	101.059				
	Cd	114					
>	In	115		90.2			
	Sb	121	106.457				
	Sb	123					
>	Lu	175		93.8			
	Tl	205	98.492				
	Pb	208	102.371				
	U	238	110.125				

### 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 6

Sample Date/Time: Monday, April 12, 2010 21:21:30

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\NanI liquid.mth

Dataset File: C:\elandata\Dataset\100412\QC Std 6.194

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	52.149	ug/L	4.511	8272	0.012
> Sc	45		ug/L		688105	688104.512
Cr	52	51.330	ug/L	0.900	162689	0.240
Cr	53		ug/L		88276	0.019
Mn	55	53.134	ug/L	0.285	317830	0.460
Ni	60	52.986	ug/L	0.472	49948	0.072
> Ge	74		ug/L		291486	291485.597
As	75	51.338	ug/L	1.318	36577	0.126
Se	77		ug/L		7004	0.006
Se	82	53.092	ug/L	1.572	3827	0.013
Kr	83		ug/L		72	-0.000
Mo	98	50.046	ug/L	0.585	114419	0.549
Ag	107	52.707	ug/L	1.779	205626	0.988
Cd	111	51.167	ug/L	0.266	53709	0.258
Cd	114		ug/L		129464	0.622
> In	115		ug/L		208024	208023.718
Sb	121	53.412	ug/L	1.004	211524	1.016
Sb	123		ug/L		165902	0.797
> Lu	175		ug/L		411661	411660.873
Tl	205	49.752	ug/L	1.883	765008	1.852
Pb	208	51.369	ug/L	0.617	1464472	3.548
U	238	50.901	ug/L	0.453	1860211	4.517

Sample ID: QC Std 6

Report Date/Time: Monday, April 12, 2010 21:23:08

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
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	
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	
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999



### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Be	9	104.298				
>	Sc	45		97.5			
	Cr	52	102.660				
	Cr	53					
	Mn	55	106.267				
	Ni	60	105.973				
[>	Ge	74		99.0			
	As	75	102.677				
	Se	77					
	Se	82	106.184				
	Kr	83					
[	Mo	98	100.093				
	Ag	107	105.414				
	Cd	111	102.333				
	Cd	114					
>	In	115		99.6			
	Sb	121	106.824				
	Sb	123					
[>	Lu	175		101.7			
	Tl	205	99.503				
	Pb	208	102.738				
	U	238	101.801				

### 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, April 12, 2010 21:26:08

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\VanI liquid.mth

Dataset File: C:\elandata\Dataset\100412\QC Std 7.195

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	-0.007	ug/L	514.486	18	-0.000
> Sc	45		ug/L		687926	687925.617
Cr	52	-0.253	ug/L	12.482	-3299	-0.001
Cr	53		ug/L		69923	-0.008
Mn	55	-0.021	ug/L	74.271	961	-0.000
Ni	60	0.014	ug/L	133.882	104	0.000
> Ge	74		ug/L		288384	288384.397
As	75	-0.165	ug/L	302.560	-301	-0.000
Se	77		ug/L		4432	-0.002
Se	82	0.244	ug/L	27.628	14	0.000
Kr	83		ug/L		75	-0.000
Mo	98	0.116	ug/L	10.190	408	0.001
Ag	107	0.009	ug/L	76.098	113	0.000
Cd	111	0.008	ug/L	93.816	42	0.000
Cd	114		ug/L		88	-0.000
> In	115		ug/L		207226	207225.786
Sb	121	0.068	ug/L	5.687	517	0.001
Sb	123		ug/L		391	0.001
> Lu	175		ug/L		406530	406529.678
Tl	205	0.310	ug/L	12.162	7217	0.012
Pb	208	-0.010	ug/L	43.643	3718	-0.001
U	238	0.000	ug/L	433.752	997	0.000

Sample ID: QC Std 7

Report Date/Time: Monday, April 12, 2010 21:27:46

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
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	
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	
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Be	9					
>	Sc	45		97.5			
	Cr	52					
	Cr	53					
	Mn	55					
[	Ni	60					
>	Ge	74		97.9			
	As	75					
	Se	77					
	Se	82					
[	Kr	83					
[	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		99.3			
	Sb	121					
[	Sb	123					
>	Lu	175		100.4			
	Tl	205					
	Pb	208					
[	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

## ICPMS#5 - Summary Report

Sample ID: 1202065070

Sample Date/Time: Monday, April 12, 2010 21:30:45

Sample Type:

Sample Description: LANL 6020 MB

Number of Replicates: 3

Batch ID: 962585|1|prb

Method File: c:\elandata\Method\lanl liquid.mth

Dataset File: C:\elandata\Dataset\100412\1202065070.196

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	-0.007	ug/L	376.308	18	-0.000
>	Sc	45		ug/L		661187	661187.137
	Cr	52	-0.780	ug/L	15.259	-4801	-0.004
	Cr	53		ug/L		138730	0.100
	Mn	55	0.067	ug/L	11.814	1426	0.001
	Ni	60	0.018	ug/L	34.682	104	0.000
[ >	Ge	74		ug/L		287086	287085.966
	As	75	-0.800	ug/L	66.340	-747	-0.002
	Se	77		ug/L		11972	0.024
	Se	82	0.062	ug/L	186.834	1	0.000
	Kr	83		ug/L		82	-0.000
[	Mo	98	0.009	ug/L	21.958	161	0.000
	Ag	107	-0.004	ug/L	73.157	59	-0.000
	Cd	111	-0.010	ug/L	152.549	23	-0.000
	Cd	114		ug/L		45	-0.000
>	In	115		ug/L		203095	203094.735
	Sb	121	0.049	ug/L	15.907	432	0.001
	Sb	123		ug/L		357	0.001
[ >	Lu	175		ug/L		396363	396362.812
	Tl	205	0.031	ug/L	14.016	2913	0.001
	Pb	208	-0.047	ug/L	8.222	2619	-0.003
	U	238	-0.026	ug/L	0.315	48	-0.002

Sample ID: 1202065070

Report Date/Time: Monday, April 12, 2010 21:32:22

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
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	
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	
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dilution	Duplicate Rel. % Difference
[	Be	9					
>	Sc	45		93.7			
	Cr	52					
	Cr	53					
	Mn	55					
[	Ni	60					
>	Ge	74		97.5			
	As	75					
	Se	77					
	Se	82					
[	Kr	83					
[	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		97.3			
	Sb	121					
[	Sb	123					
>	Lu	175		97.9			
	Tl	205					
	Pb	208					
[	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: 1202065071

Sample Date/Time: Monday, April 12, 2010 21:35:20

Sample Type:

Sample Description: LANL 6020 LCS

Number of Replicates: 3

Batch ID: 962585|1|prb

Method File: c:\elandata\Method\lanl liquid.mth

Dataset File: C:\elandata\Dataset\100412\1202065071.197

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	55.050	ug/L	2.804	8455	0.013
> Sc	45		ug/L		666080	666080.455
Cr	52	59.028	ug/L	1.105	181443	0.276
Cr	53		ug/L		164730	0.138
Mn	55	56.592	ug/L	3.558	327496	0.490
Ni	60	53.173	ug/L	1.839	48511	0.073
> Ge	74		ug/L		289839	289838.781
As	75	50.653	ug/L	1.304	35884	0.124
Se	77		ug/L		14904	0.034
Se	82	51.619	ug/L	1.614	3700	0.013
Kr	83		ug/L		85	-0.000
Mo	98	50.794	ug/L	2.269	111663	0.558
Ag	107	53.383	ug/L	1.447	200274	1.001
Cd	111	52.740	ug/L	2.113	53233	0.266
Cd	114		ug/L		128208	0.640
> In	115		ug/L		200076	200075.852
Sb	121	56.326	ug/L	2.317	214477	1.071
Sb	123		ug/L		169104	0.844
> Lu	175		ug/L		396634	396633.795
Tl	205	44.736	ug/L	2.360	663055	1.665
Pb	208	50.949	ug/L	0.888	1399488	3.519
U	238	49.355	ug/L	1.307	1738005	4.379

Sample ID: 1202065071

Report Date/Time: Monday, April 12, 2010 21:36:57

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
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	
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	
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[	Be	9					
>	Sc	45		94.4			
	Cr	52					
	Cr	53					
	Mn	55					
	Ni	60					
>	Ge	74		98.4			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		95.8			
	Sb	121					
	Sb	123					
>	Lu	175		98.0			
	Tl	205					
	Pb	208					
	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: 248516001

Sample Date/Time: Monday, April 12, 2010 21:39:56

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 962585|1|prb

Method File: c:\elandata\Method\lanl liquid.mth

Dataset File: C:\elandata\Dataset\100412\248516001.198

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.010	ug/L	314.635	20	0.000
> Sc	45		ug/L		655380	655380.307
Cr	52	-0.428	ug/L	11.730	-3681	-0.002
Cr	53		ug/L		131296	0.091
Mn	55	0.803	ug/L	4.964	5591	0.007
Ni	60	0.060	ug/L	17.229	141	0.000
> Ge	74		ug/L		280689	280688.863
As	75	0.145	ug/L	208.129	-79	0.000
Se	77		ug/L		10570	0.020
Se	82	0.102	ug/L	283.645	4	0.000
Kr	83		ug/L		82	-0.000
Mo	98	0.009	ug/L	37.186	156	0.000
Ag	107	0.044	ug/L	2.467	235	0.001
Cd	111	-0.008	ug/L	121.413	24	-0.000
Cd	114		ug/L		58	-0.000
> In	115		ug/L		196632	196631.697
Sb	121	0.000	ug/L	494.083	237	0.000
Sb	123		ug/L		182	0.000
> Lu	175		ug/L		383385	383385.171
Tl	205	0.670	ug/L	10.212	11946	0.025
Pb	208	0.010	ug/L	46.763	4026	0.001
U	238	-0.020	ug/L	2.526	249	-0.002

Sample ID: 248516001

Report Date/Time: Monday, April 12, 2010 21:41:33

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
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	
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	
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[	Be	9					
>	Sc	45		92.9			
	Cr	52					
	Cr	53					
	Mn	55					
	Ni	60					
>	Ge	74		95.3			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		94.2			
	Sb	121					
	Sb	123					
>	Lu	175		94.7			
	Tl	205					
	Pb	208					
	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

## ICPMS#5 - Summary Report

Sample ID: 248516002

Sample Date/Time: Monday, April 12, 2010 21:44:32

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 962585|1|prb

Method File: c:\elandata\MethodNanl liquid.mth

Dataset File: C:\elandata\Dataset\100412\248516002.199

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	-0.011	ug/L	27.199	17	-0.000
>	Sc	45		ug/L		668586	668586.008
	Cr	52	-0.368	ug/L	10.401	-3568	-0.002
	Cr	53		ug/L		129680	0.084
	Mn	55	0.521	ug/L	1.425	4072	0.005
	Ni	60	0.035	ug/L	36.093	120	0.000
[>	Ge	74		ug/L		289395	289395.445
	As	75	-0.202	ug/L	252.258	-326	-0.000
	Se	77		ug/L		10401	0.018
	Se	82	-0.035	ug/L	434.104	-6	-0.000
	Kr	83		ug/L		91	0.000
[	Mo	98	-0.010	ug/L	70.226	119	-0.000
	Ag	107	-0.003	ug/L	28.104	65	-0.000
	Cd	111	0.003	ug/L	298.394	36	0.000
	Cd	114		ug/L		65	-0.000
>	In	115		ug/L		203767	203767.427
	Sb	121	-0.020	ug/L	2.921	167	-0.000
	Sb	123		ug/L		144	-0.000
[>	Lu	175		ug/L		394791	394791.457
	Tl	205	0.154	ug/L	3.481	4720	0.006
	Pb	208	-0.007	ug/L	35.828	3698	-0.000
	U	238	-0.023	ug/L	1.611	138	-0.002

Sample ID: 248516002

Report Date/Time: Monday, April 12, 2010 21:46:09

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
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	
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	
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
> Sc	45		94.8			
Cr	52					
Cr	53					
Mn	55					
Ni	60					
> Ge	74		98.3			
As	75					
Se	77					
Se	82					
Kr	83					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		97.6			
Sb	121					
Sb	123					
> Lu	175		97.5			
Tl	205					
Pb	208					
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 8

Sample Date/Time: Monday, April 12, 2010 21:58:20

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl liquid.mth

Dataset File: C:\elandata\Dataset\100412\QC Std 8.202

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	49.482	ug/L	6.432	8102	0.011
> Sc	45		ug/L		709877	709877.262
Cr	52	50.101	ug/L	3.077	163717	0.234
Cr	53		ug/L		99696	0.031
Mn	55	51.068	ug/L	1.393	315156	0.442
Ni	60	51.219	ug/L	2.028	49807	0.070
> Ge	74		ug/L		295884	295884.153
As	75	52.158	ug/L	2.632	37719	0.128
Se	77		ug/L		7700	0.008
Se	82	50.143	ug/L	2.363	3668	0.012
Kr	83		ug/L		96	0.000
Mo	98	49.620	ug/L	2.255	114435	0.545
Ag	107	52.065	ug/L	0.649	204892	0.976
Cd	111	51.067	ug/L	0.412	54075	0.258
Cd	114		ug/L		127723	0.608
> In	115		ug/L		209848	209847.870
Sb	121	53.914	ug/L	0.380	215389	1.025
Sb	123		ug/L		167084	0.795
> Lu	175		ug/L		417215	417215.356
Tl	205	47.440	ug/L	3.775	739144	1.766
Pb	208	50.901	ug/L	1.911	1470538	3.515
U	238	50.199	ug/L	0.625	1859467	4.454

Sample ID: QC Std 8

Report Date/Time: Monday, April 12, 2010 21:59:57

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
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	
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	
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution %	Duplicate Rel. % Difference
[	Be	9	98.963				
>	Sc	45		100.6			
	Cr	52	100.202				
	Cr	53					
	Mn	55	102.135				
[	Ni	60	102.437				
>	Ge	74		100.5			
	As	75	104.315				
	Se	77					
	Se	82	100.286				
[	Kr	83					
[	Mo	98	99.241				
	Ag	107	104.129				
	Cd	111	102.135				
	Cd	114					
>	In	115		100.5			
	Sb	121	107.829				
[	Sb	123					
>	Lu	175		103.0			
	Tl	205	94.879				
	Pb	208	101.802				
[	U	238	100.398				

### 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 9

Sample Date/Time: Monday, April 12, 2010 22:02:57

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\VanI liquid.mth

Dataset File: C:\elandata\Dataset\100412\QC Std 9.203

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	-0.024	ug/L	8.592	15	-0.000
> Sc	45		ug/L		674516	674515.833
Cr	52	-0.295	ug/L	34.329	-3365	-0.001
Cr	53		ug/L		75084	0.002
Mn	55	-0.012	ug/L	114.014	994	-0.000
Ni	60	0.014	ug/L	81.723	102	0.000
> Ge	74		ug/L		283410	283409.895
As	75	-0.041	ug/L	416.218	-211	-0.000
Se	77		ug/L		4684	-0.001
Se	82	0.267	ug/L	26.843	15	0.000
Kr	83		ug/L		68	-0.000
Mo	98	0.021	ug/L	33.403	187	0.000
Ag	107	0.005	ug/L	46.044	95	0.000
Cd	111	0.004	ug/L	485.211	37	0.000
Cd	114		ug/L		90	0.000
> In	115		ug/L		201238	201237.579
Sb	121	0.058	ug/L	30.324	461	0.001
Sb	123		ug/L		350	0.001
> Lu	175		ug/L		390292	390291.566
Tl	205	0.634	ug/L	11.737	11615	0.024
Pb	208	0.006	ug/L	125.309	3989	0.000
U	238	0.002	ug/L	60.018	1024	0.000

Sample ID: QC Std 9

Report Date/Time: Monday, April 12, 2010 22:04:36

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
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	
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	
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[	Be	9					
>	Sc	45		95.6			
	Cr	52					
	Cr	53					
	Mn	55					
	Ni	60					
>	Ge	74		96.2			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		96.4			
	Sb	121					
	Sb	123					
>	Lu	175		96.4			
	Tl	205					
	Pb	208					
	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

## ICPMS#5 - Summary Report

Sample ID: 1202065072

Sample Date/Time: Monday, April 12, 2010 22:12:10

Sample Type:

Sample Description: LANL 6020 DUP

Number of Replicates: 3

Batch ID: 962585|1|prb

Method File: c:\elandata\Method\Nani liquid.mth

Dataset File: C:\elandata\Dataset\100412\1202065072.205

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.019	ug/L	76.106	21	0.000
> Sc	45		ug/L		651349	651348.699
Cr	52	-0.246	ug/L	60.444	-3095	-0.001
Cr	53		ug/L		148847	0.119
Mn	55	0.709	ug/L	3.307	5030	0.006
Ni	60	0.078	ug/L	25.135	156	0.000
> Ge	74		ug/L		284452	284451.523
As	75	-0.362	ug/L	145.968	-436	-0.001
Se	77		ug/L		12424	0.026
Se	82	0.284	ug/L	88.940	16	0.000
Kr	83		ug/L		73	-0.000
Mo	98	-0.020	ug/L	25.951	94	-0.000
Ag	107	-0.001	ug/L	356.709	71	-0.000
Cd	111	0.042	ug/L	47.503	74	0.000
Cd	114		ug/L		164	0.000
> In	115		ug/L		196743	196743.043
Sb	121	-0.008	ug/L	19.363	206	-0.000
Sb	123		ug/L		166	-0.000
> Lu	175		ug/L		378812	378811.928
Tl	205	0.039	ug/L	20.821	2898	0.001
Pb	208	0.032	ug/L	3.042	4554	0.002
U	238	-0.022	ug/L	2.060	188	-0.002

Sample ID: 1202065072

Report Date/Time: Monday, April 12, 2010 22:13:47

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
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	
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	
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999



### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Be	9					
>	Sc	45		92.3			
	Cr	52					
	Cr	53					
	Mn	55					
[	Ni	60					
>	Ge	74		96.6			
	As	75					
	Se	77					
	Se	82					
[	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		94.2			
	Sb	121					
[	Sb	123					
>	Lu	175		93.6			
	Tl	205					
	Pb	208					
[	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: 1202065073

Sample Date/Time: Monday, April 12, 2010 22:16:46

Sample Type:

Sample Description: LANL 6020 MS

Number of Replicates: 3

Batch ID: 962585|1|prb

Method File: c:\elandata\Method\lanl liquid.mth

Dataset File: C:\elandata\Dataset\100412\1202065073.206

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	57.737	ug/L	3.887	8780	0.013
>	Sc	45		ug/L		659587	659586.622
	Cr	52	52.022	ug/L	1.358	158097	0.243
	Cr	53		ug/L		166944	0.143
	Mn	55	53.222	ug/L	3.421	305071	0.461
	Ni	60	52.829	ug/L	3.369	47722	0.072
[>	Ge	74		ug/L		282376	282375.990
	As	75	80.500	ug/L	3.017	55658	0.198
	Se	77		ug/L		13615	0.030
	Se	82	21.475	ug/L	3.223	1498	0.005
	Kr	83		ug/L		90	0.000
[	Mo	98	50.503	ug/L	2.256	109910	0.554
	Ag	107	53.299	ug/L	1.277	197951	0.999
	Cd	111	10.906	ug/L	3.451	10920	0.055
	Cd	114		ug/L		25141	0.127
>	In	115		ug/L		198077	198077.287
	Sb	121	221.080	ug/L	3.186	832545	4.204
	Sb	123		ug/L		656236	3.313
[>	Lu	175		ug/L		390342	390342.341
	Tl	205	84.253	ug/L	2.954	1227180	3.136
	Pb	208	40.990	ug/L	1.995	1108583	2.831
	U	238	49.521	ug/L	1.967	1715802	4.394

Sample ID: 1202065073

Report Date/Time: Monday, April 12, 2010 22:18:23

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
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	
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	
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Be	9					
>	Sc	45		93.5			
	Cr	52					
	Cr	53					
	Mn	55					
	Ni	60					
[>	Ge	74		95.9			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
[	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		94.9			
	Sb	121					
	Sb	123					
[>	Lu	175		96.4			
	Tl	205					
	Pb	208					
	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

## ICPMS#5 - Summary Report

Sample ID: 1202065074

Sample Date/Time: Monday, April 12, 2010 22:21:22

Sample Type:

Sample Description: LANL 6020 SDILT

Number of Replicates: 3

Batch ID: 962585|5|prb

Method File: c:\elandata\Method\lanl liquid.mth

Dataset File: C:\elandata\Dataset\100412\1202065074.207

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	-0.018	ug/L	140.526	16	-0.000
> Sc	45		ug/L		676558	676557.734
Cr	52	-0.280	ug/L	18.992	-3329	-0.001
Cr	53		ug/L		99082	0.037
Mn	55	0.140	ug/L	10.763	1891	0.001
Ni	60	0.033	ug/L	52.940	120	0.000
> Ge	74		ug/L		285073	285072.881
As	75	-0.397	ug/L	102.312	-459	-0.001
Se	77		ug/L		7140	0.007
Se	82	0.023	ug/L	332.977	-2	0.000
Kr	83		ug/L		82	-0.000
Mo	98	-0.013	ug/L	33.730	114	-0.000
Ag	107	-0.004	ug/L	24.156	61	-0.000
Cd	111	0.008	ug/L	68.731	42	0.000
Cd	114		ug/L		105	0.000
> In	115		ug/L		205359	205359.495
Sb	121	-0.013	ug/L	25.900	194	-0.000
Sb	123		ug/L		150	-0.000
> Lu	175		ug/L		395924	395924.129
Tl	205	1.772	ug/L	8.934	28583	0.066
Pb	208	0.019	ug/L	11.437	4402	0.001
U	238	-0.024	ug/L	1.341	111	-0.002

Sample ID: 1202065074

Report Date/Time: Monday, April 12, 2010 22:22:59

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
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	
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	
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Be	9					
>	Sc	45					95.9
	Cr	52					
	Cr	53					
	Mn	55					
	Ni	60					
>	Ge	74					96.8
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115					98.4
	Sb	121					
	Sb	123					
>	Lu	175					97.8
	Tl	205					
	Pb	208					
	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

## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Monday, April 12, 2010 22:30:34

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl liquid.mth

Dataset File: C:\elandata\Dataset\100412\QC Std 6.209

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	50.504	ug/L	8.396	8090	0.012
>	Sc	45		ug/L		695468	695468.280
	Cr	52	50.338	ug/L	1.650	161184	0.235
	Cr	53		ug/L		99761	0.034
	Mn	55	51.417	ug/L	1.920	310829	0.445
[	Ni	60	51.595	ug/L	1.840	49152	0.071
>	Ge	74		ug/L		291628	291628.170
	As	75	52.079	ug/L	3.178	37121	0.128
	Se	77		ug/L		7821	0.009
	Se	82	51.792	ug/L	0.373	3735	0.013
[	Kr	83		ug/L		91	0.000
	Mo	98	49.844	ug/L	4.504	112257	0.547
	Ag	107	52.537	ug/L	3.492	201933	0.985
	Cd	111	51.158	ug/L	2.823	52911	0.258
	Cd	114		ug/L		126378	0.616
>	In	115		ug/L		205053	205052.717
	Sb	121	54.023	ug/L	2.929	210798	1.027
[	Sb	123		ug/L		164243	0.800
>	Lu	175		ug/L		405006	405005.980
	Tl	205	48.384	ug/L	2.757	731878	1.801
	Pb	208	51.803	ug/L	1.296	1452921	3.578
[	U	238	51.111	ug/L	0.713	1837754	4.535

Sample ID: QC Std 6

Report Date/Time: Monday, April 12, 2010 22:32:12

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
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	
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	
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel.	% Difference
[	Be	9	101.007					
>	Sc	45		98.6				
	Cr	52	100.676					
	Cr	53						
	Mn	55	102.834					
	Ni	60	103.189					
[>	Ge	74		99.0				
	As	75	104.158					
	Se	77						
	Se	82	103.585					
	Kr	83						
[	Mo	98	99.688					
	Ag	107	105.073					
	Cd	111	102.317					
	Cd	114						
>	In	115		98.2				
	Sb	121	108.045					
	Sb	123						
[>	Lu	175		100.0				
	Tl	205	96.767					
	Pb	208	103.605					
	U	238	102.221					

### 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, April 12, 2010 22:35:12

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl liquid.mth

Dataset File: C:\elandata\Dataset\100412\QC Std 7.210

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	-0.004	ug/L	484.355	19	-0.000
> Sc	45		ug/L		691133	691133.199
Cr	52	-0.218	ug/L	30.855	-3201	-0.001
Cr	53		ug/L		77096	0.002
Mn	55	-0.013	ug/L	58.958	1012	-0.000
Ni	60	0.002	ug/L	552.221	93	0.000
> Ge	74		ug/L		290483	290483.251
As	75	0.152	ug/L	78.782	-78	0.000
Se	77		ug/L		4876	-0.001
Se	82	0.149	ug/L	5.777	7	0.000
Kr	83		ug/L		81	-0.000
Mo	98	0.023	ug/L	25.199	194	0.000
Ag	107	0.001	ug/L	245.012	82	0.000
Cd	111	0.006	ug/L	141.114	40	0.000
Cd	114		ug/L		74	-0.000
> In	115		ug/L		204855	204854.693
Sb	121	0.051	ug/L	4.327	445	0.001
Sb	123		ug/L		348	0.001
> Lu	175		ug/L		401978	401977.721
Tl	205	0.837	ug/L	7.703	15016	0.031
Pb	208	-0.002	ug/L	68.117	3903	-0.000
U	238	-0.002	ug/L	79.555	915	-0.000

Sample ID: QC Std 7

Report Date/Time: Monday, April 12, 2010 22:36:50

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
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	
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	
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[	Be	9					
>	Sc	45			98.0		
	Cr	52					
	Cr	53					
	Mn	55					
[	Ni	60					
>	Ge	74			98.6		
	As	75					
	Se	77					
	Se	82					
[	Kr	83					
[	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115			98.1		
	Sb	121					
[	Sb	123					
>	Lu	175			99.3		
	Tl	205					
	Pb	208					
[	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

## ICPMS#5 - Summary Report

Sample ID: Blank

Sample Date/Time: Tuesday, April 13, 2010 09:05:51

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: C:\elandata\Dataset\100412\Blank.395

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> In	115		ug/L		180813	
Sb	121		ug/L		604	
[ Sb	123		ug/L		492	

### 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 % Dil	Duplicate Rel. % Difference
[> In	115					
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: Blank

Report Date/Time: Tuesday, April 13, 2010 09:06:12

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## ICPMS#5 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Tuesday, April 13, 2010 09:08:09

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: C:\elandata\Dataset\100412\Standard 1.396

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		180147	180146.549
	Sb	121	10.000	ug/L	12.601	34350	0.188
	Sb	123		ug/L		26835	0.147

### 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 % Recovery	Dilution % Dil	Duplicate Rel. % Difference
>	In	115					
	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: Standard 1

Report Date/Time: Tuesday, April 13, 2010 09:08:28

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## ICPMS#5 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Tuesday, April 13, 2010 09:10:26

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: C:\elandata\Dataset\100412\Standard 2.397

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		169523	169522.817
	Sb	121	100.108	ug/L	16.205	355676	2.114
	Sb	123		ug/L		278723	1.654

### 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					
	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: QC Std 1

Sample Date/Time: Tuesday, April 13, 2010 09:12:43

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: C:\elandata\Dataset\100412\QC Std 1.398

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
> In	115		ug/L		178568	178568.397
Sb	121	54.670	ug/L	9.863	205955	1.155
Sb	123		ug/L		159945	0.897

### 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		98.8			
Sb	121	109.340				
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: Tuesday, April 13, 2010 09:13:02

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## ICPMS#5 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Tuesday, April 13, 2010 09:15:02

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: C:\elandata\Dataset\100412\QC Std 2.399

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
> In	115		ug/L		179902	179902.488
Sb	121	0.244	ug/L	27.593	1511	0.005
Sb	123		ug/L		1125	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 % Recovery	Dilution % Dil	Duplicate Rel. % Difference
> In	115		99.5			
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 2

Report Date/Time: Tuesday, April 13, 2010 09:15:23

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## ICPMS#5 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Tuesday, April 13, 2010 09:17:21

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: C:\elandata\Dataset\100412\QC Std 3.400

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
> In	115		ug/L		180295	180294.627
Sb	121	3.058	ug/L	14.329	12195	0.065
Sb	123		ug/L		9479	0.050

### 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			99.7			
Sb	121	101.941					
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: Tuesday, April 13, 2010 09:17:40

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## ICPMS#5 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Tuesday, April 13, 2010 09:19:39

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: C:\elandata\Dataset\100412\QC Std 4.401

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		173646	173645.971
	Sb	121	0.135	ug/L	26.709	1071	0.003
	Sb	123		ug/L		877	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 %	Duplicate Rel. % Difference
>	In	115		96.0			
	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 4

Report Date/Time: Tuesday, April 13, 2010 09:19:58

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## ICPMS#5 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Tuesday, April 13, 2010 09:21:57

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: C:\elandata\Dataset\100412\QC Std 5.402

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
In	115		ug/L		173487	173486.695
Sb	121	20.282	ug/L	11.925	74516	0.428
Sb	123		ug/L		59081	0.340

### 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		95.9			
Sb	121	101.411				
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 5

Report Date/Time: Tuesday, April 13, 2010 09:22:17

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## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Tuesday, April 13, 2010 09:24:16

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: C:\elandata\Dataset\100412\QC Std 6.403

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		187796	187796.250
	Sb	121	52.957	ug/L	13.740	209165	1.118
L	Sb	123		ug/L		160343	0.856

### 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		103.9				
	Sb	121	105.913					
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: QC Std 6

Report Date/Time: Tuesday, April 13, 2010 09:24:36

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## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Tuesday, April 13, 2010 09:26:36

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: C:\elandata\Dataset\100412\QC Std 7.404

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		189372	189371.518
	Sb	121	-0.036	ug/L	32.430	488	-0.001
L	Sb	123		ug/L		383	-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 % Dil	Duplicate Rel. % Difference
[>	In	115		104.7			
	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: Tuesday, April 13, 2010 09:26:57

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## ICPMS#5 - Summary Report

Sample ID: 1202065070

Sample Date/Time: Tuesday, April 13, 2010 09:28:55

Sample Type:

Sample Description: LANL 6020 MB

Number of Replicates: 3

Batch ID: 962585[1]prb

Method File: c:\elandata\Method\sb only.mth

Dataset File: C:\elandata\Dataset\100412\1202065070.405

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		181341	181341.308
	Sb	121	-0.043	ug/L	23.482	439	-0.001
L	Sb	123		ug/L		358	-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 % Dil	Duplicate Rel. % Difference
>	In	115			100.3		
	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: 1202065070

Report Date/Time: Tuesday, April 13, 2010 09:29:15

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## ICPMS#5 - Summary Report

Sample ID: 1202065071

Sample Date/Time: Tuesday, April 13, 2010 09:31:13

Sample Type:

Sample Description: LANL 6020 LCS

Number of Replicates: 3

Batch ID: 962585[1]prb

Method File: c:\elandata\Method\sb only.mth

Dataset File: C:\elandata\Dataset\100412\1202065071.406

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	In	115		ug/L		181306	181305.703
	Sb	121	54.443	ug/L	14.033	207758	1.150
	Sb	123		ug/L		164234	0.907

### 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		100.3			
	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: 1202065071

Report Date/Time: Tuesday, April 13, 2010 09:31:33

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## ICPMS#5 - Summary Report

Sample ID: 248516001

Sample Date/Time: Tuesday, April 13, 2010 09:33:31

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 962585|1|prb

Method File: c:\elandata\Method\sb only.mth

Dataset File: C:\elandata\Dataset\100412\248516001.407

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		183451	183450.885
	Sb	121	-0.083	ug/L	9.833	289	-0.002
[	Sb	123		ug/L		232	-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 % Dil	Duplicate Rel. % Difference
[>	In	115		101.5			
	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: 248516001

Report Date/Time: Tuesday, April 13, 2010 09:33:51

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## ICPMS#5 - Summary Report

Sample ID: 248516002

Sample Date/Time: Tuesday, April 13, 2010 09:35:50

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 962585|1|prb

Method File: c:\elandata\Method\sb only.mth

Dataset File: C:\elandata\Dataset\100412\248516002.408

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		187394	187393.633
	Sb	121	-0.108	ug/L	5.423	199	-0.002
L	Sb	123		ug/L		155	-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 % Dil	Duplicate Rel. % Difference
[>	In	115		103.6			
	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: 248516002

Report Date/Time: Tuesday, April 13, 2010 09:36:10

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## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Tuesday, April 13, 2010 09:42:46

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: C:\elandata\Dataset\100412\QC Std 8.411

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
In	115		ug/L		189845	189845.163
Sb	121	53.116	ug/L	14.120	212149	1.122
Sb	123		ug/L		163405	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 % Recovery	Dilution % Dil	Duplicate Rel. % Difference
In	115		105.0			
Sb	121	106.232				
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 8

Report Date/Time: Tuesday, April 13, 2010 09:43:06

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## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Tuesday, April 13, 2010 09:45:06

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: C:\elandata\Dataset\100412\QC Std 9.412

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
In	115		ug/L		193118	193118.426
Sb	121	-0.060	ug/L	19.842	398	-0.001
Sb	123		ug/L		283	-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		106.8			
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 9

Report Date/Time: Tuesday, April 13, 2010 09:45:27

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## ICPMS#5 - Summary Report

Sample ID: 1202065072

Sample Date/Time: Tuesday, April 13, 2010 09:49:44

Sample Type:

Sample Description: LANL 6020 DUP

Number of Replicates: 3

Batch ID: 962585|1|prb

Method File: c:\elandata\Method\sb only.mth

Dataset File: C:\elandata\Dataset\100412\1202065072.414

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In 115		ug/L		184390	184389.771
	Sb 121	-0.117	ug/L	3.074	158	-0.002
[	Sb 123		ug/L		130	-0.002

### 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		102.0			
	Sb 121					
[	Sb 123					

### 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: 1202065072

Report Date/Time: Tuesday, April 13, 2010 09:50:04

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## ICPMS#5 - Summary Report

Sample ID: 1202065073

Sample Date/Time: Tuesday, April 13, 2010 09:52:02

Sample Type:

Sample Description: LANL 6020 MS

Number of Replicates: 3

Batch ID: 962585|1|prb

Method File: c:\elandata\Method\sb only.mth

Dataset File: C:\elandata\Dataset\100412\1202065073.415

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		177073	177073.127
	Sb	121	206.392	ug/L	16.259	765685	4.359
L	Sb	123		ug/L		612857	3.483

### 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		97.9			
	Sb	121					
L	Sb	123					

### 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: 1202065073

Report Date/Time: Tuesday, April 13, 2010 09:52:22

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## ICPMS#5 - Summary Report

Sample ID: 1202065074

Sample Date/Time: Tuesday, April 13, 2010 09:54:20

Sample Type:

Sample Description: LANL 6020 SDILT

Number of Replicates: 3

Batch ID: 962585[5]prb

Method File: c:\elandata\Method\sb only.mth

Dataset File: C:\elandata\Dataset\100412\1202065074.416

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		186632	186632.365
	Sb	121	-0.063	ug/L	19.475	371	-0.001
L	Sb	123		ug/L		293	-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		103.2			
	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: 1202065074

Report Date/Time: Tuesday, April 13, 2010 09:54:40

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## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Tuesday, April 13, 2010 09:58:58

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: C:\elandata\Dataset\100412\QC Std 6.418

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		186004	186004.311
	Sb	121	53.969	ug/L	8.312	212055	1.140
[	Sb	123		ug/L		165022	0.887

### 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		102.9				
	Sb	121	107.938					
[	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

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Tuesday, April 13, 2010 10:01:18

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\sb only.mth

Dataset File: C:\elandata\Dataset\100412\QC Std 7.419

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	In	115		ug/L		201693	201692.772
	Sb	121	-0.072	ug/L	19.248	366	-0.002
	Sb	123		ug/L		294	-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		111.5			
	Sb	121					
	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 7

Report Date/Time: Tuesday, April 13, 2010 10:01:39

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=====  
Analysis BegunLogged In Analyst: Administrator  
Spectrometer Model: FIMS-100, S/N B050-9550Technique: AA FIMS-MHS  
Autosampler Model: S10

Sample Information File: C:\data-AA\Administrator\Sample Information\031310W1.SIF

Batch ID:

Results Data Set: 031310W1

Results Library: C:\data-AA\Administrator\Results\Results.mdb

=====  
Method Loaded

Method Name: WATER

Method Last Saved: 2/8/2010 13:04:57

Method Description: 7470A, 245.2, ILM04 ANALYST JXL

Sequence No.: 1

Autosampler Location: 1

Sample ID: Calib Blank

Date Collected: 3/13/2010 07:06:01

Analyst:

Data Type: Original

-----  
Replicate Data: Calib Blank

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.00]	0.0003	0.0001	0.0003	07:07:03	Yes
2		[0.00]	0.0003	0.0003	0.0003	07:07:38	Yes
Mean:		[0.00]	0.0003				
SD:		0.00	0.0000				
%RSD:		0.00	3.76				

Auto-zero performed.

Sequence No.: 2

Autosampler Location: 2

Sample ID: S0.2

Date Collected: 3/13/2010 07:07:57

Analyst:

Data Type: Original

-----  
Replicate Data: S0.2

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.2]	0.0024	0.0110	0.0026	07:08:57	Yes
2		[0.2]	0.0023	0.0104	0.0025	07:09:32	Yes
Mean:		[0.2]	0.0023				
SD:		0.0	0.0001				
%RSD:		0.0	3.43				

Standard number 1 applied. [0.2]  
Correlation Coef.: 1.000000 Slope: 0.01159 Intercept: 0.00000

Sequence No.: 3

Autosampler Location: 3

Sample ID: S0.5

Date Collected: 3/13/2010 07:09:51

Analyst:

Data Type: Original

-----  
Replicate Data: S0.5

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.5]	0.0056	0.0261	0.0059	07:10:52	Yes
2		[0.5]	0.0056	0.0259	0.0059	07:11:27	Yes
Mean:		[0.5]	0.0056				
SD:		0.0	0.0000				
%RSD:		0.0	0.01				

Standard number 2 applied. [0.5]  
Correlation Coef.: 0.999927 Slope: 0.01128 Intercept: 0.00002

Sequence No.: 4

Autosampler Location: 4

Sample ID: S2.0

Date Collected: 3/13/2010 07:11:46

Analyst:

Data Type: Original

## Replicate Data: S2.0

Repl #	SampleConc ug/L	StdndConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[2.0]	0.0231	0.1060	0.0233	07:12:48	Yes
2		[2.0]	0.0232	0.1057	0.0235	07:13:23	Yes
Mean:		[2.0]	0.0231				
SD:		0.0	0.0001				
%RSD:		0.0	0.38				

Standard number 3 applied. [2.0]  
Correlation Coef.: 0.999978 Slope: 0.01158 Intercept: -0.00004

Sequence No.: 5  
Sample ID: S5.0  
Analyst:

Autosampler Location: 5  
Date Collected: 3/13/2010 07:13:43  
Data Type: Original

## Replicate Data: S5.0

Repl #	SampleConc ug/L	StdndConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[5.0]	0.0576	0.2651	0.0579	07:14:44	Yes
2		[5.0]	0.0576	0.2650	0.0578	07:15:19	Yes
Mean:		[5.0]	0.0576				
SD:		0.0	0.0000				
%RSD:		0.0	0.08				

Standard number 4 applied. [5.0]  
Correlation Coef.: 0.999995 Slope: 0.01153 Intercept: -0.00001

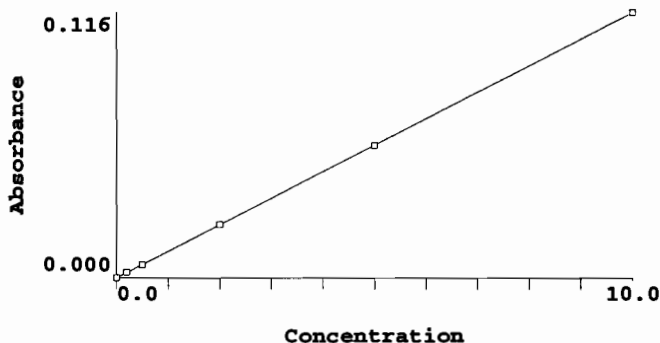
Sequence No.: 6  
Sample ID: S10.0  
Analyst:

Autosampler Location: 6  
Date Collected: 3/13/2010 07:15:39  
Data Type: Original

## Replicate Data: S10.0

Repl #	SampleConc ug/L	StdndConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[10.0]	0.1155	0.5378	0.1158	07:16:40	Yes
2		[10.0]	0.1157	0.5387	0.1159	07:17:14	Yes
Mean:		[10.0]	0.1156				
SD:		0.0	0.0001				
%RSD:		0.0	0.08				

Standard number 5 applied. [10.0]  
Correlation Coef.: 0.999998 Slope: 0.01156 Intercept: -0.00005



## Calibration data for Hg 253.7

Equation: Linear, Calculated Intercept

ID	Mean Signal (Abs)	Entered Conc. ug/L	Calculated Conc. ug/L	Standard Deviation	%RSD
Calib Blank	0.0000	0	0.004	0.00	3.8
S0.2	0.0023	0.2	0.205	0.00	3.4
S0.5	0.0056	0.5	0.493	0.00	0.0
S2.0	0.0231	2.0	2.006	0.00	0.4

S5.0 0.0576 5.0 4.987 0.00 0.1  
S10.0 0.1156 10.0 10.006 0.00 0.1  
Correlation Coef.: 0.999998 Slope: 0.01156 Intercept: -0.00005

Sequence No.: 7

Sample ID: ICV

Analyst:

Autosampler Location: 9

Date Collected: 3/13/2010 07:17:33

Data Type: Original

## Replicate Data: ICV

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.116	5.116	0.0591	0.2724	0.0593	07:18:34	Yes
2	5.078	5.078	0.0586	0.2706	0.0589	07:19:10	Yes
Mean:	5.097	5.097	0.0589				
SD:	0.027	0.027	0.0003				
%RSD:	0.521	0.521	0.52				

QC value within limits for Hg 253.7 Recovery = 101.94%

All analyte(s) passed QC.

Sequence No.: 8

Sample ID: ICB

Analyst:

Autosampler Location: 10

Date Collected: 3/13/2010 07:19:29

Data Type: Original

## Replicate Data: ICB

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.003	-0.003	-0.0001	-0.0006	0.0002	07:20:31	Yes
2	0.000	0.000	-0.0000	-0.0005	0.0002	07:21:06	Yes
Mean:	-0.001	-0.001	-0.0001				
SD:	0.002	0.002	0.0000				
%RSD:	159.4	159.4	42.51				

QC value within limits for Hg 253.7 Recovery = Not calculated

All analyte(s) passed QC.

Sequence No.: 9

Sample ID: CRDL

Analyst:

Autosampler Location: 11

Date Collected: 3/13/2010 07:21:25

Data Type: Original

## Replicate Data: CRDL

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.198	0.198	0.0022	0.0107	0.0025	07:22:27	Yes
2	0.199	0.199	0.0023	0.0108	0.0025	07:23:02	Yes
Mean:	0.199	0.199	0.0022				
SD:	0.001	0.001	0.0000				
%RSD:	0.293	0.293	0.30				

QC value within limits for Hg 253.7 Recovery = 99.29%

All analyte(s) passed QC.

Sequence No.: 10

Sample ID: CCV

Analyst:

Autosampler Location: 7

Date Collected: 3/13/2010 07:23:22

Data Type: Original

## Replicate Data: CCV

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.047	5.047	0.0583	0.2704	0.0586	07:24:22	Yes
2	5.032	5.032	0.0581	0.2689	0.0584	07:24:57	Yes
Mean:	5.039	5.039	0.0582				
SD:	0.011	0.011	0.0001				
%RSD:	0.215	0.215	0.21				

QC value within limits for Hg 253.7 Recovery = 100.79%

All analyte(s) passed QC.

Sequence No.: 11  
Sample ID: CCB  
Analyst:

Autosampler Location: 8  
Date Collected: 3/13/2010 07:25:16  
Data Type: Original

## Replicate Data: CCB

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.001	-0.001	-0.0001	-0.0004	0.0002	07:26:17	Yes
2	0.006	0.006	0.0000	0.0001	0.0003	07:26:51	Yes
Mean:	0.002	0.002	-0.0000				
SD:	0.005	0.005	0.0001				
%RSD:	230.2	230.2	281.11				

QC value within limits for Hg 253.7 Recovery = Not calculated  
All analyte(s) passed QC.

Sequence No.: 12  
Sample ID: 1202056683|959019|1  
Analyst: JXL

Autosampler Location: 12  
Date Collected: 3/13/2010 07:27:11  
Data Type: Original

## Replicate Data: 1202056683|959019|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.001	0.001	-0.0000	-0.0003	0.0002	07:28:12	Yes
2	0.003	0.003	-0.0000	0.0001	0.0003	07:28:47	Yes
Mean:	0.002	0.002	-0.0000				
SD:	0.001	0.001	0.0000				
%RSD:	54.12	54.12	61.22				

Sequence No.: 13  
Sample ID: 247669001|959019|1  
Analyst: JXL

Autosampler Location: 13  
Date Collected: 3/13/2010 07:29:07  
Data Type: Original

## Replicate Data: 247669001|959019|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.285	0.285	0.0033	0.0150	0.0035	07:30:09	Yes
2	0.291	0.291	0.0033	0.0151	0.0036	07:30:44	Yes
Mean:	0.288	0.288	0.0033				
SD:	0.004	0.004	0.0000				
%RSD:	1.257	1.257	1.28				

Sequence No.: 14  
Sample ID: 247669002|959019|1  
Analyst: JXL

Autosampler Location: 14  
Date Collected: 3/13/2010 07:31:04  
Data Type: Original

## Replicate Data: 247669002|959019|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.429	0.429	0.0049	0.0230	0.0052	07:32:05	Yes
2	0.426	0.426	0.0049	0.0229	0.0051	07:32:40	Yes
Mean:	0.427	0.427	0.0049				
SD:	0.002	0.002	0.0000				
%RSD:	0.463	0.463	0.47				

Sequence No.: 15  
Sample ID: 1202069597|964675|1  
Analyst: JXL

Autosampler Location: 15  
Date Collected: 3/13/2010 07:32:59  
Data Type: Original

## Replicate Data: 1202069597|964675|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
------	------------	---------	---------	------	------	------	------

-----  
Replicate Data: 1202069601|964675|500

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.002	0.002	-0.0000	0.0005	0.0002	07:43:33	Yes
2	0.003	0.003	-0.0000	0.0008	0.0003	07:44:08	Yes
Mean:	0.002	0.002	-0.0000				
SD:	0.000	0.000	0.0000				
%RSD:	20.17	20.17	29.29				

Sequence No.: 21

Autosampler Location: 21

Sample ID: 249148002|964675|100

Date Collected: 3/13/2010 07:44:27

Analyst: JXL

Data Type: Original

-----  
Replicate Data: 249148002|964675|100

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.004	0.004	-0.0000	0.0010	0.0003	07:45:29	Yes
2	0.009	0.009	0.0001	0.0013	0.0003	07:46:04	Yes
Mean:	0.006	0.006	0.0000				
SD:	0.003	0.003	0.0000				
%RSD:	51.00	51.00	144.96				

Sequence No.: 22

Autosampler Location: 7

Sample ID: CCV

Date Collected: 3/13/2010 07:46:23

Analyst:

Data Type: Original

-----  
Replicate Data: CCV

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	4.999	4.999	0.0577	0.2686	0.0580	07:47:24	Yes
2	4.942	4.942	0.0571	0.2675	0.0573	07:47:59	Yes
Mean:	4.971	4.971	0.0574				
SD:	0.040	0.040	0.0005				
%RSD:	0.811	0.811	0.81				

QC value within limits for Hg 253.7 Recovery = 99.42%  
All analyte(s) passed QC.

Sequence No.: 23

Autosampler Location: 8

Sample ID: CCB

Date Collected: 3/13/2010 07:48:18

Analyst:

Data Type: Original

-----  
Replicate Data: CCB

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.014	0.014	0.0001	0.0024	0.0004	07:49:18	Yes
2	0.017	0.017	0.0001	0.0032	0.0004	07:49:53	Yes
Mean:	0.016	0.016	0.0001				
SD:	0.002	0.002	0.0000				
%RSD:	12.14	12.14	16.46				

QC value within limits for Hg 253.7 Recovery = Not calculated  
All analyte(s) passed QC.

Sequence No.: 24

Autosampler Location: 22

Sample ID: 1202056673|959008|1

Date Collected: 3/13/2010 07:50:12

Analyst: JXL

Data Type: Original

-----  
Replicate Data: 1202056673|959008|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.012	0.012	0.0001	0.0018	0.0004	07:51:14	Yes
2	0.012	0.012	0.0001	0.0018	0.0004	07:51:49	Yes

Mean: 0.012 0.012 0.0001  
SD: 0.000 0.000 0.0000  
%RSD: 2.244 2.244 3.42

Sequence No.: 25

Sample ID: 247635001|959008|1

Analyst: JXL

Autosampler Location: 23

Date Collected: 3/13/2010 07:52:08

Data Type: Original

Replicate Data: 247635001|959008|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.323	0.323	0.0037	0.0190	0.0040	07:53:10	Yes
2	0.324	0.324	0.0037	0.0191	0.0040	07:53:45	Yes
Mean:	0.324	0.324	0.0037				
SD:	0.001	0.001	0.0000				
%RSD:	0.162	0.162	0.16				

Sequence No.: 26

Sample ID: 247635002|959008|1

Analyst: JXL

Autosampler Location: 24

Date Collected: 3/13/2010 07:54:05

Data Type: Original

Replicate Data: 247635002|959008|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.477	0.477	0.0055	0.0270	0.0057	07:55:06	Yes
2	0.473	0.473	0.0054	0.0260	0.0057	07:55:41	Yes
Mean:	0.475	0.475	0.0054				
SD:	0.003	0.003	0.0000				
%RSD:	0.602	0.602	0.61				

Sequence No.: 27

Sample ID: 1202068540|964196|1

Analyst: JXL

Autosampler Location: 25

Date Collected: 3/13/2010 07:56:01

Data Type: Original

Replicate Data: 1202068540|964196|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.009	0.009	0.0001	0.0013	0.0003	07:57:03	Yes
2	0.010	0.010	0.0001	0.0015	0.0003	07:57:38	Yes
Mean:	0.009	0.009	0.0001				
SD:	0.001	0.001	0.0000				
%RSD:	7.909	7.909	14.20				

Sequence No.: 28

Sample ID: 1202068541|964196|1

Analyst: JXL

Autosampler Location: 26

Date Collected: 3/13/2010 07:57:58

Data Type: Original

Replicate Data: 1202068541|964196|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	2.302	2.302	0.0266	0.1234	0.0268	07:58:59	Yes
2	2.287	2.287	0.0264	0.1221	0.0266	07:59:34	Yes
Mean:	2.294	2.294	0.0265				
SD:	0.011	0.011	0.0001				
%RSD:	0.465	0.465	0.47				

Sequence No.: 29

Sample ID: 248380001|964196|1

Analyst: JXL

Autosampler Location: 27

Date Collected: 3/13/2010 07:59:53

Data Type: Original

Replicate Data: 248380001|964196|1



Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.013	0.013	0.0001	0.0020	0.0004	08:00:54	Yes
2	0.021	0.021	0.0002	0.0033	0.0005	08:01:28	Yes
Mean:	0.017	0.017	0.0001				
SD:	0.006	0.006	0.0001				
%RSD:	33.77	33.77	44.57				

Sequence No.: 30

Sample ID: 248390001|964196|1

Analyst: JXL

Autosampler Location: 28

Date Collected: 3/13/2010 08:01:48

Data Type: Original

Replicate Data: 248390001|964196|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.013	0.013	0.0001	0.0022	0.0004	08:02:48	Yes
2	0.016	0.016	0.0001	0.0021	0.0004	08:03:23	Yes
Mean:	0.014	0.014	0.0001				
SD:	0.002	0.002	0.0000				
%RSD:	13.65	13.65	19.08				

Sequence No.: 31

Sample ID: 248402001|964196|1

Analyst: JXL

Autosampler Location: 29

Date Collected: 3/13/2010 08:03:42

Data Type: Original

Replicate Data: 248402001|964196|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.013	0.013	0.0001	0.0028	0.0004	08:04:43	Yes
2	0.020	0.020	0.0002	0.0038	0.0004	08:05:18	Yes
Mean:	0.016	0.016	0.0001				
SD:	0.005	0.005	0.0001				
%RSD:	30.84	30.84	41.23				

Sequence No.: 32

Sample ID: 248516001|964196|1

Analyst: JXL

Autosampler Location: 30

Date Collected: 3/13/2010 08:05:37

Data Type: Original

Replicate Data: 248516001|964196|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.010	0.010	0.0001	0.0020	0.0003	08:06:38	Yes
2	0.004	0.004	-0.0000	0.0012	0.0003	08:07:12	Yes
Mean:	0.007	0.007	0.0000				
SD:	0.005	0.005	0.0001				
%RSD:	67.34	67.34	164.84				

Sequence No.: 33

Sample ID: 248516002|964196|1

Analyst: JXL

Autosampler Location: 31

Date Collected: 3/13/2010 08:07:32

Data Type: Original

Replicate Data: 248516002|964196|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.005	0.005	0.0000	0.0014	0.0003	08:08:33	Yes
2	0.008	0.008	0.0000	0.0016	0.0003	08:09:07	Yes
Mean:	0.006	0.006	0.0000				
SD:	0.002	0.002	0.0000				
%RSD:	26.39	26.39	73.83				

Sequence No.: 34

Sample ID: CCV

Autosampler Location: 7

Date Collected: 3/13/2010 08:09:27

Analyst:

Data Type: Original

-----  
Replicate Data: CCV

Repl #	SampleConc ug/L	StdndConc ug/L	BlndCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.004	5.004	0.0578	0.2733	0.0581	08:10:27	Yes
2	5.016	5.016	0.0579	0.2728	0.0582	08:11:02	Yes
Mean:	5.010	5.010	0.0579				
SD:	0.008	0.008	0.0001				
%RSD:	0.163	0.163	0.16				

QC value within limits for Hg 253.7 Recovery = 100.20%  
All analyte(s) passed QC.

Sequence No.: 35

Autosampler Location: 8

Sample ID: CCB

Date Collected: 3/13/2010 08:11:21

Analyst:

Data Type: Original

-----  
Replicate Data: CCB

Repl #	SampleConc ug/L	StdndConc ug/L	BlndCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.009	0.009	0.0001	0.0014	0.0003	08:12:22	Yes
2	0.009	0.009	0.0001	0.0015	0.0003	08:12:57	Yes
Mean:	0.009	0.009	0.0001				
SD:	0.000	0.000	0.0000				
%RSD:	3.974	3.974	7.44				

QC value within limits for Hg 253.7 Recovery = Not calculated  
All analyte(s) passed QC.

Sequence No.: 36

Autosampler Location: 32

Sample ID: 248518001|964196|1

Date Collected: 3/13/2010 08:13:16

Analyst: JXL

Data Type: Original

-----  
Replicate Data: 248518001|964196|1

Repl #	SampleConc ug/L	StdndConc ug/L	BlndCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.006	0.006	0.0000	0.0016	0.0003	08:14:17	Yes
2	0.008	0.008	0.0000	0.0019	0.0003	08:14:52	Yes
Mean:	0.007	0.007	0.0000				
SD:	0.001	0.001	0.0000				
%RSD:	19.79	19.79	45.55				

Sequence No.: 37

Autosampler Location: 33

Sample ID: 248523001|964196|1

Date Collected: 3/13/2010 08:15:12

Analyst: JXL

Data Type: Original

-----  
Replicate Data: 248523001|964196|1

Repl #	SampleConc ug/L	StdndConc ug/L	BlndCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.006	0.006	0.0000	0.0016	0.0003	08:16:13	Yes
2	0.005	0.005	0.0000	0.0015	0.0003	08:16:48	Yes
Mean:	0.006	0.006	0.0000				
SD:	0.001	0.001	0.0000				
%RSD:	9.345	9.345	32.53				

Sequence No.: 38

Autosampler Location: 34

Sample ID: 248533001|964196|1

Date Collected: 3/13/2010 08:17:07

Analyst: JXL

Data Type: Original

-----  
Replicate Data: 248533001|964196|1

Repl #	SampleConc ug/L	StdndConc ug/L	BlndCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.007	0.007	0.0000	0.0017	0.0003	08:18:09	Yes

2	0.010	0.010	0.0001	0.0021	0.0003	08:18:43	Yes
Mean:	0.009	0.009	0.0001				
SD:	0.002	0.002	0.0000				
%RSD:	22.64	22.64	43.29				

Sequence No.: 39

Sample ID: 248535001|964196|1

Analyst: JXL

Autosampler Location: 35

Date Collected: 3/13/2010 08:19:03

Data Type: Original

Replicate Data: 248535001|964196|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.008	0.008	0.0000	0.0018	0.0003	08:20:05	Yes
2	0.005	0.005	0.0000	0.0015	0.0003	08:20:40	Yes
Mean:	0.007	0.007	0.0000				
SD:	0.002	0.002	0.0000				
%RSD:	23.87	23.87	64.80				

Sequence No.: 40

Sample ID: 248535002|964196|1

Analyst: JXL

Autosampler Location: 36

Date Collected: 3/13/2010 08:21:00

Data Type: Original

Replicate Data: 248535002|964196|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.005	0.005	0.0000	0.0014	0.0003	08:22:02	Yes
2	0.007	0.007	0.0000	0.0015	0.0003	08:22:37	Yes
Mean:	0.006	0.006	0.0000				
SD:	0.002	0.002	0.0000				
%RSD:	25.70	25.70	78.23				

Sequence No.: 41

Sample ID: 248551001|964196|1

Analyst: JXL

Autosampler Location: 37

Date Collected: 3/13/2010 08:22:57

Data Type: Original

Replicate Data: 248551001|964196|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.006	0.006	0.0000	0.0015	0.0003	08:23:59	Yes
2	0.006	0.006	0.0000	0.0014	0.0003	08:24:33	Yes
Mean:	0.006	0.006	0.0000				
SD:	0.000	0.000	0.0000				
%RSD:	4.498	4.498	14.45				

Sequence No.: 42

Sample ID: 1202068542|964196|1

Analyst: JXL

Autosampler Location: 38

Date Collected: 3/13/2010 08:24:54

Data Type: Original

Replicate Data: 1202068542|964196|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.006	0.006	0.0000	0.0015	0.0003	08:25:55	Yes
2	0.008	0.008	0.0000	0.0016	0.0003	08:26:30	Yes
Mean:	0.007	0.007	0.0000				
SD:	0.002	0.002	0.0000				
%RSD:	22.94	22.94	59.43				

Sequence No.: 43

Sample ID: 1202068543|964196|1

Analyst: JXL

Autosampler Location: 39

Date Collected: 3/13/2010 08:26:49

Data Type: Original

## Replicate Data: 1202068543|964196|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	2.086	2.086	0.0241	0.1153	0.0243	08:27:50	Yes
2	2.102	2.102	0.0242	0.1155	0.0245	08:28:25	Yes
Mean:	2.094	2.094	0.0242				
SD:	0.011	0.011	0.0001				
%RSD:	0.523	0.523	0.52				

Sequence No.: 44

Autosampler Location: 40

Sample ID: 1202068544|964196|5

Date Collected: 3/13/2010 08:28:45

Analyst: JXL

Data Type: Original

## Replicate Data: 1202068544|964196|5

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.010	0.010	0.0001	0.0016	0.0003	08:29:45	Yes
2	0.007	0.007	0.0000	0.0016	0.0003	08:30:20	Yes
Mean:	0.008	0.008	0.0000				
SD:	0.002	0.002	0.0000				
%RSD:	22.97	22.97	46.36				

Sequence No.: 45

Autosampler Location: 41

Sample ID: 248551002|964196|1

Date Collected: 3/13/2010 08:30:40

Analyst: JXL

Data Type: Original

## Replicate Data: 248551002|964196|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.005	0.005	0.0000	0.0012	0.0003	08:31:41	Yes
2	0.005	0.005	0.0000	0.0013	0.0003	08:32:15	Yes
Mean:	0.005	0.005	0.0000				
SD:	0.000	0.000	0.0000				
%RSD:	5.023	5.023	38.58				

Sequence No.: 46

Autosampler Location: 7

Sample ID: CCV

Date Collected: 3/13/2010 08:32:35

Analyst:

Data Type: Original

## Replicate Data: CCV

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.139	5.139	0.0594	0.2801	0.0596	08:33:35	Yes
2	5.137	5.137	0.0593	0.2796	0.0596	08:34:10	Yes
Mean:	5.138	5.138	0.0593				
SD:	0.002	0.002	0.0000				
%RSD:	0.030	0.030	0.03				

QC value within limits for Hg 253.7 Recovery = 102.76%  
All analyte(s) passed QC.

Sequence No.: 47

Autosampler Location: 8

Sample ID: CCB

Date Collected: 3/13/2010 08:34:29

Analyst:

Data Type: Original

## Replicate Data: CCB

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.009	0.009	0.0001	0.0014	0.0003	08:35:30	Yes
2	0.007	0.007	0.0000	0.0013	0.0003	08:36:05	Yes
Mean:	0.008	0.008	0.0000				
SD:	0.002	0.002	0.0000				
%RSD:	25.04	25.04	51.72				

QC value within limits for Hg 253.7 Recovery = Not calculated

# Miscellaneous

# Prep Logbook

## Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer

**Batch ID:** 964195.0  
**Analyst:** Tara Griffin  
**Method:** SW846 7470A Prep  
**Lab SOP:** GL-MA-E-010 REV# 23  
**Instrument:** No analytical instrument

**Verified by:**

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1202068541	Mercury working intermediate standard for LCS/MS	WHG100312-13	.2	mL
MS	1202068543	Mercury working intermediate standard for LCS/MS	WHG100312-13	.2	mL

Sample ID	Run Date	Matrix	Initial Volume (mL)	Final Volume (mL)	Prep Factor (mL/mL)	pH Check
1202068540 MB	12-MAR-2010 15:10:00	Water	20	20	1	<2
1202068541 LCS	12-MAR-2010 15:10:00	Water	20	20	1	<2
248380001	12-MAR-2010 15:10:00	Water	20	20	1	<2
248390001	12-MAR-2010 15:10:00	Water	20	20	1	<2
248402001	12-MAR-2010 15:10:00	Water	20	20	1	<2
248516001	12-MAR-2010 15:10:00	Water	20	20	1	<2
248516002	12-MAR-2010 15:10:00	Water	20	20	1	<2
248518001	12-MAR-2010 15:10:00	Water	20	20	1	<2
248523001	12-MAR-2010 15:10:00	Water	20	20	1	<2
248533001	12-MAR-2010 15:10:00	Water	20	20	1	<2
248535001	12-MAR-2010 15:10:00	Water	20	20	1	<2
248535002	12-MAR-2010 15:10:00	Water	20	20	1	<2
248551001	12-MAR-2010 15:10:00	Water	20	20	1	<2
1202068542 DUP (248551001)	12-MAR-2010 15:10:00	Water	20	20	1	<2
1202068543 MS (248551001)	12-MAR-2010 15:10:00	Water	20	20	1	<2
1202068544 SDILT (248551001)	12-MAR-2010 15:10:00	Water	20	20	1	<2
248551002	12-MAR-2010 15:10:00	Water	20	20	1	<2

**Comments:**  
 Digestion Start Date: 12-MAR-10 15:10  
 Digestion End Date: 12-MAR-10 17:10

Reagent/Solvent Lot ID	Description	Amount
1176183	Sulfuric Acid, Concentrated	1 mL
1255532-C	Hg reducing agent	1 mL
1274391-I	NITRIC ACID	.5 mL
1276435-C	5% Potassium Persulfate	1.5 mL
1277238-C	5% KMnO4 solution	3 mL
WHG100312-01a	Mercury Working 1st Source CAL 0.2/CRA	20 uL
WHG100312-02	Mercury Working 1st Source CAL 0.5	50 uL
WHG100312-03	Mercury Working 1st Source CAL 2.0	200 uL

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GEL Laboratories LLC

## Prep Logbook

# Acid Digestion of Total Recoverable or Dissolved Metals in Surface and Groundwater Samples for Analysis by ICP or ICP-MS

Batch ID: 962579.0 Verified by:

Analyst: Bryan Davis

Method: SW846 3005A

Lab SOP: GL-MA-E-006 REV# 9

Instrument: Metals Manual Instrument

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1202065056	Metals Spike Mix I	UI1268741-01	.25	mL
LCS	1202065056	Metals Spike Mix II	UI1268744-06	.25	mL
MS	1202065058	Metals Spike Mix I	UI1268741-01	.25	mL
MS	1202065058	Metals Spike Mix II	UI1268744-06	.25	mL

Sample ID	Run Date	Matrix	Initial Volume (mL)	Final Volume (mL)	Prep Factor (mL/mL)	pH Check
1202065055 MB	15-MAR-2010 09:30:00	Water	50	50	1	<2
1202065056 LCS	15-MAR-2010 09:30:00	Water	50	50	1	<2
248516001	15-MAR-2010 09:30:00	Water	50	50	1	<2
248516002	15-MAR-2010 09:30:00	Water	50	50	1	<2
248518001	15-MAR-2010 09:30:00	Water	50	50	1	<2
248523001	15-MAR-2010 09:30:00	Water	50	50	1	<2
248550001	15-MAR-2010 09:30:00	Water	50	50	1	<2
1202065057 DUP (248550001)	15-MAR-2010 09:30:00	Water	50	50	1	<2
1202065058 MS (248550001)	15-MAR-2010 09:30:00	Water	50	50	1	<2
1202065059 SDILT (248550001)	15-MAR-2010 09:30:00	Water	50	50	1	<2
248557001	15-MAR-2010 09:30:00	Water	50	50	1	<2

Reagent/Solvent Lot ID Description Amount Comments:

1282564 HYDROCHLORIC ACID 2.5 mL

1282566 Nitric Acid CONC. 1 mL

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GEL Laboratories LLC

# Prep Logbook

## Acid Digestion of Total Recoverable or Dissolved Metals in Surface and Groundwater Samples for Analysis by ICP or ICP-MS

Batch ID: 962584.0

Analyst: Bryan Davis

Method: SW846 3005A

Lab SOP: GL-MA-E-006 REV# 9

Instrument: Metals Manual Instrument

Verified by:

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1202065071	ICP-MS SPIKE FOR ALL CLIENTS EXCEPT DOE CLIENTS (Solution A).	U11268746-A	.5	mL
LCS	1202065071	MS SPIKE FOR ALL CLIENTS EXCEPT DOE CLIENTS (Solution B).	U11268749-B	.5	mL
MS	1202065073	ICP-MS DOE liquid Spike Solution A	U11268752-A	.5	mL
MS	1202065073	ICP-MS DOE Liquid Spike Solution B	U11268755-B	.5	mL

Sample ID	Run Date	Matrix	Initial Volume (mL)	Final Volume (mL)	Prep Factor (mL/mL)	pH Check
1202065070 MB	15-MAR-2010 09:30:00	Water	50	50	1	<2
1202065071 LCS	15-MAR-2010 09:30:00	Water	50	50	1	<2
248516001	15-MAR-2010 09:30:00	Water	50	50	1	<2
248516002	15-MAR-2010 09:30:00	Water	50	50	1	<2
248518001	15-MAR-2010 09:30:00	Water	50	50	1	<2
248523001	15-MAR-2010 09:30:00	Water	50	50	1	<2
248550001	15-MAR-2010 09:30:00	Water	50	50	1	<2
1202065072 DUP (248550001)	15-MAR-2010 09:30:00	Water	50	50	1	<2
1202065073 MS (248550001)	15-MAR-2010 09:30:00	Water	50	50	1	<2
1202065074 SDILT (248550001)	15-MAR-2010 09:30:00	Water	50	50	1	<2
248557001	15-MAR-2010 09:30:00	Water	50	50	1	<2

Comments:

Reagent/Solvent Lot ID	Description	Amount
1282564	HYDROCHLORIC ACID	2.5 mL
1282566	Nitric Acid CONC.	1 mL

Analytical Logbook version 1 11-04-2002

GEL Laboratories LLC



# 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:** UI090421-40      **Opened:** 09-OCT-09      **Amount :** 250 mL  
**Name:** TRACE ICP Na-1000SOUR      **Received:** 21-APR-09      **Catalog Number :** HP100052-1  
**Type:** Source Material      **Expires:** 09-OCT-10      **Lot Number :** 0830227  
**Employee:** Helen Camello      **Solvent :** 1%HNO3  
**Supplier:** ENVIRONMENTAL EXPRESS  
**Description:** Sodium 1000 +/- 3 ug/mL in 1% HNO3  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Sodium	1000 ug/mL		

**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

# Standard Logbook

**Serial ID:** UI090612-02      **Opened:** 12-JUN-09      **Catalog Number :** 060074-06-01  
**Name:** ICPMS Tungsten - 10mg/L      **Received:** 12-JUN-09      **Lot Number :** 1016377  
**Type:** Source Material      **Expires:** 12-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
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:** O2SI  
**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

# Standard Logbook

<b>Analyte</b>	<b>Concentration</b>	<b>Analyte</b>	<b>Concentration</b>
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

<b>Analyte</b>	<b>Concentration</b>	<b>Analyte</b>	<b>Concentration</b>
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:** 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

<b>Analyte</b>	<b>Concentration</b>	<b>Analyte</b>	<b>Concentration</b>
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

# Standard Logbook

**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
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:** 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

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
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
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:** ENVIRNMENTAL EXPRESS  
**Description:** SILICON 1000mg/L H2O/tr HF  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Silica	2139 mg/L	Silicon	1000 mg/L

**Serial ID:** UI100310-48      **Opened:** 19-MAR-10      **Amount :** 1000 mL  
**Name:** Trace ICP ICSEA      **Received:** 12-MAR-10      **Catalog Number :** 160005-02  
**Type:** Source Material      **Expires:** 19-MAR-11      **Lot Number :** 1019141  
**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

# Standard Logbook

**Serial ID:** UI100317-06      **Opened:** 17-MAR-10      **Amount :** 250 mL  
**Name:** ICP-MS ICV/CCV Master A      **Received:** 17-MAR-10      **Catalog Number :** 160055-01  
**Type:** Source Material      **Expires:** 17-MAR-11      **Lot Number :** 1019161  
**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:** UI100317-07      **Opened:** 17-MAR-10      **Amount :** 250 mL  
**Name:** ICP-MS ICV/CCV Master B      **Received:** 17-MAR-10      **Catalog Number :** 160054-02  
**Type:** Source Material      **Expires:** 17-MAR-11      **Lot Number :** 1019162  
**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:** UI100317-08      **Opened:** 17-MAR-10      **Amount :** 250 mL  
**Name:** ICP-MS ICV/CCV Master C      **Received:** 17-MAR-10      **Catalog Number :** 160054-03  
**Type:** Source Material      **Expires:** 17-MAR-11      **Lot Number :** 1019163  
**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

<b>Analyte</b>	<b>Concentration</b>	<b>Analyte</b>	<b>Concentration</b>
Zirconium	20 mg/L		

**Serial ID:** UI100318-11      **Opened:** 18-MAR-10      **Amount :** 1000 mL  
**Name:** ICP-MS ICSA Master A      **Received:** 18-MAR-10      **Catalog Number :** 160013-01-01L  
**Type:** Source Material      **Expires:** 18-MAR-11      **Lot Number :** 1018321  
**Employee:** Paul Boyd      **Solvent :** 2% HNO3  
**Supplier:** 02SI  
**Description:** ICP-MS ICSA Master A  
**Comments:** None

<b>Analyte</b>	<b>Concentration</b>	<b>Analyte</b>	<b>Concentration</b>
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:** UI100325-40      **Opened:** 25-MAR-10      **Amount :** 500 mL  
**Name:** ICP HIGH RANGE STD-A      **Received:** 25-MAR-10      **Catalog Number :** 160211-05-03  
**Type:** Source Material      **Expires:** 25-MAR-11      **Lot Number :** 1019348  
**Employee:** Helen Camello      **Solvent :** +/-0.5%in2%HNO3  
**Supplier:** 02SI  
**Description:** ICP HIGH RANGE STD SOLUTION A  
**Comments:** None

<b>Analyte</b>	<b>Concentration</b>	<b>Analyte</b>	<b>Concentration</b>
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:** UI100325-41      **Opened:** 25-MAR-10      **Amount :** 500 mL  
**Name:** ICP HIGH RANGE STD B      **Received:** 25-MAR-10      **Catalog Number :** 160211-05-03  
**Type:** Source Material      **Expires:** 25-MAR-11      **Lot Number :** 1019348  
**Employee:** Helen Camello      **Solvent :** +/-0.5%in2%HNO3  
**Supplier:** 02SI  
**Description:** ICP HIGH RANGE STD SOLUTION B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	500000 ug/L	Calcium	500000 ug/L
Iron	500000 ug/L	Magnesium	500000 ug/L
Sodium	500000 ug/L	Uranium	15000 ug/L

**Serial ID:** UI100405-12      **Opened:** 05-APR-10      **Amount :** 250 mL  
**Name:** ICP-MS ICSAB Master B      **Received:** 05-APR-10      **Catalog Number :** 160033-02  
**Type:** Source Material      **Expires:** 05-APR-11      **Lot Number :** 1019466  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 2% HNO3  
**Supplier:** 02SI  
**Description:** ICPMS ICSAB Master B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Arsenic	2 mg/L	Barium	2 mg/L
Beryllium	2 mg/L	Boron	2 mg/L
Cadmium	2 mg/L	Chromium	2 mg/L
Cobalt	2 mg/L	Copper	2 mg/L
Lead	2 mg/L	Lithium	2 mg/L
Manganese	2 mg/L	Nickel	2 mg/L
Selenium	2 mg/L	Strontium	2 mg/L
Thallium	2 mg/L	Thorium	2 mg/L
Uranium	2 mg/L	Vanadium	2 mg/L
Zinc	2 mg/L		

**Serial ID:** UI100405-13      **Opened:** 05-APR-10      **Amount :** 250 mL  
**Name:** ICP-MS ICSAB Master C      **Received:** 05-APR-10      **Catalog Number :** 160033-03  
**Type:** Source Material      **Expires:** 05-APR-11      **Lot Number :** 1019467  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 2% HNO3  
**Supplier:** 02SI  
**Description:** ICPMS ICSAB Master C  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	2 mg/L	Silver	2 mg/L
Tin	2 mg/L	Tungsten	2 mg/L
Zirconium	2 mg/L		



# Standard Logbook

**Serial ID:** UI1268741-01      **Opened:** 11-FEB-10      **Lot Number :** 1018514  
**Name:** METALSPIKE-1      **Received:** 11-FEB-10  
**Type:** Source Material      **Expires:** 11-FEB-11  
**Employee:** Bryan Davis  
**Supplier:** OS2I  
**Description:** Metals Spike Mix I  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 ug/mL	Arsenic	100 ug/mL
Barium	100 ug/mL	Beryllium	100 ug/mL
Boron	100 ug/mL	Cadmium	100 ug/mL
Calcium	1000 ug/mL	Cobalt	100 ug/mL
Iron	1000 ug/mL	Lead	100 ug/mL
Magnesium	1000 ug/mL	Phosphorous	100 ug/mL
Potassium	1000 ug/mL	Silver	100 ug/mL
Sodium	1000 ug/mL	Strontium	100 ug/mL

**Serial ID:** UI1268744-06      **Opened:** 11-FEB-10      **Lot Number :** 1018515  
**Name:** METALSPIKE-2      **Received:** 11-FEB-10  
**Type:** Source Material      **Expires:** 11-FEB-11  
**Employee:** Bryan Davis  
**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
Uranium-235	.72 ug/mL	Uranium-238	99.28 ug/mL
Vanadium	100 ug/mL	Zinc	100 ug/mL

**Serial ID:** UI1268746-A      **Opened:** 11-FEB-10      **Catalog Number :** 160067-05  
**Name:** ICP-MS ALL OTHER SPIKE      **Received:** 11-FEB-10      **Lot Number :** 1018516  
**Type:** Source Material      **Expires:** 11-FEB-11  
**Employee:** Bryan Davis  
**Supplier:** O2si  
**Description:** ICP-MS SPIKE FOR ALL CLIENTS EXCEPT DOE CLIENTS (Solution A).  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
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## Standard Logbook

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
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:** UI1268749-B      **Opened:** 11-FEB-10      **Catalog Number :** 160067-05  
**Name:** ICP-MS ALL OTHER SPIKE      **Received:** 11-FEB-10      **Lot Number :** 1018516  
**Type:** Source Material      **Expires:** 11-FEB-11  
**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:** UI1268752-A      **Opened:** 11-FEB-10      **Catalog Number :** 160067-02  
**Name:** ICP-MS DOE Liquid SPIKE      **Received:** 11-FEB-10      **Lot Number :** 1017434  
**Type:** Source Material      **Expires:** 11-FEB-11  
**Employee:** Bryan Davis      **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

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
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:** UI1268755-B      **Opened:** 11-FEB-10      **Catalog Number :** 160067-02  
**Name:** ICP-MS DOE Liquid SPIKE      **Received:** 11-FEB-10      **Lot Number :** 1017434  
**Type:** Source Material      **Expires:** 11-FEB-11  
**Employee:** Bryan Davis      **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:** UMS100226-01      **Opened:** 26-FEB-10      **Amount :** 250 mL  
**Name:** ICPMSCaSPIKEB      **Received:** 26-FEB-10      **Catalog Number :** ZGEL-100-250  
**Type:** Source Material      **Expires:** 26-FEB-11      **Lot Number :** 21-104JB  
**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:** UMS100226-02      **Opened:** 26-FEB-10      **Catalog Number :** ZGEL-102-250  
**Name:** ICPMSCaSPIKEA      **Received:** 26-FEB-10      **Lot Number :** 21-103JB  
**Type:** Source Material      **Expires:** 26-FEB-11  
**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:** UMS100226-03      **Opened:** 26-FEB-10      **Amount :** 250 ml  
**Name:** ICPMSCaSPIKEC      **Received:** 26-FEB-10      **Catalog Number :** ZGEL-101-250  
**Type:** Source Material      **Expires:** 26-FEB-11      **Lot Number :** 21-102JB  
**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:** IHG100312-01      **Opened:** 12-MAR-10      **Instrument Id :** Mercury  
**Name:** MHGINTER1      **Received:** 12-MAR-10      **Pipet Id :** Minou1  
**Type:** Intermediate      **Expires:** 13-MAR-10      **Solvent :** 1mL HNO3 + Typel H2O  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** Mercury Intermediate 1st Source 200 ug/L  
**Comments:** Prepare fresh daily

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167639-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

**Serial ID:** IHG100312-02      **Opened:** 12-MAR-10      **Pipet Id :** Minou1  
**Name:** MHGINTER2      **Received:** 12-MAR-10      **Solvent :** 2% HNO3-1274391  
**Type:** Intermediate      **Expires:** 13-MAR-10  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** Mercury Intermediate 2nd Source 200 ug/L  
**Comments:** None

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167641-02	Mercury	999.7 mg/L	.05 mL	250 mL	200 ug/L

Serial ID: WHG100312-01a      Opened: 12-MAR-10      Pipet Id : Hg1289245  
 Name: MHGWORKCAL0.2CRA      Received: 12-MAR-10      Solvent : 2% HNO3-1274391  
 Type: Working      Expires: 19-MAR-10  
 Employee: Tara Griffin  
 Supplier: GEL  
 Description: Mercury Working 1st Source CAL 0.2/CRA  
 Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100312-01	Mercury	200 ug/L	20 uL	20 mL	.2 ug/L

Serial ID: WHG100312-02      Opened: 12-MAR-10      Pipet Id : Hg1289245  
 Name: MHGWORKCAL0.5      Received: 12-MAR-10      Solvent : 2% HNO3-1274391  
 Type: Working      Expires: 19-MAR-10  
 Employee: Tara Griffin  
 Supplier: GEL  
 Description: Mercury Working 1st Source CAL 0.5  
 Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100312-01	Mercury	200 ug/L	50 uL	20 mL	.5 ug/L

Serial ID: WHG100312-03      Opened: 12-MAR-10      Pipet Id : Hg1289245  
 Name: MHGWORKCAL2.0      Received: 12-MAR-10      Solvent : 2% HNO3-1274391  
 Type: Working      Expires: 19-MAR-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.	Aliquot	Final Vol.	Final Conc.
IHG100312-01	Mercury	200 ug/L	200 uL	20 mL	2 ug/L

Serial ID: WHG100312-04      Opened: 12-MAR-10      Pipet Id : Hg1289245  
 Name: MHGWORKCAL5.0CCV      Received: 12-MAR-10      Solvent : 2% HNO3-1274391  
 Type: Working      Expires: 19-MAR-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.	Aliquot	Final Vol.	Final Conc.
IHG100312-01	Mercury	200 ug/L	500 uL	20 mL	5 ug/L

Serial ID: WHG100312-05      Opened: 12-MAR-10      Pipet Id : Hg1289245  
 Name: MHGWORKCAL10.0      Received: 12-MAR-10      Solvent : 2% HNO3-1274391  
 Type: Working      Expires: 19-MAR-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.	Aliquot	Final Vol.	Final Conc.
IHG100312-01	Mercury	200 ug/L	1 mL	20 mL	10 ug/L

Serial ID: WHG100312-06      Opened: 12-MAR-10      Pipet Id : Hg1289245  
 Name: MHGWORK5.0ICV      Received: 12-MAR-10      Solvent : 2% HNO3-1274391  
 Type: Working      Expires: 19-MAR-10  
 Employee: Tara Griffin  
 Supplier: GEL  
 Description: Mercury Working 2nd Source 5.0/ICV  
 Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100312-02	Mercury	200 ug/L	500 uL	20 mL	5 ug/L

Serial ID: WHG100312-13      Opened: 12-MAR-10      Pipet Id : Hg1289245  
 Name: MHGLIQLCSMSSPIKE      Received: 12-MAR-10      Solvent : 2% HNO3-1274391  
 Type: Working      Expires: 19-MAR-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.	Aliquot	Final Vol.	Final Conc.
UHG1167639-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

Serial ID: WI100330-42      Opened: 30-MAR-10      Balance Id : 216  
 Name: TRACE ICP 0.1 PPM STD.      Received: 02-NOV-09      Pipet Id : 3581809  
 Type: Working      Expires: 31-MAR-10      Solvent : 3%HCL and 1%HNO3 -1293083  
 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.
WI100330-44	Aluminum	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100330-44	Antimony	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Arsenic	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Barium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Beryllium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Boron	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Cadmium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Calcium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100330-44	Chromium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Cobalt	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Copper	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Iron	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100330-44	Lead	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Magnesium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100330-44	Manganese	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Molybdenum	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Nickel	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Phosphorous	5000 ug/L	10 mL	100 mL	500 ug/L
WI100330-44	Potassium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100330-44	Selenium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Silica	10698 ug/L	10 mL	100 mL	1069 ug/L
WI100330-44	Silicon	5000 ug/L	10 mL	100 mL	500 ug/L
WI100330-44	Silver	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Sodium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100330-44	Strontium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Sulfur	2000 ug/L	10 mL	100 mL	200 ug/L
WI100330-44	Thallium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Tin	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Titanium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Uranium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Vanadium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100330-44	Zinc	1000 ug/L	10 mL	100 mL	100 ug/L

**Serial ID:** WI100330-43      **Opened:** 30-MAR-10      **Balance Id :** 216  
**Name:** TRACE ICP 0.5/CCV STD.      **Received:** 02-NOV-09      **Pipet Id :** 3581809  
**Type:** Working      **Expires:** 31-MAR-10      **Solvent :** 3%HCL and 1%HNO3 -1293083  
**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.
UI090421-40	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:** WI100330-44      **Opened:** 30-MAR-10      **Balance Id :** 216  
**Name:** TRACE ICP SCAL 1.0      **Received:** 02-NOV-09      **Pipet Id :** 3581809  
**Type:** Working      **Expires:** 31-MAR-10      **Solvent :** 3%HCL and 1 %HNO3-1293083  
**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.	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:** WI100330-45      **Opened:** 30-MAR-10      **Balance Id :** 216  
**Name:** TRACE ICP S-10 STD      **Received:** 22-APR-09      **Pipet Id :** 3581809  
**Type:** Working      **Expires:** 31-MAR-10      **Solvent :** 3%HCL and 1%HNO3 -1293083  
**Employee:** Helen Camello  
**Supplier:** GEL  
**Description:** TRACE ICP S-10 CALIBRATION STD.  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090421-40	Sodium	1000 ug/mL	10 mL	500 mL	20000 UG/L
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

# Standard Logbook

**Serial ID:** WI100330-46      **Opened:** 30-MAR-10      **Balance Id :** 216  
**Name:** ICP TRACE ICV      **Received:** 25-SEP-09      **Pipet Id :** 3581809  
**Type:** Working      **Expires:** 31-MAR-10      **Solvent :** 3%HCL AND 1%HNO3-1293083  
**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:** WI100330-47      **Opened:** 30-MAR-10      **Balance Id :** 216  
**Name:** PQL Working Standard      **Received:** 30-JUN-09      **Pipet Id :** 3581809  
**Type:** Working      **Expires:** 31-MAR-10      **Solvent :** 3%HCL & 1%HNO3-1293083  
**Employee:** Helen Camello  
**Supplier:** 02si  
**Description:** PQL Working Standard  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-40	Aluminum	100 mg/L	2 mL	1000 mL	200 ug/L
UI090701-40	Antimony	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Arsenic	15 mg/L	2 mL	1000 mL	15 ug/L
UI090701-40	Barium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Beryllium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Boron	25 mg/L	2 mL	1000 mL	50 ug/L
UI090701-40	Cadmium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Calcium	100 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Chromium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Cobalt	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Copper	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Iron	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Lead	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Magnesium	150 mg/L	2 mL	1000 mL	300 ug/L
UI090701-40	Manganese	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Molybdenum	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Nickel	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Phosphorous	75 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Potassium	75 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Selenium	15 mg/L	2 mL	1000 mL	15 ug/L
UI090701-40	Silicon	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Silver	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Sodium	150 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Strontium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Sulfur	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Thallium	10 mg/L	2 mL	1000 mL	20 ug/L
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:** WMS100412-04      **Opened:** 12-APR-10      **Amount :** 50 mL  
**Name:** ICPMS Cal Standard 100      **Received:** 12-APR-10      **Balance Id :** 4025216  
**Type:** Working      **Expires:** 13-APR-10      **Pipet Id :** 3541598  
**Employee:** Paul Boyd      **Solvent :** 2%HNO3/1%HCL-1300209  
**Supplier:** GEL

# Standard Logbook

**Description:** ICPMS Calibration Standard (100 ppb)

**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090612-02	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS100226-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS100226-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

**Serial ID:** WMS100412-04A

**Opened:** 12-APR-10

**Balance Id :** 4025216

**Name:** ICPMS Cal Standard 10

**Received:** 12-APR-10

**Pipet Id :** 3541598

**Type:** Working

**Expires:** 13-APR-10

**Solvent :** 2%HNO3/1%HCl - 1300209

**Employee:** Paul Boyd

**Supplier:** GEL

**Description:** ICPMS Calibration Standard (10 ppb)

**Comments:** None

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100412-04	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100412-04	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100412-04	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100412-04	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100412-04	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100412-04	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100412-04	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100412-04	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100412-04	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100412-04	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100412-04	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100412-04	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100412-04	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100412-04	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100412-04	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100412-04	Manganese	100 ug/l	5 mL	50 mL	10 ug/l
WMS100412-04	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l
WMS100412-04	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100412-04	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100412-04	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100412-04	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100412-04	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100412-04	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100412-04	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100412-04	Thallium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100412-04	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100412-04	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100412-04	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100412-04	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100412-04	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100412-04	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100412-04	Zinc	100 ug/l	5 mL	50 mL	10 ug/l
WMS100412-04	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l

Serial ID: WMS100412-05

Opened: 12-APR-10

Balance Id : 40245216

Name: ICPMS ICV

Received: 12-APR-10

Pipet Id : 3541598

Type: Working

Expires: 13-APR-10

Solvent : 2%HNO3/1%HCl - 1300209

Employee: Paul Boyd

Supplier: GEL

Description: ICPMS ICV

Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100317-06	Aluminum	2020 mg/L	.125 mL	50 mL	5050 ug/L
UI100317-06	Calcium	2000 mg/L	.125 mL	50 mL	5000 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100317-06	Iron	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI100317-06	Magnesium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI100317-06	Phosphorous	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI100317-06	Potassium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI100317-06	Sodium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI100317-07	Arsenic	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Barium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Beryllium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Boron	40 mg/L	.125 mL	50 mL	100 ug/L
UI100317-07	Cadmium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Chromium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Cobalt	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Copper	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Lead	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Lithium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Manganese	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Nickel	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Selenium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Strontium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Thallium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Thorium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Uranium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Vanadium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Zinc	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Antimony	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Molybdenum	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Silver	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Tin	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Titanium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Tungsten	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Zirconium	20 mg/L	.125 mL	50 mL	50 ug/L

**Serial ID:** WMS100412-06      **Opened:** 12-APR-10      **Balance Id :** 40245216  
**Name:** ICPMS CRDL      **Received:** 12-APR-10      **Pipet Id :** 3820544  
**Type:** Working      **Expires:** 13-APR-10      **Solvent :** 2%HNO3/1%HCl - 1300209  
**Employee:** Paul Boyd  
**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: <u>WMS100412-07</u>	Opened: <u>12-APR-10</u>	Balance Id : <u>40245216</u>
Name: <u>ICPMS ICSA</u>	Received: <u>12-APR-10</u>	Lot Number : <u>1010773</u>
Type: <u>Working</u>	Expires: <u>13-APR-10</u>	Pipet Id : <u>3541598</u>
Employee: <u>Paul Boyd</u>	Solvent : <u>2%HNO3/1%HCl - 1300209</u>	
Supplier: <u>GEL</u>		
Description: <u>ICPMS ICSA</u>		
Comments: <u>None</u>		

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100318-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI100318-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100318-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

**Serial ID:** WMS100412-08      **Opened:** 12-APR-10      **Balance Id :** 40245216  
**Name:** ICPMS ICSAB      **Received:** 12-APR-10      **Pipet Id :** 1758088  
**Type:** Working      **Expires:** 13-APR-10      **Solvent :** 2%HNO3/1%HCl - 1300209  
**Employee:** Paul Boyd  
**Supplier:** GEL  
**Description:** ICPMS ICSAB  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100318-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI100318-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI100318-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L
UI100405-12	Arsenic	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-12	Barium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-12	Beryllium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-12	Boron	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-12	Cadmium	2 mg/L	.5 mL	50 mL	20.2 ug/L
UI100405-12	Chromium	2 mg/L	.5 mL	50 mL	22.2 ug/L
UI100405-12	Cobalt	2 mg/L	.5 mL	50 mL	20.4 ug/L
UI100405-12	Copper	2 mg/L	.5 mL	50 mL	23.4 ug/L
UI100405-12	Lead	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-12	Lithium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-12	Manganese	2 mg/L	.5 mL	50 mL	22.7 ug/L
UI100405-12	Nickel	2 mg/L	.5 mL	50 mL	22.4 ug/L
UI100405-12	Selenium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-12	Strontium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-12	Thallium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-12	Thorium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-12	Uranium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-12	Vanadium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-12	Zinc	2 mg/L	.5 mL	50 mL	27 ug/L



## Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100405-13	Antimony	2 mg/L	.5 mL	50 mL	20.5 ug/L
UI100405-13	Silver	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-13	Tin	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-13	Tungsten	2 mg/L	.5 mL	50 mL	20 ug/L
UI100405-13	Zirconium	2 mg/L	.5 mL	50 mL	20 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: 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

# Standard Logbook

**Serial ID:** 1255532-C      **Opened:** 15-JAN-10      **Balance Id :** BAL-002  
**Name:** B-NaCl.NH2OH.HCl-MER      **Received:** 15-JAN-10  
**Type:** Reagent/Solvent      **Expires:** 15-JUL-10  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** Hg reducing agent  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1228372-A	B-NH2OH.HCl-MER	N/A	120 g	1000 mL	N/A

**Serial ID:** 1274391-1      **Opened:** 24-FEB-10      **Instrument Id :** MERCURY  
**Name:** B-HNO3-MER      **Received:** 24-FEB-10      **Lot Number :** H44025  
**Type:** Reagent/Solvent      **Expires:** 24-FEB-11  
**Employee:** Tara Griffin  
**Supplier:** Mallinckrodt Chemicals  
**Description:** NITRIC ACID  
**Comments:** None

**Serial ID:** 1276435-C      **Opened:** 28-FEB-10      **Balance Id :** BAL-002  
**Name:** B-K2S2O8-MER      **Received:** 28-FEB-10  
**Type:** Reagent/Solvent      **Expires:** 28-AUG-10  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** 5% Potassium Persulfate  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1215906	B-K2S2O8S-MER	N/A	50 g	1000 mL	N/A

**Serial ID:** 1277238-C      **Opened:** 01-MAR-10      **Balance Id :** BAL-002  
**Name:** B-KMnO4-MER      **Received:** 01-MAR-10  
**Type:** Reagent/Solvent      **Expires:** 20-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%

## Standard Logbook

**Serial ID:** 1277916      **Opened:** 02-MAR-10      **Lot Number :** J02039  
**Name:** I-HCL      **Received:** 02-MAR-10      **Preservative\_Id :** 5 none  
**Type:** Reagent/Solvent      **Expires:** 02-MAR-11  
**Employee:** Francena Armstrong  
**Supplier:** J.T. BAKER  
**Description:** HYDROCHLORIC ACID  
**Comments:** None

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**Serial ID:** 1282564      **Opened:** 09-MAR-10      **Lot Number :** J02039  
**Name:** I-HCL      **Received:** 09-MAR-10      **Preservative\_Id :** 5 none  
**Type:** Reagent/Solvent      **Expires:** 09-MAR-11  
**Employee:** Anthony Green  
**Supplier:** J.T. BAKER  
**Description:** HYDROCHLORIC ACID  
**Comments:** None

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**Serial ID:** 1282566      **Opened:** 09-MAR-10      **Lot Number :** J 04043 L  
**Name:** I-HNO3      **Received:** 09-MAR-10  
**Type:** Reagent/Solvent      **Expires:** 09-MAR-11  
**Employee:** Anthony Green  
**Supplier:** BAKER  
**Description:** Nitric Acid CONC.  
**Comments:** None

---

**Serial ID:** 1291278      **Opened:** 25-MAR-10      **Lot Number :** J 08035 L  
**Name:** I-HNO3      **Received:** 25-MAR-10  
**Type:** Reagent/Solvent      **Expires:** 25-MAR-11  
**Employee:** Anthony Green  
**Supplier:** BAKER  
**Description:** Nitric Acid CONC.  
**Comments:** None

---

**Serial ID:** 1293083      **Opened:** 29-MAR-10      **Amount :** 20 L  
**Name:** B-ICP-RINSE SOLN      **Received:** 29-MAR-10      **Lot Number :** H04040+G34050  
**Type:** Reagent/Solvent      **Expires:** 04-APR-10      **Solvent :** 3%HCL+1%HNO3  
**Employee:** Helen Camello  
**Supplier:** GEL  
**Description:** 3%HCL+1%HNO3 RINSE SOLN.  
**Comments:** None

---

## Standard Logbook

**Serial ID:** 1300209      **Opened:** 12-APR-10      **Solvent :** Type I Water  
**Name:** B-2%HNO3/1%HCl-ICPMS      **Received:** 12-APR-10  
**Type:** Reagent/Solvent      **Expires:** 19-APR-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.
1277916	I-HCL	36.5-38.0	90 mL	9 l	N/A
1291278	I-HNO3	69.0-70.0	180 mL	9 l	N/A

# **General Chemistry Analysis**

# Case Narrative

**General Chemistry Narrative  
Los Alamos National Laboratory (LANL)  
SDG 10-2197**

**Method/Analysis Information**

**Product:** pH  
**Analytical Batch:** 961560    **Method:** SW9045C pH

**Sample Analysis**

The following samples were analyzed using the analytical protocol as established in SW846 9045C/9045D:

<b>Sample ID</b>	<b>Client ID</b>
248515001	RE36-10-7501
248515002	RE36-10-7524
248515003	RE36-10-7525
1202062454	248511008(RE36-10-7444) Sample Duplicate (DUP)
1202062455	248511009(RE36-10-7448) Sample Duplicate (DUP)
1202062456	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-008 REV# 17.

**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 Electrode analysis was performed on a PerpHect pH Meter Orion 370.

**Initial Calibration**

All initial calibration requirements have been met for this SDG.

**Calibration Verification Information (CCV)**

All continuing calibration verification standards (CCVs) associated with reported data from this batch were within acceptance limits.

**Quality Control (QC) Information**

**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: 248511008 (RE36-10-7444) and 248511009 (RE36-10-7448).

**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**

The following samples from this sample group were received by the lab outside of the method specified holding time: 1202062454 (RE36-10-7444), 1202062455 (RE36-10-7448), 248515001 (RE36-10-7501), 248515002 (RE36-10-7524) and 248515003 (RE36-10-7525).

**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.



### **Method/Analysis Information**

**Product:** Cyanide, Total  
**Analytical Batch:** 961284      **Method:** SW9012A Cyanide and Total  
**Prep Batch :** 961282      **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>
248515001	RE36-10-7501
248515002	RE36-10-7524
248515003	RE36-10-7525
1202061941	Method Blank (MB)
1202061942	248515001(RE36-10-7501) Sample Duplicate (DUP)
1202061943	248515002(RE36-10-7524) Sample Duplicate (DUP)
1202061944	248515001(RE36-10-7501) Matrix Spike (MS)
1202061945	248515002(RE36-10-7524) Matrix Spike (MS)
1202061946	248515001(RE36-10-7501) Matrix Spike Duplicate (MSD)
1202061947	248515002(RE36-10-7524) Matrix Spike Duplicate (MSD)
1202061948	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: 248515001 (RE36-10-7501) and 248515002 (RE36-10-7524).

**Matrix Spike (MS)/Post Spike (PS) Recovery Statement**

The spike recovery falls outside of the client specified acceptance limits due to matrix interference 1202061945 (RE36-10-7524).

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

The spike recovery duplicate falls outside of the client specified acceptance limits due to matrix interference 1202061947 (RE36-10-7524). The spike recovery falls outside of the client specified acceptance limits. Since both the spike duplicate recovery and the RPD between the spike and spike duplicate fall within acceptance limits, the data is reported. 1202061944 (RE36-10-7501).

**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 Relative Percent Difference (RPD) between the sample and its duplicate falls outside of the normal acceptance limits for samples 1202061943 (RE36-10-7524) and 248515002 (RE36-10-7524) because of the heterogeneous matrix of the sample. The values for the sample and duplicate are less than the Practical Quantitation Limit (PQL); therefore, the RPD is not applicable. 1202061942 (RE36-10-7501) and 248515001 (RE36-10-7501).

**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: 1202061948 (LCS).

**Sample Re-analysis**

The samples in this SDG did not require re-analysis.

### **Miscellaneous Information**

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

The following DER was generated for this SDG: 802444 1202061943 (RE36-10-7524), 1202061944 (RE36-10-7501), 1202061945 (RE36-10-7524) and 1202061947 (RE36-10-7524).

#### **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.

### **Method/Analysis Information**

**Product:** Ion Chromatography

**Analytical Batch:** 968241      **Method:** EPA 300.0 Nitrate in Soil

**Prep Batch :** 968239      **Method:** EPA 300.0 PREP

### **Sample Analysis**

The following samples were analyzed using the analytical protocol as established in EPA 300.0:

<b>Sample ID</b>	<b>Client ID</b>
248515001	RE36-10-7501
248515002	RE36-10-7524
248515003	RE36-10-7525
1202078566	Method Blank (MB)
1202078567	248515001(RE36-10-7501) Sample Duplicate (DUP)
1202078568	248520011(RE36-10-8276) Sample Duplicate (DUP)
1202078569	248515001(RE36-10-7501) Matrix Spike (MS)
1202078570	248520011(RE36-10-8276) Matrix Spike (MS)
1202078571	248515001(RE36-10-7501) Matrix Spike Duplicate (MSD)
1202078572	248520011(RE36-10-8276) Matrix Spike Duplicate (MSD)
1202078573	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-086 REV# 17.

### **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 Ion Chromatography analysis was performed on a Dionex ICS-3000 Ion Chromatograph.

### **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: 248515001 (RE36-10-7501) and 248520011 (RE36-10-8276).

**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 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.

**Manual Integrations**

Manual integrations were not required for the samples in 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:** 03/29/10

# 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: 10-2197 GEL Work Order: 248515

**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



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# 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: March 27, 2010

Client SDG: 10-2197

Client Sample ID: RE36-10-7525  
Sample ID: 248515003  
Matrix: R  
Collect Date: 25-FEB-10 12:00  
Receive Date: 03-MAR-10  
Collector: Client  
Moisture: 20.2%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
<b>Electrode Analysis</b>											
<i>SW9045C pH "As Received"</i>											
pH at Temp 19.3C	H	6.46	0.010	0.100	SU	1	TXT1	03/05/10	1726	961560	1
<b>Flow Injection Analysis</b>											
<i>SW9012A Cyanide, Total "Dry Weight Corrected"</i>											
Cyanide, Total	J	80.6	78.9	290	ug/kg	1	AXC2	03/10/10	1211	961284	2
<b>Ion Chromatography</b>											
<i>EPA 300.0 Nitrate in Soil "Dry Weight Corrected"</i>											
Nitrate-N		2.11	0.376	1.25	mg/kg	1	GXM	03/25/10	0855	968241	3

### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
EPA 300.0 PREP	EPA 300.0 Total Anions in Soil	GXM3	03/24/10	1411	968239
SW846 9010B Prep	SW846 9010B Prep	AXS5	03/10/10	0837	961282

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9045C/9045D	
2	SW846 9012A	
3	EPA 300.0	

# GEL LABORATORIES LLC

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## Certificate of Analysis

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

Report Date: March 27, 2010

Client SDG: 10-2197

Client Sample ID: RE36-10-7524  
Sample ID: 248515002  
Matrix: R  
Collect Date: 25-FEB-10 12:00  
Receive Date: 03-MAR-10  
Collector: Client  
Moisture: 16%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
<b>Electrode Analysis</b>											
<i>SW9045C pH "As Received"</i>											
pH at Temp 19.2C	H	6.19	0.010	0.100	SU	1	TXT1	03/05/10	1725	961560	1
<b>Flow Injection Analysis</b>											
<i>SW9012A Cyanide, Total "Dry Weight Corrected"</i>											
Cyanide, Total		584	79.4	292	ug/kg	1	AXC2	03/10/10	1208	961284	2
<b>Ion Chromatography</b>											
<i>EPA 300.0 Nitrate in Soil "Dry Weight Corrected"</i>											
Nitrate-N		2.77	0.357	1.19	mg/kg	1	GXM	03/25/10	0825	968241	3

### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
EPA 300.0 PREP	EPA 300.0 Total Anions in Soil	GXM3	03/24/10	1411	968239
SW846 9010B Prep	SW846 9010B Prep	AXS5	03/10/10	0837	961282

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9045C/9045D	
2	SW846 9012A	
3	EPA 300.0	

# 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: March 27, 2010

Client SDG: 10-2197

Client Sample ID: RE36-10-7501  
Sample ID: 248515001  
Matrix: R  
Collect Date: 25-FEB-10 12:00  
Receive Date: 03-MAR-10  
Collector: Client  
Moisture: 24%

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
<b>Electrode Analysis</b>											
<i>SW9045C pH "As Received"</i>											
pH at Temp 19.1C	H	5.48	0.010	0.100	SU	1	TXT1	03/05/10	1723	961560	1
<b>Flow Injection Analysis</b>											
<i>SW9012A Cyanide, Total "Dry Weight Corrected"</i>											
Cyanide, Total	U	ND	81.3	299	ug/kg	1	AXC2	03/10/10	1201	961284	2
<b>Ion Chromatography</b>											
<i>EPA 300.0 Nitrate in Soil "Dry Weight Corrected"</i>											
Nitrate-N	U	ND	0.395	1.32	mg/kg	1	GXM	03/25/10	0625	968241	3

### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
EPA 300.0 PREP	EPA 300.0 Total Anions in Soil	GXM3	03/24/10	1411	968239
SW846 9010B Prep	SW846 9010B Prep	AXS5	03/10/10	0837	961282

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9045C/9045D	
2	SW846 9012A	
3	EPA 300.0	

# **Quality Control Summary**

# GEL LABORATORIES LLC

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

## QC Summary

Report Date: March 27, 2010

Page 1 of 3

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

Contact: Ms. Joylene Valdez

Workorder: 248515

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Electrode Analysis</b>											
Batch	961560										
QC1202062454	248511008	DUP									
pH		H	6.47	H	6.43	SU	0.620	(0%-10%)	TXT1	03/05/10	16:48
QC1202062455	248511009	DUP									
pH		H	7.68	H	7.76	SU	1.04	(0%-10%)		03/05/10	16:53
QC1202062456	LCS										
pH	7.00			6.95	SU		99.3	(95%-105%)		03/05/10	16:43
<b>Flow Injection Analysis</b>											
Batch	961284										
QC1202061942	248515001	DUP									
Cyanide, Total		U	ND	U	ND	ug/kg	N/A		AXC2	03/10/10	12:05
QC1202061943	248515002	DUP									
Cyanide, Total			584	J	220	ug/kg	90.5 * ^	(+/-276)		03/10/10	12:09
QC1202061948	LCS										
Cyanide, Total	67900				75000	ug/kg		110	(32%-157%)	03/10/10	11:48
QC1202061941	MB										
Cyanide, Total				U	250	ug/kg				03/10/10	11:47
QC1202061944	248515001	MS									
Cyanide, Total	6580	U	ND		4860	ug/kg		73.9	(26%-158%)	03/10/10	12:06
QC1202061945	248515002	MS									
Cyanide, Total	5720		584		3180	ug/kg		45.3	(26%-158%)	03/10/10	12:10
QC1202061946	248515001	MSD									
Cyanide, Total	6450	U	ND		5560	ug/kg	13.4	86.2	(0%-30%)	03/10/10	12:07
QC1202061947	248515002	MSD									
Cyanide, Total	5620		584		3950	ug/kg	21.8	60	(0%-30%)	03/10/10	12:11
<b>Ion Chromatography</b>											
Batch	968241										
QC1202078567	248515001	DUP									
Nitrate-N		U	ND	U	ND	mg/kg	N/A		GXM3	03/25/10	06:55
QC1202078568	248520011	DUP									
Nitrate-N			1.73		1.73	mg/kg	0.0676 ^	(+/-1.17)		03/25/10	17:22
QC1202078573	LCS										
Nitrate-N	50.0				48.1	mg/kg		96.2	(90%-110%)	03/25/10	05:55
QC1202078566	MB										
Nitrate-N				U	1.00	mg/kg				03/25/10	05:25
QC1202078569	248515001	MS									
Nitrate-N	65.8	U	ND		61.7	mg/kg		93.8	(90%-110%)	03/25/10	07:25
QC1202078570	248520011	MS									
Nitrate-N	58.6		1.73		56.0	mg/kg		92.7	(90%-110%)	03/25/10	17:51
QC1202078571	248515001	MSD									
Nitrate-N	65.8	U	ND		62.3	mg/kg	1.03	94.7	(0%-20%)	03/25/10	07:55
QC1202078572	248520011	MSD									
Nitrate-N	58.6		1.73		56.0	mg/kg	0.0502	92.7	(0%-20%)	03/25/10	18:21

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### QC Summary

Workorder: 248515

Page 2 of 3

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
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#### 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 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
- UJ 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

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### QC Summary

Workorder: 248515

Page 3 of 3

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
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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: 27-MAR-2010 13:01

**GEL Laboratories LLC**

**Contract: LANL01004**

**SDG #: 10-2197**

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
<b>ICV</b>	<b>10-MAR-2010 10:58:04</b>	<b>OM_3-10-2010_10-49-24</b>	<b>146</b>	<b>150</b>	<b>97.3</b>	<b>(90%-110%)</b>	<b>Yes</b>
CCV	10-MAR-2010 11:37:08	OM_3-10-2010_10-49-24	99.6	100	99.6	(90%-110%)	Yes
CCV	10-MAR-2010 11:49:39	OM_3-10-2010_10-49-24	101	100	101	(90%-110%)	Yes
CCV	10-MAR-2010 12:02:08	OM_3-10-2010_10-49-24	101	100	101	(90%-110%)	Yes
CCV	10-MAR-2010 12:14:33	OM_3-10-2010_10-49-24	100	100	100	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
<b>ICB</b>	<b>10-MAR-2010 10:59:54</b>	<b>OM_3-10-2010_10-49-24</b>	<b>-0.144</b>	<b>10</b>	<b>Yes</b>
CCB	10-MAR-2010 11:38:58	OM_3-10-2010_10-49-24	-0.973	10	Yes
CCB	10-MAR-2010 11:51:29	OM_3-10-2010_10-49-24	-2.16	10	Yes
CCB	10-MAR-2010 12:03:58	OM_3-10-2010_10-49-24	-1.39	10	Yes
CCB	10-MAR-2010 12:16:23	OM_3-10-2010_10-49-24	-1.48	10	Yes

# INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 27-MAR-2010 13:01

**GEL Laboratories LLC**

**Contract: LANL01004**

**SDG #: 10-2197**

Ion Chromatography

Method: EPA 300.0

Concentration Units:mg/L

Instrument: Dionex ICS-3000 Ion Chromatograph

Parmname: Nitrate-N

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
<b>ICV</b>	<b>25-MAR-2010 04:26:00</b>	<b>100325</b>	<b>4.8179</b>	<b>5</b>	<b>96.4</b>	<b>(90%-110%)</b>	<b>Yes</b>
CCV	25-MAR-2010 10:24:00	100325	7.521	7.5	100	(90%-110%)	Yes
CCV	25-MAR-2010 15:53:00	100325	4.7985	5	96	(90%-110%)	Yes
CCV	25-MAR-2010 19:21:00	100325	7.518	7.5	100	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
<b>ICB</b>	<b>25-MAR-2010 04:55:00</b>	<b>100325</b>	<b>0</b>	<b>0.1</b>	<b>Yes</b>
CCB	25-MAR-2010 10:54:00	100325	0	0.1	Yes
CCB	25-MAR-2010 16:23:00	100325	0	0.1	Yes
CCB	25-MAR-2010 19:51:00	100325	0	0.1	Yes

# Cyanide, Total

# Cyanide Sample Distillation

<b>Batch ID:</b>	961282.0	Verified by:		Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
<b>Analyst:</b>	Alan Stanley			LCS	1202061948	Total Cyanide Solid LCS	URF1200957-01	.25	g
<b>Method:</b>	SW846 9010C Distillation	SW846 9010B Prep		MS	1202061944	Secondary source standard for CN and phenol. Used to spike LCS, MS, ICV	URF1269274-02	.025	mL
<b>Lab SOP:</b>	GL-GC-E-067 REV# 13			MS	1202061945	Secondary source standard for CN and phenol. Used to spike LCS, MS, ICV	URF1269274-02	.025	mL
<b>Instrument:</b>	Sartorius Balance B-007			MSD	1202061946	Secondary source standard for CN and phenol. Used to spike LCS, MS, ICV	URF1269274-02	.025	mL
				MSD	1202061947	Secondary source standard for CN and phenol. Used to spike LCS, MS, ICV	URF1269274-02	.025	mL

Sample ID	Run Date	Matrix	Initial Weight (g)	Final Volume (mL)	Prep Factor (mL/g)	pH Check 1
1202061941 MB	10-MAR-2010 08:37:00	Soil	0.5	25	50	>12
1202061948 LCS	10-MAR-2010 08:37:00	Soil	0.25	25	100	>12
247914001	10-MAR-2010 08:37:00	Solid	0.565	25	44.24779	>12
247923001	10-MAR-2010 08:37:00	Solid	0.53	25	47.16981	>12
247927001	10-MAR-2010 08:37:00	Solid	0.556	25	44.96403	>12
247930001	10-MAR-2010 08:37:00	Solid	0.523	25	47.80115	>12
247933001	10-MAR-2010 08:37:00	Solid	0.525	25	47.61905	>12
247939001	10-MAR-2010 08:37:00	Solid	0.53	25	47.16981	>12
247941001	10-MAR-2010 08:37:00	Solid	0.567	25	44.09171	>12
247943001	10-MAR-2010 08:37:00	Solid	0.51	25	49.01961	>12
247945001	10-MAR-2010 08:37:00	Solid	0.537	25	46.55493	>12
248515001	10-MAR-2010 08:37:00	Soil	0.55	25	45.45455	>12
1202061942 DUP (248515001)	10-MAR-2010 08:37:00	Soil	0.56	25	44.64286	>12
1202061944 MS (248515001)	10-MAR-2010 08:37:00	Soil	0.5	25	50	>12
1202061946 MSD (248515001)	10-MAR-2010 08:37:00	Soil	0.51	25	49.01961	>12
248515002	10-MAR-2010 08:37:00	Soil	0.51	25	49.01961	>12
1202061943 DUP (248515002)	10-MAR-2010 08:37:00	Soil	0.54	25	46.2963	>12
1202061945 MS (248515002)	10-MAR-2010 08:37:00	Soil	0.52	25	48.07692	>12
1202061947 MSD (248515002)	10-MAR-2010 08:37:00	Soil	0.53	25	47.16981	>12
248515003	10-MAR-2010 08:37:00	Soil	0.54	25	46.2963	>12
248526001	10-MAR-2010 08:37:00	Soil	0.54	25	46.2963	>12

Prep Logbook

Batch ID: 961282.0  
Analyst: Alan Stanley  
Method: SW846 9010C Distillation SW846 9010B Prep  
Lab SOP: GL-GC-E-067 REV# 13  
Instrument: Sartorius Balance B-007

Verified by:

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1202061948	Total Cyanide Solid LCS	URF1200957-01	.25	g
MS	1202061944	Secondary source standard for CN and phenol. Used to spike LCS, MS, ICV	URF1269274-02	.025	mL
MS	1202061945	Secondary source standard for CN and phenol. Used to spike LCS, MS, ICV	URF1269274-02	.025	mL
MSD	1202061946	Secondary source standard for CN and phenol. Used to spike LCS, MS, ICV	URF1269274-02	.025	mL
MSD	1202061947	Secondary source standard for CN and phenol. Used to spike LCS, MS, ICV	URF1269274-02	.025	mL

Sample ID	Run Date	Matrix	Initial Weight (g)	Final Volume (mL)	Prep Factor (mL/g)	pH Check 1
248560001	10-MAR-2010 08:37:00	Soil	0.57	25	43.85965	>12
248560002	10-MAR-2010 08:37:00	Soil	0.53	25	47.16981	>12
248560003	10-MAR-2010 08:37:00	Soil	0.52	25	48.07692	>12
248560004	10-MAR-2010 08:37:00	Soil	0.5	25	50	>12
248560005	10-MAR-2010 08:37:00	Soil	0.51	25	49.01961	>12
248560006	10-MAR-2010 08:37:00	Soil	0.55	25	45.45455	>12
248560007	10-MAR-2010 08:37:00	Soil	0.59	25	42.37288	>12

Comments:

Reagent/Solvent Lot ID	Description	Amount
1260189-C	50% H2SO4 CN Prep	2.5 mL
1270661-C	Bismuth Nitrate Solution	1.25 mL
1270663-C	0.8N H3NO3S	1.25 mL
1270669-C	51% MgCl2 Soln	1 mL
1273851-C	0.25N Sodium Hydroxide Solution	25 mL
WCN100309-07	150 ppb CN Distilled ICV Standard	.0375 mL

This is runlog Lachat1

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
200 ppb		1	axc2	3/10/2010 10:50:55	OM_3-10-2010_10-49-24
150 ppb		1	axc2	3/10/2010 10:51:47	OM_3-10-2010_10-49-24
100 ppb		1	axc2	3/10/2010 10:52:40	OM_3-10-2010_10-49-24
50 ppb		1	axc2	3/10/2010 10:53:32	OM_3-10-2010_10-49-24
10 ppb		1	axc2	3/10/2010 10:54:26	OM_3-10-2010_10-49-24
CRDL 5.0 ppb		1	axc2	3/10/2010 10:55:20	OM_3-10-2010_10-49-24
ICAL-00		1	axc2	3/10/2010 10:56:14	OM_3-10-2010_10-49-24
ICV		1	axc2	3/10/2010 10:58:04	OM_3-10-2010_10-49-24
ICB		1	axc2	3/10/2010 10:59:54	OM_3-10-2010_10-49-24
CRDL		1	axc2	3/10/2010 11:01:43	OM_3-10-2010_10-49-24
1202066540	963300	1	axc2	3/10/2010 11:03:32	OM_3-10-2010_10-49-24
1202066541	963300	1	axc2	3/10/2010 11:04:26	OM_3-10-2010_10-49-24
248455001	963300	1	axc2	3/10/2010 11:05:19	OM_3-10-2010_10-49-24
248455002	963300	1	axc2	3/10/2010 11:06:12	OM_3-10-2010_10-49-24
248455003	963300	1	axc2	3/10/2010 11:07:05	OM_3-10-2010_10-49-24
248523001	963300	1	axc2	3/10/2010 11:07:58	OM_3-10-2010_10-49-24
248792001	963300	1	axc2	3/10/2010 11:08:51	OM_3-10-2010_10-49-24
1202066542	963300	1	axc2	3/10/2010 11:09:43	OM_3-10-2010_10-49-24
1202066543	963300	1	axc2	3/10/2010 11:10:36	OM_3-10-2010_10-49-24
1202066544	963300	1	axc2	3/10/2010 11:11:28	OM_3-10-2010_10-49-24
CCV		1	axc2	3/10/2010 11:12:20	OM_3-10-2010_10-49-24
CCB		1	axc2	3/10/2010 11:14:10	OM_3-10-2010_10-49-24
1202057145	959212	1	axc2	3/10/2010 11:15:58	OM_3-10-2010_10-49-24
1202057152	959212	25	axc2	3/10/2010 11:16:50	OM_3-10-2010_10-49-24
248159003	959212	1	axc2	3/10/2010 11:17:42	OM_3-10-2010_10-49-24
1202057146	959212	1	axc2	3/10/2010 11:18:34	OM_3-10-2010_10-49-24
1202057148	959212	1	axc2	3/10/2010 11:19:25	OM_3-10-2010_10-49-24
1202057150	959212	1	axc2	3/10/2010 11:20:19	OM_3-10-2010_10-49-24
248159004	959212	1	axc2	3/10/2010 11:21:13	OM_3-10-2010_10-49-24
1202057147	959212	1	axc2	3/10/2010 11:22:06	OM_3-10-2010_10-49-24
1202057149	959212	1	axc2	3/10/2010 11:23:00	OM_3-10-2010_10-49-24
1202057151	959212	1	axc2	3/10/2010 11:23:53	OM_3-10-2010_10-49-24
CCV		1	axc2	3/10/2010 11:24:45	OM_3-10-2010_10-49-24
CCB		1	axc2	3/10/2010 11:26:35	OM_3-10-2010_10-49-24
248159005	959212	1	axc2	3/10/2010 11:28:24	OM_3-10-2010_10-49-24
248159006	959212	1	axc2	3/10/2010 11:29:17	OM_3-10-2010_10-49-24
248163001	959212	1	axc2	3/10/2010 11:30:10	OM_3-10-2010_10-49-24
248163002	959212	1	axc2	3/10/2010 11:31:02	OM_3-10-2010_10-49-24
248163003	959212	1	axc2	3/10/2010 11:31:55	OM_3-10-2010_10-49-24
248163004	959212	1	axc2	3/10/2010 11:32:48	OM_3-10-2010_10-49-24
248163005	959212	1	axc2	3/10/2010 11:33:40	OM_3-10-2010_10-49-24
248163006	959212	1	axc2	3/10/2010 11:34:32	OM_3-10-2010_10-49-24
248163007	959212	1	axc2	3/10/2010 11:35:24	OM_3-10-2010_10-49-24
248163008	959212	1	axc2	3/10/2010 11:36:15	OM_3-10-2010_10-49-24
CCV		1	axc2	3/10/2010 11:37:08	OM_3-10-2010_10-49-24
CCB		1	axc2	3/10/2010 11:38:58	OM_3-10-2010_10-49-24
248163009	959212	1	axc2	3/10/2010 11:40:49	OM_3-10-2010_10-49-24
248163010	959212	1	axc2	3/10/2010 11:41:42	OM_3-10-2010_10-49-24
248163011	959212	1	axc2	3/10/2010 11:42:36	OM_3-10-2010_10-49-24
248163012	959212	1	axc2	3/10/2010 11:43:29	OM_3-10-2010_10-49-24
248163013	959212	1	axc2	3/10/2010 11:44:22	OM_3-10-2010_10-49-24
248163014	959212	1	axc2	3/10/2010 11:45:16	OM_3-10-2010_10-49-24
248241001	959212	1	axc2	3/10/2010 11:46:08	OM_3-10-2010_10-49-24
248241002	959212	1	axc2	3/10/2010 11:47:02	OM_3-10-2010_10-49-24
1202061941	961284	1	axc2	3/10/2010 11:47:54	OM_3-10-2010_10-49-24
1202061948	961284	25	axc2	3/10/2010 11:48:47	OM_3-10-2010_10-49-24
CCV		1	axc2	3/10/2010 11:49:39	OM_3-10-2010_10-49-24
CCB		1	axc2	3/10/2010 11:51:29	OM_3-10-2010_10-49-24

247914001	961284	1	axc2	3/10/2010	11:53:18	OM_3-10-2010_10-49-24
247923001	961284	1	axc2	3/10/2010	11:54:10	OM_3-10-2010_10-49-24
247927001	961284	1	axc2	3/10/2010	11:55:02	OM_3-10-2010_10-49-24
247930001	961284	1	axc2	3/10/2010	11:55:55	OM_3-10-2010_10-49-24
247933001	961284	1	axc2	3/10/2010	11:56:46	OM_3-10-2010_10-49-24
247939001	961284	1	axc2	3/10/2010	11:57:41	OM_3-10-2010_10-49-24
247941001	961284	1	axc2	3/10/2010	11:58:34	OM_3-10-2010_10-49-24
247943001	961284	1	axc2	3/10/2010	11:59:28	OM_3-10-2010_10-49-24
247945001	961284	1	axc2	3/10/2010	12:00:22	OM_3-10-2010_10-49-24
248515001	961284	1	axc2	3/10/2010	12:01:15	OM_3-10-2010_10-49-24
CCV		1	axc2	3/10/2010	12:02:08	OM_3-10-2010_10-49-24
CCB		1	axc2	3/10/2010	12:03:58	OM_3-10-2010_10-49-24
1202061942	961284	1	axc2	3/10/2010	12:05:48	OM_3-10-2010_10-49-24
1202061944	961284	1	axc2	3/10/2010	12:06:40	OM_3-10-2010_10-49-24
1202061946	961284	1	axc2	3/10/2010	12:07:33	OM_3-10-2010_10-49-24
248515002	961284	1	axc2	3/10/2010	12:08:26	OM_3-10-2010_10-49-24
1202061943	961284	1	axc2	3/10/2010	12:09:19	OM_3-10-2010_10-49-24
1202061945	961284	1	axc2	3/10/2010	12:10:11	OM_3-10-2010_10-49-24
1202061947	961284	1	axc2	3/10/2010	12:11:04	OM_3-10-2010_10-49-24
248515003	961284	1	axc2	3/10/2010	12:11:56	OM_3-10-2010_10-49-24
248526001	961284	1	axc2	3/10/2010	12:12:49	OM_3-10-2010_10-49-24
248560001	961284	1	axc2	3/10/2010	12:13:41	OM_3-10-2010_10-49-24
CCV		1	axc2	3/10/2010	12:14:33	OM_3-10-2010_10-49-24
CCB		1	axc2	3/10/2010	12:16:23	OM_3-10-2010_10-49-24
248560002	961284	1	axc2	3/10/2010	12:18:13	OM_3-10-2010_10-49-24
248560003	961284	1	axc2	3/10/2010	12:19:08	OM_3-10-2010_10-49-24
248560004	961284	1	axc2	3/10/2010	12:20:02	OM_3-10-2010_10-49-24
248560005	961284	1	axc2	3/10/2010	12:20:55	OM_3-10-2010_10-49-24
248560006	961284	1	axc2	3/10/2010	12:21:49	OM_3-10-2010_10-49-24
248560007	961284	1	axc2	3/10/2010	12:22:42	OM_3-10-2010_10-49-24
1202061965	961291	1	axc2	3/10/2010	12:23:36	OM_3-10-2010_10-49-24
1202061967	961291	1	axc2	3/10/2010	12:24:29	OM_3-10-2010_10-49-24
247914001	961291	1	axc2	3/10/2010	12:25:23	OM_3-10-2010_10-49-24
247923001	961291	1	axc2	3/10/2010	12:26:15	OM_3-10-2010_10-49-24
CCV		1	axc2	3/10/2010	12:27:07	OM_3-10-2010_10-49-24
CCB		1	axc2	3/10/2010	12:28:57	OM_3-10-2010_10-49-24
247927001	961291	1	axc2	3/10/2010	12:30:46	OM_3-10-2010_10-49-24
247930001	961291	1	axc2	3/10/2010	12:31:39	OM_3-10-2010_10-49-24
247933001	961291	1	axc2	3/10/2010	12:32:31	OM_3-10-2010_10-49-24
247939001	961291	1	axc2	3/10/2010	12:33:24	OM_3-10-2010_10-49-24
1202061966	961291	1	axc2	3/10/2010	12:34:16	OM_3-10-2010_10-49-24
247941001	961291	1	axc2	3/10/2010	12:35:10	OM_3-10-2010_10-49-24
247943001	961291	1	axc2	3/10/2010	12:36:04	OM_3-10-2010_10-49-24
247945001	961291	1	axc2	3/10/2010	12:36:58	OM_3-10-2010_10-49-24
247927001*	961291	10	axc2	3/10/2010	12:39:51	OM_3-10-2010_10-49-24
	961291	1	axc2	3/10/2010	12:40:44	OM_3-10-2010_10-49-24
CCV		1	axc2	3/10/2010	12:41:37	OM_3-10-2010_10-49-24
CCB		1	axc2	3/10/2010	12:43:27	OM_3-10-2010_10-49-24
247927001	961291	2	axc2	3/10/2010	12:45:16	OM_3-10-2010_10-49-24
CCV		1	axc2	3/10/2010	12:46:09	OM_3-10-2010_10-49-24
CCB		1	axc2	3/10/2010	12:47:59	OM_3-10-2010_10-49-24



Author: axc2

Date : 3/10/2010

Original Run Filename: OM\_3-10-2010\_10-49-24.OMN created 3/10/2010 10:49:24  
 Original Run Author's Signature: [axc2]  
 Current Run Filename: OM\_3-10-2010\_10-49-24.OMN last modified 3/10/2010 12:49:04  
 Current Run Author's Signature: [axc2]  
 Description: GL-GC-E-095 EPA 335.1, 335.3, 335.4, 9012A, CLP335.2-M  
 Liquid LCS nominal 50 ug/L

Sample	Rep.	Cup No.	Channel 1 TCYANIDE		Detection Time	ADF	MDF	Description
			Conc. (ug/L)	Area (Vs)				
WCN100310-01	1	S1	200	11.1	3/10/2010@10:50:55			200 ppb
WCN100310-02	1	S2	150	8.08	3/10/2010@10:51:47			150 ppb
WCN100310-03	1	S3	100	5.35	3/10/2010@10:52:40			100 ppb
WCN100310-04	1	S4	50.0	2.95	3/10/2010@10:53:32			50 ppb
WCN100310-05	1	S5	10.0	0.687	3/10/2010@10:54:26			10 ppb
WCN100310-06	1	S6	5.00	0.407	3/10/2010@10:55:20			CRDL 5.0 ppb
WCN100310-08	1	S7	0.00	0.0471	3/10/2010@10:56:14			0.0 ppb
DQM Test: Minimum Correlation Coefficient								
Result:			0.99958 > 0.99500					
Message			Pass					
Action			Continue					
WCN100310-07	1	S8	146	8.03	3/10/2010@10:58:04			ICV
Known Conc:			150					
DQM Test: > + Percent Relative Difference								
Result:			-2.4 < 10.0					
Message			ICV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			-2.4 < 10.0					
Message			ICV Passed					
Action			Continue					
Calibration:			Table/Fig. 1					
WCN100310-08	1	S7	-0.144	0.0944	3/10/2010@10:59:54			ICB/CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-0.144 < 5.01					
Message			ICB/CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-0.144 > -5.01					
Message			ICB/CCB Passed					
Action			Continue					
WCN100310-06	1	S6	6.05	0.429	3/10/2010@11:01:43			CRDL
Known Conc:			5.00					
DQM Test: > + Concentration Limit								
Result:			6.05 < 7.50					
Message			CRDL Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			6.05 > 2.50					
Message			Pass					
Action			None					
1202066540 963300 MB	1	1	-0.804	0.0587	3/10/2010@11:03:32			
1202066541 LCS	1	2	48.9	2.75	3/10/2010@11:04:26			
248455001	1	3	-0.811	0.0583	3/10/2010@11:05:19			
248455002	1	4	-0.508	0.0747	3/10/2010@11:06:12			
248455003	1	5	0.519	0.130	3/10/2010@11:07:05			
248523001	1	6	-1.98	-0.00475	3/10/2010@11:07:58			
248792001	1	7	-1.30	0.0317	3/10/2010@11:08:51			
1202066542 DUP	1	8	-1.63	0.0140	3/10/2010@11:09:43			
1202066543 MS	1	9	102	5.61	3/10/2010@11:10:36			
1202066544 MSD	1	10	103	5.67	3/10/2010@11:11:28			
WCN100310-03	1	S3	101	5.56	3/10/2010@11:12:20			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			0.8 < 10.0					

Message			CCV Passed					
Action			Continue					
			DQM Test: < - Percent Relative Difference					
Result:			0.8 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100310-08	1	S7	-1.88	3.30e-4	3/10/2010@11:14:10			CCB
Known Conc:			0.00					
			DQM Test: > + Concentration Limit					
Result:			-1.88 < 5.00					
Message			CCB Passed					
Action			Continue					
			DQM Test: < - Concentration Limit					
Result:			-1.88 > -5.00					
Message			CCB Passed					
Action			Continue					
1202057145 959212 MB	1	11	-1.54	0.0188	3/10/2010@11:15:58			
1202057152 LCS	1	12	24.9	1.45	3/10/2010@11:16:50		25.00	
248159003	1	13	-0.859	0.0557	3/10/2010@11:17:42			
1202057146 DUP	1	14	-0.0820	0.0977	3/10/2010@11:18:34			
1202057148 MS	1	15	93.7	5.17	3/10/2010@11:19:25			
1202057150 MSD	1	16	88.3	4.88	3/10/2010@11:20:19			
248159004	1	17	1.45	0.181	3/10/2010@11:21:13			
1202057147 DUP	1	18	1.28	0.171	3/10/2010@11:22:06			
1202057149 MS	1	19	77.1	4.28	3/10/2010@11:23:00			
1202057151 MSD	1	20	85.3	4.72	3/10/2010@11:23:53			
WCN100310-03	1	S3	101	5.56	3/10/2010@11:24:45			CCV
Known Conc:			100					
			DQM Test: > + Percent Relative Difference					
Result:			0.9 < 10.0					
Message			CCV Passed					
Action			Continue					
			DQM Test: < - Percent Relative Difference					
Result:			0.9 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100310-08	1	S7	-1.09	0.0433	3/10/2010@11:26:35			CCB
Known Conc:			0.00					
			DQM Test: > + Concentration Limit					
Result:			-1.09 < 5.00					
Message			CCB Passed					
Action			Continue					
			DQM Test: < - Concentration Limit					
Result:			-1.09 > -5.00					
Message			CCB Passed					
Action			Continue					
248159005	1	21	0.0956	0.107	3/10/2010@11:28:24			
248159006	1	22	-0.492	0.0755	3/10/2010@11:29:17			
248163001	1	23	-1.05	0.0453	3/10/2010@11:30:10			
248163002	1	24	-1.26	0.0340	3/10/2010@11:31:02			
248163003	1	25	-0.725	0.0630	3/10/2010@11:31:55			
248163004	1	26	-1.30	0.0320	3/10/2010@11:32:48			
248163005	1	27	-0.971	0.0496	3/10/2010@11:33:40			
248163006	1	28	-0.534	0.0733	3/10/2010@11:34:32			
248163007	1	29	-0.822	0.0577	3/10/2010@11:35:24			
248163008	1	30	-1.89	-3.60e-4	3/10/2010@11:36:15			
WCN100310-03	1	S3	99.6	5.49	3/10/2010@11:37:08			CCV
Known Conc:			100					
			DQM Test: > + Percent Relative Difference					
Result:			-0.4 < 10.0					
Message			CCV Passed					
Action			Continue					
			DQM Test: < - Percent Relative Difference					
Result:			-0.4 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100310-08	1	S7	-0.973	0.0495	3/10/2010@11:38:58			CCB
Known Conc:			0.00					

DQM Test: > + Concentration Limit									
Result:		-0.973 < 5.00							
Message		CCB Passed							
Action		Continue							
DQM Test: < - Concentration Limit									
Result:		-0.973 > -5.00							
Message		CCB Passed							
Action		Continue							
248163009	1	31	-1.13	0.0408	3/10/2010@11:40:49				
248163010	1	32	-1.06	0.0447	3/10/2010@11:41:42				
248163011	1	33	-0.202	0.0912	3/10/2010@11:42:36				
248163012	1	34	-0.820	0.0578	3/10/2010@11:43:29				
248163013	1	35	-0.101	0.0967	3/10/2010@11:44:22				
248163014	1	36	-1.03	0.0465	3/10/2010@11:45:16				
248241001	1	37	6.98	0.480	3/10/2010@11:46:08				
248241002	1	38	4.24	0.332	3/10/2010@11:47:02				
1202061941 961284 MB	1	39	-1.88	1.84e-4	3/10/2010@11:47:54				
1202061948 LCS	1	40	30.0	1.73	3/10/2010@11:48:47		25.00		
WCN100310-03	1	S3	101	5.59	3/10/2010@11:49:39				CCV
Known Conc:		100							
DQM Test: > + Percent Relative Difference									
Result:		1.4 < 10.0							
Message		CCV Passed							
Action		Continue							
DQM Test: < - Percent Relative Difference									
Result:		1.4 < 10.0							
Message		CCV Passed							
Action		Continue							
WCN100310-08	1	S7	-2.16	-0.0149	3/10/2010@11:51:29				CCB
Known Conc:		0.00							
DQM Test: > + Concentration Limit									
Result:		-2.16 < 5.00							
Message		CCB Passed							
Action		Continue							
DQM Test: < - Concentration Limit									
Result:		-2.16 > -5.00							
Message		CCB Passed							
Action		Continue							
247914001	1	41	-0.276	0.0873	3/10/2010@11:53:18				
247923001	1	42	25.1	1.46	3/10/2010@11:54:10				
247927001	1	43	140	7.65	3/10/2010@11:55:02				
247930001	1	44	81.5	4.51	3/10/2010@11:55:55				
247933001	1	45	25.7	1.49	3/10/2010@11:56:46				
247939001	1	46	22.4	1.32	3/10/2010@11:57:41				
247941001	1	47	36.9	2.10	3/10/2010@11:58:34				
247943001	1	48	55.1	3.08	3/10/2010@11:59:28				
247945001	1	49	2.04	0.213	3/10/2010@12:00:22				
248515001	1	50	-0.256	0.0883	3/10/2010@12:01:15				
WCN100310-03	1	S3	101	5.55	3/10/2010@12:02:08				CCV
Known Conc:		100							
DQM Test: > + Percent Relative Difference									
Result:		0.7 < 10.0							
Message		CCV Passed							
Action		Continue							
DQM Test: < - Percent Relative Difference									
Result:		0.7 < 10.0							
Message		CCV Passed							
Action		Continue							
WCN100310-08	1	S7	-1.39	0.0269	3/10/2010@12:03:58				CCB
Known Conc:		0.00							
DQM Test: > + Concentration Limit									
Result:		-1.39 < 5.00							
Message		CCB Passed							
Action		Continue							
DQM Test: < - Concentration Limit									
Result:		-1.39 > -5.00							
Message		CCB Passed							
Action		Continue							

247927001	1	71	381	20.7	3/10/2010@12:39:51	10.00		
Sample106	1	1	-1.79	0.00544	3/10/2010@12:40:44			
WCN100310-03	1	S3	100	5.51	3/10/2010@12:41:37			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			0.0 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			0.0 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100310-08	1	S7	-2.00	-0.00603	3/10/2010@12:43:27			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-2.00 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-2.00 > -5.00					
Message			CCB Passed					
Action			Continue					
247927001	1	71	114	6.29	3/10/2010@12:45:16	2.00		
WCN100310-03	1	S3	101	5.58	3/10/2010@12:46:09			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			1.3 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			1.3 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100310-08	1	S7	-1.89	1.71e-4	3/10/2010@12:47:59			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-1.89 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-1.89 > -5.00					
Message			CCB Passed					
Action			Continue					

Analyte Properties Table for OM\_3-10-2010\_10-49-24.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

6.32

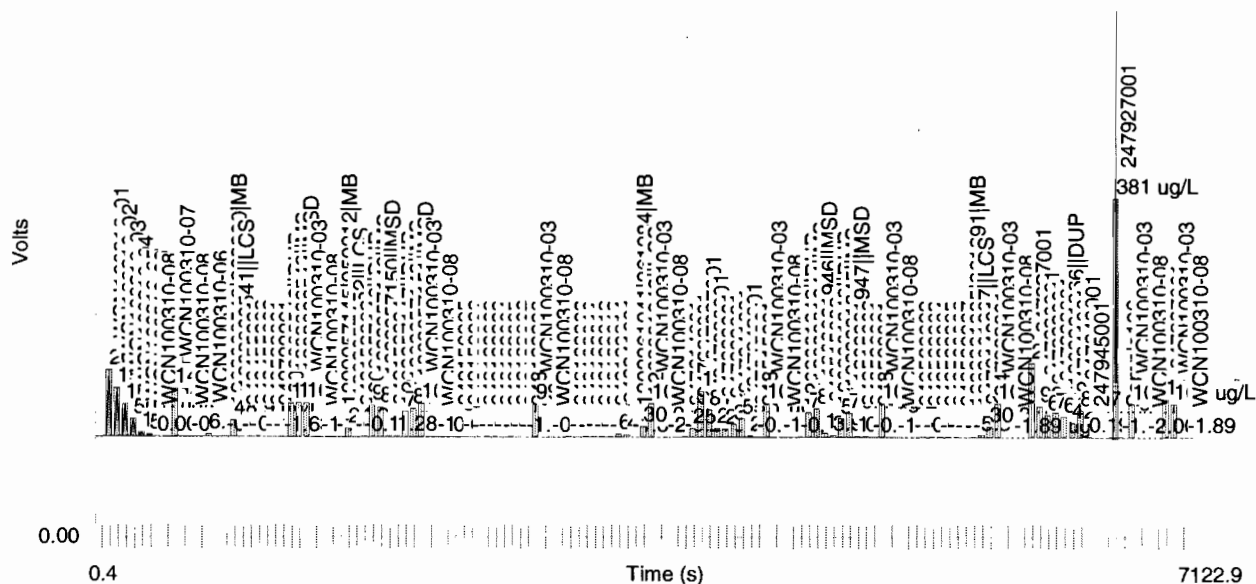
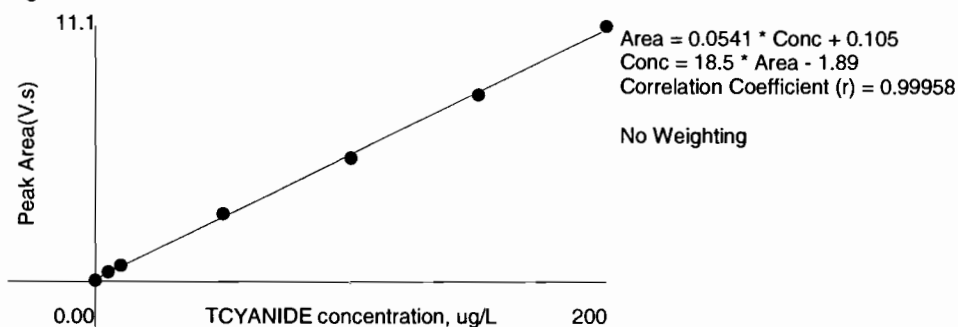


Table 1: TCYANIDE

	Conc. (ug/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	200	1	11.1	0.707	-1.3	3/10/2010	10:51:58
2	150	1	8.08	0.519	1.6	3/10/2010	10:52:50
3	100	1	5.35	0.347	3.0	3/10/2010	10:53:42
4	50.0	1	2.95	0.188	-5.0	3/10/2010	10:54:35
5	10.0	1	0.687	0.0433	-6.4	3/10/2010	10:55:28
6	5.00	1	0.407	0.0241	-8.2	3/10/2010	10:56:22
7	0.00	1	0.0471	0.00103		3/10/2010	10:57:16

Figure 1: TCYANIDE



# **Ion Chromatography**

# Prep Logbook

## Ion Chromatography (IC)

<b>Batch ID:</b>	<b>968239.0</b>	Verified by:			
<b>Analyst:</b>	Greg Milton				
<b>Method:</b>	EPA 300.0 PREP				
<b>Lab SOP:</b>	GL-GC-E-086 REV# 17				
<b>Instrument:</b>	Sartorius Balance B-001				
Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1202078573	GEL-ANION-4C Spiking Solution	UIC100324SPK	.8	mL
MS	1202078569	GEL-ANION-4C Spiking Solution	UIC100324SPK	.8	mL
MS	1202078570	GEL-ANION-4C Spiking Solution	UIC100324SPK	.8	mL
MSD	1202078571	GEL-ANION-4C Spiking Solution	UIC100324SPK	.8	mL
MSD	1202078572	GEL-ANION-4C Spiking Solution	UIC100324SPK	.8	mL

Sample ID	Run Date	Matrix	Initial Weight (g)	Final Volume (mL)	Prep Factor (mL/g)	pH Check 1
1202078566 MB	24-MAR-2010 14:11:00	Soil	4	40	10	
1202078573 LCS	24-MAR-2010 14:11:00	Soil	4	40	10	
248515001	24-MAR-2010 14:11:00	Soil	4	40	10	
1202078567 DUP (248515001)	24-MAR-2010 14:11:00	Soil	4	40	10	
1202078569 MS (248515001)	24-MAR-2010 14:11:00	Soil	4	40	10	
1202078571 MSD (248515001)	24-MAR-2010 14:11:00	Soil	4	40	10	
248515002	24-MAR-2010 14:11:00	Soil	4	40	10	
248515003	24-MAR-2010 14:11:00	Soil	4	40	10	
248517001	24-MAR-2010 14:11:00	Soil	4	40	10	
248520001	24-MAR-2010 14:11:00	Soil	4	40	10	
248520002	24-MAR-2010 14:11:00	Soil	4	40	10	
248520003	24-MAR-2010 14:11:00	Soil	4	40	10	
248520004	24-MAR-2010 14:11:00	Soil	4	40	10	
248520005	24-MAR-2010 14:11:00	Soil	4	40	10	
248520006	24-MAR-2010 14:11:00	Soil	4	40	10	
248520007	24-MAR-2010 14:11:00	Soil	4	40	10	
248520008	24-MAR-2010 14:11:00	Soil	4	40	10	
248520009	24-MAR-2010 14:11:00	Soil	4	40	10	
248520010	24-MAR-2010 14:11:00	Soil	4	40	10	
248520011	24-MAR-2010 14:11:00	Soil	4	40	10	
1202078568 DUP (248520011)	24-MAR-2010 14:11:00	Soil	4	40	10	
1202078570 MS (248520011)	24-MAR-2010 14:11:00	Soil	4	40	10	
1202078572 MSD (248520011)	24-MAR-2010 14:11:00	Soil	4	40	10	

Analytical Logbook version 1 11-04-2002

GEL Laboratories LLC

# Prep Logbook

**Batch ID:** 968239.0  
**Analyst:** Greg Milton  
**Method:** EPA 300.0 PREP  
**Lab SOP:** GL-GC-E-086 REV# 17  
**Instrument:** Sartorius Balance B-001

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1202078573	GEL-ANION-4C Spiking Solution	UIC100324SPK	.8	mL
MS	1202078569	GEL-ANION-4C Spiking Solution	UIC100324SPK	.8	mL
MS	1202078570	GEL-ANION-4C Spiking Solution	UIC100324SPK	.8	mL
MSD	1202078571	GEL-ANION-4C Spiking Solution	UIC100324SPK	.8	mL
MSD	1202078572	GEL-ANION-4C Spiking Solution	UIC100324SPK	.8	mL

Sample ID	Run Date	Matrix	Initial Weight (g)	Final Volume (mL)	Prep Factor (mL/g)	pH Check 1
248526001	24-MAR-2010 14:11:00	Soil	4	40	10	
Reagent/Solvent Lot ID	Description	Amount	Comments:			

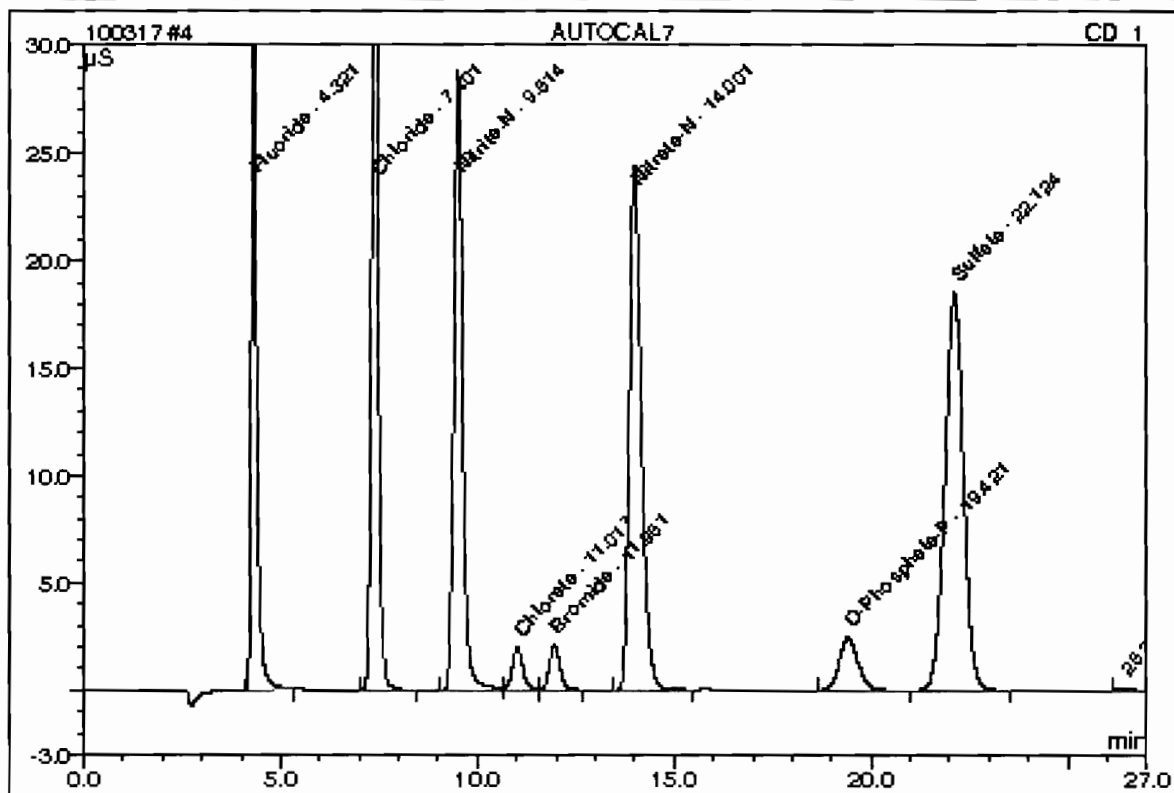


This is runlog for Sequence 100325.seq for IC7

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
ICAL-07	03/17/10 09:15		1	100325	GXM3
ICAL-06	03/17/10 09:45		1	100325	GXM3
ICAL-05	03/17/10 10:15		1	100325	GXM3
ICAL-04	03/17/10 10:45		1	100325	GXM3
ICAL-03	03/17/10 11:15		1	100325	GXM3
ICAL-02	03/17/10 11:45		1	100325	GXM3
ICAL-01	03/17/10 13:14		1	100325	GXM3

**4 AUTOCAL7**

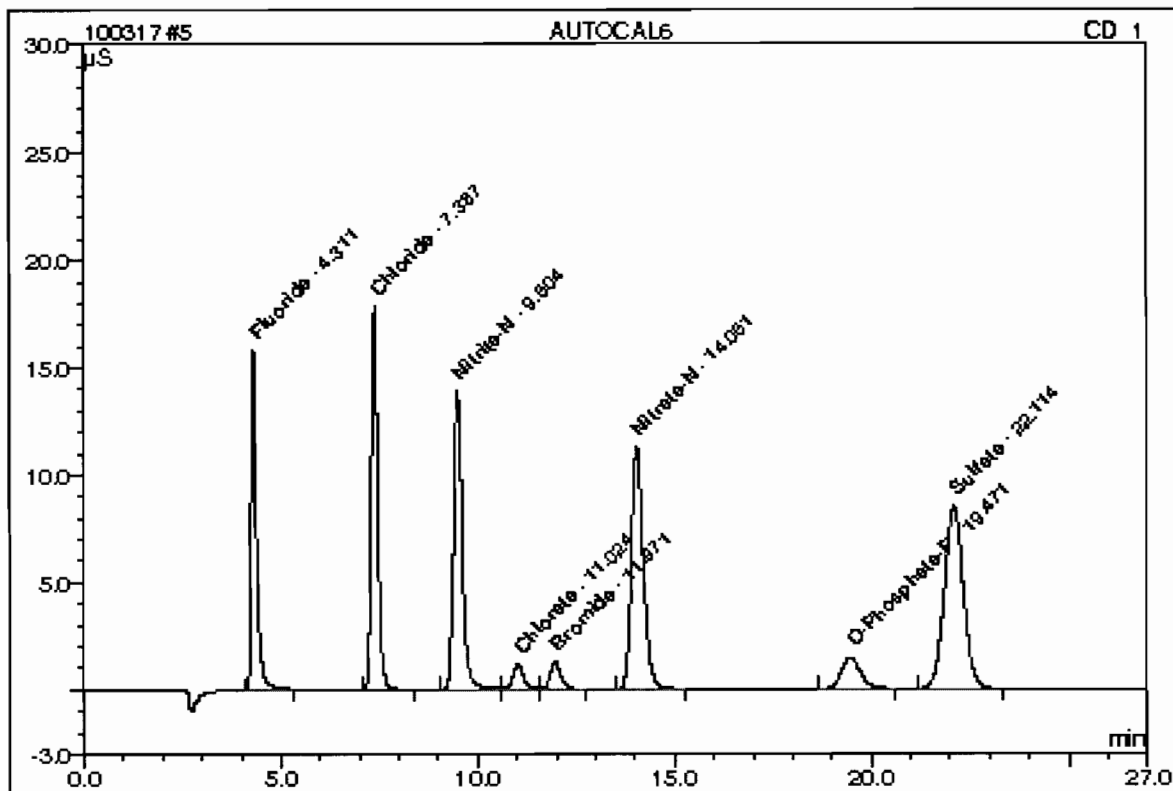
Sample Name:	AUTOCAL7	Injection Volume:	50.0
Vial Number:	4	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/17/2010 9:15	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GC E086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.32	Fluoride	10.0000	10.0024		5.01638	12.24
2	7.40	Chloride	20.0000	20.0097		7.37427	18.00
3	9.51	Nitrate-N	10.0000	10.0083		7.36725	17.98
4	11.02	Chlorate	5.0000	5.0490		0.60961	1.49
5	11.96	Bromide	5.0000	5.0206		0.64557	1.58
6	14.00	Nitrate-N	10.0000	10.0123		8.56118	20.89
7	19.42	O-Phosphate-P	5.0000	5.0000		1.32928	3.24
8	22.12	Sulfate	40.0000	40.0384		10.04798	24.52
Total:				105.1408	0.000	40.952	99.94

**5 AUTOCAL6**

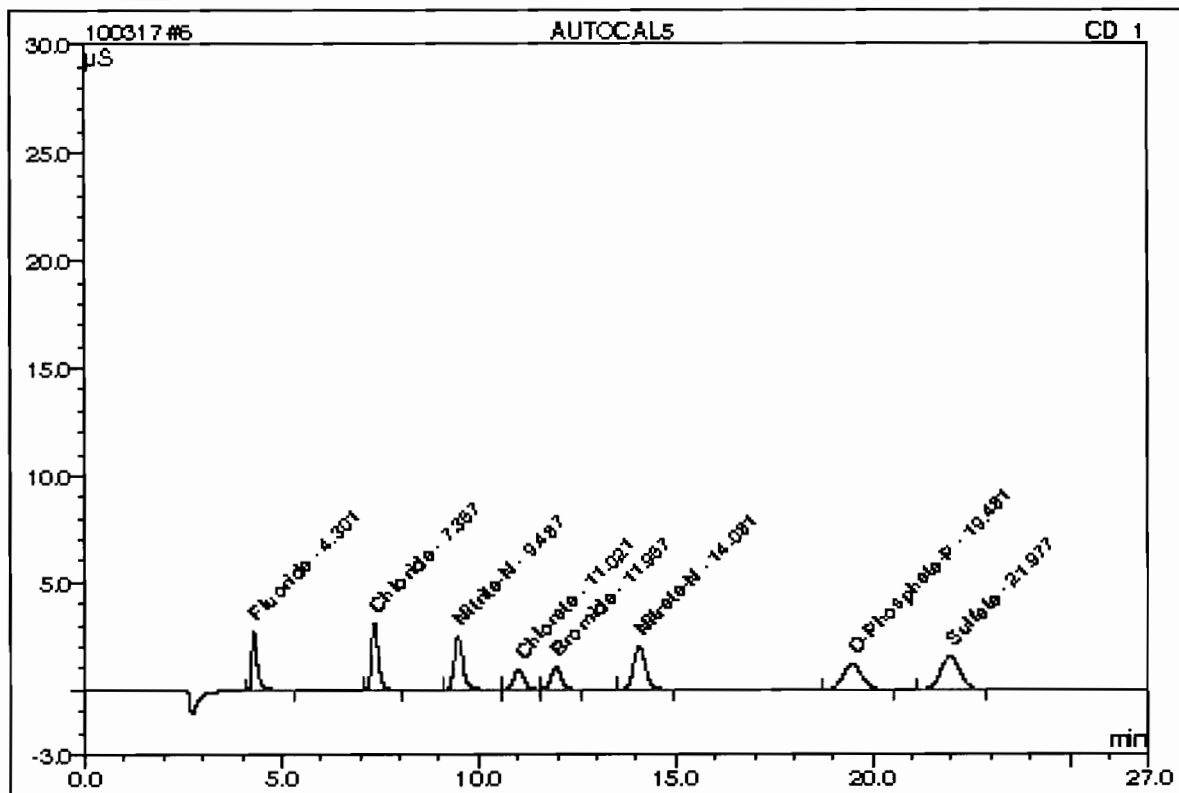
Sample Name:	AUTOCAL6	Injection Volume:	50.0
Vial Number:	5	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantit. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/17/2010 9:45	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.31	Fluoride	5.0000	4.8820		2.42594	12.44
2	7.39	Chloride	10.0000	9.3500		3.36519	17.26
3	9.50	Nitrite-N	5.0000	4.8693		3.54551	18.19
4	11.02	Chlorate	3.0000	2.9878		0.36137	1.85
5	11.97	Bromide	3.0000	2.9986		0.38556	1.98
6	14.05	Nitrate-N	5.0000	4.7145		3.94401	20.23
7	19.47	O-Phosphate-P	3.0000	2.9536		0.77886	4.00
8	22.11	Sulfate	20.0000	19.0326		4.68879	24.05
Total:				51.7885	0.000	19.495	100.00

**6 AUTOCAL5**

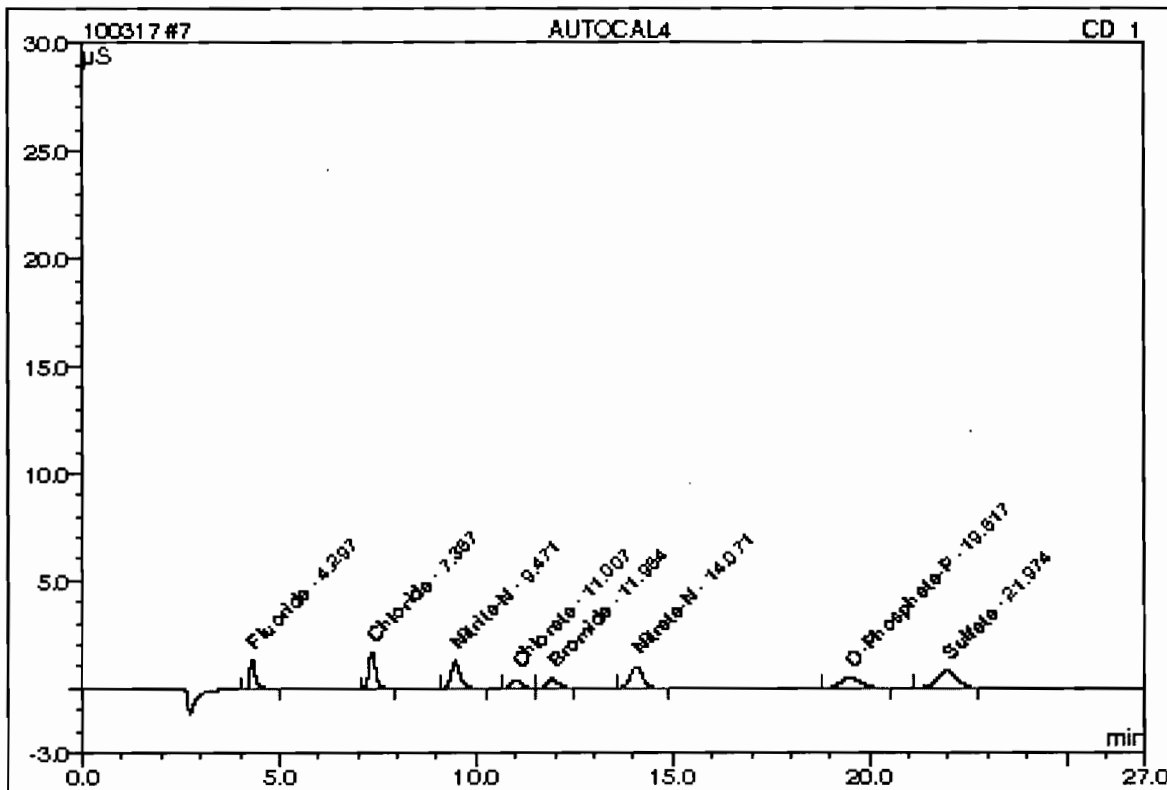
Sample Name:	AUTOCAL5	Injection Volume:	50.0
Vial Number:	6	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/17/2010 10:15	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.30	Fluoride	1.0000	0.9378		0.44618	9.89
2	7.37	Chloride	2.0000	1.8432		0.61004	13.52
3	9.49	Nitrite-N	1.0000	0.9327		0.64234	14.24
4	11.02	Chlorate	2.5000	2.3781		0.28403	6.30
5	11.97	Bromide	2.5000	2.4513		0.31361	6.95
6	14.08	Nitrate-N	1.0000	0.9208		0.70455	15.62
7	19.48	O-Phosphate-P	2.5000	2.4823		0.65221	14.46
8	21.98	Sulfate	4.0000	3.7504		0.85753	19.01
Total:				15.6967	0.000	4.511	100.00

**7 AUTOCAL4**

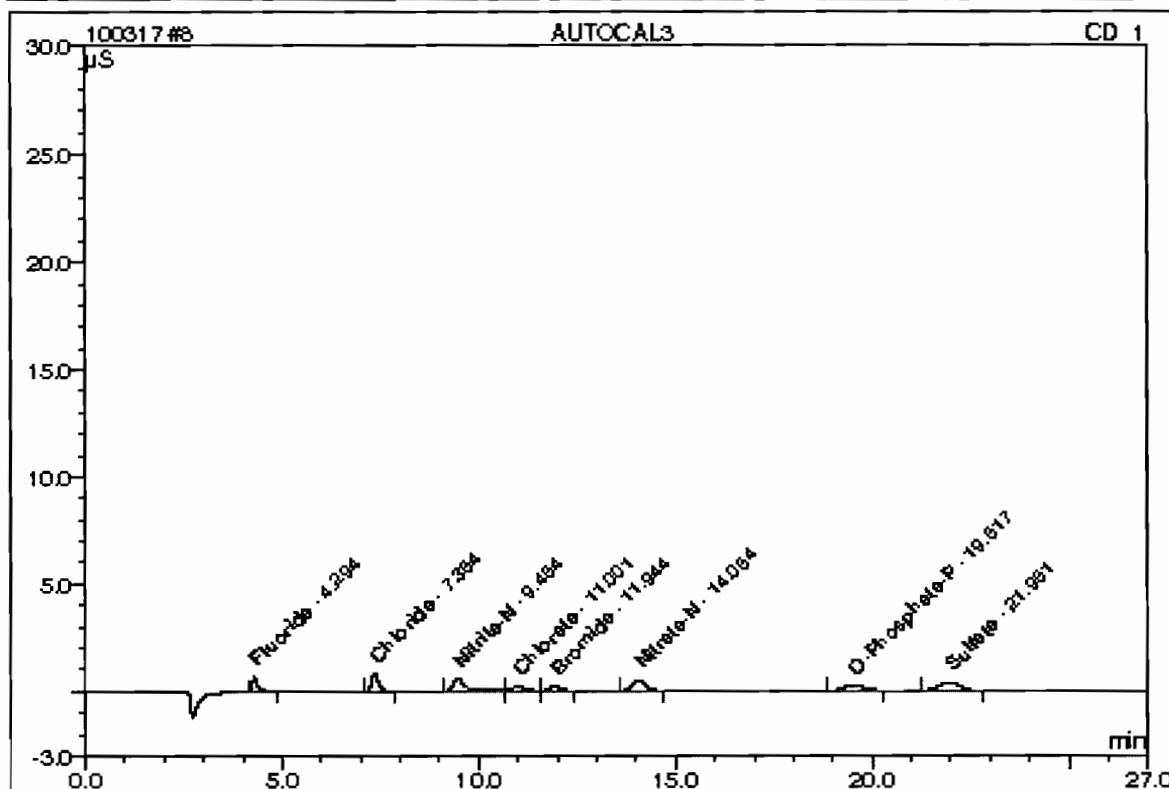
Sample Name:	AUTOCAL4	Injection Volume:	50.0
Vial Number:	7	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/17/2010 10:45	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GCED86;300;9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
1	4.30	Fluoride	0.5000	0.4925		0.21806	10.30
2	7.36	Chloride	1.0000	1.0806		0.32478	15.34
3	9.47	Nitrite-N	0.5000	0.4940		0.31326	14.80
4	11.01	Chlorate	1.0000	0.9498		0.10869	5.13
5	11.95	Bromide	1.0000	0.9722		0.12171	5.75
6	14.07	Nitrate-N	0.5000	0.5111		0.34644	16.36
7	19.52	O-Phosphate-P	1.0000	0.9993		0.25849	12.21
8	21.97	Sulfate	2.0000	2.0534		0.42575	20.11
Total:				7.5529	0.000	2.117	100.00

**8 AUTOCAL3**

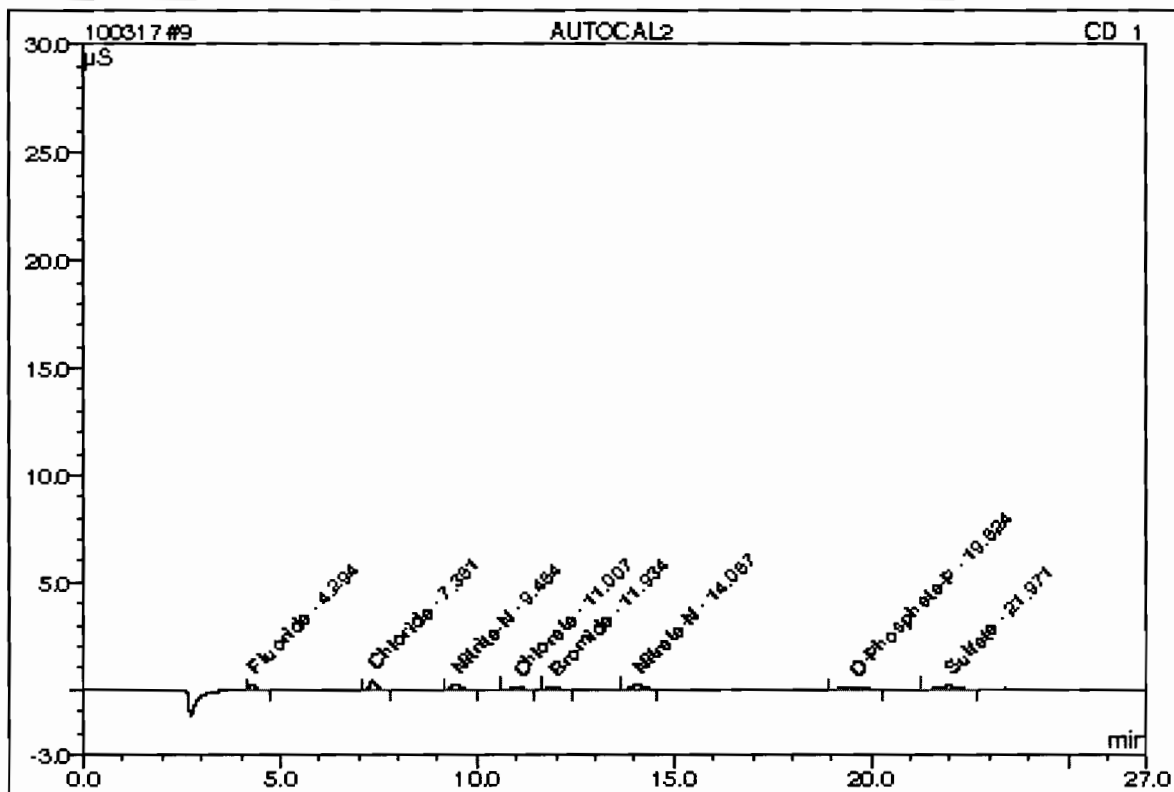
Sample Name:	AUTOCAL3	Injection Volume:	50.0
Vial Number:	8	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantit. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/17/2010 11:15	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GCE086;300;9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
1	4.29	Fluoride	0.2500	0.2772		0.10608	9.31
2	7.35	Chloride	0.5000	0.6486		0.16371	14.36
3	9.46	Nitrite-N	0.2500	0.3510		0.21960	19.26
4	11.00	Chlorate	0.5000	0.6270		0.07382	6.48
5	11.94	Bromide	0.5000	0.5232		0.06434	5.64
6	14.06	Nitrate-N	0.2500	0.3124		0.17066	14.97
7	19.52	O-Phosphate-P	0.5000	0.5128		0.13076	11.47
8	21.96	Sulfate	1.0000	1.2128		0.21096	18.51
Total:				4.4648	0.000	1.140	100.00

**9 AUTOCAL2**

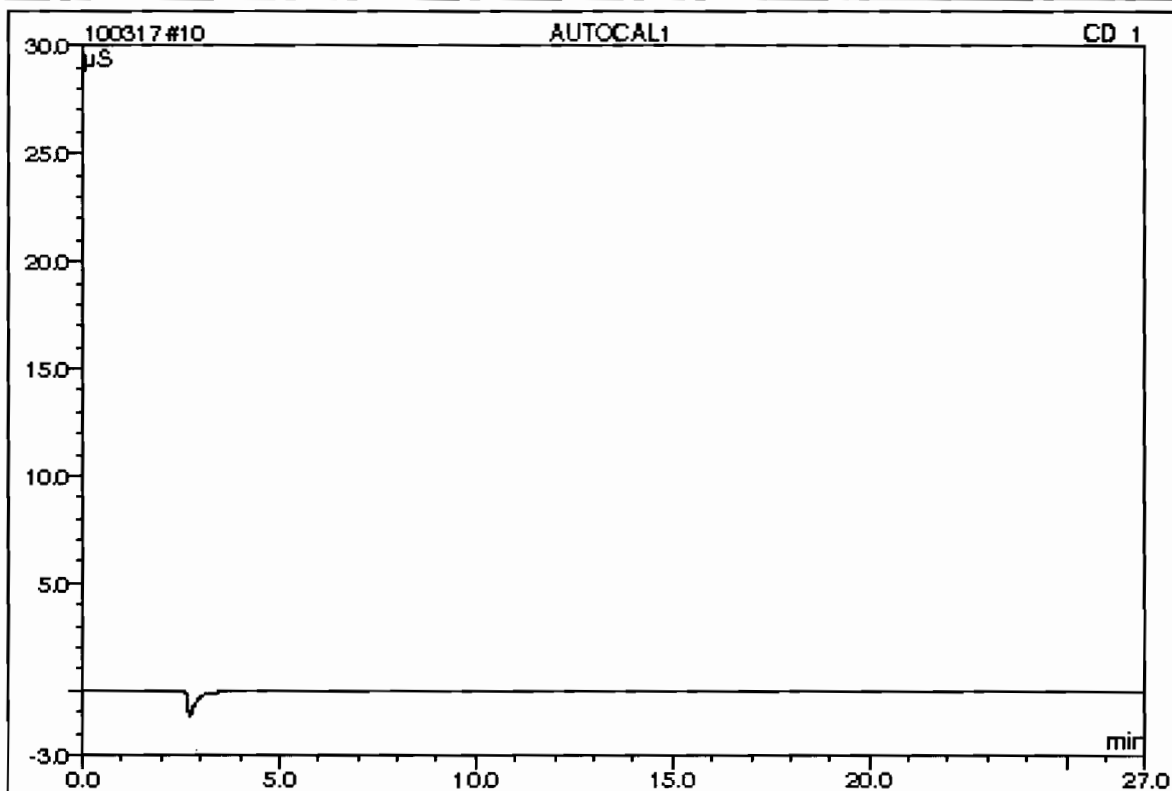
Sample Name:	AUTOCAL2	Injection Volume:	50.0
Vial Number:	9	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/17/2010 11:45	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.29	Fluoride	0.1000	0.1392		0.04186	9.37
2	7.35	Chloride	0.2000	0.3749		0.07965	17.83
3	9.48	Nitrite-N	0.1000	0.1279		0.06080	13.61
4	11.01	Chlorate	0.2000	0.1981		0.02196	4.92
5	11.93	Bromide	0.2000	0.2157		0.02531	5.67
6	14.07	Nitrate-N	0.1000	0.1723		0.06679	14.95
7	19.52	O-Phosphate-P	0.2000	0.2351		0.06039	13.52
8	21.97	Sulfate	0.4000	0.6629		0.08998	20.14
Total:				2.1261	0.000	0.447	100.00

**10 AUTOCAL1**

Sample Name:	AUTOCAL1	Injection Volume:	50.0
Vial Number:	10	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/17/2010 13:14	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GCE086;300;0056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	Fluoride	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	0.0000	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00



**10 AUTOCAL1**

Sample Name: AUTOCAL1

Vial Number: 10

Sample Type: standard

Control Program: AS23

Quantif. Method: 100317an

Recording Time: 3/17/2010 13:14

Run Time (min): 27.00

Injection Volume: 50.0

Channel: CD\_1

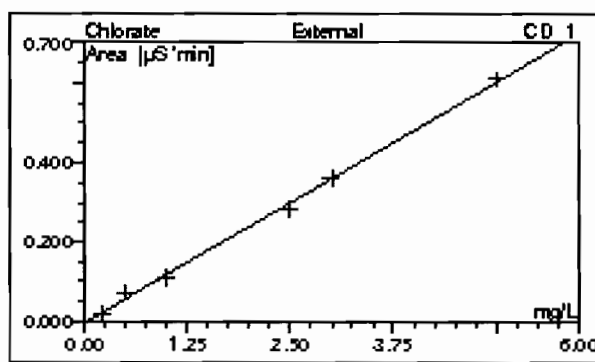
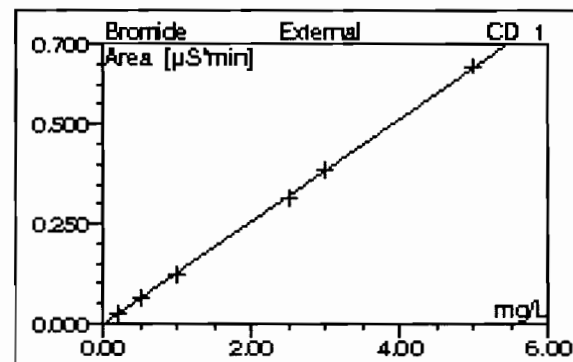
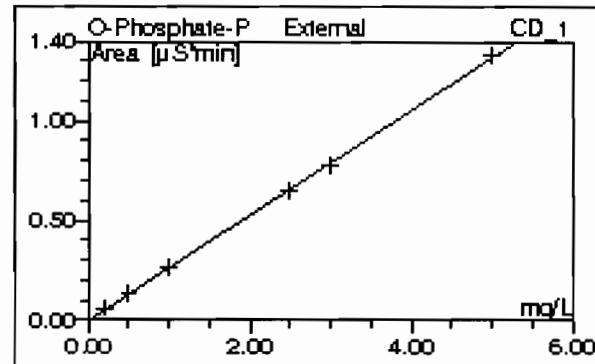
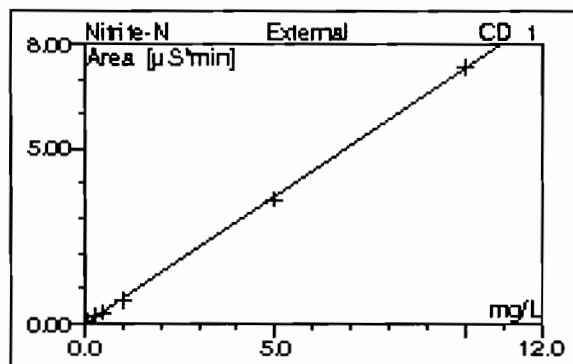
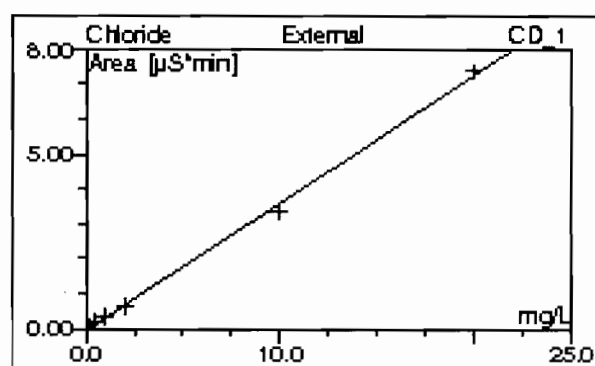
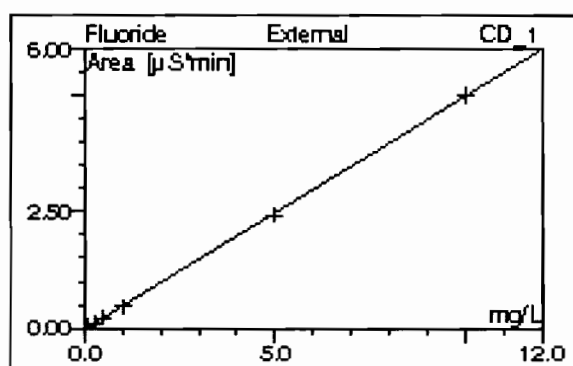
Dilution Factor: 1.0000

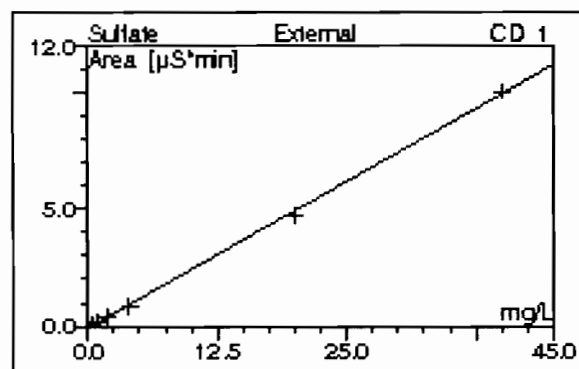
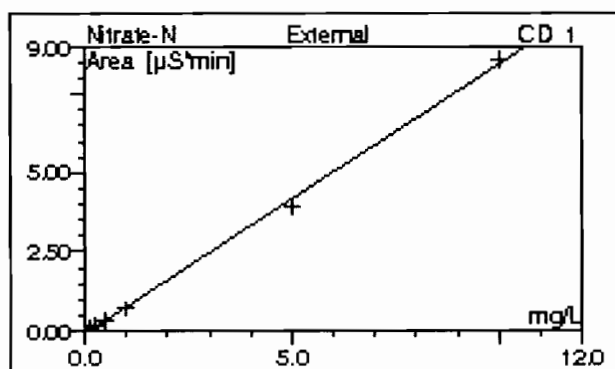
Sample Weight: 1.0000

Sample Amount: 1.0000

Analyst: GXM3

Column: AS23-0027 14;GLGC086;300;9056





No. CD_1	Ret.Time CD_1 min	Peak Name CD_1	Cal.Type CD_1	Coeff.Det. CD_1 %	Offset CD_1	Slope CD_1	Curve CD_1
n.a.	n.a.	Fluoride	0LOH	99.9751	-0.0280	0.5015	0.0000
n.a.	n.a.	Chloride	0LOH	99.8150	-0.0574	0.3656	0.0000
n.a.	n.a.	Nitrite-N	0LOH	99.9510	-0.0332	0.7348	0.0000
n.a.	n.a.	Chlorate	0LOH	99.7338	-0.0020	0.1208	0.0000
n.a.	n.a.	Bromide	0LOH	99.9700	-0.0025	0.1290	0.0000
n.a.	n.a.	Nitrate-N	0LOH	99.8613	-0.0800	0.8518	0.0000
n.a.	n.a.	O-Phosphate-P	0LOH	99.9667	-0.0017	0.2641	0.0000
n.a.	n.a.	Sulfate	0LOH	99.8983	-0.0758	0.2500	0.0000
Average:				99.8984	-0.0351	0.4022	0.0000

This is runlog for Sequence 100317.seq for IC7

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
BLK	03/17/10 08:45		1	100317	GXM3
ICAL-07	03/17/10 09:15		1	100317	GXM3
ICAL-06	03/17/10 09:45		1	100317	GXM3
ICAL-05	03/17/10 10:15		1	100317	GXM3
ICAL-04	03/17/10 10:45		1	100317	GXM3
ICAL-03	03/17/10 11:15		1	100317	GXM3
ICAL-02	03/17/10 11:45		1	100317	GXM3
ICAL-01	03/17/10 13:14		1	100317	GXM3
ICV	03/17/10 13:43		1	100317	GXM3
ICB	03/17/10 14:12		1	100317	GXM3
1202066399	03/17/10 14:42	963224	1	100317	GXM3
1202066402	03/17/10 15:11	963224	1	100317	GXM3
247261004	03/17/10 15:41	963224	1	100317	GXM3
1202066400	03/17/10 16:11	963224	1	100317	GXM3
1202066401	03/17/10 16:41	963224	1	100317	GXM3
247431002	03/17/10 17:10	963224	1	100317	GXM3
247817001	03/17/10 17:40	963224	1	100317	GXM3
247829001	03/17/10 18:10	963224	1	100317	GXM3
248024002	03/17/10 18:40	963224	1	100317	GXM3
248024004	03/17/10 19:10	963224	1	100317	GXM3
CVH	03/17/10 19:40		1	100317	GXM3
CCB	03/17/10 20:10		1	100317	GXM3
1202063619	03/17/10 20:39	962082	1	100317	GXM3
1202063626	03/17/10 21:09	962082	1	100317	GXM3
248666001	03/17/10 21:39	962082	1	100317	GXM3
1202063620	03/17/10 22:09	962082	1	100317	GXM3
1202063622	03/17/10 22:39	962082	1	100317	GXM3
1202063624	03/17/10 23:09	962082	1	100317	GXM3

248666002

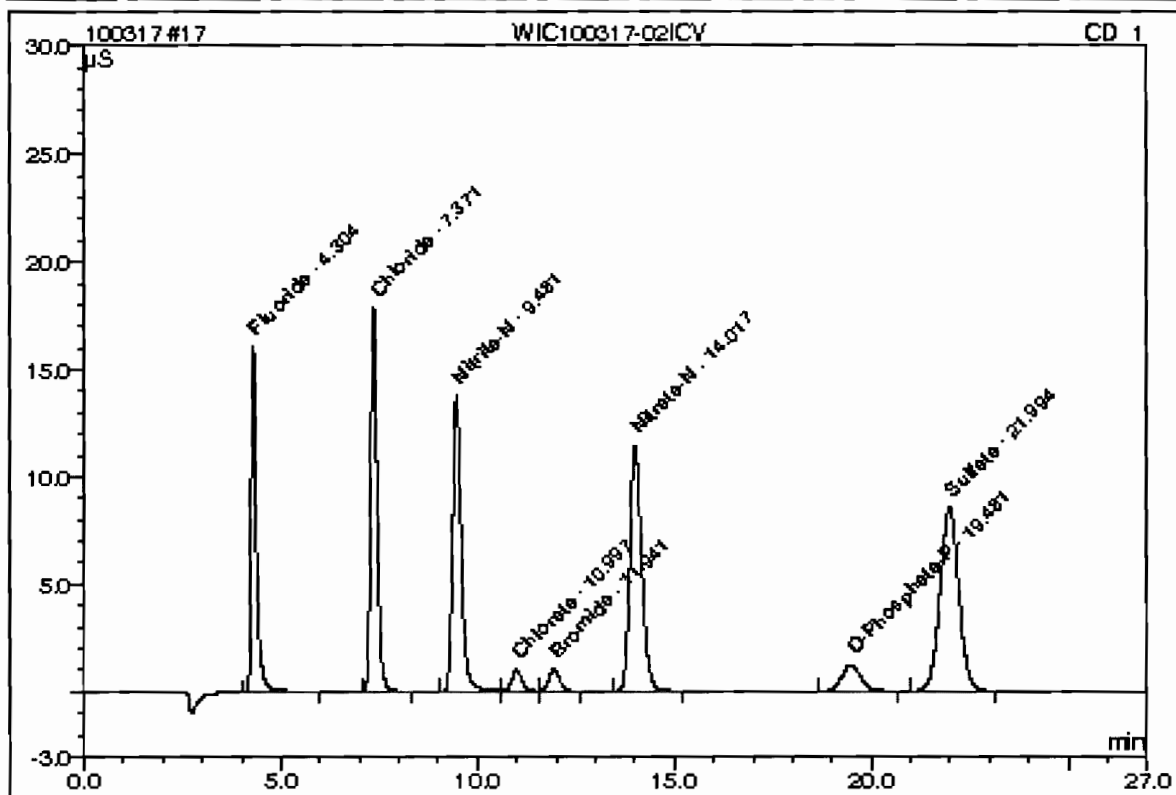
03/17/10 23:39 962082 1

100317

GXM3

**17 WIC100317-02ICV**

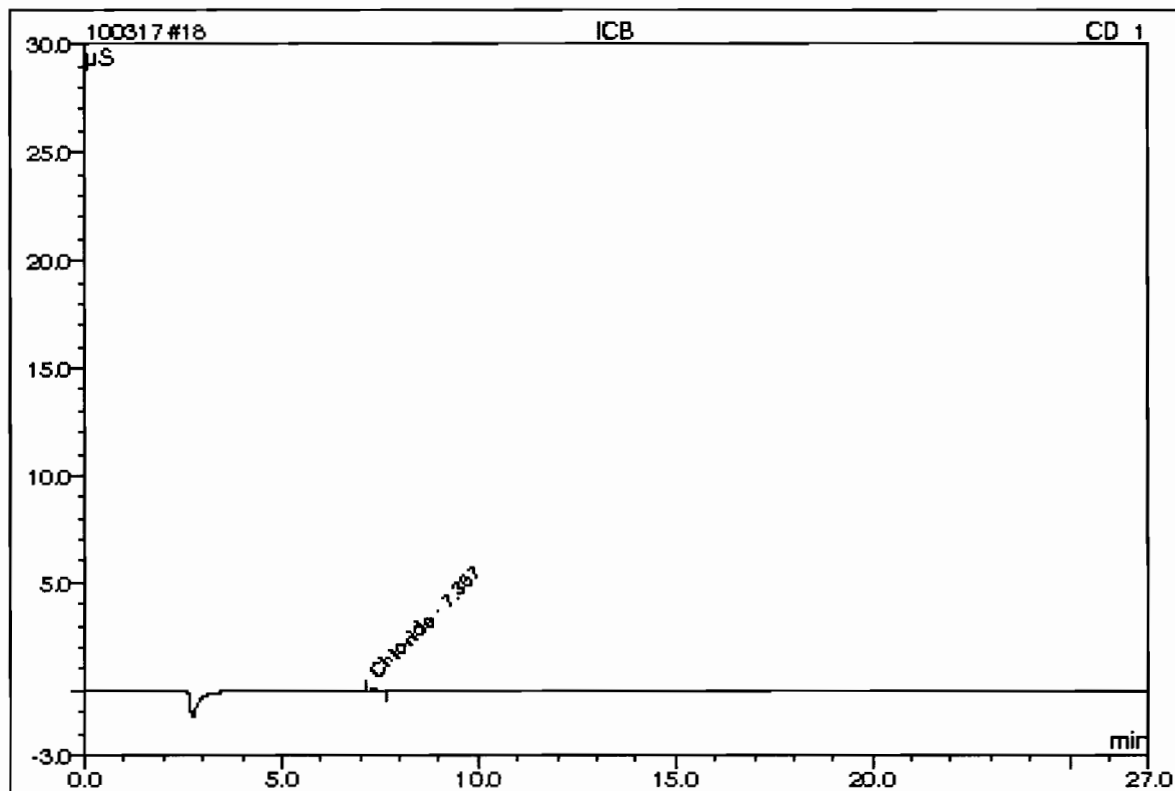
Sample Name:	WIC100317-02ICV	Injection Volume:	50.0
Vial Number:	11	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantit. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/17/2010 13:43	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.30	Fluoride	n.a.	4.9617		2.46032	12.79
2	7.37	Chloride	n.a.	9.3464		3.35930	17.46
3	9.48	Nitrite-N	n.a.	4.8136		3.50372	18.21
4	11.00	Chlorate	n.a.	2.4909		0.29883	1.55
5	11.94	Bromide	n.a.	2.4926		0.31900	1.66
6	14.02	Nitrate-N	n.a.	4.7581		3.97314	20.65
7	19.48	O-Phosphate-P	n.a.	2.5072		0.66041	3.43
8	21.99	Sulfate	n.a.	18.9605		4.66474	24.25
Total:				50.3309	0.000	19.239	100.00

**18 ICB**

Sample Name:	ICB	Injection Volume:	50.0
Vial Number:	12	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/17/2010 14:12	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GC E086; 300; 9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.36	Chloride	n.a.	0.1862		0.01068	100.00
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.1862	0.000	0.011	100.00

This is runlog for Sequence 100325.seq for IC7

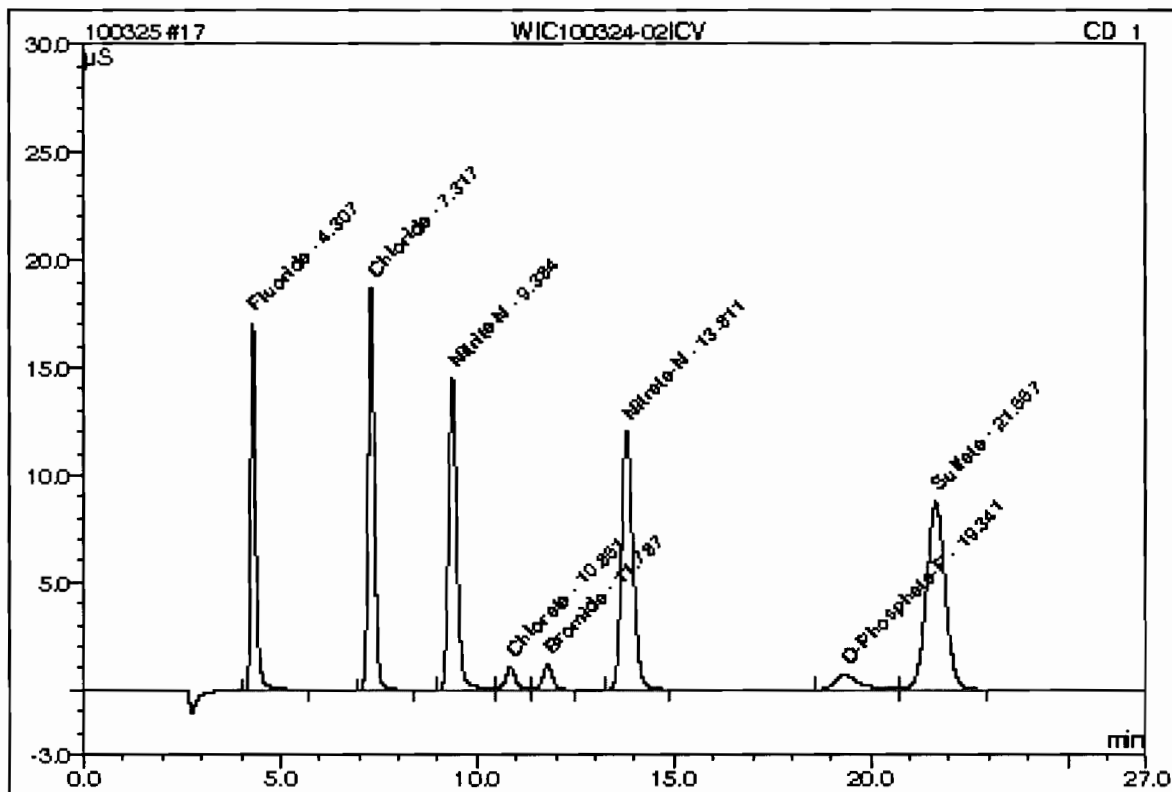
Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
BLK	03/25/10 02:56		1	100325	GXM3
BLK	03/25/10 03:26		1	100325	GXM3
BLK	03/25/10 03:56		1	100325	GXM3
ICV	03/25/10 04:26		1	100325	GXM3
ICB	03/25/10 04:55		1	100325	GXM3
1202078566	03/25/10 05:25	968241	1	100325	GXM3
1202078573	03/25/10 05:55	968241	1	100325	GXM3
248515001	03/25/10 06:25	968241	1	100325	GXM3
1202078567	03/25/10 06:55	968241	1	100325	GXM3
1202078569	03/25/10 07:25	968241	1	100325	GXM3
1202078571	03/25/10 07:55	968241	1	100325	GXM3
248515002	03/25/10 08:25	968241	1	100325	GXM3
248515003	03/25/10 08:55	968241	1	100325	GXM3
248517001	03/25/10 09:25	968241	1	100325	GXM3
248520001	03/25/10 09:55	968241	1	100325	GXM3
CVH	03/25/10 10:24		1	100325	GXM3
CCB	03/25/10 10:54		1	100325	GXM3
248520002	03/25/10 11:24	968241	1	100325	GXM3
248520003	03/25/10 11:54	968241	1	100325	GXM3
248520004	03/25/10 12:24	968241	1	100325	GXM3
248520005	03/25/10 12:54	968241	1	100325	GXM3
248520006	03/25/10 13:24	968241	1	100325	GXM3
248520007	03/25/10 13:54	968241	1	100325	GXM3
248520008	03/25/10 14:24	968241	1	100325	GXM3
248520009	03/25/10 14:54	968241	1	100325	GXM3
248520010	03/25/10 15:23	968241	1	100325	GXM3
CCV	03/25/10 15:53		1	100325	GXM3
CCB	03/25/10 16:23		1	100325	GXM3

248520011	03/25/10 16:52 968241 1	100325	GXM3
1202078568	03/25/10 17:22 968241 1	100325	GXM3
1202078570	03/25/10 17:51 968241 1	100325	GXM3
1202078572	03/25/10 18:21 968241 1	100325	GXM3
248526001	03/25/10 18:51 968241 1	100325	GXM3
CVH	03/25/10 19:21 1	100325	GXM3
CCB	03/25/10 19:51 1	100325	GXM3
1202074951	03/25/10 20:21 966831 1000	100325	GXM3
248103002	03/25/10 20:51 967295 100	100325	GXM3
248103002	03/25/10 21:21 967295 10	100325	GXM3
248686003	03/25/10 21:51 967295 10	100325	GXM3
1202076093	03/25/10 22:21 967295 10	100325	GXM3
1202076094	03/25/10 22:50 967295 10	100325	GXM3
CVH	03/25/10 23:20 1	100325	GXM3
CCB	03/25/10 23:50 1	100325	GXM3



**17 WIC100324-02ICV**

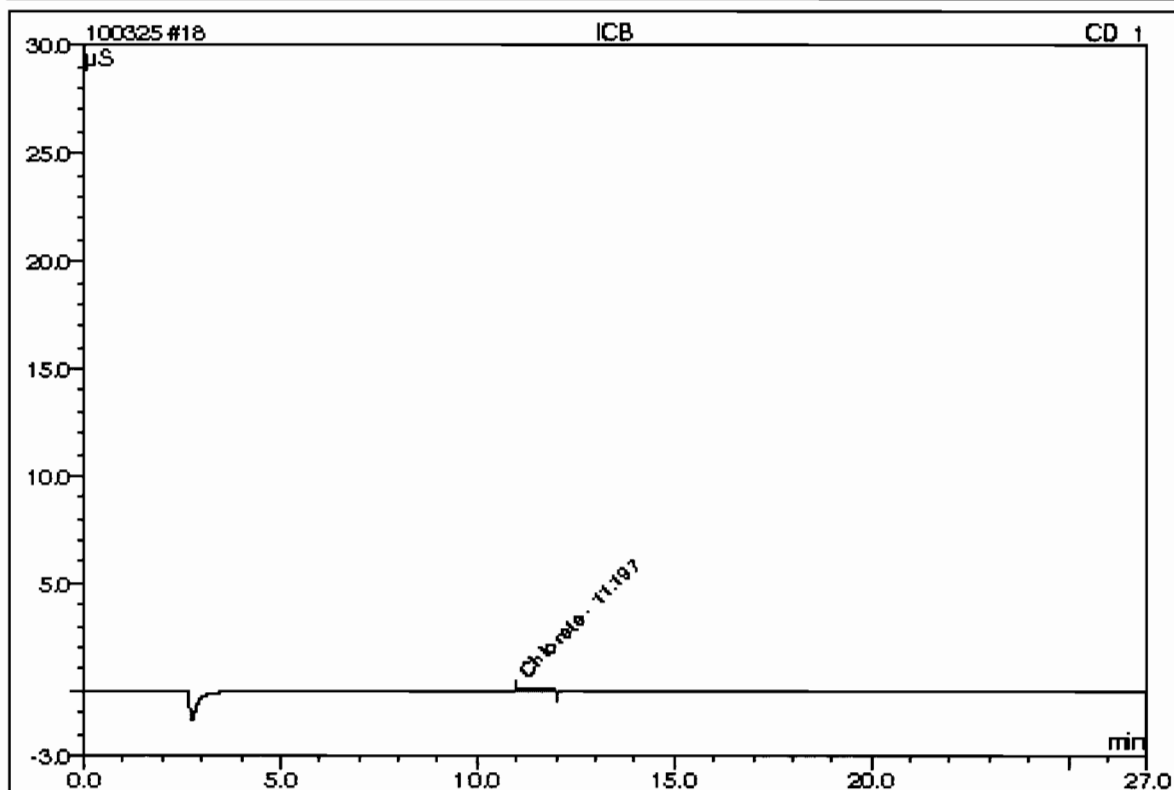
Sample Name:	WIC100324-02ICV	Injection Volume:	50.0
Vial Number:	29	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/25/2010 4:26	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.31	Fluoride	n.a.	5.0123		2.48570	12.87
2	7.32	Chloride	n.a.	9.4472		3.39615	17.58
3	9.38	Nitrite-N	n.a.	4.8776		3.55080	18.38
4	10.85	Chlorate	n.a.	2.5334		0.30397	1.57
5	11.79	Bromide	n.a.	2.5244		0.32311	1.67
6	13.81	Nitrate-N	n.a.	4.8179		4.02413	20.83
7	19.34	O-Phosphate-P	n.a.	1.8189		0.47866	2.48
8	21.67	Sulfate	n.a.	19.3292		4.75692	24.62
Total:				50.3611	0.000	19.319	100.00

**18 ICB**

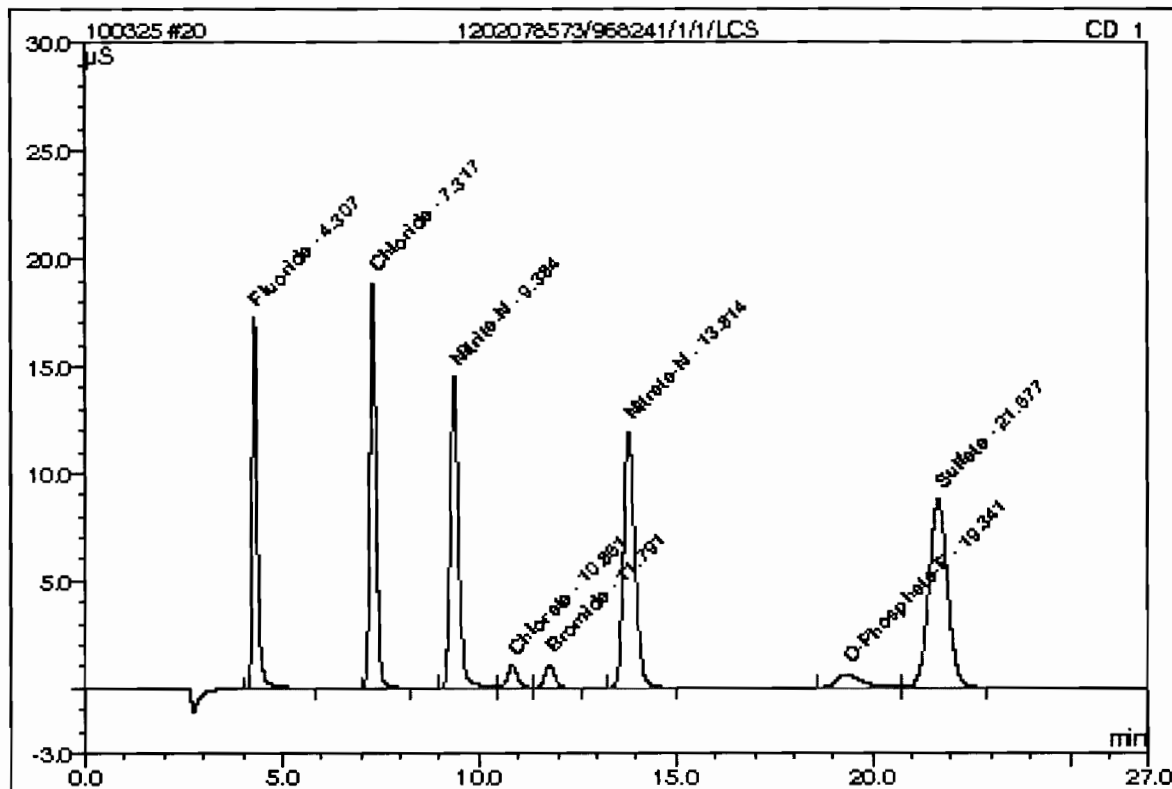
Sample Name:	ICB	Injection Volume:	50.0
Vial Number:	30	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/25/2010 4:55	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GC E086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
1	11.20	Chlorate	n.a.	0.3469		0.03993	100.00
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.3469	0.000	0.040	100.00

**20 1202078573/968241/1/1/LCS**

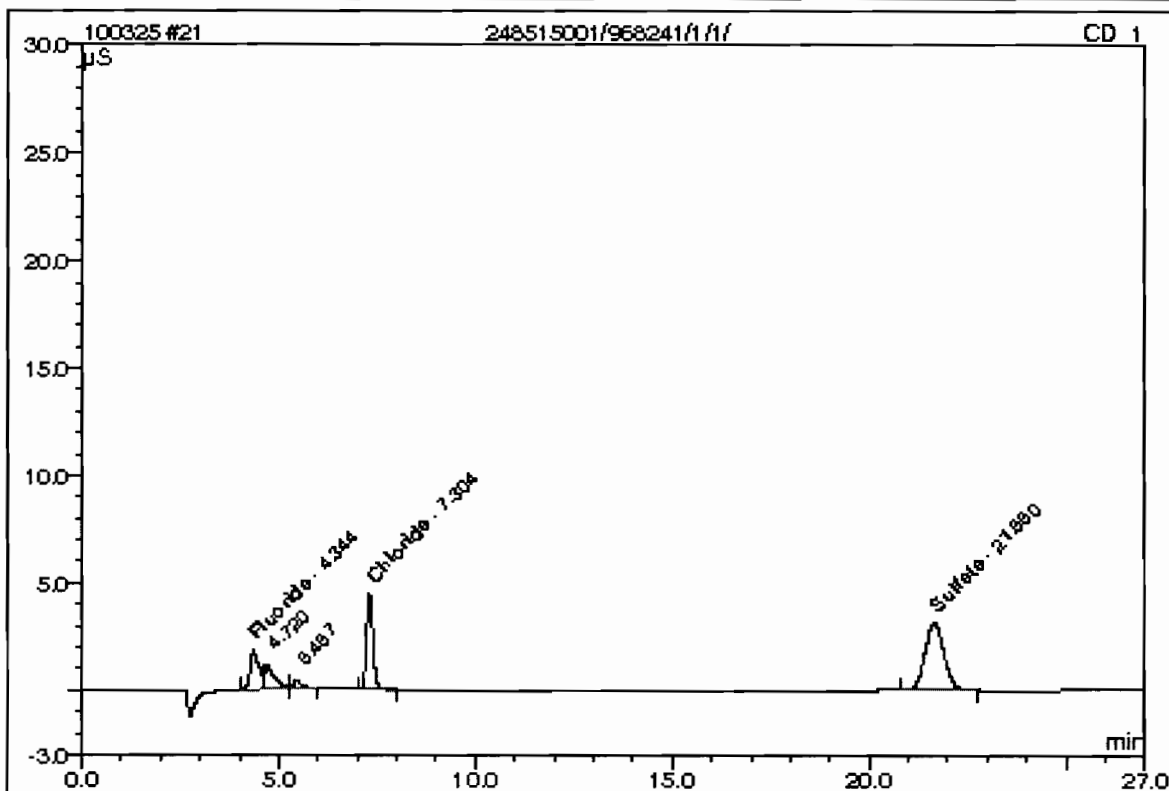
Sample Name:	1202078573/968241/1/1/LCS	Injection Volume:	50.0
Vial Number:	32	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantit. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/25/2010 5:55	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GC E086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.31	Fluoride	n.a.	5.0670		2.51315	12.98
2	7.32	Chloride	n.a.	9.5311		3.42679	17.70
3	9.38	Nitrite-N	n.a.	4.8857		3.55670	18.37
4	10.85	Chlorate	n.a.	2.5581		0.30694	1.59
5	11.79	Bromide	n.a.	2.5283		0.32361	1.67
6	13.81	Nitrate-N	n.a.	4.8112		4.01840	20.75
7	19.34	O-Phosphate-P	n.a.	1.6945		0.44580	2.30
8	21.68	Sulfate	n.a.	19.3822		4.77017	24.64
Total:				50.4580	0.000	19.362	100.00

**21 248515001/968241/1/1/**

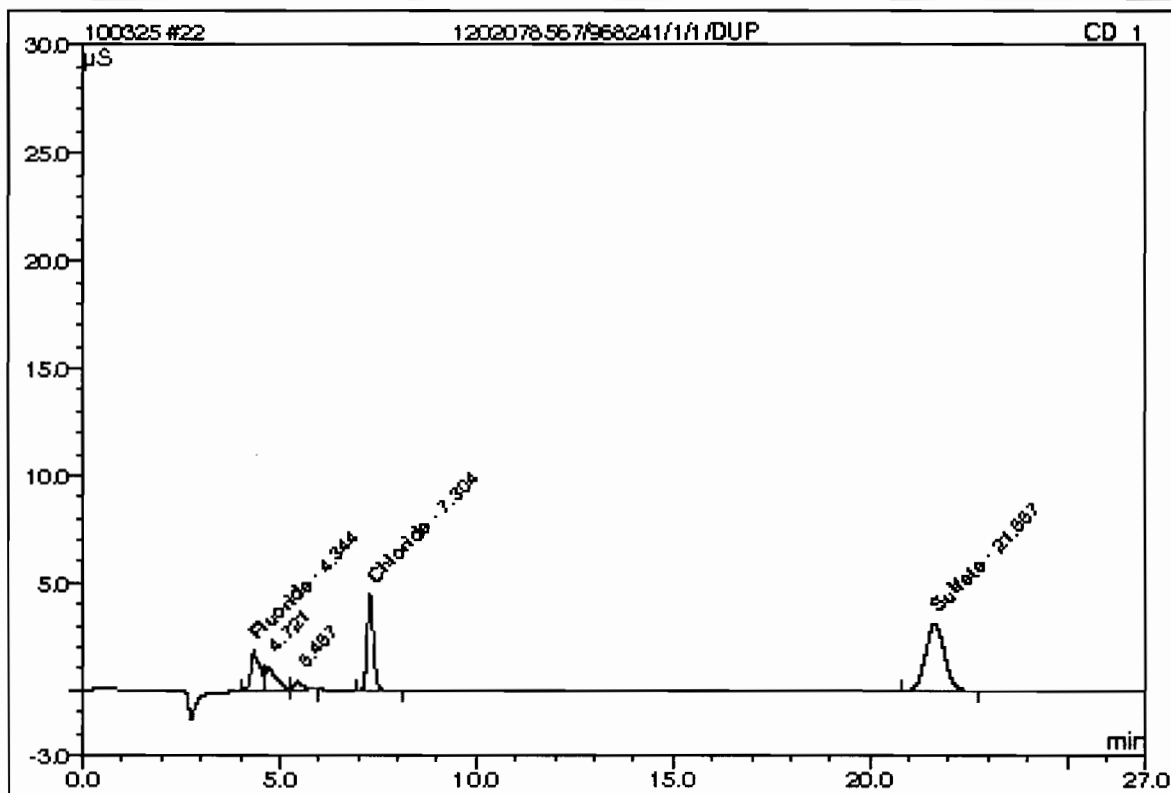
Sample Name:	248515001/968241/1/1/	Injection Volume:	50.0
Vial Number:	33	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/25/2010 6:25	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GC E086; 300; 9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
1	4.34	Fluoride	n.a.	0.9918		0.46940	13.43
4	7.30	Chloride	n.a.	2.4542		0.83977	24.03
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
5	21.66	Sulfate	n.a.	7.3089		1.75161	50.13
Total:				10.7549	0.000	3.061	87.60

**22 1202078567/968241/1/1/DUP**

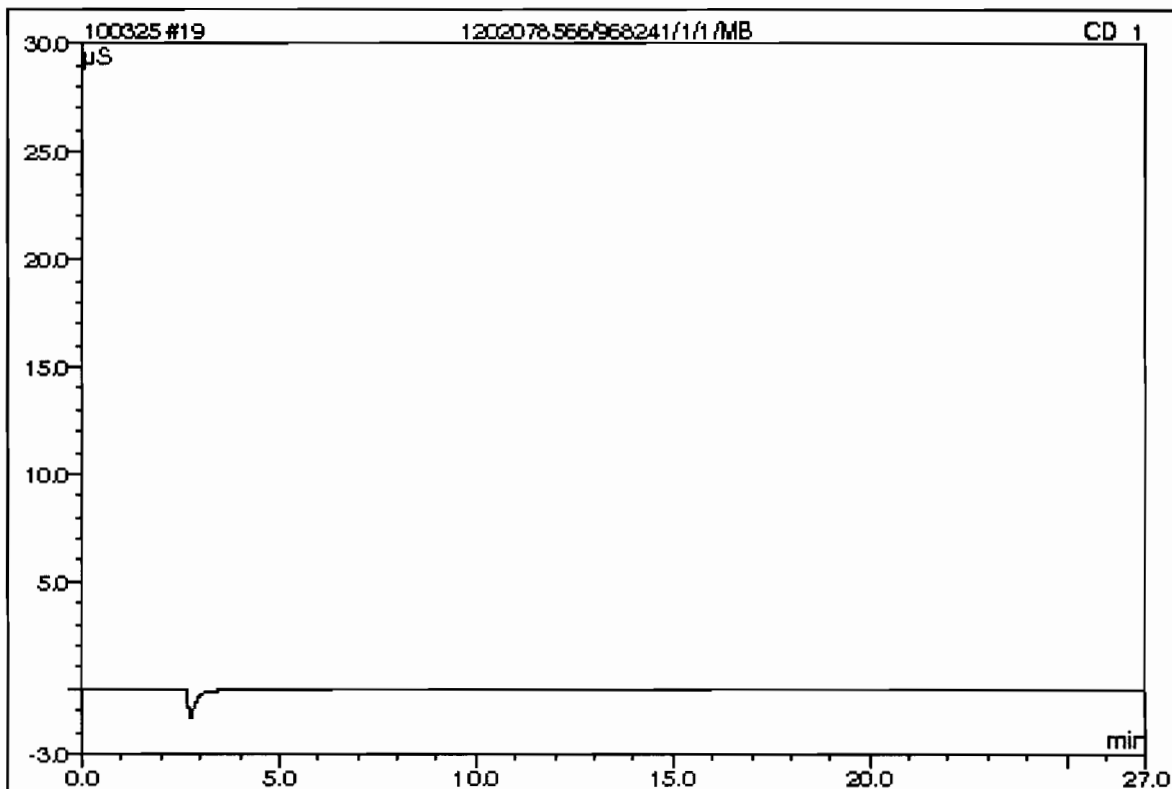
Sample Name:	1202078567/968241/1/1/DUP	Injection Volume:	50.0
Vial Number:	34	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/25/2010 6:55	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GC E086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area μS*min	Rel.Area %
1	4.34	Fluoride	n.a.	0.9879		0.46744	13.40
4	7.30	Chloride	n.a.	2.4512		0.83866	24.05
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
5	21.66	Sulfate	n.a.	7.3022		1.74992	50.18
Total:				10.7412	0.000	3.056	87.63

**19 1202078566/968241/1/1/MB**

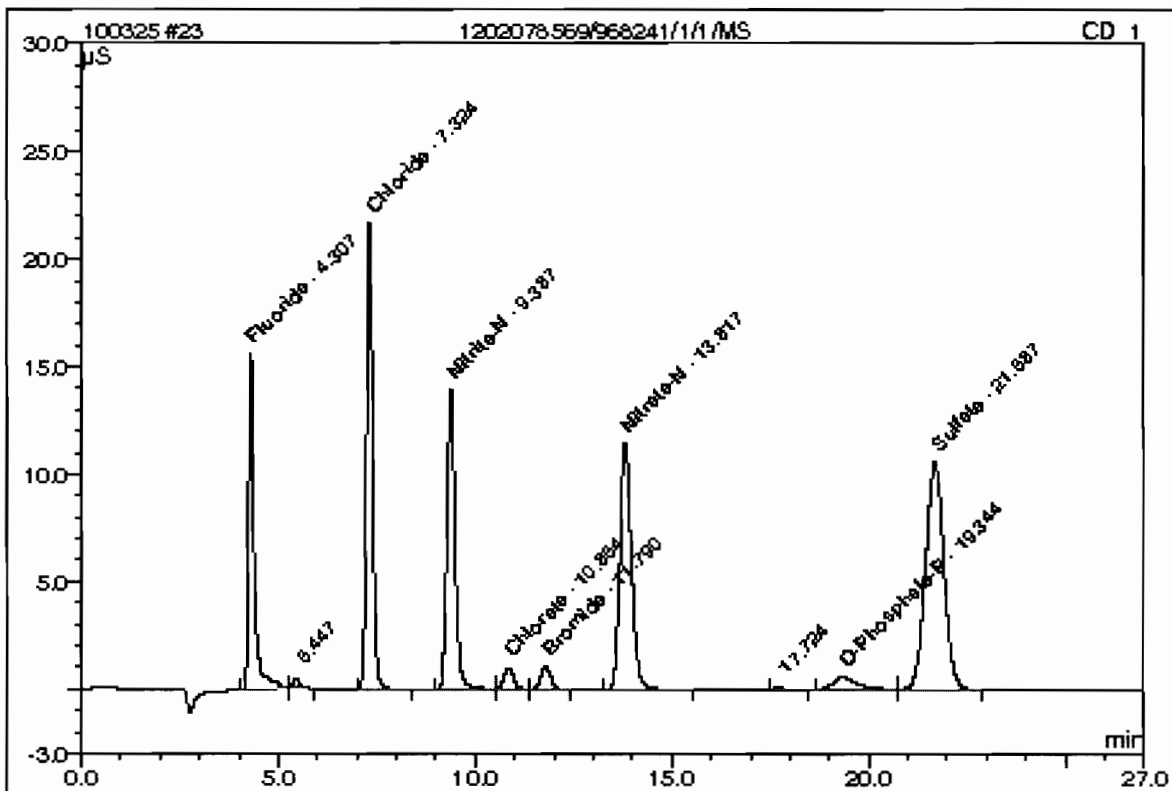
Sample Name:	1202078566/968241/1/1/MB	Injection Volume:	50.0
Vial Number:	31	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/25/2010 5:25	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GC E086; 300; 9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

**23 1202078569/968241/1/1/MS**

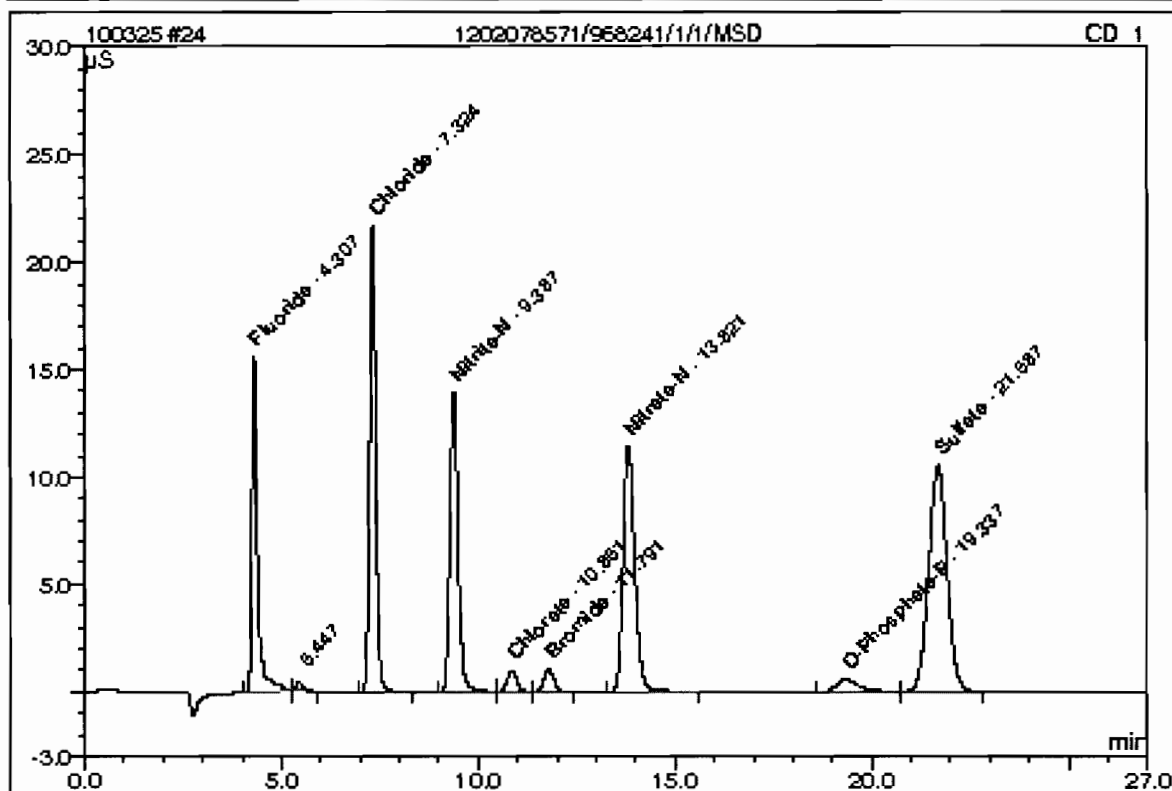
Sample Name:	1202078569/968241/1/1/MS	Injection Volume:	50.0
Vial Number:	35	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/25/2010 7:25	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GC E086; 300; 9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area μS*min	Rel. Area %
1	4.31	Fluoride	n.a.	5.1174		2.53841	12.31
3	7.32	Chloride	n.a.	10.9052		3.92910	19.05
4	9.39	Nitrite-N	n.a.	4.7204		3.43530	16.66
5	10.85	Chlorate	n.a.	2.4831		0.29788	1.44
6	11.79	Bromide	n.a.	2.4480		0.31326	1.52
7	13.82	Nitrate-N	n.a.	4.6876		3.91309	18.98
9	19.34	O-Phosphate-P	n.a.	1.4447		0.37983	1.84
10	21.69	Sulfate	n.a.	23.1220		5.70520	27.67
Total:				54.9284	0.000	20.512	99.47

**24 1202078571/968241/1/1/MSD**

Sample Name:	1202078571/968241/1/1/MSD	Injection Volume:	50.0
Vial Number:	36	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/25/2010 7:55	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GCE086;300;9056

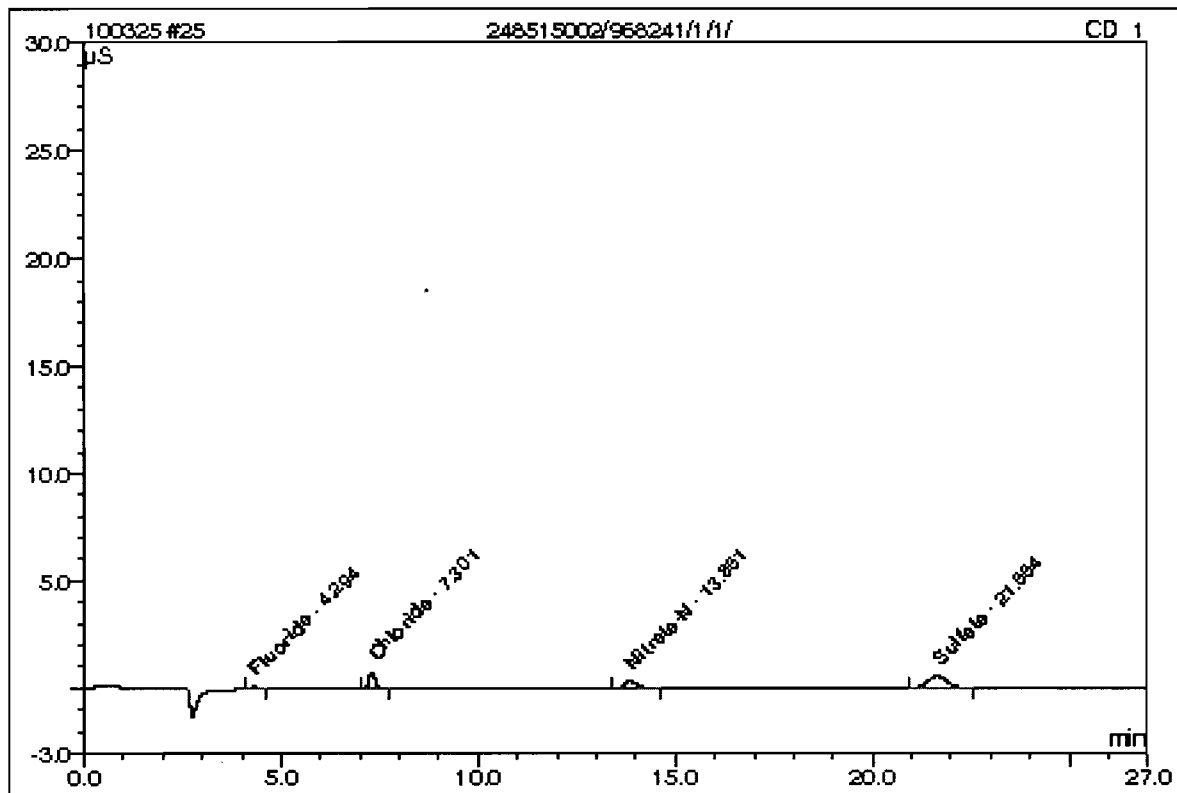


No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.31	Fluoride	n.a.	5.1215		2.54045	12.30
3	7.32	Chloride	n.a.	10.8866		3.92234	18.99
4	9.39	Nitrite-N	n.a.	4.7174		3.43306	16.62
5	10.85	Chlorate	n.a.	2.4555		0.29455	1.43
6	11.79	Bromide	n.a.	2.4241		0.31017	1.50
7	13.82	Nitrate-N	n.a.	4.7361		3.95444	19.14
8	19.34	O-Phosphate-P	n.a.	1.5720		0.41344	2.00
9	21.69	Sulfate	n.a.	23.1559		5.71367	27.66
Total:				55.0691	0.000	20.582	99.63



**25 248515002/968241/1/1/**

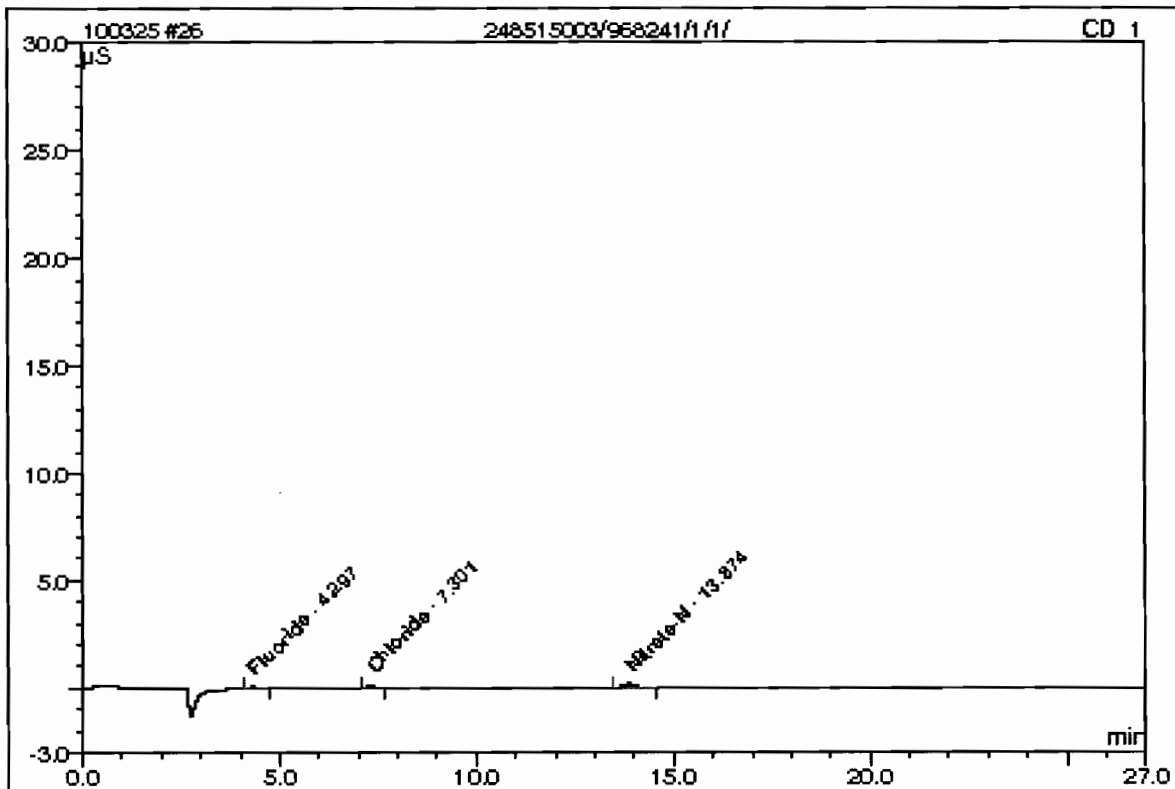
Sample Name:	248515002/968241/1/1/	Injection Volume:	50.0
Vial Number:	37	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/25/2010 8:25	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GC E086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.29	Fluoride	n.a.	0.0862		0.01529	2.51
2	7.30	Chloride	n.a.	0.5536		0.14498	23.79
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
3	13.86	Nitrate-N	n.a.	0.2322		0.11782	19.34
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
4	21.65	Sulfate	n.a.	1.6278		0.33123	54.36
Total:				2.4999	0.000	0.609	100.00

**26 248515003/968241/1/1/**

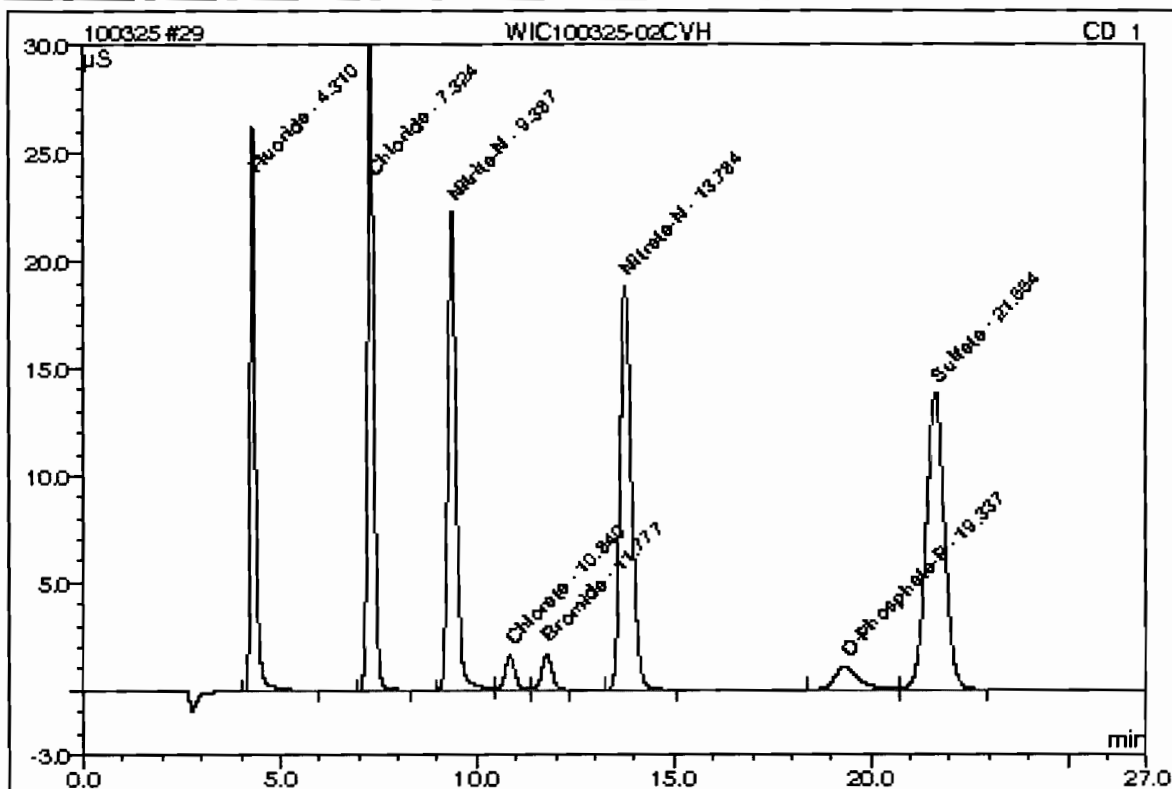
Sample Name:	248515003/968241/1/1/	Injection Volume:	50.0
Vial Number:	38	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/25/2010 8:55	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GCED86;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.30	Fluoride	n.a.	0.0864		0.01538	13.86
2	7.30	Chloride	n.a.	0.2443		0.03192	28.77
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
3	13.87	Nitrate-N	n.a.	0.1686		0.06368	57.38
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.4994	0.000	0.111	100.00

**29 WIC100325-02CVH**

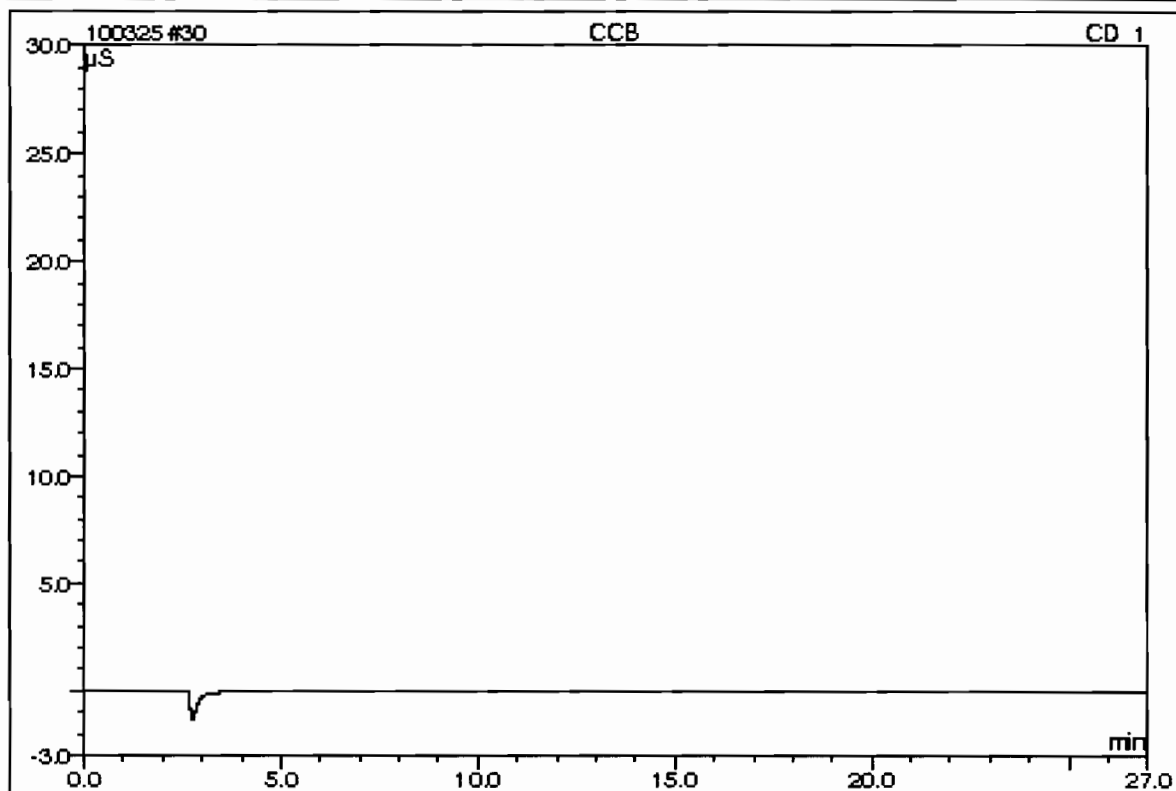
Sample Name:	WIC100325-02CVH	Injection Volume:	50.0
Vial Number:	41	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/25/2010 10:24	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.31	Fluoride	n.a.	7.7494		3.85838	12.78
2	7.32	Chloride	n.a.	14.9886		5.42184	17.96
3	9.39	Nitrite-N	n.a.	7.4976		5.47592	18.14
4	10.84	Chlorate	n.a.	3.7841		0.45499	1.51
5	11.78	Bromide	n.a.	3.7236		0.47778	1.58
6	13.78	Nitrate-N	n.a.	7.5210		6.32671	20.96
7	19.34	O-Phosphate-P	n.a.	2.7777		0.73186	2.42
8	21.65	Sulfate	n.a.	30.0356		7.43374	24.63
Total:				78.0777	0.000	30.181	100.00

**30 CCB**

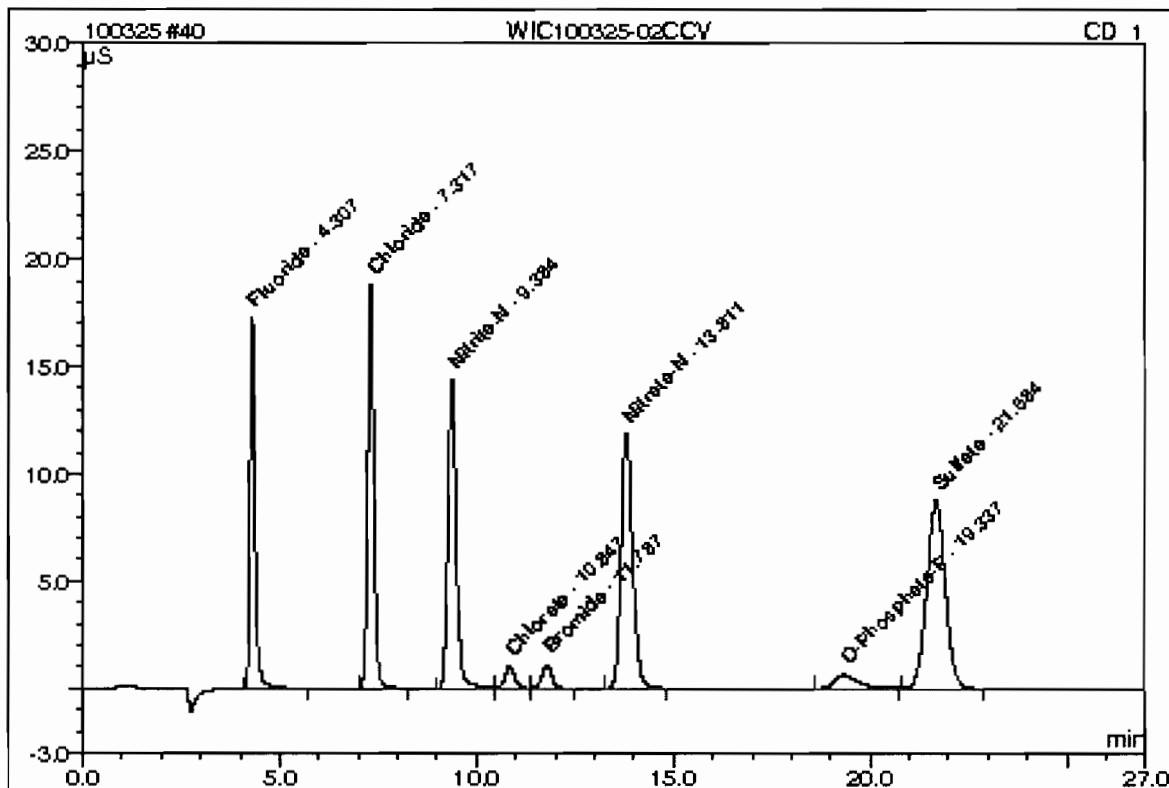
Sample Name:	CCB	Injection Volume:	50.0
Vial Number:	42	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/25/2010 10:54	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GC E086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

**40 WIC100325-02CCV**

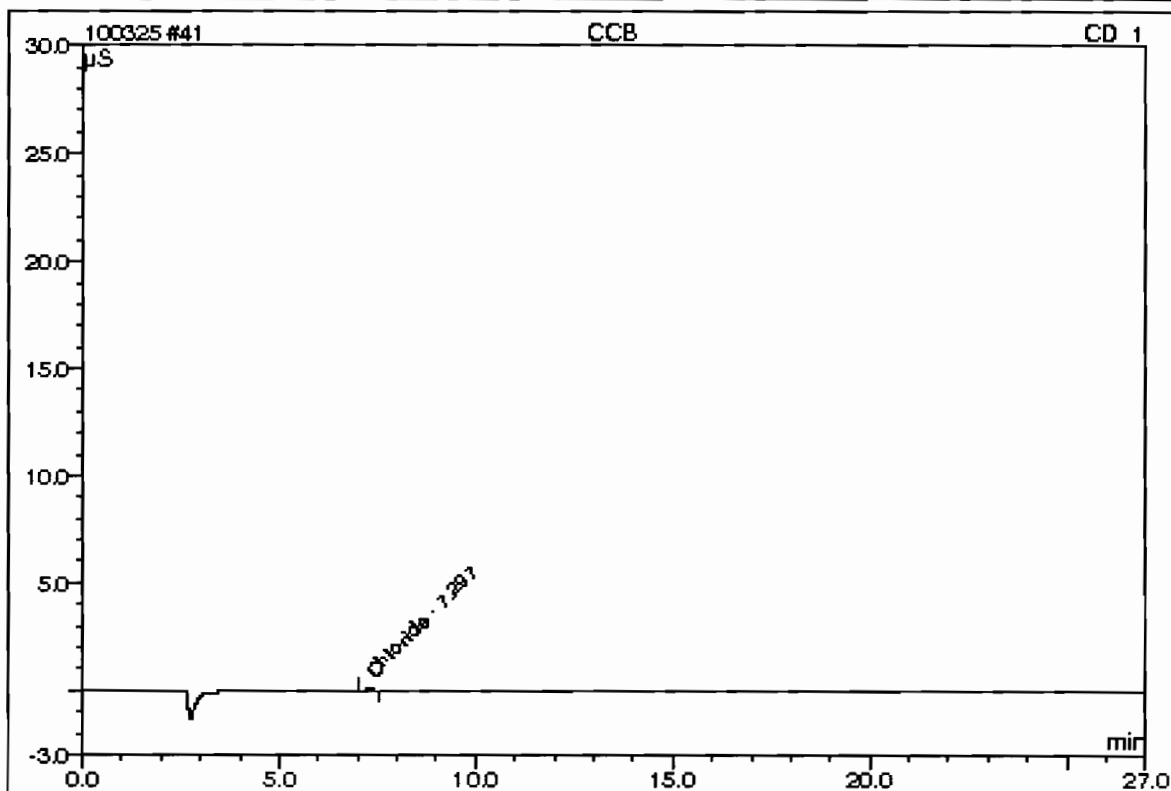
Sample Name:	WIC100325-02CCV	Injection Volume:	50.0
Vial Number:	2	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/25/2010 15:53	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GC E086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.31	Fluoride	n.a.	5.0443		2.50174	12.97
2	7.32	Chloride	n.a.	9.5331		3.42755	17.77
3	9.38	Nitrite-N	n.a.	4.8746		3.54854	18.40
4	10.85	Chlorate	n.a.	2.5311		0.30369	1.57
5	11.79	Bromide	n.a.	2.5039		0.32046	1.66
6	13.81	Nitrate-N	n.a.	4.7985		4.00758	20.78
7	19.34	O-Phosphate-P	n.a.	1.6430		0.43220	2.24
8	21.68	Sulfate	n.a.	19.2787		4.74428	24.60
Total:				50.2072	0.000	19.286	100.00

**41 CCB**

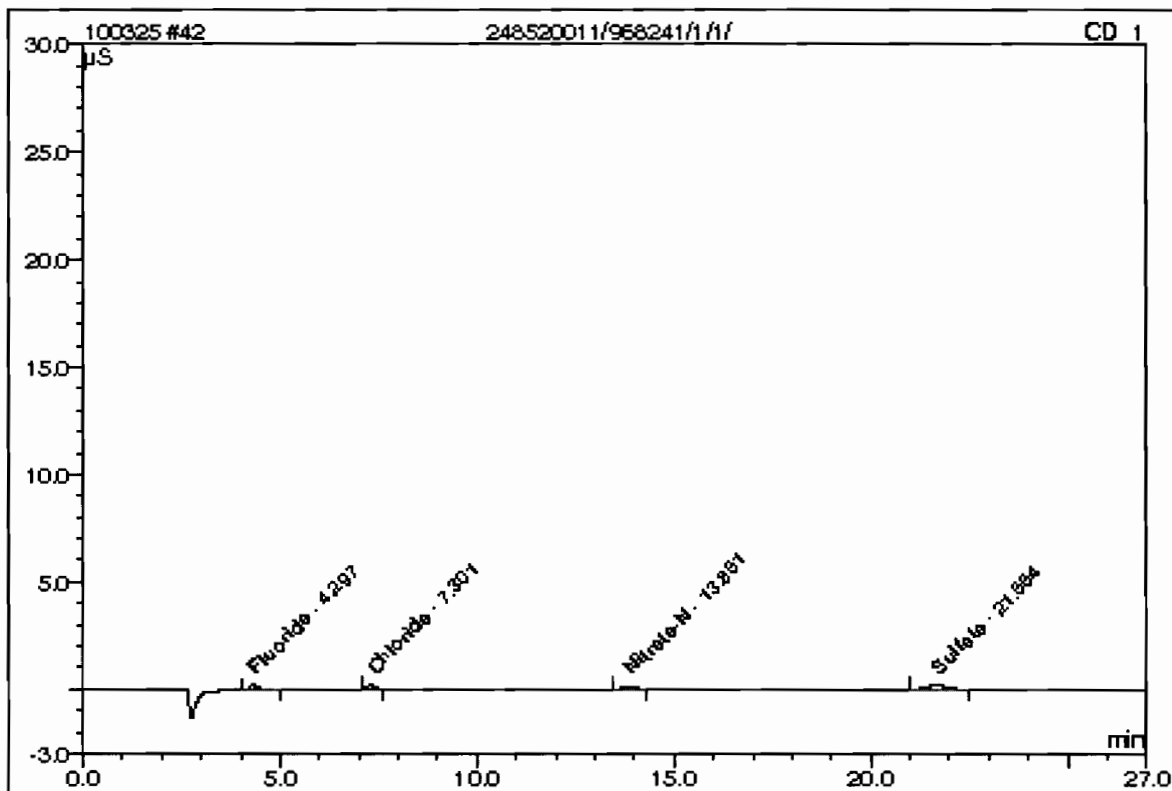
Sample Name:	CCB	Injection Volume:	50.0
Vial Number:	3	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/25/2010 16:23	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.30	Chloride	n.a.	0.1871		0.01101	100.00
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.1871	0.000	0.011	100.00

**42 248520011/968241/1/1/**

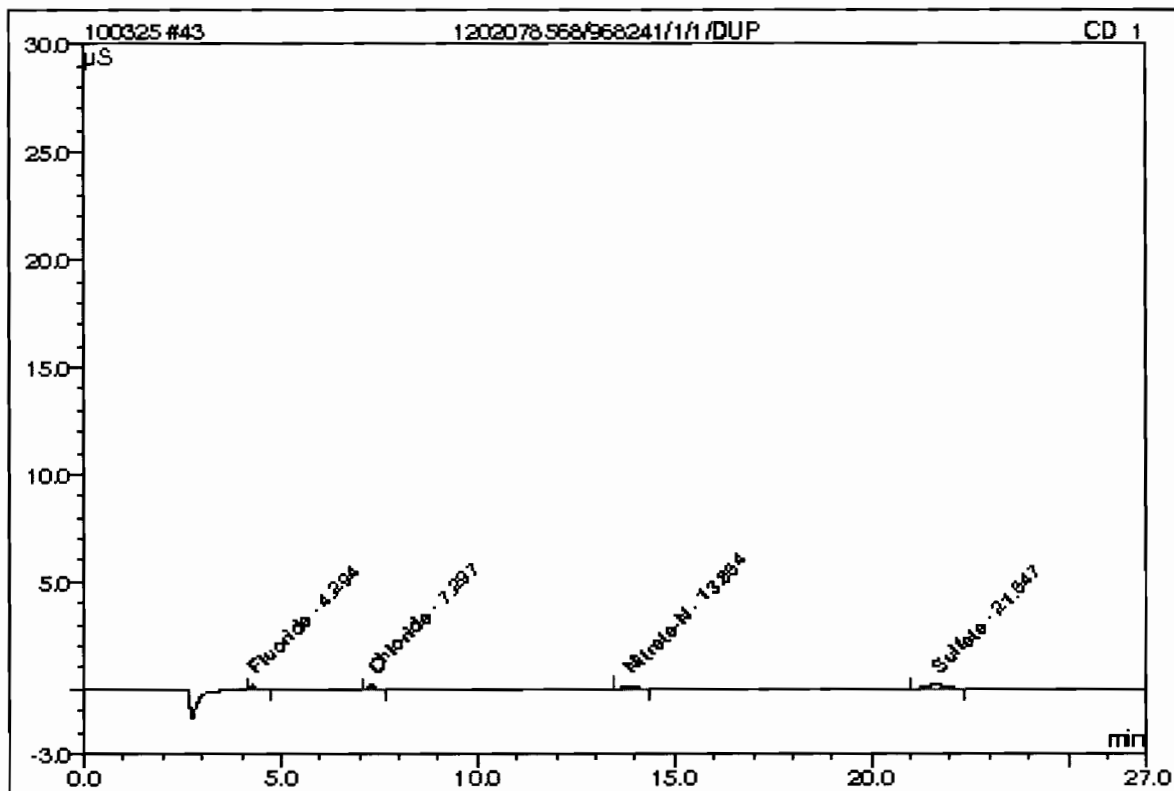
Sample Name:	248520011/968241/1/1/	Injection Volume:	50.0
Vial Number:	4	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/25/2010 16:52	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GC E086;300;9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
1	4.30	Fluoride	n.a.	0.1431		0.04382	19.29
2	7.30	Chloride	n.a.	0.2551		0.03586	15.79
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
3	13.86	Nitrate-N	n.a.	0.1479		0.04602	20.26
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
4	21.65	Sulfate	n.a.	0.7086		0.10141	44.65
Total:				1.2548	0.000	0.227	100.00

**43 1202078568/968241/1/1/DUP**

Sample Name:	1202078568/968241/1/1/DUP	Injection Volume:	50.0
Vial Number:	5	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/25/2010 17:22	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GC E086;300;9056

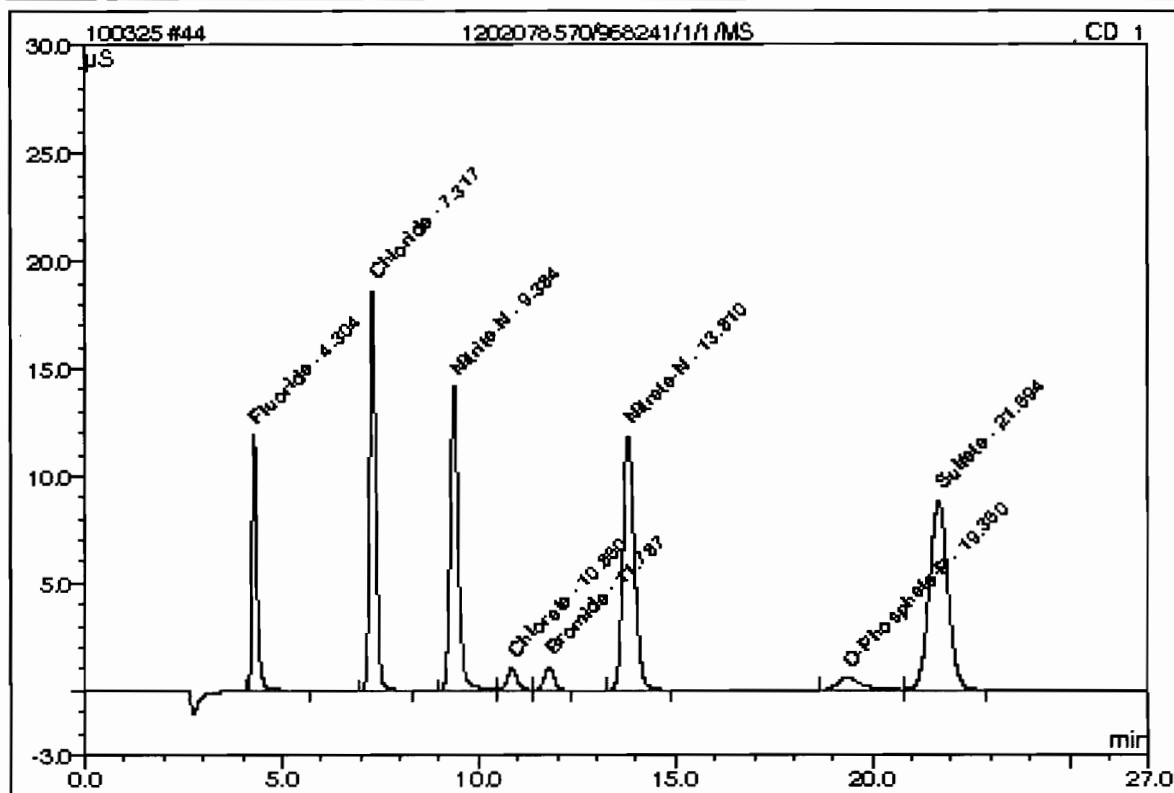


No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.29	Fluoride	n.a.	0.1102		0.02729	13.57
2	7.30	Chloride	n.a.	0.2405		0.03051	15.17
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
3	13.85	Nitrate-N	n.a.	0.1478		0.04590	22.82
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
4	21.85	Sulfate	n.a.	0.6926		0.09740	48.44
Total:				1.1910	0.000	0.201	100.00



**44 1202078570/968241/1/1/MS**

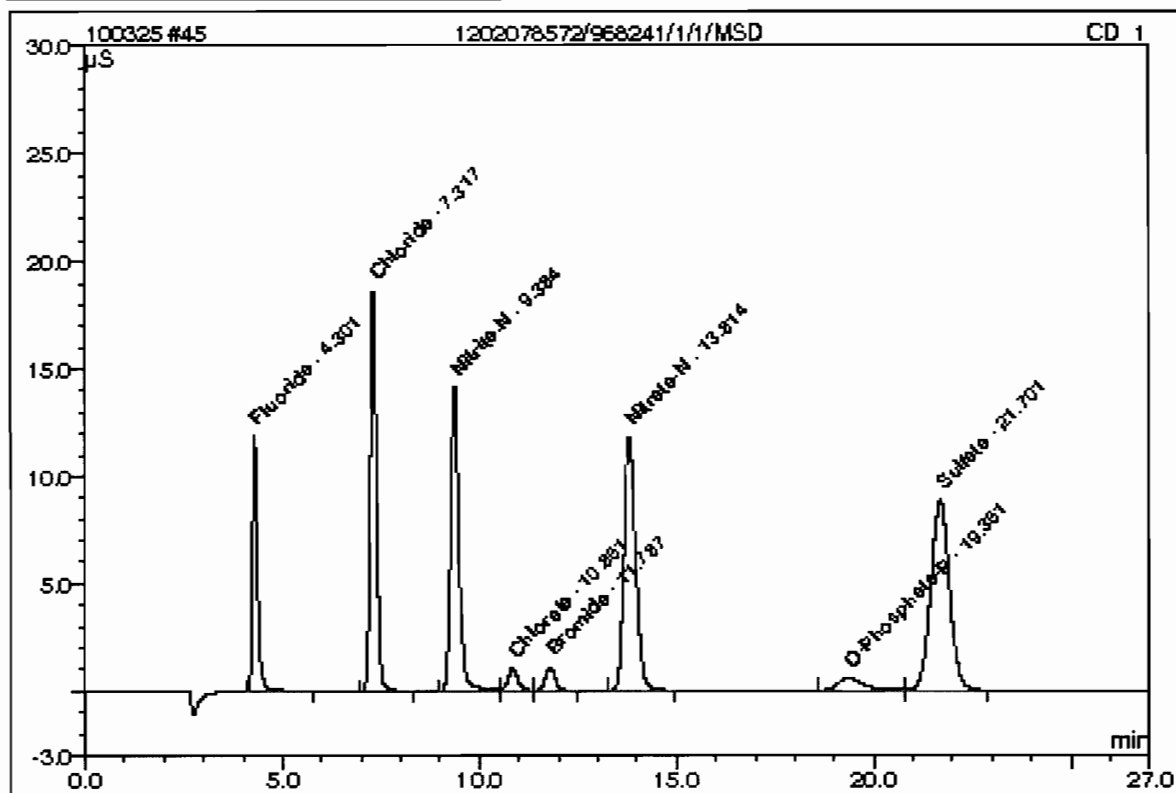
Sample Name:	1202078570/968241/1/1/MS	Injection Volume:	50.0
Vial Number:	6	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/25/2010 17:51	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GC E086;300;9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area $\mu\text{S}^2\text{min}$	Rel. Area %
1	4.30	Fluoride	n.a.	3.5221		1.73837	9.44
2	7.32	Chloride	n.a.	9.4280		3.38912	18.40
3	9.38	Nitrite-N	n.a.	4.7753		3.47562	18.87
4	10.85	Chlorate	n.a.	2.4770		0.29715	1.61
5	11.79	Bromide	n.a.	2.4331		0.31134	1.69
6	13.81	Nitrate-N	n.a.	4.7808		3.99249	21.67
7	19.36	O-Phosphate-P	n.a.	1.5413		0.40533	2.20
8	21.69	Sulfate	n.a.	19.5508		4.81233	26.12
Total:				48.5085	0.000	18.422	100.00

**45 1202078572/968241/1/1/MSD**

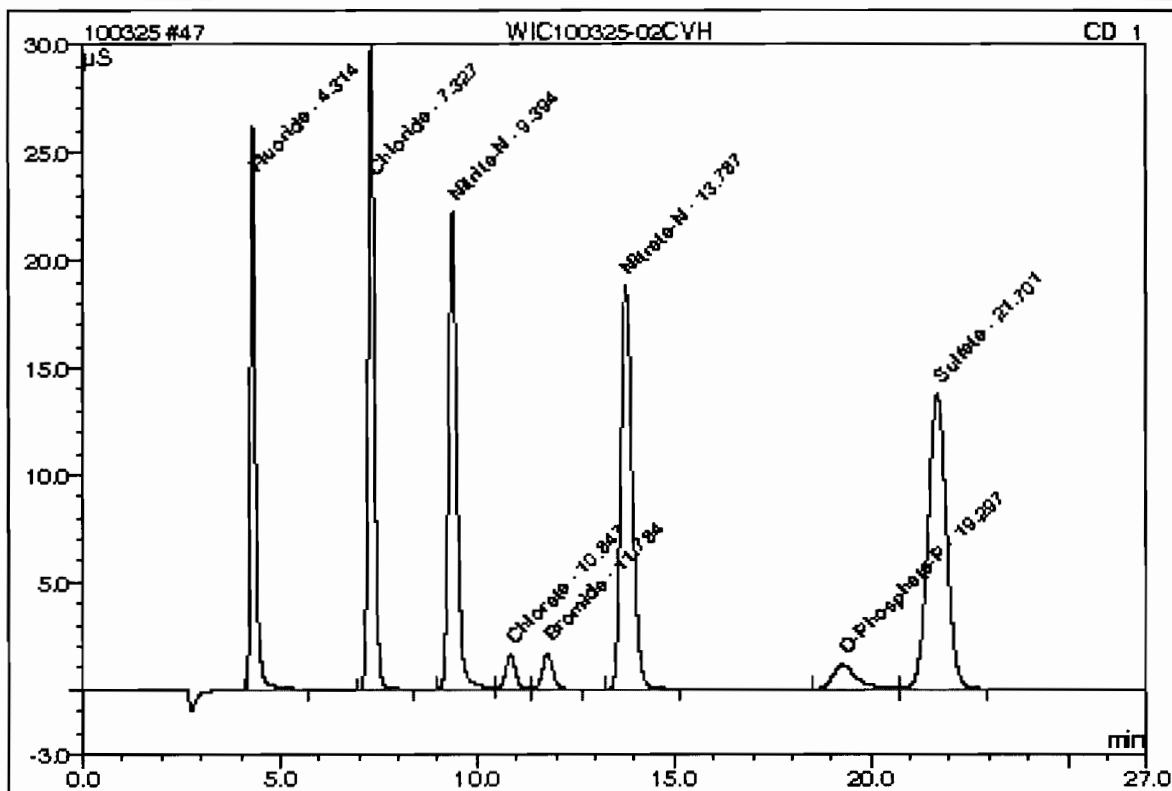
Sample Name:	1202078572/968241/1/1/MSD	Injection Volume:	50.0
Vial Number:	7	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/25/2010 18:21	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GC E086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area μS*min	Rel.Area %
1	4.30	Fluoride	n.a.	3.5251		1.73988	9.41
2	7.32	Chloride	n.a.	9.4255		3.38820	18.33
3	9.38	Nitrite-N	n.a.	4.7877		3.48472	18.86
4	10.85	Chlorate	n.a.	2.4841		0.29801	1.61
5	11.79	Bromide	n.a.	2.4782		0.31715	1.72
6	13.81	Nitrate-N	n.a.	4.7832		3.99452	21.61
7	19.35	O-Phosphate-P	n.a.	1.6084		0.42305	2.29
8	21.70	Sulfate	n.a.	19.6434		4.83548	26.16
Total:				48.7356	0.000	18.481	100.00

**47 WIC100325-02CVH**

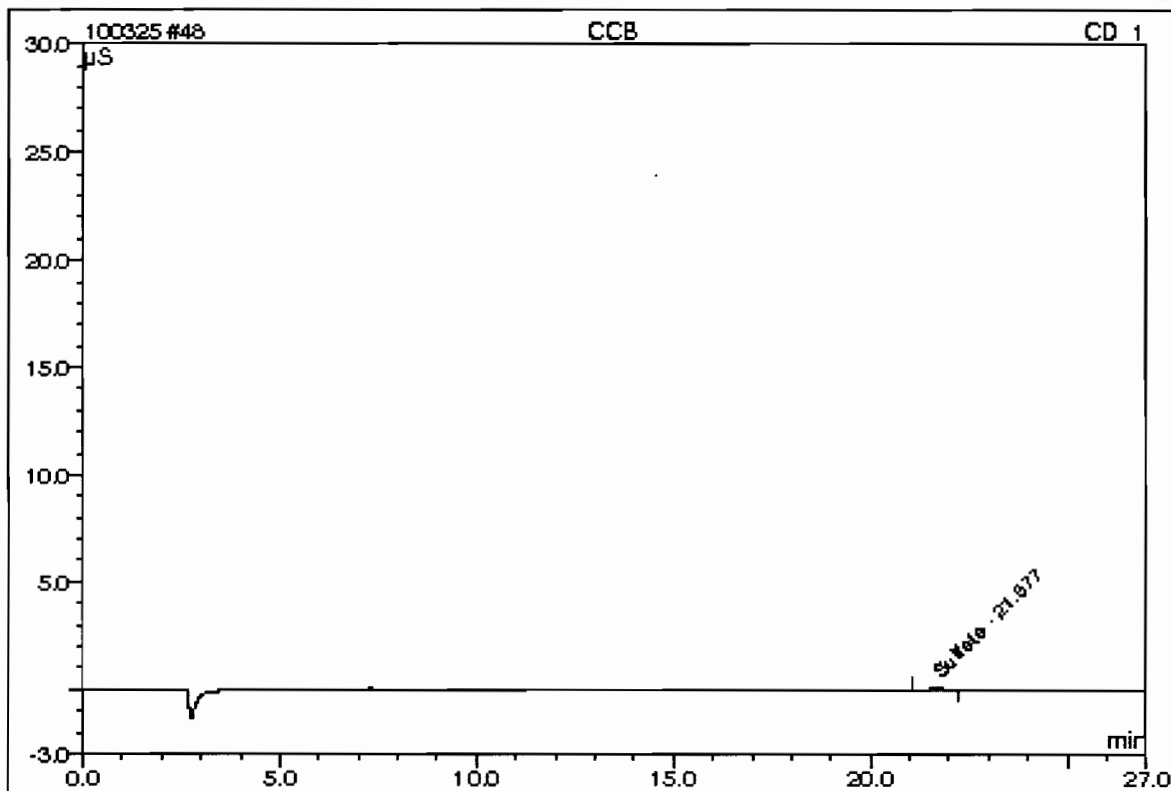
Sample Name:	WIC100325-02CVH	Injection Volume:	50.0
Vial Number:	9	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/25/2010 19:21	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GC E086;300;9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
1	4.31	Fluoride	n.a.	7.7291		3.84817	12.71
2	7.33	Chloride	n.a.	15.0072		5.42865	17.93
3	9.39	Nitrite-N	n.a.	7.5071		5.48285	18.11
4	10.85	Chlorate	n.a.	3.8727		0.46569	1.54
5	11.78	Bromide	n.a.	3.8605		0.49544	1.64
6	13.79	Nitrate-N	n.a.	7.5180		6.32417	20.89
7	19.30	O-Phosphate-P	n.a.	2.9296		0.77198	2.55
8	21.70	Sulfate	n.a.	30.1143		7.45342	24.62
Total:				78.5386	0.000	30.270	100.00

**48 CCB**

Sample Name:	CCB	Injection Volume:	50.0
Vial Number:	10	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100317an	Sample Amount:	1.0000
Recording Time:	3/25/2010 19:51	Analyst:	GXM3
Run Time (min):	27.00	Column:	AS23-002407; GL GC E086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area μS*min	Rel.Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
1	21.66	Sulfate	n.a.	0.3873		0.02108	100.00
Total:				0.3873	0.000	0.021	100.00

**pH**

1202061942	DUP	1	51	-0.751	0.0615	3/10/2010@12:05:48			
1202061944	MS	1	52	73.9	4.10	3/10/2010@12:06:40			
1202061946	MSD	1	53	86.2	4.76	3/10/2010@12:07:33			
248515002		1	54	10.0	0.646	3/10/2010@12:08:26			
1202061943	DUP	1	55	3.99	0.318	3/10/2010@12:09:19			
1202061945	MS	1	56	55.5	3.11	3/10/2010@12:10:11			
1202061947	MSD	1	57	70.4	3.91	3/10/2010@12:11:04			
248515003		1	58	1.39	0.177	3/10/2010@12:11:56			
248526001		1	59	0.704	0.140	3/10/2010@12:12:49			
248560001		1	60	-0.799	0.0590	3/10/2010@12:13:41			
WCN100310-03		1	S3	100	5.53	3/10/2010@12:14:33			CCV
Known Conc:				100					
DQM Test: > + Percent Relative Difference									
Result:				0.2 < 10.0					
Message				CCV Passed					
Action				Continue					
DQM Test: < - Percent Relative Difference									
Result:				0.2 < 10.0					
Message				CCV Passed					
Action				Continue					
WCN100310-08		1	S7	-1.48	0.0223	3/10/2010@12:16:23			CCB
Known Conc:				0.00					
DQM Test: > + Concentration Limit									
Result:				-1.48 < 5.00					
Message				CCB Passed					
Action				Continue					
DQM Test: < - Concentration Limit									
Result:				-1.48 > -5.00					
Message				CCB Passed					
Action				Continue					
248560002		1	61	-1.89	0.00	3/10/2010@12:18:13			
248560003		1	62	-0.0166	0.101	3/10/2010@12:19:08			
248560004		1	63	0.426	0.125	3/10/2010@12:20:02			
248560005		1	64	-0.706	0.0640	3/10/2010@12:20:55			
248560006		1	65	-0.316	0.0851	3/10/2010@12:21:49			
248560007		1	66	-1.15	0.0398	3/10/2010@12:22:42			
1202061965	961291 MB	1	67	-1.97	-0.00435	3/10/2010@12:23:36			
1202061967	LCS	1	68	-0.934	0.0516	3/10/2010@12:24:29			
247914001		1	69	5.31	0.389	3/10/2010@12:25:23			
247923001		1	70	30.3	1.74	3/10/2010@12:26:15			
WCN100310-03		1	S3	102	5.61	3/10/2010@12:27:07			CCV
Known Conc:				100					
DQM Test: > + Percent Relative Difference									
Result:				1.8 < 10.0					
Message				CCV Passed					
Action				Continue					
DQM Test: < - Percent Relative Difference									
Result:				1.8 < 10.0					
Message				CCV Passed					
Action				Continue					
WCN100310-08		1	S7	-1.89	-2.03e-4	3/10/2010@12:28:57			CCB
Known Conc:				0.00					
DQM Test: > + Concentration Limit									
Result:				-1.89 < 5.00					
Message				CCB Passed					
Action				Continue					
DQM Test: < - Concentration Limit									
Result:				-1.89 > -5.00					
Message				CCB Passed					
Action				Continue					
247927001		1	71	225	12.3	3/10/2010@12:30:46			
247930001		1	72	92.5	5.11	3/10/2010@12:31:39			
247933001		1	73	66.3	3.69	3/10/2010@12:32:31			
247939001		1	74	74.5	4.13	3/10/2010@12:33:24			
1202061966	DUP	1	75	60.7	3.39	3/10/2010@12:34:16			
247941001		1	76	42.1	2.38	3/10/2010@12:35:10			
247943001		1	77	80.7	4.47	3/10/2010@12:36:04			
247945001		1	78	0.195	0.113	3/10/2010@12:36:58			

# pH / Corrosivity LogBook

Analyst: TXT1  
 Batch: 961560  
 Lab SOP: GL-GC-E-008 REV# 17  
 Description: pH  
 Method: SW846 9045C/9045D

Type Sample Id Serial Number Description  
 CCV 240 IMM091029-PH PH 7 BUFFER FOR PH  
 LCS 1202062456 IMM100209-01 LCS BUFFER SOLUTION

Sample id	Parent Sample Id	Matrix	Start Time	Stop Time	Run Date	Parname	Initial Wt(g)	Final Vol(mL)	Ph	Temp	Nc(mg/L)	Recovery(%)	Rpd(%)
1202062456 LCS		Soil	10:15	10:20	05-MAR-10 16:43	pH	20	20	6.95	17.1°C	7	99.286	
1202062456 LCS		Soil	10:15	10:20	05-MAR-10 16:43	pH 2	20	20	6.95	16.9°C	7	99.286	
248511008		Soil	10:15	10:20	05-MAR-10 16:44	pH	20	20	6.47	18.8°C			
248511008		Soil	10:15	10:20	05-MAR-10 16:44	pH 2	20	20	6.45	18.8°C			
1202062454 DUP	248511008	Soil	10:15	10:20	05-MAR-10 16:48	pH	20	20	6.43	18.9°C			.62
1202062454 DUP	248511008	Soil	10:15	10:20	05-MAR-10 16:48	pH 2	20	20	6.42	18.9°C			.466
248511009		Soil	10:15	10:20	05-MAR-10 16:52	pH	20	20	7.68	18.9°C			
248511009		Soil	10:15	10:20	05-MAR-10 16:52	pH 2	20	20	7.68	18.9°C			
1202062455 DUP	248511009	Soil	10:15	10:20	05-MAR-10 16:53	pH	20	20	7.76	19.0°C			1.036
1202062455 DUP	248511009	Soil	10:15	10:20	05-MAR-10 16:53	pH 2	20	20	7.75	19.0°C			.907
CCV			10:15	10:20	05-MAR-10 16:55	pH	20	20	6.98	17.1°C	7	99.714	
CCV			10:15	10:20	05-MAR-10 16:55	pH 2	20	20	6.98	17.1°C	7	99.714	
248511010		Soil	10:15	10:20	05-MAR-10 16:56	pH	20	20	7.58	18.9°C			
248511010		Soil	10:15	10:20	05-MAR-10 16:56	pH 2	20	20	7.58	18.9°C			
248511011		Soil	10:15	10:20	05-MAR-10 16:59	pH	20	20	6.4	18.9°C			
248511011		Soil	10:15	10:20	05-MAR-10 16:59	pH 2	20	20	6.37	18.9°C			
248511012		Soil	10:15	10:20	05-MAR-10 17:02	pH	20	20	6.68	18.9°C			
248511012		Soil	10:15	10:20	05-MAR-10 17:02	pH 2	20	20	6.67	18.9°C			
248511013		Soil	10:15	10:20	05-MAR-10 17:04	pH	20	20	6.13	18.9°C			
248511013		Soil	10:15	10:20	05-MAR-10 17:04	pH 2	20	20	6.11	19.0°C			
248511014		Soil	10:15	10:20	05-MAR-10 17:05	pH	20	20	6.29	19.0°C			
248511014		Soil	10:15	10:20	05-MAR-10 17:05	pH 2	20	20	6.27	19.0°C			
CCV			10:15	10:20	05-MAR-10 17:07	pH	20	20	7	17.2°C	7	100	
CCV			10:15	10:20	05-MAR-10 17:07	pH 2	20	20	6.99	17.2°C	7	99.857	
248511015		Soil	10:15	10:20	05-MAR-10 17:08	pH	20	20	6.54	19.0°C			
248511015		Soil	10:15	10:20	05-MAR-10 17:08	pH 2	20	20	6.49	19.0°C			
248511016		Soil	10:15	10:20	05-MAR-10 17:10	pH	20	20	6.09	19.1°C			
248511016		Soil	10:15	10:20	05-MAR-10 17:10	pH 2	20	20	6.07	19.1°C			

# pH / Corrosivity LogBook

Analyst: TXT1

Batch: 961560

Lab SOP: GL-GC-E-008 REV# 17

Description: pH

Method: SW846 9045C/9045D

Type Sample Id Serial Number Description

CCV 240 IMM091029-PH PH 7 BUFFER FOR PH

LCS 1202062456 IMM100209-01 LCS BUFFER SOLUTION

Sample id	Parent Sample Id	Matrix	Start Time	Stop Time	Run Date	Parname	Initial Wt(g)	Final Vol(mL)	Ph	Temp	Nc(mg/L)	Recovery(%)	Rpd(%)
248511017		Soil	10:15	10:20	05-MAR-10 17:12	pH	20	20	5.74	19.1°C			
248511017		Soil	10:15	10:20	05-MAR-10 17:12	pH 2	20	20	5.71	19.1°C			
248511018		Soil	10:15	10:20	05-MAR-10 17:15	pH	20	20	6.44	19.1°C			
248511018		Soil	10:15	10:20	05-MAR-10 17:15	pH 2	20	20	6.41	19.1°C			
248511019		Soil	10:15	10:20	05-MAR-10 17:18	pH	20	20	5.59	19.1°C			
248511019		Soil	10:15	10:20	05-MAR-10 17:18	pH 2	20	20	5.57	19.1°C			
CCV			10:15	10:20	05-MAR-10 17:20	pH	20	20	7	17.3°C	7	100	
CCV			10:15	10:20	05-MAR-10 17:20	pH 2	20	20	7	17.3°C	7	100	
248511020		Soil	10:15	10:20	05-MAR-10 17:21	pH	20	20	6.13	19.0°C			
248511020		Soil	10:15	10:20	05-MAR-10 17:21	pH 2	20	20	6.12	19.1°C			
248515001		Soil	10:15	10:20	05-MAR-10 17:23	pH	20	20	5.48	19.1°C			
248515001		Soil	10:15	10:20	05-MAR-10 17:23	pH 2	20	20	5.48	19.1°C			
248515002		Soil	10:15	10:20	05-MAR-10 17:25	pH	20	20	6.19	19.2°C			
248515002		Soil	10:15	10:20	05-MAR-10 17:25	pH 2	20	20	6.17	19.3°C			
248515003		Soil	10:15	10:20	05-MAR-10 17:26	pH	20	20	6.46	19.3°C			
248515003		Soil	10:15	10:20	05-MAR-10 17:26	pH 2	20	20	6.49	19.4°C			
248517001		Soil	10:15	10:20	05-MAR-10 17:28	pH	20	20	6.69	19.2°C			
248517001		Soil	10:15	10:20	05-MAR-10 17:28	pH 2	20	20	6.69	19.3°C			
CCV			10:15	10:20	05-MAR-10 17:29	pH	20	20	7.01	17.5°C	7	100.143	
CCV			10:15	10:20	05-MAR-10 17:29	pH 2	20	20	7.01	17.5°C	7	100.143	
248520001		Soil	10:15	10:20	05-MAR-10 17:30	pH	20	20	6.15	19.5°C			
248520001		Soil	10:15	10:20	05-MAR-10 17:30	pH 2	20	20	6.12	19.5°C			
248520002		Soil	10:15	10:20	05-MAR-10 17:33	pH	20	20	6.29	19.4°C			
248520002		Soil	10:15	10:20	05-MAR-10 17:33	pH 2	20	20	6.31	19.5°C			
248520003		Soil	10:15	10:20	05-MAR-10 17:35	pH	20	20	6.8	19.5°C			
248520003		Soil	10:15	10:20	05-MAR-10 17:35	pH 2	20	20	6.79	19.5°C			
CCV			10:15	10:20	05-MAR-10 17:38	pH	20	20	7.03	17.9°C	7	100.429	
CCV			10:15	10:20	05-MAR-10 17:38	pH 2	20	20	7.02	17.9°C	7	100.286	



pH / Corrosivity LogBook

Calibration Information: Run Date: 05-MAR-10 08:00 Instrument: PHX370 Analyst: TXT1 Comments:

Standard	Observed	Theoretical	C	%Recovery
IMM100305-PH1	4	4	21.4	100
IMM100305-PH2	6.99	7	21.4	99.857
UPH100305-PH3	9.97	10	21.4	99.7
UPH100305-PH4	2.02	2	21.4	101
UPH100305-PH5	11.94	12	21.4	99.5
IMM100305-PH6	6.98	7	21.4	99.714

# Miscellaneous

### DATA EXCEPTION REPORT

<b>Mo.Day Yr.</b> 10-MAR-10	<b>Division:</b> Industrial	<b>Quality Criteria:</b> Specifications	<b>Type:</b> Process
<b>Instrument Type:</b> LACHAT Flow Injection Analyzer	<b>Test / Method:</b> SW846 9012A	<b>Matrix Type:</b> Solid	<b>Client Code:</b> CARE, LANL
<b>Batch ID:</b> 961284	<b>Sample Numbers:</b> See Below		
<p><b>Potentially affected work order(s)(SDG):</b> 247914(EUI-7522),247923(EUI-7523),247927(EUI-7524),247930(EUI-7525),247933(EUI-7526),247939(EUI-7527),247941(EUI-7528),247943(EUI-7529),247945(EUI-7530),248515(10-2197),248526(10-2202),248560(10-2217-1)</p> <p><b>Application Issues:</b></p> <p>Failed Recovery for MS/PS Failed RPD for DUP Failed Recovery for MSD/PSD</p>			
<b>Specification and Requirements Exception Description:</b>		<b>DER Disposition:</b>	
<p>1. Failed RPD for DUP:</p> <p>QC 1202061943DUP</p> <p>2. Failed recovery for MS:</p> <p>QC 1202061944MS</p> <p>3. Failed recovery for MS/MSD:</p> <p>QC 1202061945MS 1202061947MSD</p>		<p>1. The relative percent difference (RPD) between the sample and its duplicate falls outside of the required acceptance limits due to the heterogenous matrix of the sample Soil sample).</p> <p>2. The spike recovery falls outside of the client specified acceptance limits. Since both the spike duplicate recovery and the RPD between the spike and spike duplicate fall within acceptance limits, the data is reported.</p> <p>3. The matrix spike falls outside of the client specified acceptance limits due to matrix interference. The matrix spike duplicate verified the result with a passing RPD.</p>	

**Originator's Name:**

Ashley Earl 10-MAR-10

**Data Validator/Group Leader:**

Elzbieta Szulc 11-MAR-10

# **General Chemistry**

## **Analysis**

# Case Narrative

**General Chemistry Narrative  
Los Alamos National Laboratory (LANL)  
SDG 10-2197-1**

**Method/Analysis Information**

<b>Product:</b>	<b>Cyanide, Total</b>		
<b>Analytical Batch:</b>	958168	<b>Method:</b>	SW9012A Cyanide and Total
<b>Prep Batch :</b>	958167	<b>Method:</b>	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>
248516001	RE36-10-7537
248516002	RE36-10-7536
1202054789	Method Blank (MB)
1202054790	248010001(RE46-10-13185) Sample Duplicate (DUP)
1202054791	248044002(CAPA-10-12771) Sample Duplicate (DUP)
1202054792	248010001(RE46-10-13185) Matrix Spike (MS)
1202054793	248044002(CAPA-10-12771) Matrix Spike (MS)
1202054794	248010001(RE46-10-13185) Matrix Spike Duplicate (MSD)
1202054795	248044002(CAPA-10-12771) Matrix Spike Duplicate (MSD)
1202054796	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: 248010001 (RE46-10-13185) and 248044002 (CAPA-10-12771).

**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: Nick Del. Emore Date: 3.27.10

# 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: 10-2197-1 GEL Work Order: 248516

**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

Nickel E. Moore 3.27.10

# 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, Rm111  
Los Alamos, New Mexico 87545  
Contact: Ms. Joylene Valdez  
Project: **LANL ER Project**

Report Date: March 24, 2010

Client SDG: 10-2197-1

Client Sample ID: RE36-10-7537  
Sample ID: 248516001  
Matrix: W  
Collect Date: 25-FEB-10 12:00  
Receive Date: 03-MAR-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	03/08/10	1056	958168	1

### **The following Prep Methods were performed**

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	03/05/10	1535	958167

### **The following Analytical Methods were performed**

Method	Description	Analyst Comments
1	SW846 9012A	

# GEL LABORATORIES LLC

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## Certificate of Analysis

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

Report Date: March 24, 2010

Client SDG: 10-2197-1

Client Sample ID: RE36-10-7536  
Sample ID: 248516002  
Matrix: W  
Collect Date: 25-FEB-10 12:00  
Receive Date: 03-MAR-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	03/08/10	1057	958168	1

### **The following Prep Methods were performed**

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	03/05/10	1535	958167

### **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: March 24, 2010

Page 1 of 2

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

Contact: Ms. Joylene Valdez

Workorder: 248516

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Flow Injection Analysis											
Batch	958168										
QC1202054790	248010001	DUP									
Cyanide, Total		U	ND	U	ND	ug/L	N/A		AXC2	03/08/10	10:41
QC1202054791	248044002	DUP									
Cyanide, Total		U	ND	U	ND	ug/L	N/A			03/08/10	10:53
QC1202054796	LCS										
Cyanide, Total	50.0				50.4	ug/L	101	(90%-110%)		03/08/10	10:39
QC1202054789	MB										
Cyanide, Total			U		5.00	ug/L				03/08/10	10:38
QC1202054792	248010001	MS									
Cyanide, Total	100	U	ND		114	ug/L	114	(60%-144%)		03/08/10	10:41
QC1202054793	248044002	MS									
Cyanide, Total	100	U	ND		113	ug/L	113	(60%-144%)		03/08/10	10:54
QC1202054794	248010001	MSD									
Cyanide, Total	100	U	ND		111	ug/L	2.67	111	(0%-20%)	03/08/10	10:42
QC1202054795	248044002	MSD									
Cyanide, Total	100	U	ND		94.5	ug/L	17.8	94.5	(0%-20%)	03/08/10	10:55

### 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

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

### QC Summary

Workorder: 248516

Page 2 of 2

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: 24-MAR-2010 18:49

**GEL Laboratories LLC**

**Contract: LANL01004**

**SDG #: 10-2197-1**

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
<b>ICV</b>	<b>08-MAR-2010 10:32:54</b>	<b>OM_3-8-2010_10-24-48</b>	<b>147</b>	<b>150</b>	<b>98</b>	<b>(90%-110%)</b>	<b>Yes</b>
CCV	08-MAR-2010 10:47:11	OM_3-8-2010_10-24-48	105	100	105	(90%-110%)	Yes
CCV	08-MAR-2010 10:59:36	OM_3-8-2010_10-24-48	107	100	107	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
<b>ICB</b>	<b>08-MAR-2010 10:34:44</b>	<b>OM_3-8-2010_10-24-48</b>	<b>-1.65</b>	<b>10</b>	<b>Yes</b>
CCB	08-MAR-2010 10:49:01	OM_3-8-2010_10-24-48	-1.67	10	Yes
CCB	08-MAR-2010 11:01:27	OM_3-8-2010_10-24-48	-1.82	10	Yes

# Cyanide, Total

## Cyanide Sample Distillation

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1202054796	Secondary source standard for CN and phenol. Used to spike LCS, MS, ICV	URF1269274-02	.0125	mL
MS	1202054792	Secondary source standard for CN and phenol. Used to spike LCS, MS, ICV	URF1269274-02	.025	mL
MS	1202054793	Secondary source standard for CN and phenol. Used to spike LCS, MS, ICV	URF1269274-02	.025	mL
MSD	1202054794	Secondary source standard for CN and phenol. Used to spike LCS, MS, ICV	URF1269274-02	.025	mL
MSD	1202054795	Secondary source standard for CN and phenol. Used to spike LCS, MS, ICV	URF1269274-02	.025	mL

Sample ID	Run Date	Matrix	Initial Volume (mL)	Final Volume (mL)	Prep Factor (mL/mL)	pH Check
1202054789 MB	05-MAR-2010 15:35:00	Water	25	25	1	>12
1202054796 LCS	05-MAR-2010 15:35:00	Water	25	25	1	>12
248010001	05-MAR-2010 15:35:00	Water	25	25	1	>12
1202054790 DUP (248010001)	05-MAR-2010 15:35:00	Water	25	25	1	>12
1202054792 MS (248010001)	05-MAR-2010 15:35:00	Water	25	25	1	>12
1202054794 MSD (248010001)	05-MAR-2010 15:35:00	Water	25	25	1	>12
248010002	05-MAR-2010 15:35:00	Water	25	25	1	>12
248019001	05-MAR-2010 15:35:00	Water	25	25	1	>12
248019002	05-MAR-2010 15:35:00	Water	25	25	1	>12
248023002	05-MAR-2010 15:35:00	Ground Water	25	25	1	>12
248024001	05-MAR-2010 15:35:00	Ground Water	25	25	1	>12
248024003	05-MAR-2010 15:35:00	Ground Water	25	25	1	>12
248044002	05-MAR-2010 15:35:00	Ground Water	25	25	1	>12
1202054791 DUP (248044002)	05-MAR-2010 15:35:00	Ground Water	25	25	1	>12
1202054793 MS (248044002)	05-MAR-2010 15:35:00	Ground Water	25	25	1	>12
1202054795 MSD (248044002)	05-MAR-2010 15:35:00	Ground Water	25	25	1	>12
248401005	05-MAR-2010 15:35:00	Ground Water	25	25	1	>12
248516001	05-MAR-2010 15:35:00	Water	25	25	1	>12
248516002	05-MAR-2010 15:35:00	Water	25	25	1	>12
248518001	05-MAR-2010 15:35:00	Water	25	25	1	>12

**GEL Laboratories LLC**

## Prep Logbook

**Batch ID:** 958167.0  
**Analyst:** Alan Stanley  
**Method:** SW846 9010B Prep EPA 335.4  
**Lab SOP:** GL-GC-E-067 REV# 13  
**Instrument:** Sartorius Balance B-007

Verified by:

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1202054796	Secondary source standard for CN and phenol. Used to spike LCS, MS, ICV	URF1269274-02	.0125	mL
MS	1202054792	Secondary source standard for CN and phenol. Used to spike LCS, MS, ICV	URF1269274-02	.025	mL
MS	1202054793	Secondary source standard for CN and phenol. Used to spike LCS, MS, ICV	URF1269274-02	.025	mL
MSD	1202054794	Secondary source standard for CN and phenol. Used to spike LCS, MS, ICV	URF1269274-02	.025	mL
MSD	1202054795	Secondary source standard for CN and phenol. Used to spike LCS, MS, ICV	URF1269274-02	.025	mL

Sample ID	Run Date	Matrix	Initial Volume (mL)	Final Volume (mL)	Prep Factor (mL/mL)	pH Check
248533001	05-MAR-2010 15:35:00	Water	25	25	1	>12
248548001	05-MAR-2010 15:35:00	Ground Water	25	25	1	>12
248548003	05-MAR-2010 15:35:00	Ground Water	25	25	1	>12
248551001	05-MAR-2010 15:35:00	Water	25	25	1	>12
248551002	05-MAR-2010 15:35:00	Water	25	25	1	>12
248555002	05-MAR-2010 15:35:00	Ground Water	25	25	1	>12

### Comments:

Reagent/Solvent Lot ID	Description	Amount
1260189-C	50% H2SO4 CN Prep	2.5 mL
1270661-C	Bismuth Nitrate Solution	1.25 mL
1270663-C	0.8N H3NO3S	1.25 mL
1270669-C	51% MgCl2 Soln	1 mL
1273851-C	0.25N Sodium Hydroxide Solution	25 mL
WCN100305-07	150 ppb CN Distilled ICV Standard	.0375 mL

Analytical Logbook version 1 11-04-2002

GEL Laboratories LLC

This is runlog Lachat1

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
200 ppb		1	axc2	3/8/2010 10:25:45	OM_3-8-2010_10-24-48
150 ppb		1	axc2	3/8/2010 10:26:37	OM_3-8-2010_10-24-48
100 ppb		1	axc2	3/8/2010 10:27:29	OM_3-8-2010_10-24-48
50 ppb		1	axc2	3/8/2010 10:28:22	OM_3-8-2010_10-24-48
10 ppb		1	axc2	3/8/2010 10:29:15	OM_3-8-2010_10-24-48
CRDL 5.0 ppb		1	axc2	3/8/2010 10:30:09	OM_3-8-2010_10-24-48
ICAL-00		1	axc2	3/8/2010 10:31:03	OM_3-8-2010_10-24-48
ICV		1	axc2	3/8/2010 10:32:54	OM_3-8-2010_10-24-48
ICB		1	axc2	3/8/2010 10:34:44	OM_3-8-2010_10-24-48
CRDL		1	axc2	3/8/2010 10:36:34	OM_3-8-2010_10-24-48
1202054789	958168	1	axc2	3/8/2010 10:38:23	OM_3-8-2010_10-24-48
1202054796	958168	1	axc2	3/8/2010 10:39:17	OM_3-8-2010_10-24-48
248010001	958168	1	axc2	3/8/2010 10:40:10	OM_3-8-2010_10-24-48
1202054790	958168	1	axc2	3/8/2010 10:41:03	OM_3-8-2010_10-24-48
1202054792	958168	1	axc2	3/8/2010 10:41:56	OM_3-8-2010_10-24-48
1202054794	958168	1	axc2	3/8/2010 10:42:48	OM_3-8-2010_10-24-48
248010002	958168	1	axc2	3/8/2010 10:43:42	OM_3-8-2010_10-24-48
248019001	958168	1	axc2	3/8/2010 10:44:34	OM_3-8-2010_10-24-48
248019002	958168	1	axc2	3/8/2010 10:45:26	OM_3-8-2010_10-24-48
248023002	958168	1	axc2	3/8/2010 10:46:19	OM_3-8-2010_10-24-48
CCV		1	axc2	3/8/2010 10:47:11	OM_3-8-2010_10-24-48
CCB		1	axc2	3/8/2010 10:49:01	OM_3-8-2010_10-24-48
248024001	958168	1	axc2	3/8/2010 10:50:50	OM_3-8-2010_10-24-48
248024003	958168	1	axc2	3/8/2010 10:51:41	OM_3-8-2010_10-24-48
248044002	958168	1	axc2	3/8/2010 10:52:34	OM_3-8-2010_10-24-48
1202054791	958168	1	axc2	3/8/2010 10:53:25	OM_3-8-2010_10-24-48
1202054793	958168	1	axc2	3/8/2010 10:54:17	OM_3-8-2010_10-24-48
1202054795	958168	1	axc2	3/8/2010 10:55:10	OM_3-8-2010_10-24-48
248401005	958168	1	axc2	3/8/2010 10:56:04	OM_3-8-2010_10-24-48
248516001	958168	1	axc2	3/8/2010 10:56:58	OM_3-8-2010_10-24-48
248516002	958168	1	axc2	3/8/2010 10:57:51	OM_3-8-2010_10-24-48
248518001	958168	1	axc2	3/8/2010 10:58:44	OM_3-8-2010_10-24-48
CCV		1	axc2	3/8/2010 10:59:36	OM_3-8-2010_10-24-48
CCB		1	axc2	3/8/2010 11:01:27	OM_3-8-2010_10-24-48
248533001	958168	1	axc2	3/8/2010 11:03:16	OM_3-8-2010_10-24-48
248548001	958168	1	axc2	3/8/2010 11:04:09	OM_3-8-2010_10-24-48
248548003	958168	1	axc2	3/8/2010 11:05:01	OM_3-8-2010_10-24-48
248551001	958168	1	axc2	3/8/2010 11:05:54	OM_3-8-2010_10-24-48
248551002	958168	1	axc2	3/8/2010 11:06:46	OM_3-8-2010_10-24-48
248555002	958168	1	axc2	3/8/2010 11:07:39	OM_3-8-2010_10-24-48
1202059721	960271	1	axc2	3/8/2010 11:08:31	OM_3-8-2010_10-24-48
1202059731	960271	1	axc2	3/8/2010 11:09:23	OM_3-8-2010_10-24-48
248072001	960271	1	axc2	3/8/2010 11:10:15	OM_3-8-2010_10-24-48
1202059722	960271	1	axc2	3/8/2010 11:11:06	OM_3-8-2010_10-24-48
CCV		1	axc2	3/8/2010 11:11:59	OM_3-8-2010_10-24-48
CCB		1	axc2	3/8/2010 11:13:49	OM_3-8-2010_10-24-48
1202059725	960271	1	axc2	3/8/2010 11:15:40	OM_3-8-2010_10-24-48
1202059728	960271	1	axc2	3/8/2010 11:16:33	OM_3-8-2010_10-24-48
248072002	960271	1	axc2	3/8/2010 11:17:27	OM_3-8-2010_10-24-48
248072003	960271	1	axc2	3/8/2010 11:18:21	OM_3-8-2010_10-24-48
248097001	960271	1	axc2	3/8/2010 11:19:14	OM_3-8-2010_10-24-48
1202059724	960271	1	axc2	3/8/2010 11:20:07	OM_3-8-2010_10-24-48
1202059727	960271	1	axc2	3/8/2010 11:21:00	OM_3-8-2010_10-24-48
1202059730	960271	1	axc2	3/8/2010 11:21:53	OM_3-8-2010_10-24-48
248097002	960271	1	axc2	3/8/2010 11:22:47	OM_3-8-2010_10-24-48
248097003	960271	1	axc2	3/8/2010 11:23:38	OM_3-8-2010_10-24-48
CCV		1	axc2	3/8/2010 11:24:31	OM_3-8-2010_10-24-48
CCB		1	axc2	3/8/2010 11:26:21	OM_3-8-2010_10-24-48

248097004	960271	1	axc2	3/8/2010	11:28:09	OM_3-8-2010_10-24-48
248298001	960271	1	axc2	3/8/2010	11:29:02	OM_3-8-2010_10-24-48
248298002	960271	1	axc2	3/8/2010	11:29:53	OM_3-8-2010_10-24-48
248298003	960271	1	axc2	3/8/2010	11:30:46	OM_3-8-2010_10-24-48
248303001	960271	1	axc2	3/8/2010	11:31:38	OM_3-8-2010_10-24-48
248337001	960271	1	axc2	3/8/2010	11:32:32	OM_3-8-2010_10-24-48
248375001	960271	1	axc2	3/8/2010	11:33:26	OM_3-8-2010_10-24-48
248375002	960271	1	axc2	3/8/2010	11:34:19	OM_3-8-2010_10-24-48
248397001	960271	1	axc2	3/8/2010	11:35:14	OM_3-8-2010_10-24-48
248397002	960271	1	axc2	3/8/2010	11:36:06	OM_3-8-2010_10-24-48
CCV		1	axc2	3/8/2010	11:37:00	OM_3-8-2010_10-24-48
CCB		1	axc2	3/8/2010	11:38:51	OM_3-8-2010_10-24-48
248407001	960271	1	axc2	3/8/2010	11:40:39	OM_3-8-2010_10-24-48
1202059723	960271	1	axc2	3/8/2010	11:41:33	OM_3-8-2010_10-24-48
1202059726	960271	1	axc2	3/8/2010	11:42:26	OM_3-8-2010_10-24-48
1202059729	960271	1	axc2	3/8/2010	11:43:19	OM_3-8-2010_10-24-48
248419001	960271	1	axc2	3/8/2010	11:44:11	OM_3-8-2010_10-24-48
248419002	960271	1	axc2	3/8/2010	11:45:04	OM_3-8-2010_10-24-48
1202053300	957584	1	axc2	3/8/2010	11:45:57	OM_3-8-2010_10-24-48
1202053310	957584	1	axc2	3/8/2010	11:46:49	OM_3-8-2010_10-24-48
247829002	957584	1	axc2	3/8/2010	11:47:41	OM_3-8-2010_10-24-48
1202053302	957584	1	axc2	3/8/2010	11:48:33	OM_3-8-2010_10-24-48
CCV		1	axc2	3/8/2010	11:49:26	OM_3-8-2010_10-24-48
CCB		1	axc2	3/8/2010	11:51:15	OM_3-8-2010_10-24-48
1202053305	957584	1	axc2	3/8/2010	11:53:05	OM_3-8-2010_10-24-48
1202053308	957584	1	axc2	3/8/2010	11:54:00	OM_3-8-2010_10-24-48
247865010	957584	1	axc2	3/8/2010	11:54:55	OM_3-8-2010_10-24-48
247865012	957584	1	axc2	3/8/2010	11:55:48	OM_3-8-2010_10-24-48
1202053303	957584	1	axc2	3/8/2010	11:56:41	OM_3-8-2010_10-24-48
1202053306	957584	1	axc2	3/8/2010	11:57:35	OM_3-8-2010_10-24-48
1202053309	957584	1	axc2	3/8/2010	11:58:28	OM_3-8-2010_10-24-48
247865013	957584	1	axc2	3/8/2010	11:59:21	OM_3-8-2010_10-24-48
247865014	957584	1	axc2	3/8/2010	12:00:15	OM_3-8-2010_10-24-48
247865015	957584	1	axc2	3/8/2010	12:01:07	OM_3-8-2010_10-24-48
CCV		1	axc2	3/8/2010	12:02:00	OM_3-8-2010_10-24-48
CCB		1	axc2	3/8/2010	12:03:51	OM_3-8-2010_10-24-48
247865016	957584	1	axc2	3/8/2010	12:05:41	OM_3-8-2010_10-24-48
247865017	957584	1	axc2	3/8/2010	12:06:33	OM_3-8-2010_10-24-48
247865018	957584	1	axc2	3/8/2010	12:07:25	OM_3-8-2010_10-24-48
247865019	957584	1	axc2	3/8/2010	12:08:18	OM_3-8-2010_10-24-48
247865020	957584	1	axc2	3/8/2010	12:09:10	OM_3-8-2010_10-24-48
247866001	957584	1	axc2	3/8/2010	12:10:05	OM_3-8-2010_10-24-48
247919001	957584	1	axc2	3/8/2010	12:10:59	OM_3-8-2010_10-24-48
247919002	957584	1	axc2	3/8/2010	12:11:53	OM_3-8-2010_10-24-48
247922004	957584	1	axc2	3/8/2010	12:12:48	OM_3-8-2010_10-24-48
1202053301	957584	1	axc2	3/8/2010	12:13:41	OM_3-8-2010_10-24-48
CCV		1	axc2	3/8/2010	12:14:34	OM_3-8-2010_10-24-48
CCB		1	axc2	3/8/2010	12:16:24	OM_3-8-2010_10-24-48
1202053304	957584	1	axc2	3/8/2010	12:18:14	OM_3-8-2010_10-24-48
1202053307	957584	1	axc2	3/8/2010	12:19:07	OM_3-8-2010_10-24-48
248164004	957584	1	axc2	3/8/2010	12:20:01	OM_3-8-2010_10-24-48
248382002	957584	1	axc2	3/8/2010	12:20:54	OM_3-8-2010_10-24-48
248382003	957584	1	axc2	3/8/2010	12:21:47	OM_3-8-2010_10-24-48
248401002	957584	1	axc2	3/8/2010	12:22:40	OM_3-8-2010_10-24-48
248401004	957584	1	axc2	3/8/2010	12:23:33	OM_3-8-2010_10-24-48
CCV		1	axc2	3/8/2010	12:24:25	OM_3-8-2010_10-24-48
CCB		1	axc2	3/8/2010	12:26:15	OM_3-8-2010_10-24-48

Author: axc2

Date : 3/8/2010

Original Run Filename: OM\_3-8-2010\_10-24-48.OMN created 3/8/2010 10:24:48  
 Original Run Author's Signature: [axc2]  
 Current Run Filename: OM\_3-8-2010\_10-24-48.OMN last modified 3/8/2010 12:27:20  
 Current Run Author's Signature: [axc2]  
 Description: GL-GC-E-095 EPA 335.1, 335.3, 335.4, 9012A, CLP335.2-M  
 Liquid LCS nominal 50 ug/L

Sample	Rep.	Cup No.	Channel 1 TCYANIDE		Detection Time	ADF	MDF	Description
			Conc. (ug/L)	Area (Vs)				
WCN100308-01	1	S1	200	10.4	3/8/2010@10:25:45			200 ppb
WCN100308-02	1	S2	150	7.82	3/8/2010@10:26:37			150 ppb
WCN100308-03	1	S3	100	5.36	3/8/2010@10:27:29			100 ppb
WCN100308-04	1	S4	50.0	2.85	3/8/2010@10:28:22			50 ppb
WCN100308-05	1	S5	10.0	0.644	3/8/2010@10:29:15			10 ppb
WCN100308-06	1	S6	5.00	0.400	3/8/2010@10:30:09			CRDL 5.0 ppb
WCN100308-08	1	S7	0.00	-0.0189	3/8/2010@10:31:03			0.0 ppb
DQM Test: Minimum Correlation Coefficient								
Result:			0.99976 > 0.99500					
Message			Pass					
Action			Continue					
WCN100308-07	1	S8	147	7.72	3/8/2010@10:32:54			ICV
Known Conc:			150					
DQM Test: > + Percent Relative Difference								
Result:			-2.1 < 10.0					
Message			ICV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			-2.1 < 10.0					
Message			ICV Passed					
Action			Continue					
Calibration:			Table/Fig. 1					
WCN100308-08	1	S7	-1.65	0.0363	3/8/2010@10:34:44			ICB/CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-1.65 < 5.01					
Message			ICB/CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-1.65 > -5.01					
Message			ICB/CCB Passed					
Action			Continue					
WCN100308-06	1	S6	5.25	0.393	3/8/2010@10:36:34			CRDL
Known Conc:			5.00					
DQM Test: > + Concentration Limit								
Result:			5.25 < 7.50					
Message			CRDL Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			5.25 > 2.50					
Message			Pass					
Action			None					
1202054789 958168 MB	1	1	-1.83	0.0269	3/8/2010@10:38:23			
1202054796 LCS	1	2	50.4	2.73	3/8/2010@10:39:17			
248010001	1	3	-1.53	0.0427	3/8/2010@10:40:10			
1202054790 DUP	1	4	-1.69	0.0344	3/8/2010@10:41:03			
1202054792 MS	1	5	114	6.01	3/8/2010@10:41:56			
1202054794 MSD	1	6	111	5.86	3/8/2010@10:42:48			
248010002	1	7	-1.44	0.0471	3/8/2010@10:43:42			
248019001	1	8	-1.39	0.0498	3/8/2010@10:44:34			
248019002	1	9	-1.40	0.0491	3/8/2010@10:45:26			
248023002	1	10	-1.75	0.0312	3/8/2010@10:46:19			
WCN100308-03	1	S3	105	5.54	3/8/2010@10:47:11			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					
WCN100308-08	1	S7	-1.67	0.0352	3/8/2010@10:49:01			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-1.67 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-1.67 > -5.00					
		Message	CCB Passed					
		Action	Continue					
248024001	1	11	-2.29	0.00319	3/8/2010@10:50:50			
248024003	1	12	-0.940	0.0730	3/8/2010@10:51:41			
248044002	1	13	-1.78	0.0297	3/8/2010@10:52:34			
1202054791  DUP	1	14	-1.89	0.0237	3/8/2010@10:53:25			
1202054793  MS	1	15	113	5.97	3/8/2010@10:54:17			
1202054795  MSD	1	16	94.5	5.01	3/8/2010@10:55:10			
248401005	1	17	-2.36	-4.50e-4	3/8/2010@10:56:04			
248516001	1	18	-1.70	0.0336	3/8/2010@10:56:58			
248516002	1	19	-2.03	0.0168	3/8/2010@10:57:51			
248518001	1	20	-2.35	3.13e-4	3/8/2010@10:58:44			
WCN100308-03	1	S3	107	5.64	3/8/2010@10:59:36			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	6.6 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	6.6 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100308-08	1	S7	-1.82	0.0275	3/8/2010@11:01:27			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-1.82 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-1.82 > -5.00					
		Message	CCB Passed					
		Action	Continue					
248533001	1	21	-1.85	0.0260	3/8/2010@11:03:16			
248548001	1	22	-2.24	0.00579	3/8/2010@11:04:09			
248548003	1	23	-1.45	0.0465	3/8/2010@11:05:01			
248551001	1	24	-0.552	0.0931	3/8/2010@11:05:54			
248551002	1	25	-1.81	0.0281	3/8/2010@11:06:46			
248555002	1	26	-1.99	0.0185	3/8/2010@11:07:39			
1202059721 960271 MB	1	27	-1.70	0.0339	3/8/2010@11:08:31			
1202059731  LCS	1	28	49.0	2.66	3/8/2010@11:09:23			
248072001	1	29	-2.36	-5.25e-4	3/8/2010@11:10:15			
1202059722  DUP	1	30	-1.95	0.0206	3/8/2010@11:11:06			
WCN100308-03	1	S3	105	5.54	3/8/2010@11:11:59			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	4.7 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	4.7 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100308-08	1	S7	-1.72	0.0325	3/8/2010@11:13:49			CCB
		Known Conc:	0.00					

DQM Test: > + Concentration Limit						
Result:		-1.72 < 5.00				
Message		CCB Passed				
Action		Continue				
DQM Test: < - Concentration Limit						
Result:		-1.72 > -5.00				
Message		CCB Passed				
Action		Continue				
1202059725  MS	1	31	102	5.41	3/8/2010@11:15:40	
1202059728  MSD	1	32	101	5.33	3/8/2010@11:16:33	
248072002	1	33	-1.30	0.0543	3/8/2010@11:17:27	
248072003	1	34	-2.90	-0.0286	3/8/2010@11:18:21	
248097001	1	35	-1.88	0.0245	3/8/2010@11:19:14	
1202059724  DUP	1	36	-1.58	0.0398	3/8/2010@11:20:07	
1202059727  MS	1	37	100	5.32	3/8/2010@11:21:00	
1202059730  MSD	1	38	102	5.39	3/8/2010@11:21:53	
248097002	1	39	12.3	0.757	3/8/2010@11:22:47	
248097003	1	40	-1.04	0.0680	3/8/2010@11:23:38	
WCN100308-03	1	S3	106	5.63	3/8/2010@11:24:31	CCV
Known Conc:		100				
DQM Test: > + Percent Relative Difference						
Result:		6.4 < 10.0				
Message		CCV Passed				
Action		Continue				
DQM Test: < - Percent Relative Difference						
Result:		6.4 < 10.0				
Message		CCV Passed				
Action		Continue				
WCN100308-08	1	S7	-1.68	0.0346	3/8/2010@11:26:21	CCB
Known Conc:		0.00				
DQM Test: > + Concentration Limit						
Result:		-1.68 < 5.00				
Message		CCB Passed				
Action		Continue				
DQM Test: < - Concentration Limit						
Result:		-1.68 > -5.00				
Message		CCB Passed				
Action		Continue				
248097004	1	41	-0.871	0.0766	3/8/2010@11:28:09	
248298001	1	42	-1.67	0.0350	3/8/2010@11:29:02	
248298002	1	43	-1.93	0.0216	3/8/2010@11:29:53	
248298003	1	44	-0.109	0.116	3/8/2010@11:30:46	
248303001	1	45	2.92	0.273	3/8/2010@11:31:38	
248337001	1	46	-2.49	-0.00692	3/8/2010@11:32:32	
248375001	1	47	-2.35	1.70e-4	3/8/2010@11:33:26	
248375002	1	48	-2.05	0.0157	3/8/2010@11:34:19	
248397001	1	49	-1.87	0.0247	3/8/2010@11:35:14	
248397002	1	50	-2.17	0.00925	3/8/2010@11:36:06	
WCN100308-03	1	S3	106	5.62	3/8/2010@11:37:00	CCV
Known Conc:		100				
DQM Test: > + Percent Relative Difference						
Result:		6.2 < 10.0				
Message		CCV Passed				
Action		Continue				
DQM Test: < - Percent Relative Difference						
Result:		6.2 < 10.0				
Message		CCV Passed				
Action		Continue				
WCN100308-08	1	S7	-2.34	8.36e-4	3/8/2010@11:38:51	CCB
Known Conc:		0.00				
DQM Test: > + Concentration Limit						
Result:		-2.34 < 5.00				
Message		CCB Passed				
Action		Continue				
DQM Test: < - Concentration Limit						
Result:		-2.34 > -5.00				
Message		CCB Passed				
Action		Continue				

248407001	1	51	-1.69	0.0345	3/8/2010@11:40:39		
1202059723  DUP	1	52	-2.37	-0.00102	3/8/2010@11:41:33		
1202059726  MS	1	53	104	5.51	3/8/2010@11:42:26		
1202059729  MSD	1	54	82.4	4.39	3/8/2010@11:43:19		
248419001	1	55	-1.45	0.0465	3/8/2010@11:44:11		
248419002	1	56	-1.82	0.0276	3/8/2010@11:45:04		
1202053300 957584 MB	1	57	-1.77	0.0301	3/8/2010@11:45:57		
1202053310  LCS	1	58	52.0	2.81	3/8/2010@11:46:49		
247829002	1	59	-1.36	0.0515	3/8/2010@11:47:41		
1202053302  DUP	1	60	-1.35	0.0518	3/8/2010@11:48:33		
WCN100308-03	1	S3	107	5.65	3/8/2010@11:49:26		CCV
Known Conc:			100				
DQM Test: > + Percent Relative Difference							
Result:			6.9 < 10.0				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Percent Relative Difference							
Result:			6.9 < 10.0				
Message			CCV Passed				
Action			Continue				
WCN100308-08	1	S7	-1.71	0.0332	3/8/2010@11:51:15		CCB
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			-1.71 < 5.00				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			-1.71 > -5.00				
Message			CCB Passed				
Action			Continue				
1202053305  MS	1	61	108	5.71	3/8/2010@11:53:05		
1202053308  MSD	1	62	108	5.72	3/8/2010@11:54:00		
247865010	1	63	-1.12	0.0636	3/8/2010@11:54:55		
247865012	1	64	-1.20	0.0593	3/8/2010@11:55:48		
1202053303  DUP	1	65	-1.53	0.0427	3/8/2010@11:56:41		
1202053306  MS	1	66	86.3	4.59	3/8/2010@11:57:35		
1202053309  MSD	1	67	102	5.39	3/8/2010@11:58:28		
247865013	1	68	-1.42	0.0483	3/8/2010@11:59:21		
247865014	1	69	-1.44	0.0472	3/8/2010@12:00:15		
247865015	1	70	-1.50	0.0439	3/8/2010@12:01:07		
WCN100308-03	1	S3	106	5.63	3/8/2010@12:02:00		CCV
Known Conc:			100				
DQM Test: > + Percent Relative Difference							
Result:			6.4 < 10.0				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Percent Relative Difference							
Result:			6.4 < 10.0				
Message			CCV Passed				
Action			Continue				
WCN100308-08	1	S7	-1.63	0.0372	3/8/2010@12:03:51		CCB
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			-1.63 < 5.00				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			-1.63 > -5.00				
Message			CCB Passed				
Action			Continue				
247865016	1	71	-1.63	0.0374	3/8/2010@12:05:41		
247865017	1	72	-1.38	0.0501	3/8/2010@12:06:33		
247865018	1	73	-2.31	0.00203	3/8/2010@12:07:25		
247865019	1	74	-1.70	0.0337	3/8/2010@12:08:18		
247865020	1	75	-1.21	0.0589	3/8/2010@12:09:10		
247866001	1	76	-1.82	0.0273	3/8/2010@12:10:05		
247919001	1	77	-1.59	0.0392	3/8/2010@12:10:59		
247919002	1	78	-1.41	0.0486	3/8/2010@12:11:53		

247922004	1	79	0.739	0.160	3/8/2010@12:12:48			
1202053301  DUP	1	80	0.641	0.155	3/8/2010@12:13:41			
WCN100308-03	1	S3	107	5.65	3/8/2010@12:14:34			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			6.8 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			6.8 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100308-08	1	S7	-1.86	0.0256	3/8/2010@12:16:24			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-1.86 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-1.86 > -5.00					
Message			CCB Passed					
Action			Continue					
1202053304  MS	1	81	98.2	5.21	3/8/2010@12:18:14			
1202053307  MSD	1	82	98.4	5.21	3/8/2010@12:19:07			
248164004	1	83	-1.49	0.0445	3/8/2010@12:20:01			
248382002	1	84	-1.58	0.0400	3/8/2010@12:20:54			
248382003	1	85	-1.82	0.0273	3/8/2010@12:21:47			
248401002	1	86	-1.52	0.0428	3/8/2010@12:22:40			
248401004	1	87	-1.38	0.0501	3/8/2010@12:23:33			
WCN100308-03	1	S3	106	5.59	3/8/2010@12:24:25			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					
WCN100308-08	1	S7	-1.71	0.0334	3/8/2010@12:26:15			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-1.71 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-1.71 > -5.00					
Message			CCB Passed					
Action			Continue					

Analyte Properties Table for OM\_3-8-2010\_10-24-48.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

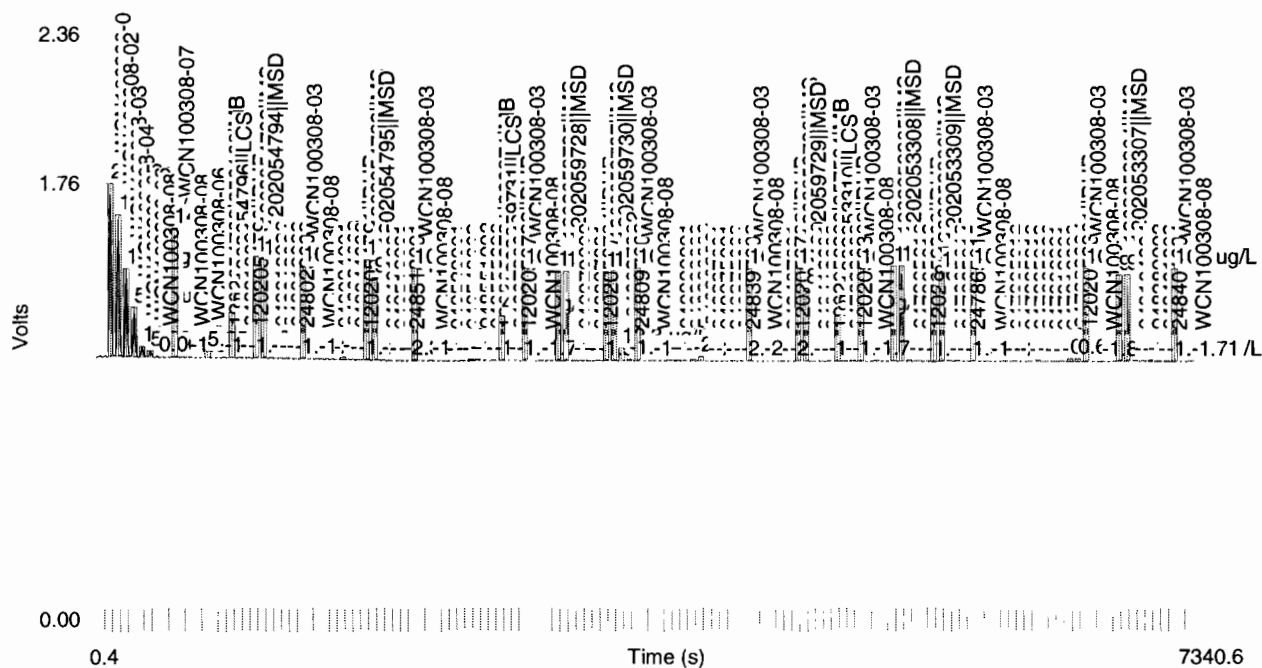
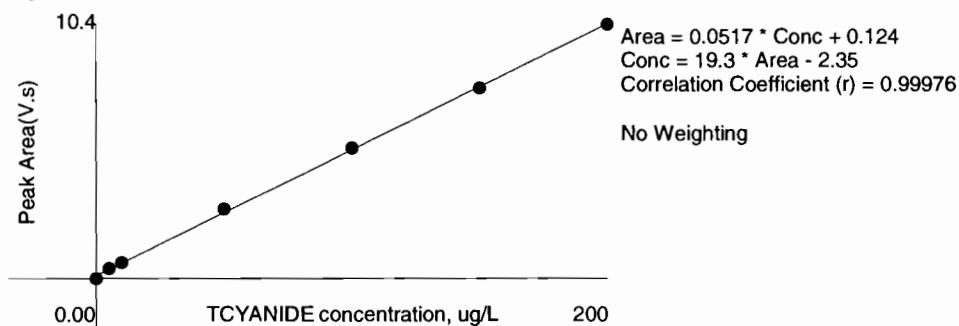


Table 1: TCYANIDE

	Conc. (ug/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	200	1	10.4	0.692	0.2	3/8/2010	10:26:48
2	150	1	7.82	0.567	0.7	3/8/2010	10:27:40
3	100	1	5.36	0.353	-1.3	3/8/2010	10:28:32
4	50.0	1	2.85	0.199	-5.1	3/8/2010	10:29:25
5	10.0	1	0.644	0.0420	-0.6	3/8/2010	10:30:18
6	5.00	1	0.400	0.0240	-4.6	3/8/2010	10:31:12
7	0.00	1	-0.0189	-0.00306		3/8/2010	10:32:06

Figure 1: TCYANIDE



# RADIOLOGICAL ANALYSIS

**Radiochemistry Case Narrative  
Los Alamos National Laboratory (LANL)  
SDG 10-2197**

**Method/Analysis Information**

**Procedure:** Dry Weight-Percent Moisture  
**Analytical Method:** Dry Soil Prep  
**Analytical Batch Number:** 961009

<b>Sample ID</b>	<b>Client ID</b>
248515001	RE36-10-7501
248515002	RE36-10-7524
248515003	RE36-10-7525
1202061262	248515001(RE36-10-7501) 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.

**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: 248515001 (RE36-10-7501). The QC was from LANL work order 248515.

**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 prep 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**

Samples 248515001 (RE36-10-7501) were wet and muddy. They could not be homogenized prior to taking our aliquot.

**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>
Analytical Method:	DOE EML HASL-300, Am-05-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	965494
Prep Batch Number:	961009

<b>Sample ID</b>	<b>Client ID</b>
248515001	RE36-10-7501
248515003	RE36-10-7525
1202071661	Method Blank (MB)
1202071662	248526001(RE36-10-8466) Sample Duplicate (DUP)
1202071663	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 solutions for these analysis are NIST traceable or verified with a NIST traceable standard and used before the expiration dates.

**Sample Geometry**

All counting sources were prepared in the same geometry as the calibration standards.

**Quality Control (QC) Information:****Blank Information**

Aliquot for sample 1202071661 (MB) was changed to 1.0 per client request.

**Designated QC**

The following sample was used for QC: 248526001 (RE36-10-8466). The QC was from LANL work order 248526.

**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**

<b>Product:</b>	<b>AM241</b>
Analytical Method:	DOE EML HASL-300, Am-05-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	969981
Prep Batch Number:	961009

<b>Sample ID</b>	<b>Client ID</b>
248515002	RE36-10-7524
1202082742	Method Blank (MB)
1202082743	248521011(RE36-10-8276) Sample Duplicate (DUP)
1202082744	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 solutions for these analysis are NIST traceable or verified with a NIST traceable standard and used before the expiration dates.

**Sample Geometry**

All counting sources were prepared in the same geometry as the calibration standards.

**Quality Control (QC) Information:****Blank Information**

Aliquot for sample 1202082742 (MB) was changed to 1.0 per client request.

**Designated QC**

The following sample was used for QC: 248521011 (RE36-10-8276). The QC was from LANL work order 248521.

**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 248515002 (RE36-10-7524) was reprepared due to low carrier/tracer yield.

**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 1202082743 (RE36-10-8276) did not meet the client's yield requirement. However, there are 400 tracer counts, GEL's standard tracer yield requirements are met, and the client's detection limits are met.

**Blank Decision Level**

The blank result is less than the decision level.

**Qualifier information**

Manual qualifiers were not required.

**Method/Analysis Information**

**Product:** ISOPU

Analytical Method: DOE EML HASL-300, Pu-11-RC Modified

Prep Method: Dry Soil Prep

Analytical Batch Number: 965495

Prep Batch Number: 961009

Sample ID	Client ID
248515001	RE36-10-7501
248515002	RE36-10-7524
248515003	RE36-10-7525
1202071664	Method Blank (MB)
1202071665	248526001(RE36-10-8466) Sample Duplicate (DUP)
1202071666	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 solutions for these analysis are NIST traceable or verified with a NIST traceable standard and used before the expiration dates.

##### **Sample Geometry**

All counting sources were prepared in the same geometry as the calibration standards.

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

##### **Blank Information**

Aliquot for sample 1202071664 (MB) was changed to 1.0 per client request.

##### **Designated QC**

The following sample was used for QC: 248526001 (RE36-10-8466). The QC was from LANL work order 248526.

##### **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. Sample, 1202071665 (RE36-10-8466), did not meet the client tracer yield requirements, however it is less than 110 percent and does meet the GEL standard tracer yield requirements.

##### **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>	ISOU
Analytical Method:	DOE EML HASL-300, U-02-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	965496
Prep Batch Number:	961009

Sample ID	Client ID
248515001	RE36-10-7501
248515002	RE36-10-7524
248515003	RE36-10-7525
1202071667	Method Blank (MB)
1202071668	248526001(RE36-10-8466) Sample Duplicate (DUP)
1202071669	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 solutions for these analysis are NIST traceable or verified with a NIST traceable standard and used before the expiration dates.

##### **Sample Geometry**

All counting sources were prepared in the same geometry as the calibration standards.

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

##### **Blank Information**

Aliquot for sample 1202071667 (MB) was changed to 1.0 per client request.

##### **Designated QC**

The following sample was used for QC: 248526001 (RE36-10-8466). The QC was from LANL work order 248526.

##### **QC Information**

All of the QC samples met the required acceptance limits.

##### **CSU**

The U233/234 and U238 blank results 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.

#### **Manual Integration**

No manual integrations were performed on data in this batch.

#### **Additional Comments**

The MDCs are calculated using a blank population. Sample 248515003 (RE36-10-7525) 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>GAMMA SPEC</b>
Analytical Method:	DOE HASL 300, 4.5.2.3/Ga-01-R
Prep Method:	Dry Soil Prep
Analytical Batch Number:	961099
Prep Batch Number:	961009

<b>Sample ID</b>	<b>Client ID</b>
248515001	RE36-10-7501
248515002	RE36-10-7524
248515003	RE36-10-7525
1202061469	Method Blank (MB)
1202061470	248526001(RE36-10-8466) Sample Duplicate (DUP)
1202061471	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# 19.

#### **Calibration Information:**

##### **Calibration Information**

All initial and continuing calibration requirements have been met. The initial Calibrations were performed in June 2009, August 2009, October 2009, November 2009, January 2010 and February 2010.

##### **Standards Information**

Standard solutions for these analysis are NIST traceable or verified with a NIST traceable standard and used before the expiration dates.

##### **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: 248526001 (RE36-10-8466). The QC was from LANL work order 248526.

##### **QC Information**

All of the QC samples met the required acceptance limits.

##### **CSU**

The method blank 1202061469 (MB) result is greater than 1.65 times the CSU but less than the MDC for Am-241.

#### **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 1202061469 (MB) result is greater than the decision level but less than the MDC Am-241.

**Qualifier information**

Qualifier	Reason	Analyte	Sample	Client Sample
UI	Data rejected due to interference.	Bismuth-211	248515001	RE36-10-7501
			248515002	RE36-10-7524
			248515003	RE36-10-7525
			1202061470	RE36-10-8466(248526001DUP)
		Cadmium-109	248515002	RE36-10-7524
			248515003	RE36-10-7525
			1202061470	RE36-10-8466(248526001DUP)
		Mercury-203	248515003	RE36-10-7525
		Radium-224	248515001	RE36-10-7501
			248515002	RE36-10-7524
			248515003	RE36-10-7525
			1202061470	RE36-10-8466(248526001DUP)
UI	Data rejected due to low abundance.	Cesium-134	248515001	RE36-10-7501
		Strontium-85	248515001	RE36-10-7501
			248515002	RE36-10-7524

**Method/Analysis Information**

**Product:** H3  
**Analytical Method:** GL-RAD-A-002  
**Analytical Batch Number:** 964063

<b>Sample ID</b>	<b>Client ID</b>
248515001	RE36-10-7501
248515002	RE36-10-7524
248515003	RE36-10-7525
1202068228	Method Blank (MB)
1202068229	248526001(RE36-10-8466) Sample Duplicate (DUP)
1202068230	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-RAD-A-002 REV# 18.

#### **Calibration Information:**

##### **Calibration Information**

All initial and continuing calibration requirements have been met. The initial Calibration was performed in August 2009.

##### **Standards Information**

Standard solutions for these analysis are NIST traceable or verified with a NIST traceable standard and used before the expiration dates.

##### **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: 248526001 (RE36-10-8466). The QC was from LANL work order 248526.

##### **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.

**Additional Comments**

Additional comments were not required for this sample set.

**Blank Decision Level**

The blank result is less than the decision level.

**Qualifier information**

Manual qualifiers were not required.

**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:** \_\_\_\_\_

 3/31/10

# 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: 10-2197 GEL Work Order: 248515

**The Qualifiers in this report are defined as follows:**


- \* Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- \*\* Indicates the analyte is a surrogate compound.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the detection limit.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Reviewed by



# GEL LABORATORIES LLC

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

## Certificate of Analysis

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

Report Date: March 31, 2010

Client Sample ID: RE36-10-7501  
Sample ID: 248515001  
Matrix: R  
Collect Date: 25-FEB-10  
Receive Date: 03-MAR-10  
Collector: Client  
Moisture: 24%

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	-0.000148	0.0222	+/-0.00289	0.050	pCi/g		MXE1	03/25/10	2212	965494	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00574	0.0232	+/-0.00373	0.050	pCi/g		MXE1	03/25/10	1655	965495	3
Plutonium-239/240	U	-0.00455	0.0196	+/-0.00332	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.937	0.103	+/-0.0894	0.100	pCi/g		MXE1	03/27/10	1301	965496	4
Uranium-235/236	U	0.0226	0.0631	+/-0.0121	0.100	pCi/g						
Uranium-238		1.06	0.0726	+/-0.0985	0.100	pCi/g						
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0298	0.306	+/-0.104	0.200	pCi/g		MXR1	03/19/10	2040	961099	5
Bismuth-211	UI	4.50	0.399	+/-0.340		pCi/g						
Bismuth-214		1.32	0.138	+/-0.117	0.200	pCi/g						
Cadmium-109	U	1.56	1.87	+/-0.777		pCi/g						
Cerium-139	U	0.0109	0.063	+/-0.0205	0.050	pCi/g						
Cesium-134	UI	0.134	0.116	+/-0.0405	0.100	pCi/g						
Cesium-137	U	0.0197	0.0771	+/-0.0222	0.100	pCi/g						
Cobalt-60	U	-0.0487	0.060	+/-0.0219	0.100	pCi/g						
Europium-152	U	0.0457	0.198	+/-0.0665	0.200	pCi/g						
Lanthanum-140	U	-0.12	0.248	+/-0.0857		pCi/g						
Lead-212		1.98	0.110	+/-0.123	0.100	pCi/g						
Lead-214		1.63	0.147	+/-0.131	0.100	pCi/g						
Mercury-203	U	0.0291	0.0915	+/-0.0267	0.100	pCi/g						
Potassium-40		31.3	0.724	+/-1.74	1.00	pCi/g						
Radium-223	U	1.11	1.42	+/-0.453		pCi/g						
Radium-224	UI	4.83	1.18	+/-0.825		pCi/g						
Radium-226		1.32	0.138	+/-0.117		pCi/g						
Radium-228		2.06	0.289	+/-0.227	0.500	pCi/g						
Ruthenium-106	U	0.170	0.662	+/-0.191	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: March 31, 2010

Client Sample ID: RE36-10-7501  
Sample ID: 248515001  
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	-0.0136	0.0944	+/-0.029	0.080	pCi/g						
Strontium-85	UI	0.174	0.114	+/-0.031		pCi/g						
Thallium-208		0.548	0.076	+/-0.0581	0.080	pCi/g						
Thorium-227	U	0.179	0.558	+/-0.162		pCi/g						
Thorium-231	U	1.11	1.42	+/-0.453		pCi/g						
Thorium-234		3.63	2.65	+/-1.54	2.00	pCi/g						
Tin-113	U	-0.0233	0.0962	+/-0.0302	0.100	pCi/g						
Uranium-235	U	-0.18	0.390	+/-0.120	0.500	pCi/g						
Yttrium-88	U	-0.0306	0.0658	+/-0.0238	0.100	pCi/g						
<b>Rad Liquid Scintillation Analysis</b>												
<i>H3 "As Received"</i>												
Tritium	U	-8.03	174	+/-47.7	250	pCi/L		KXK2	03/29/10	1407	964063	6

### 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
6	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	83.7	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	88.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	70.1	(50%-105%)

### Notes:

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

The Qualifiers in this report are defined as follows :

\*\* Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

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

# 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: March 31, 2010

Client Sample ID: RE36-10-7501  
Sample ID: 248515001  
Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------	-------	------

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  
UJ 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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## Certificate of Analysis

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

Report Date: March 31, 2010

Client Sample ID: RE36-10-7524  
Sample ID: 248515002  
Matrix: R  
Collect Date: 25-FEB-10  
Receive Date: 03-MAR-10  
Collector: Client  
Moisture: 16%

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	0.00454	0.0186	+/-0.00234	0.050	pCi/g		MXE1	03/30/10	1431	969981	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00521	0.0303	+/-0.0043	0.050	pCi/g		MXE1	03/25/10	1655	965495	4
Plutonium-239/240		0.0453	0.0256	+/-0.0114	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.25	0.133	+/-0.121	0.100	pCi/g		MXE1	03/27/10	1301	965496	5
Uranium-235/236	U	0.0759	0.0814	+/-0.0218	0.100	pCi/g						
Uranium-238		1.83	0.0936	+/-0.164	0.100	pCi/g						
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0183	0.130	+/-0.0439	0.200	pCi/g		MXR1	03/19/10	2040	961099	6
Bismuth-211	UI	5.27	0.475	+/-0.374		pCi/g						
Bismuth-214		1.45	0.168	+/-0.137	0.200	pCi/g						
Cadmium-109	UI	4.59	1.17	+/-0.540		pCi/g						
Cerium-139	U	-0.0195	0.0634	+/-0.0201	0.050	pCi/g						
Cesium-134	U	0.0615	0.128	+/-0.042	0.100	pCi/g						
Cesium-137		0.744	0.0901	+/-0.0721	0.100	pCi/g						
Cobalt-60	U	0.00184	0.0721	+/-0.0224	0.100	pCi/g						
Europium-152	U	-0.0449	0.216	+/-0.0818	0.200	pCi/g						
Lanthanum-140	U	0.0474	0.245	+/-0.0807		pCi/g						
Lead-212		1.98	0.124	+/-0.129	0.100	pCi/g						
Lead-214		1.91	0.173	+/-0.146	0.100	pCi/g						
Mercury-203	U	-0.00409	0.0957	+/-0.0287	0.100	pCi/g						
Potassium-40		27.7	0.703	+/-1.35	1.00	pCi/g						
Radium-223	U	-0.965	1.46	+/-0.471		pCi/g						
Radium-224	UI	5.20	1.33	+/-0.855		pCi/g						
Radium-226		1.45	0.168	+/-0.137		pCi/g						
Radium-228		2.11	0.335	+/-0.223	0.500	pCi/g						
Ruthenium-106	U	0.0214	0.727	+/-0.225	0.800	pCi/g						
Sodium-22	U	-0.0255	0.0918	+/-0.030	0.080	pCi/g						

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

Report Date: March 31, 2010

Client Sample ID: RE36-10-7524  
Sample ID: 248515002

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	0.122	0.101	+/-0.0304		pCi/g						
Thallium-208		0.607	0.0885	+/-0.062	0.080	pCi/g						
Thorium-227	U	-0.0391	0.547	+/-0.164		pCi/g						
Thorium-231	U	-0.965	1.46	+/-0.471		pCi/g						
Thorium-234		3.04	1.27	+/-0.741	2.00	pCi/g						
Tin-113	U	-0.04	0.103	+/-0.0325	0.100	pCi/g						
Uranium-235	U	0.0752	0.443	+/-0.137	0.500	pCi/g						
Yttrium-88	U	0.00368	0.0598	+/-0.0179	0.100	pCi/g						
<b>Rad Liquid Scintillation Analysis</b>												
<i>H3 "As Received"</i>												
Tritium	U	18.6	173	+/-48.8	250	pCi/L		KXK2	03/29/10	1500	964063	7

### 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
7	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	78.9	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	69.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	62.2	(50%-105%)

### Notes:

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

The Qualifiers in this report are defined as follows :

\*\* Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

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

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### Certificate of Analysis

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Contact: Ms. Joylene Valdez  
Project: LANL ER Project

Report Date: March 31, 2010

Client Sample ID: RE36-10-7524  
Sample ID: 248515002

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------	-------	------

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  
UJ 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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## Certificate of Analysis

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

Report Date: March 31, 2010

Client Sample ID: RE36-10-7525  
Sample ID: 248515003  
Matrix: R  
Collect Date: 25-FEB-10  
Receive Date: 03-MAR-10  
Collector: Client  
Moisture: 20.2%

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	0.00922	0.0223	+/-0.00379	0.050	pCi/g		MXE1	03/25/10	2212	965494	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00499	0.0259	+/-0.00438	0.050	pCi/g		MXE1	03/25/10	1840	965495	3
Plutonium-239/240		0.0222	0.0219	+/-0.00828	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.33	0.174	+/-0.136	0.100	pCi/g		MXE1	03/27/10	1301	965496	4
Uranium-235/236	U	0.0456	0.106	+/-0.0218	0.100	pCi/g						
Uranium-238		1.26	0.122	+/-0.130	0.100	pCi/g						
<b>Rad Gamma Spec Analysis</b>												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.108	0.123	+/-0.038	0.200	pCi/g		MXR1	03/19/10	2040	961099	5
Bismuth-211	UI	5.01	0.457	+/-0.399		pCi/g						
Bismuth-214		1.64	0.168	+/-0.152	0.200	pCi/g						
Cadmium-109	UI	4.26	1.08	+/-0.488		pCi/g						
Cerium-139	U	0.0067	0.060	+/-0.0182	0.050	pCi/g						
Cesium-134	U	0.0363	0.126	+/-0.0366	0.100	pCi/g						
Cesium-137		0.580	0.0987	+/-0.0679	0.100	pCi/g						
Cobalt-60	U	-0.0124	0.105	+/-0.0332	0.100	pCi/g						
Europium-152	U	-0.0211	0.205	+/-0.0672	0.200	pCi/g						
Lanthanum-140	U	-0.117	0.302	+/-0.103		pCi/g						
Lead-212		1.91	0.110	+/-0.122	0.100	pCi/g						
Lead-214		1.82	0.166	+/-0.153	0.100	pCi/g						
Mercury-203	UI	0.108	0.0824	+/-0.0376	0.100	pCi/g						
Potassium-40		26.9	0.664	+/-1.64	1.00	pCi/g						
Radium-223	U	-0.714	1.33	+/-0.439		pCi/g						
Radium-224	UI	6.04	1.18	+/-0.967		pCi/g						
Radium-226		1.64	0.168	+/-0.152		pCi/g						
Radium-228		1.66	0.367	+/-0.274	0.500	pCi/g						
Ruthenium-106	U	-0.402	0.718	+/-0.246	0.800	pCi/g						
Sodium-22	U	0.0432	0.116	+/-0.0335	0.080	pCi/g						

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

Report Date: March 31, 2010

Client Sample ID: RE36-10-7525  
Sample ID: 248515003  
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	0.059	0.102	+/-0.0327		pCi/g						
Thallium-208		0.549	0.0802	+/-0.0713	0.080	pCi/g						
Thorium-227	U	-0.272	0.533	+/-0.179		pCi/g						
Thorium-231	U	-0.714	1.33	+/-0.439		pCi/g						
Thorium-234		3.21	1.17	+/-0.738	2.00	pCi/g						
Tin-113	U	0.00286	0.0987	+/-0.0297	0.100	pCi/g						
Uranium-235	U	-0.122	0.374	+/-0.123	0.500	pCi/g						
Yttrium-88	U	-0.0185	0.0774	+/-0.0265	0.100	pCi/g						
<b>Rad Liquid Scintillation Analysis</b>												
<i>H3 "As Received"</i>												
Tritium	U	-29.2	173	+/-46.1	250	pCi/L		KXK2	03/29/10	1553	964063	6

### 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
6	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	78.6	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	71.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	45.3 *	(50%-105%)

### Notes:

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

The Qualifiers in this report are defined as follows :

\*\* Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

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

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

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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: March 31, 2010

Client Sample ID: RE36-10-7525  
Sample ID: 248515003  
Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------	-------	------

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  
UJ 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

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## QC Summary

Report Date: March 31, 2010

Page 1 of 7

Client : Los Alamos National Laboratory  
PO Box 1663  
TA-03, SM271, Drop Pt. 02U, Rm  
Los Alamos, New Mexico  
Contact: Ms. Joylene Valdez  
Workorder: 248515

Parmname	NOM	Sample	Qual	QC	Units	RER	REC %	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	965494										
QC1202071662	248526001	DUP									
Americium-241			U	-0.00204	U	-0.00349	pCi/g	0.130	(0-1)	MXE1	03/26/1007:43
			TPU:	+/-0.002		+/-0.00358					
			Yield:	88.7		80.7					
QC1202071663	LCS										
Americium-241			33.1			28.1	pCi/g	84.6	(75%-125%)		03/26/1007:43
			TPU:			+/-2.07					
			Yield:			104					
QC1202071661	MB										
Americium-241				U	0.00482	pCi/g					03/26/1007:43
					+/-0.00419						
					87.8						
Batch	965495										
QC1202071665	248526001	DUP									
Plutonium-238			U	-0.00237	U	-0.00122	pCi/g	0.0737	(0-1)	MXE1	03/25/1020:23
			TPU:	+/-0.00498		+/-0.00281					
			Yield:	91.4		107					
Plutonium-239/240			U	0.0025	U	0.00633	pCi/g	0.277	(0-1)		
			TPU:	+/-0.00322		+/-0.0037					
			Yield:	91.4		107					
QC1202071666	LCS										
Plutonium-238						5.05	pCi/g		(75%-125%)		
			TPU:			+/-0.466					
			Yield:			81.5					
Plutonium-239/240			41.8			39.8	pCi/g	95.2	(75%-125%)		
			TPU:			+/-2.78					
			Yield:			81.5					
QC1202071664	MB										
Plutonium-238				U	0.00159	pCi/g					
					+/-0.00723						
			Yield:			92.1					
Plutonium-239/240				U	0.00111	pCi/g					
					+/-0.00347						
			Yield:			92.1					
Batch	965496										
QC1202071668	248526001	DUP									
Uranium-233/234				0.961		0.894	pCi/g	0.183	(0-1)	MXE1	03/29/1012:38
			TPU:	+/-0.0964		+/-0.0889					
			Yield:	76.3		79.9					
Uranium-235/236			U	0.0657		0.0709	pCi/g	0.0629	(0-1)		
			TPU:	+/-0.0196		+/-0.0221					
			Yield:	76.3		79.9					
Uranium-238				0.811		0.967	pCi/g	0.439	(0-1)		
			TPU:	+/-0.0844		+/-0.0945					



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## QC Summary

Workorder: 248515

Page 2 of 7

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	965496										
QC1202071669	LCS	Yield:	76.3	79.9							
Uranium-233/234				7.26	pCi/g					03/29/1012:38	
		TPU:		+/-0.696							
		Yield:		79.4							
Uranium-235/236				0.386	pCi/g						
		TPU:		+/-0.104							
		Yield:		79.4							
Uranium-238	5.75			6.01	pCi/g		105	(75%-125%)			
		TPU:		+/-0.593							
		Yield:		79.4							
QC1202071667	MB										
Uranium-233/234			U	0.00877	pCi/g					03/29/1012:38	
		TPU:		+/-0.00477							
		Yield:		91.6							
Uranium-235/236			U	0.00892	pCi/g						
		TPU:		+/-0.00634							
		Yield:		91.6							
Uranium-238			U	0.0126	pCi/g						
		TPU:		+/-0.00549							
		Yield:		91.6							
Batch	969981										
QC1202082743	248521011	DUP									
Americium-241			U	0.00427	U	-0.00742	pCi/g	0.654	(0-1)	MXE1	03/30/1014:31
		TPU:		+/-0.00318		+/-0.00576					
		Yield:		82.2		46.4					
QC1202082744	LCS										
Americium-241		33.1		27.9	pCi/g		84	(75%-125%)		03/30/1014:31	
		TPU:		+/-2.02							
		Yield:		90.1							
QC1202082742	MB										
Americium-241			U	-0.000295	pCi/g					03/30/1014:31	
		TPU:		+/-0.0021							
		Yield:		74.8							
Rad Gamma Spec											
Batch	961099										
QC1202061470	248526001	DUP									
Americium-241			U	-0.00644	U	0.080	pCi/g	0.375	(0-1)	MXR1	03/20/1011:11
		TPU:		+/-0.0263		+/-0.0889					
Bismuth-211			U1	4.71	U1	4.80	pCi/g	0.0716	(0-1)		
		TPU:		+/-0.338		+/-0.319					
Bismuth-214				1.62		1.51	pCi/g	0.217	(0-1)		
		TPU:		+/-0.128		+/-0.119					
Cadmium-109			U1	4.54	U1	3.91	pCi/g	0.307	(0-1)		
		TPU:		+/-0.446		+/-0.589					
Cerium-139			U	-0.00338	U	-0.0115	pCi/g	0.134	(0-1)		
		TPU:		+/-0.0128		+/-0.0174					
Cesium-134			U	0.0524	U	0.0861	pCi/g	0.293	(0-1)		
		TPU:		+/-0.0265		+/-0.0311					

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## QC Summary

Workorder: 248515

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC %	Range	Anlst	Date	Time
<b>Rad Gamma Spec</b>											
Batch	961099										
Cesium-137	U	-0.0439	U	-0.00867	pCi/g	0.402		(0-1)			
	TPU:	+/-0.0228		+/-0.0211							
Cobalt-60	U	-0.0164	U	0.0145	pCi/g	0.350		(0-1)			
	TPU:	+/-0.0238		+/-0.0204							
Europium-152	U	-0.00356	U	-0.0998	pCi/g	0.450		(0-1)			
	TPU:	+/-0.0522		+/-0.0547							
Lanthanum-140	U	-0.182	U	-0.0839	pCi/g	0.331		(0-1)			
	TPU:	+/-0.0751		+/-0.0737							
Lead-212		2.15		1.98	pCi/g	0.339		(0-1)			
	TPU:	+/-0.136		+/-0.113							
Lead-214		1.71		1.74	pCi/g	0.0663		(0-1)			
	TPU:	+/-0.131		+/-0.125							
Mercury-203	U	0.0483	U	0.0801	pCi/g	0.342		(0-1)			
	TPU:	+/-0.0208		+/-0.0256							
Potassium-40		35.8		36.5	pCi/g	0.103		(0-1)			
	TPU:	+/-1.80		+/-1.93							
Radium-223	U	0.234	U	0.108	pCi/g	0.0868		(0-1)			
	TPU:	+/-0.327		+/-0.398							
Radium-224	UI	4.76	UI	4.84	pCi/g	0.0269		(0-1)			
	TPU:	+/-0.738		+/-0.710							
Radium-226		1.62		1.51	pCi/g	0.217		(0-1)			
	TPU:	+/-0.128		+/-0.119							
Radium-228		2.39		2.44	pCi/g	0.0581		(0-1)			
	TPU:	+/-0.221		+/-0.236							
Ruthenium-106	U	-0.0471	U	-0.0339	pCi/g	0.0196		(0-1)			
	TPU:	+/-0.168		+/-0.168							
Sodium-22	U	-0.0177	U	0.0147	pCi/g	0.301		(0-1)			
	TPU:	+/-0.0261		+/-0.0277							
Strontium-85	U	0.0446	U	0.0777	pCi/g	0.364		(0-1)			
	TPU:	+/-0.0219		+/-0.0235							
Thallium-208		0.652		0.759	pCi/g	0.492		(0-1)			
	TPU:	+/-0.0553		+/-0.054							
Thorium-227	U	-0.0699	U	-0.08	pCi/g	0.0207		(0-1)			
	TPU:	+/-0.121		+/-0.123							
Thorium-231	U	0.234	U	0.108	pCi/g	0.0868		(0-1)			
	TPU:	+/-0.327		+/-0.398							
Thorium-234		1.54	U	1.87	pCi/g	0.111		(0-1)			
	TPU:	+/-0.472		+/-1.02							
Tin-113	U	-0.0436	U	-0.0519	pCi/g	0.0827		(0-1)			
	TPU:	+/-0.0236		+/-0.0263							
Uranium-235	U	-0.0248	U	-0.0231	pCi/g	0.00437		(0-1)			
	TPU:	+/-0.0835		+/-0.112							
Yttrium-88	U	0.00749	U	0.00535	pCi/g	0.0266		(0-1)			
	TPU:	+/-0.019		+/-0.0212							
QC1202061471	LCS										
Americium-241	15.9			13.8	pCi/g		86.6 (75%-125%)			03/20/10	11:12
				+/-0.614							
Bismuth-211				2.43	pCi/g						
				+/-0.340							
Bismuth-214				0.883	pCi/g						
				+/-0.131							

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## QC Summary

Workorder: 248515

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Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
<b>Rad Gamma Spec</b>									
Batch	961099								
Cadmium-109			32.1	pCi/g					
		TPU:	+/-1.94						
Cerium-139		U	0.00887	pCi/g					
		TPU:	+/-0.0219						
Cesium-134		U	0.020	pCi/g					
		TPU:	+/-0.0427						
Cesium-137	5.55		6.17	pCi/g			111 (75%-125%)		
		TPU:	+/-0.338						
Cobalt-60	6.34		6.11	pCi/g			96.3 (75%-125%)		
		TPU:	+/-0.298						
Europium-152		U	-0.019	pCi/g					
		TPU:	+/-0.082						
Lanthanum-140		U	-0.0158	pCi/g					
		TPU:	+/-0.0517						
Lead-212			0.973	pCi/g					
		TPU:	+/-0.0979						
Lead-214			0.880	pCi/g					
		TPU:	+/-0.126						
Mercury-203		U	0.060	pCi/g					
		TPU:	+/-0.0305						
Potassium-40			1.16	pCi/g					
		TPU:	+/-0.435						
Radium-223		U	-0.896	pCi/g					
		TPU:	+/-0.532						
Radium-224			4.19	pCi/g					
		TPU:	+/-0.658						
Radium-226			0.883	pCi/g					
		TPU:	+/-0.131						
Radium-228			1.11	pCi/g					
		TPU:	+/-0.275						
Ruthenium-106		U	-0.214	pCi/g					
		TPU:	+/-0.292						
Sodium-22		U	-0.0399	pCi/g					
		TPU:	+/-0.0235						
Strontium-85		U	-0.124	pCi/g					
		TPU:	+/-0.0375						
Thallium-208			0.285	pCi/g					
		TPU:	+/-0.0627						
Thorium-227		U	0.0133	pCi/g					
		TPU:	+/-0.198						
Thorium-231		U	-0.896	pCi/g					
		TPU:	+/-0.532						
Thorium-234		U	-0.305	pCi/g					
		TPU:	+/-0.828						
Tin-113		U	0.00634	pCi/g					
		TPU:	+/-0.0389						
Uranium-235		U	-0.0673	pCi/g					
		TPU:	+/-0.138						
Yttrium-88		U	0.0048	pCi/g					
		TPU:	+/-0.0217						

QC1202061469 MB

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## QC Summary

Workorder: 248515

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	961099										
Americium-241			U	0.048	pCi/g						
	TPU:			+/-0.0212							
Bismuth-211			U	0.0233	pCi/g						
	TPU:			+/-0.054							
Bismuth-214			U	-0.0477	pCi/g						
	TPU:			+/-0.0209							
Cadmium-109			U	-0.0863	pCi/g						
	TPU:			+/-0.136							
Cerium-139			U	-0.00579	pCi/g						
	TPU:			+/-0.00587							
Cesium-134			U	-0.0142	pCi/g						
	TPU:			+/-0.0118							
Cesium-137			U	-0.00681	pCi/g						
	TPU:			+/-0.0079							
Cobalt-60			U	0.00131	pCi/g						
	TPU:			+/-0.00767							
Europium-152			U	-0.0292	pCi/g						
	TPU:			+/-0.0225							
Lanthanum-140			U	0.0068	pCi/g						
	TPU:			+/-0.0231							
Lead-212			U	-0.000334	pCi/g						
	TPU:			+/-0.0153							
Lead-214			U	-0.0229	pCi/g						
	TPU:			+/-0.0205							
Mercury-203			U	-0.00236	pCi/g						
	TPU:			+/-0.00856							
Potassium-40			U	-0.0225	pCi/g						
	TPU:			+/-0.112							
Radium-223			U	-0.183	pCi/g						
	TPU:			+/-0.148							
Radium-224			U	-0.224	pCi/g						
	TPU:			+/-0.144							
Radium-226			U	-0.0477	pCi/g						
	TPU:			+/-0.0209							
Radium-228			U	0.00942	pCi/g						
	TPU:			+/-0.041							
Ruthenium-106			U	-0.0482	pCi/g						
	TPU:			+/-0.0765							
Sodium-22			U	0.00931	pCi/g						
	TPU:			+/-0.00935							
Strontium-85			U	-0.0752	pCi/g						
	TPU:			+/-0.0149							
Thallium-208			U	-0.00993	pCi/g						
	TPU:			+/-0.00804							
Thorium-227			U	0.00145	pCi/g						
	TPU:			+/-0.0522							
Thorium-231			U	-0.183	pCi/g						
	TPU:			+/-0.148							
Thorium-234			U	-0.117	pCi/g						
	TPU:			+/-0.226							

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## QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
<b>Rad Gamma Spec</b>											
Batch	961099										
Tin-113			U	-0.00224	pCi/g						
	TPU:			+/-0.0107							
Uranium-235			U	-0.0814	pCi/g						
	TPU:			+/-0.0463							
Yttrium-88			U	0.0111	pCi/g						
	TPU:			+/-0.00903							
<b>Rad Liquid Scintillation</b>											
Batch	964063										
QC1202068229	248526001	DUP									
Tritium		U	-96.8	U	-50.9	pCi/L	0.262	(0-1)	KXK2	03/30/1006:17	
	TPU:		+/-42.6		+/-45.2						
QC1202068230	LCS										
Tritium		5520			6300	pCi/L		114 (80%-120%)		03/30/1007:09	
	TPU:				+/-557						
QC1202068228	MB										
Tritium			U	-77	pCi/L					03/30/1005:24	
	TPU:			+/-43.2							

### 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
- 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.

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### QC Summary

Workorder: 248515

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Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
UI	Gamma Spectroscopy--Uncertain identification									
UJ	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#

965494

Product:

Am

Date:

3/29/10

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.			MA
Aux data is correct.			MA
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	✓		
Hlt notification complete (if necessary)			MA
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.			MA
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			MA
Aliquot Correction completed if required.			MA
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

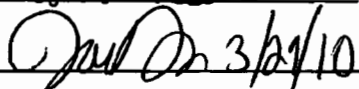
GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By:

 3/29/10

Secondary Review Performed By:

 3/29/10

3/31



# Am/Cm Que Sheet

15-MAR-10

Batch #: 965494 Analyst: MXE1 First Client Due Date: 31-MAR-10 Internal Due Date: 20-MAR-10 Comments:  
 Tracer(s): Am241/Cm244 Tracer Code: 445-96-2-VV Expiration Date: 3/9/11 NA NA  
 LCS Isotope(s): Am241/Cm244 LCS Code(s): NA NA Expiration Date: NA NA  
 Spike Isotope(s): Am241/Cm244 Spike Code(s): NA NA Expiration Date: NA NA  
 Prep Date: 3/22/10 Initials: MCE Pipet ID: 2911058 Balance ID: 50410272 Witness: JEH 3-22-10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet(Dry) Aliquot (g) (l / f)	Am/Cm Det #
248515001-1	RE36-10-7501	SAMPLE	.05 pCi/g	SOIL	LANL010	LANL010	25-FEB-10	1	1	1.252	241
248515002-1	RE36-10-7524	SAMPLE	.05 pCi/g	SOIL	SOIL	LANL010	25 FEB-10	2	2	1.257	242
248515003-1	RE36-10-7525	SAMPLE	.05 pCi/g	SOIL	SOIL	LANL010	25-FEB-10	3	3	1.259	243
248517001-1	RE36-10-8292	SAMPLE	.05 pCi/g	SOIL	SOIL	LANL010	25-FEB-10	4	4	1.256	244
248521001-1	RE36-10-8288	SAMPLE	.05 pCi/g	SOIL	SOIL	LANL010	25-FEB-10	5	5	1.250	245
248521002-1	RE36-10-8279	SAMPLE	.05 pCi/g	SOIL	SOIL	LANL010	25-FEB-10	6	6	1.251	246
248521003-1	RE36-10-8277	SAMPLE	.05 pCi/g	SOIL	SOIL	LANL010	25-FEB-10	7	7	1.258	247
248521004-1	RE36-10-8280	SAMPLE	.05 pCi/g	SOIL	SOIL	LANL010	25-FEB-10	8	8	1.259	248
248521005-1	RE36-10-8278	SAMPLE	.05 pCi/g	SOIL	SOIL	LANL010	25-FEB-10	9	9	1.256	249
248521006-1	RE36-10-8274	SAMPLE	.05 pCi/g	SOIL	SOIL	LANL010	25-FEB-10	10	10	1.258	250
248521007-1	RE36-10-8291	SAMPLE	.05 pCi/g	SOIL	SOIL	LANL010	25-FEB-10	11	11	1.256	251
248521008-1	RE36-10-8287	SAMPLE	.05 pCi/g	SOIL	SOIL	LANL010	25-FEB-10	12	12	1.253	252
248521009-1	RE36-10-8273	SAMPLE	.05 pCi/g	SOIL	SOIL	LANL010	25-FEB-10	13	13	1.252	253
248521010-1	RE36-10-8275	SAMPLE	.05 pCi/g	SOIL	SOIL	LANL010	25-FEB-10	14	14	1.256	254
248526001-1	RE36-10-8276	SAMPLE	.05 pCi/g	SOIL	SOIL	LANL010	25-FEB-10	15	15	1.251	255
248526001-1	RE36-10-8466	SAMPLE	.05 pCi/g	SOIL	SOIL	LANL010	25-FEB-10	16	16	1.250	256
1202071661-1	MB for batch 965494	MB	.05 pCi/g	SOIL	SOIL	QC ACCOUNT		17	17	1.00	257
1202071662-1	RE36-10-8466(248526001DUP)	DUP	.05 pCi/g	SOIL	SOIL	QC ACCOUNT	25-FEB-10	18	18	1.256	258
1202071663-1	LCS for batch 965494	LCS	.05 pCi/g	SOIL	SOIL	QC ACCOUNT		19	19	0.107	259

\* 2485 0244-B exp: 04/30/20

Choose SOP Used: GL-RAD-A-011  
GL-RAD-A-036

Solid Sample Dissolution by: LEACH or DIGESTION  
 Circle One

Data Reviewed By: JS

3/29/10

# Blank Correction Report

**Batch ID 965494**

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202071662	DUP	Americium-241	1.26 g	-0.00349	0.00358	0.023	.003825397	pCi/g	YES
1202071663	LCS	Americium-241	0.107 g	28.1	2.07	0.203	.045046729	pCi/g	NO
1202071661	MB	Americium-241	1.00 g	0.00482	0.00419	0.0272	.00482	pCi/g	YES
248515001	RE36-10-7501	Americium-241	1.25 g	-0.000148	0.00289	0.0222	.003856	pCi/g	YES
248515003	RE36-10-7525	Americium-241	1.26 g	0.00922	0.00379	0.0223	.003825397	pCi/g	YES
248517001	RE36-10-8292	Americium-241	1.26 g	-3.90E-05	0.00138	0.0202	.003825397	pCi/g	YES
248521001	RE36-10-8288	Americium-241	1.25 g	0.000477	0.00186	0.0218	.003856	pCi/g	YES
248521002	RE36-10-8279	Americium-241	1.25 g	0.00362	0.00248	0.0246	.003856	pCi/g	YES
248521003	RE36-10-8277	Americium-241	1.26 g	0.013	0.00563	0.0238	.003825397	pCi/g	YES
248521004	RE36-10-8280	Americium-241	1.26 g	0.0152	0.00556	0.023	.003825397	pCi/g	YES
248521005	RE36-10-8278	Americium-241	1.26 g	0.00182	0.00172	0.0237	.003825397	pCi/g	YES
248521006	RE36-10-8274	Americium-241	1.26 g	0.00307	0.00256	0.0201	.003825397	pCi/g	YES
248521007	RE36-10-8291	Americium-241	1.26 g	0.0341	0.00759	0.0214	.003825397	pCi/g	NO
248521008	RE36-10-8287	Americium-241	1.25 g	0.0162	0.00498	0.0215	.003856	pCi/g	YES
248521009	RE36-10-8273	Americium-241	1.25 g	0.0202	0.00799	0.023	.003856	pCi/g	NO
248521010	RE36-10-8275	Americium-241	1.26 g	0.0106	0.00429	0.0212	.003825397	pCi/g	YES
248526001	RE36-10-8466	Americium-241	1.25 g	-0.00204	0.002	0.0205	.003856	pCi/g	YES

**GEL Laboratories LLC**  
**ALPHA SPECTROSCOPY REPORT**

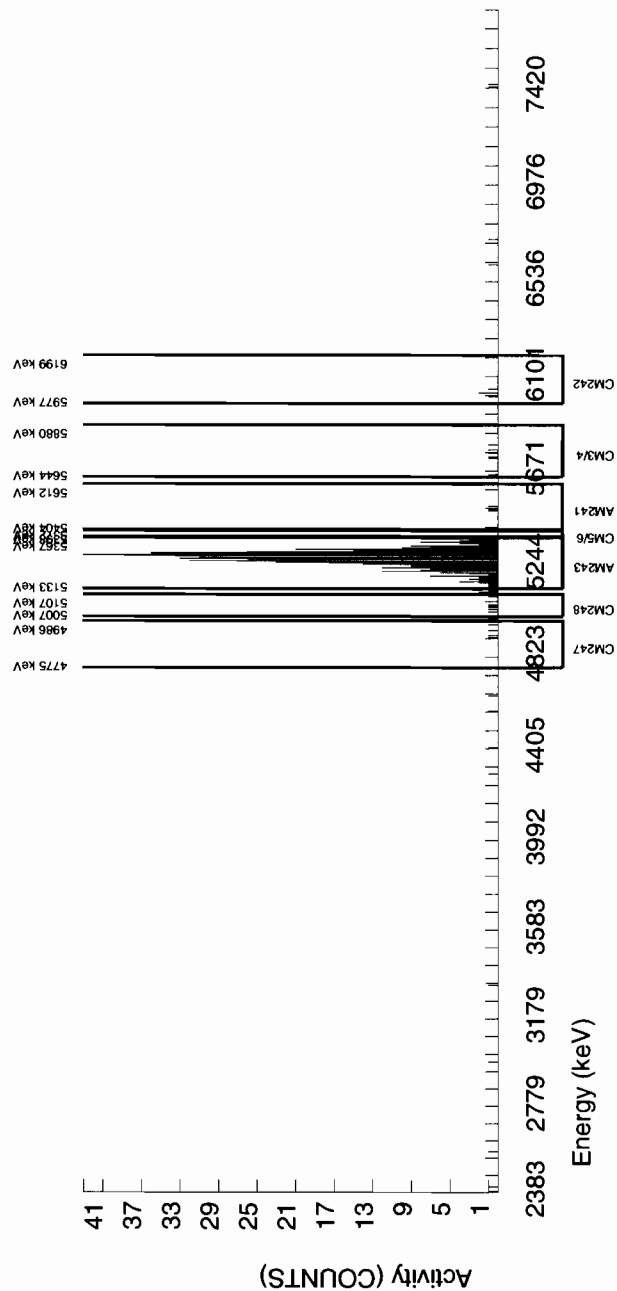
BATCH NUMBER : 965494 SAMPLE ID : S0248515001_AM SAMPLE QTY : 1.252 G SAMPLE DATE : 25-FEB-2010 00:00:00 ANALYST : MXE1 % YIELD : 83.652				CHAMBER : 241 DETECTOR S/N : 79434 AVERAGE %EFFICIENCY : 39.4182 COUNT DATE : 25-MAR-2010 22:12:41 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B241.CNF:91 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W241.CNF:30 CAL DATE : 28-FEB-2010					
TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 1.9034E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5503.219	23.968	3.000	-0.098	2.160	2.7707	99.94000	-1.48E-04	2.89E-03	9.06E-03	2.22E-02	2.88E-03
AM243	5270.000	5277.316	47.723	539.000	539.000	0.000	0.0000	99.78000	8.19E-01	6.51E-02	0.00E+00	4.12E-03	3.53E-02
CM-242	6102.000	6014.080	0.000	7.000	7.000	0.000	4.0092	100.0000	1.20E-02	4.61E-03	1.31E-02	3.03E-02	4.54E-03
CM-3/4	5795.020	5743.054	127.831	6.000	5.280	0.720	4.8510	100.0000	8.03E-03	3.92E-03	1.59E-02	3.58E-02	3.88E-03
CM-5/6	5386.000	5374.511	0.000	4.000	4.000	0.000	6.1294	86.09000	7.04E-03	3.55E-03	2.33E-02	5.13E-02	3.52E-03
CM-247	4946.000	4942.088	58.999	4.000	3.280	0.720	6.3427	79.30000	6.27E-03	4.08E-03	2.61E-02	5.75E-02	4.06E-03
CM-248	5078.600	5064.604	0.000	9.000	8.280	0.720	11.0244	91.00000	1.38E-02	5.22E-03	3.96E-02	8.37E-02	5.14E-03

## NOTES:

\* BKG Sg calculated via blank population.  
(Sg updated 8-MAR-2010)

\* BKG Sg of AM243 calculated as sqrt(BKG AREA).

\* Corrections made to the following net area due to tracer impurity:  
AM-24<sup>1</sup>

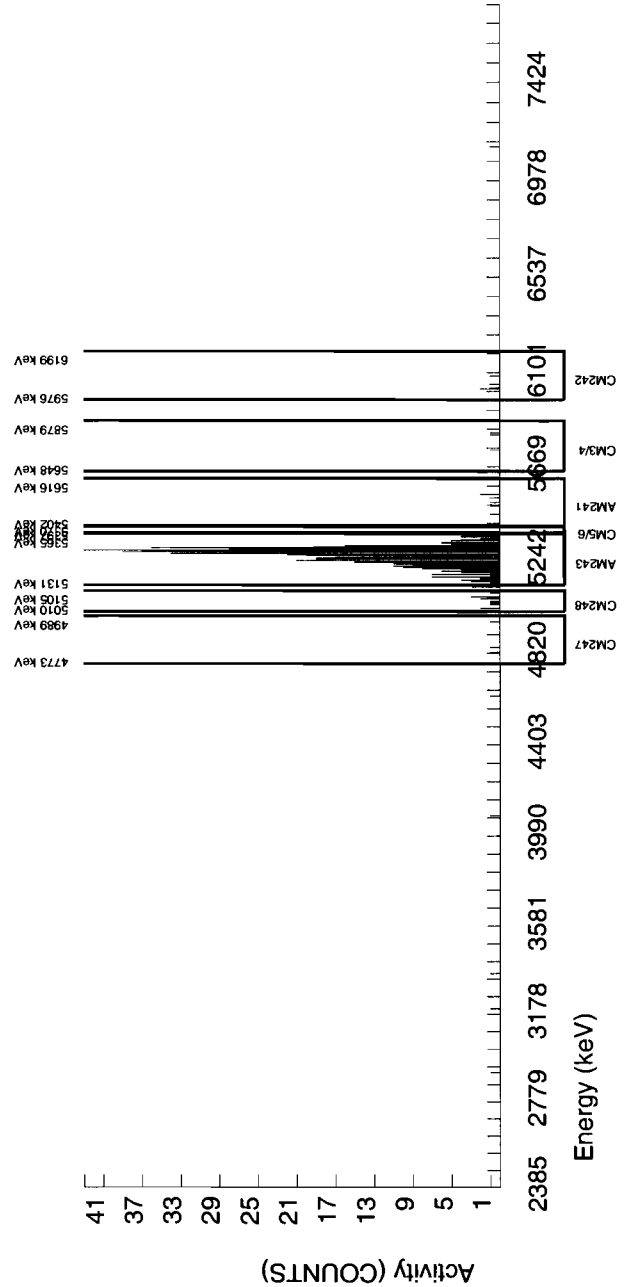


GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 965494 SAMPLE ID : S0248515003_AM SAMPLE QTY : 1.259 G SAMPLE DATE : 25-FEB-2010 00:00:00 ANALYST : MXE1 % YIELD : 78.638		CHAMBER : 243 DETECTOR S/N : 79436 AVERAGE %EFFICIENCY : 41.6202 COUNT DATE : 25-MAR-2010 22:12:46 ELAPSED LIVE TIME(SEC) : 43200.00	LIB FILE : ENV_ALPHA_AM BKG FILE : B243.CNF:91 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W243.CNF:30 CAL DATE : 28-FEB-2010
TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 1.7893E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
AM-241	5479.150	5516.377	4.898
AM243	5270.000	5270.402	34.389
CM-242	6102.000	6047.895	7.194
CM-3/4	5795.020	5800.188	78.372
CM-5/6	5386.000	5373.590	0.000
CM-247	4946.000	4855.613	0.000
CM-248	5078.600	5068.442	52.606
	GROSS AREA	NET AREA	BKG AREA
	7.000	6.069	0.000
	535.000	535.000	0.000
	5.000	5.000	0.000
	3.000	0.120	2.880
	3.000	2.280	0.720
	4.000	3.280	0.720
	14.000	14.000	0.000
		BKG Sg	%ABUN
		2.7707	99.94000
		0.000	99.78000
		4.0092	100.0000
		4.8510	100.0000
		6.1294	86.09000
		6.3427	79.30000
		11.0244	91.00000
		ACTIVITY pCi/G	
		9.22E-03	
		8.14E-01	
		8.59E-03	
		1.83E-04	
		4.02E-03	
		6.28E-03	
		2.34E-02	
		TPU 1-SIGMA	DLC pCi/G
		3.79E-03	9.08E-03
		6.49E-02	0.00E+00
		3.89E-03	1.31E-02
		3.43E-03	1.59E-02
		3.32E-03	2.33E-02
		4.09E-03	2.62E-02
		6.44E-03	3.97E-02
		MDC pCi/G	UNC pCi/G
		2.23E-02	3.74E-03
		4.12E-03	3.52E-02
		3.04E-02	3.84E-03
		3.59E-02	3.43E-03
		5.14E-02	3.31E-03
		5.76E-02	4.07E-03
		8.39E-02	6.24E-03

## NOTES:

- \* BKG Sg calculated via blank population.  
(Sg updated 8-MAR-2010)
- \* BKG Sg of AM243 calculated as sqrt(BKG AREA).
- \* Corrections made to the following net area due to tracer impurity:  
AM-241



**GEL Laboratories LLC**  
**ALPHA SPECTROSCOPY REPORT**

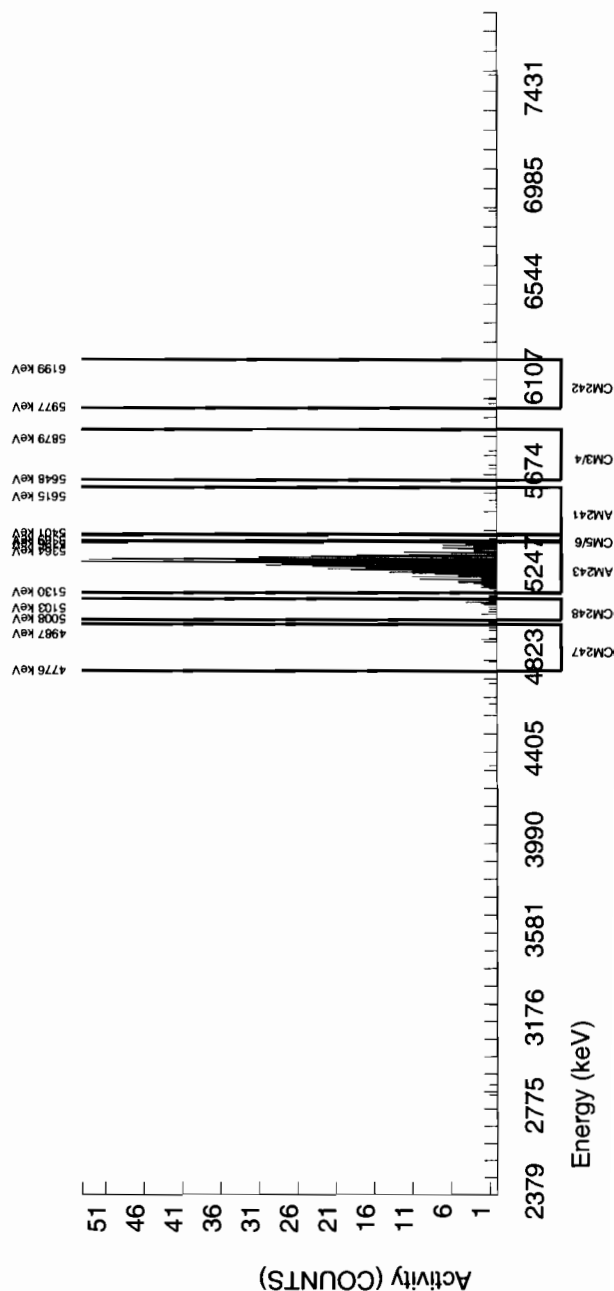
NOTES:

\* BKG Sg calculated via blank population.

(Sg updated 8-MAR-2010)

\* BKG Sg of AM243 calculated as sqrt(BKG AREA).

\* Corrections made to the following net area due to tracer impurity:

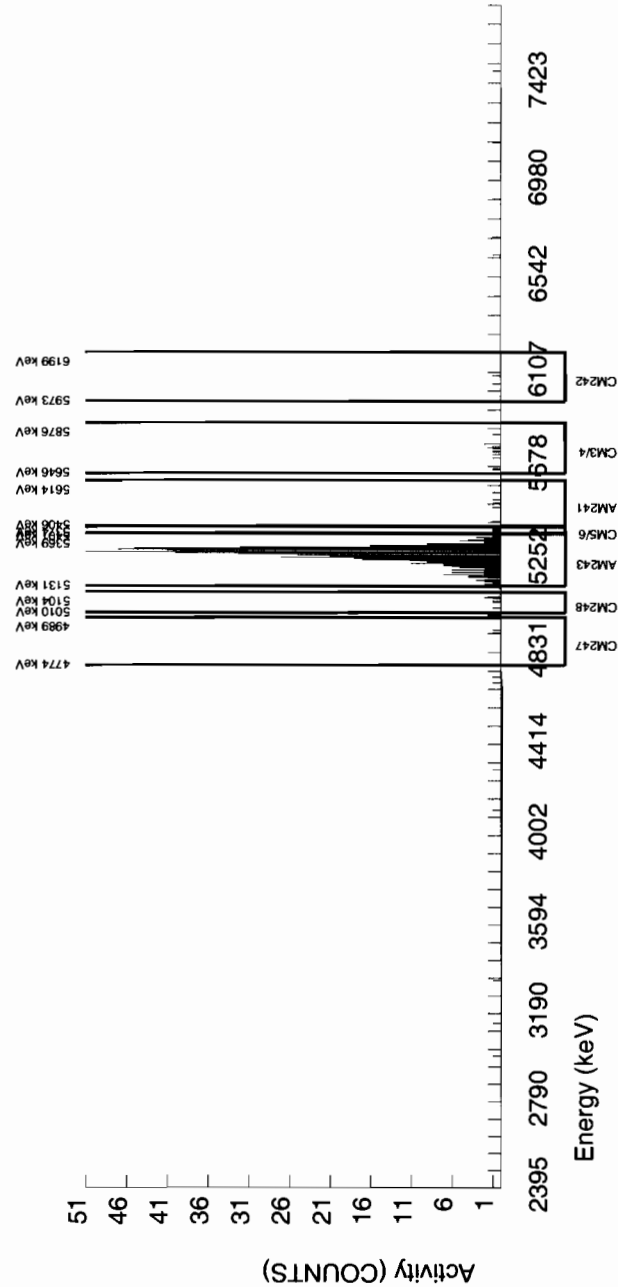


GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 965494 SAMPLE ID : S1202071661_AM SAMPLE QTY : 1.000 G SAMPLE DATE : 22-MAR-2010 00:00:00 ANALYST : MXE1 % YIELD : 87.788				CHAMBER : 217 DETECTOR S/N : 79410 AVERAGE %EFFICIENCY : 38.4865 COUNT DATE : 26-MAR-2010 07:43:53 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B217.CNF:93 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W217.CNF:32 CAL DATE : 28-FEB-2010					
TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 1.9975E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3148E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3148E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5509.126	127.716	5.000	2.599	1.440	2.7707	99.94000	4.82E-03	4.19E-03	1.11E-02	2.72E-02	4.17E-03
AM243	5270.000	5282.072	47.021	553.000	552.280	0.720	0.8485	99.78000	1.02E+00	8.10E-02	3.40E-03	1.18E-02	4.37E-02
CM-242	6102.000	6060.723	68.770	3.000	3.000	0.000	4.0092	100.00000	5.66E-03	3.29E-03	1.60E-02	3.71E-02	3.27E-03
CM-3/4	5795.020	5748.223	4.912	11.000	10.280	0.720	4.8510	100.00000	1.90E-02	6.41E-03	1.94E-02	4.38E-02	6.29E-03
CM-5/6	5386.000	5382.455	0.000	7.000	6.280	0.720	6.1294	86.09000	1.35E-02	5.97E-03	2.84E-02	6.27E-02	5.90E-03
CM-247	4946.000	4887.873	4.912	6.000	5.280	0.720	6.3427	79.30000	1.23E-02	6.02E-03	3.20E-02	7.02E-02	5.96E-03
CM-248	5078.600	5074.700	9.824	8.000	8.000	0.000	11.0244	91.00000	1.63E-02	5.86E-03	4.84E-02	1.02E-01	5.76E-03

## NOTES:

- \* BKG Sg calculated via blank population.  
(Sg updated 8-MAR-2010)
- \* BKG Sg of AM243 calculated as sqrt(BKG AREA).
- \* Corrections made to the following net area due to tracer impurity:  
AM-241



**GEL Laboratories LLC**  
**ALPHA SPECTROSCOPY REPORT**

BATCH NUMBER : 965494 SAMPLE ID : S1202071662_AM SAMPLE QTY : 1.256 G SAMPLE DATE : 25-FEB-2010 00:00:00 ANALYST : MXE1 % YIELD : 80.696				CHAMBER : 218 DETECTOR S/N : 79411 AVERAGE %EFFICIENCY : 39.3974 COUNT DATE : 26-MAR-2010 07:43:55 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B218.CNF;91 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W218.CNF;30 CAL DATE : 28-FEB-2010				
TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 1.8361E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G				
NUCLIDE ACTIVITY SUMMARY												
NUCLIDE	LIBRARY ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	168.164	3,000	-2.224	4.320	2.7707	99.94000	-3.49E-03	3.58E-03	9.37E-03	2.30E-02	3.58E-03
AM243	5270.000	37.687	524,000	519,680	4,320	2.0785	99.78000	8.16E-01	6.59E-02	7.04E-03	1.83E-02	3.61E-02
CM-242	6102.000	39.568	2,000	2,000	0.000	4.0092	100.0000	3.55E-03	2.52E-03	1.36E-02	3.13E-02	2.51E-03
CM-3/4	5795.020	4.946	3,000	1,560	1,440	4.8510	100.0000	2.45E-03	3.16E-03	1.64E-02	3.70E-02	3.16E-03
CM-5/6	5386.000	0.000	11,000	11,000	0.000	6.1294	86.09000	2.00E-02	6.19E-03	2.41E-02	5.31E-02	6.04E-03
CM-247	4946.000	173.110	4,000	1,840	2,160	6.3427	79.30000	3.64E-03	4.66E-03	2.70E-02	5.94E-02	4.66E-03
CM-248	5078.600	4.946	5,000	5,000	0.000	11.0244	91.00000	8.61E-03	3.89E-03	4.09E-02	8.66E-02	3.85E-03

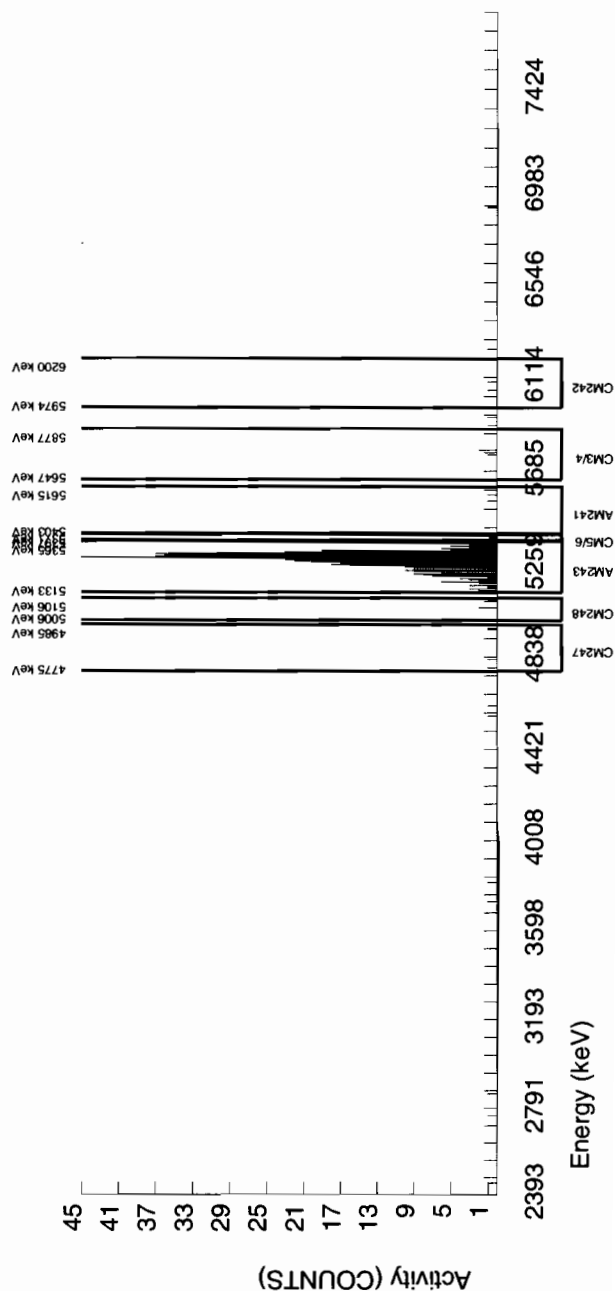
## NOTES:

\* BKG Sg calculated via blank population.

Sg updated 8-MAR-2010)

\* BKG Sg of AM243 calculated as sqrt(BKG AREA).

\* Corrections made to the following net area due to tracer impurity:



**GEL Laboratories LLC**  
**ALPHA SPECTROSCOPY REPORT**

BATCH NUMBER : 965494 SAMPLE ID : S1202071663_AM SAMPLE QTY : 0.107 G SAMPLE DATE : 22-MAR-2010 00:00:00 ANALYST : MXE1 % YIELD : 104.049				CHAMBER : 219 DETECTOR S/N : 79412 AVERAGE %EFFICIENCY : 40.6279 COUNT DATE : 26-MAR-2010 07:43:58 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B219.CNF;91 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W219.CNF;30 CAL DATE : 28-FEB-2010					
TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 2.3674E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3148E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3148E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5499.138	52.248	2028.000	2026.798	0.000	2.7707	99.94000	2.81E+01	2.07E+00	8.27E-02	2.03E-01	6.23E-01
AM-243	5270.000	5277.317	55.655	691.000	691.000	0.000	0.0000	99.78000	9.58E+00	7.67E-01	0.00E+00	3.76E-02	3.64E-01
CM-242	6102.000	6032.537	29.598	3.000	2.280	0.720	4.0092	100.0000	3.22E-02	2.66E-02	1.20E-01	2.77E-01	2.65E-02
CM-3/4	5795.020	5775.234	78.928	4.000	4.000	0.000	4.8510	100.0000	5.54E-02	2.79E-02	1.45E-01	3.27E-01	2.77E-02
CM-5/6	5386.000	5385.860	0.000	73.000	73.000	0.000	6.1294	86.09000	1.17E+00	1.60E-01	2.12E-01	4.68E-01	1.37E-01
CM-247	4946.000	4847.984	93.726	16.000	16.000	0.000	6.3427	79.30000	2.79E-01	7.25E-02	2.39E-01	5.25E-01	6.98E-02
CM-248	5078.600	5067.183	7.168	22.000	22.000	0.000	11.0244	91.00000	3.34E-01	7.51E-02	3.62E-01	7.64E-01	7.13E-02

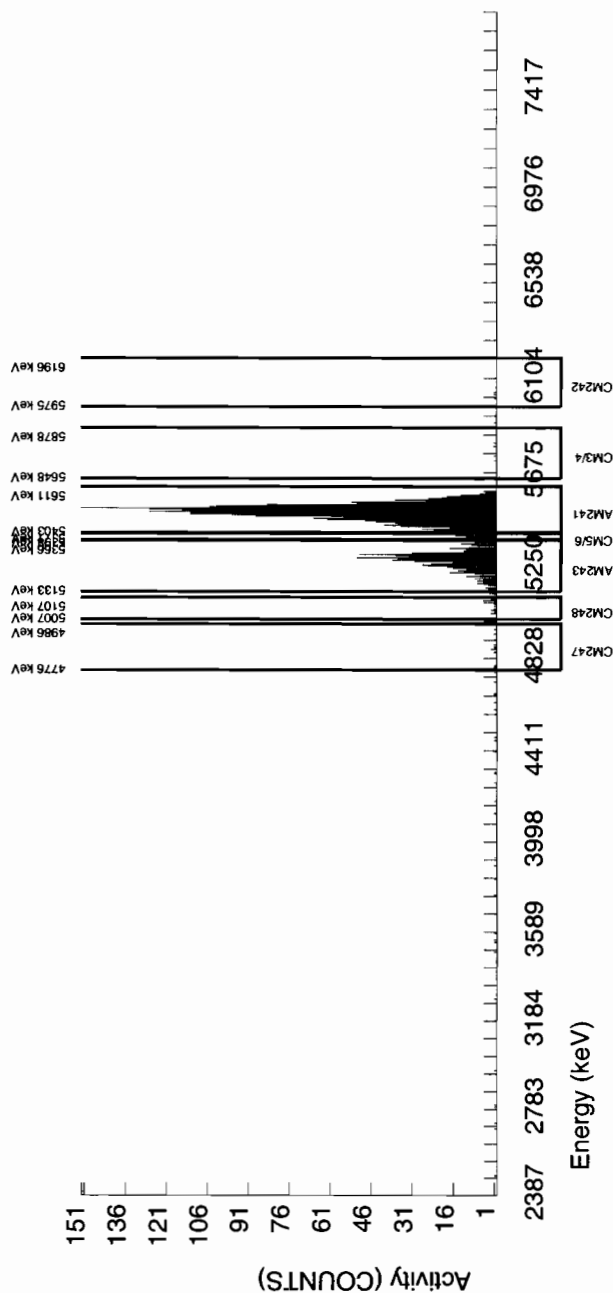
## NOTES:

\* BKG Sg calculated via blank population.

(Sg updated 8-MAR-2010)

\* BKG Sg of AM243 calculated as  $\sqrt{\text{BKG AREA}}$ .

\* Corrections made to the following net area due to tracer impurity:





## Radiochemistry Batch Checklist, Rev10

Batch# 965495 Product: PV Date: 3/26/10

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 RCL/ 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.	✓		
Netted blank is less than the RCL/ 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 stated.	✓		
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 REMF, results above MDC have been verified by historical results, recourt or re-analysis.)	✓		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: JapLMF- 3/26/10Secondary Review Performed By: [Signature] 3/26/10

3/31

## Plutonium Que Sheet

15-MAR-10

Batch #: 965495 Analyst: MXE1 First Client Due Date: 31-MAR-10 Internal Due Date: 20-MAR-10

Tracer Isotope(s): Pu-238 Tracer Code: 1430-C Expiration Date: 3/4/10 Vol: 0.1

LCS Isotope(s): Pu-239/Pu-238 LCS Code: / Expiration Date: / Vol: /

Spike Isotope(s): Pu-239/Pu-238 Spike Code: / Expiration Date: / Vol: /

Prep Date: 3/22/10 Initials: MAE Pipet ID: 2971058 Balance ID: 50410272

Witness: JEH 3-22-10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Aliquot (g/l/n)	Pu Det #
248515001-1	RE36-10-7501	SAMPLE	.05 pCi/g		SOIL	LANL010	25-FEB-10	1	1	1.252	75
248515002-1	RE36-10-7524	SAMPLE	.05 pCi/g		SOIL	LANL010	25-FEB-10	2	2	1.257	76
248515003-1	RE36-10-7525	SAMPLE	.05 pCi/g		SOIL	LANL010	25-FEB-10	3	3	1.259	31
248517001-1	RE36-10-8292	SAMPLE	.05 pCi/g		SOIL	LANL010	25-FEB-10	4	4	1.256	33
248521001-1	RE36-10-8288	SAMPLE	.05 pCi/g		SOIL	LANL010	25-FEB-10	5	5	1.250	35
248521002-1	RE36-10-8279	SAMPLE	.05 pCi/g		SOIL	LANL010	25-FEB-10	6	6	1.261	36
248521003-1	RE36-10-8277	SAMPLE	.05 pCi/g		SOIL	LANL010	25-FEB-10	7	7	1.258	13
248521004-1	RE36-10-8280	SAMPLE	.05 pCi/g		SOIL	LANL010	25-FEB-10	8	8	1.259	14
248521005-1	RE36-10-8278	SAMPLE	.05 pCi/g		SOIL	LANL010	25-FEB-10	9	9	1.250	16
248521006-1	RE36-10-8274	SAMPLE	.05 pCi/g		SOIL	LANL010	25-FEB-10	10	10	1.258	17
248521007-1	RE36-10-8291	SAMPLE	.05 pCi/g		SOIL	LANL010	25-FEB-10	11	11	1.256	18
248521008-1	RE36-10-8287	SAMPLE	.05 pCi/g		SOIL	LANL010	25-FEB-10	12	12	1.253	19
248521009-1	RE36-10-8273	SAMPLE	.05 pCi/g		SOIL	LANL010	25-FEB-10	13	13	1.252	20
248521010-1	RE36-10-8275	SAMPLE	.05 pCi/g		SOIL	LANL010	25-FEB-10	14	14	1.256	22
248521011-1	RE36-10-8276	SAMPLE	.05 pCi/g		SOIL	LANL010	25-FEB-10	15	15	1.251	23
248526001-1	RE36-10-8466	SAMPLE	.05 pCi/g		SOIL	LANL010	25-FEB-10	16	16	1.250	24
1202071664-1	MB for batch 965495	MB	.05 pCi/g		SOIL	QC ACCOUNT		17	17	1	25
1202071665-1	RE36-10-8466(248526001DUP)	DUP	.05 pCi/g		SOIL	QC ACCOUNT	25-FEB-10	18	18	1.256	26
1202071666-1	LCS for batch 965495	LCS	.05 pCi/g		SOIL	QC ACCOUNT		19	19	0.107	27

Choose SOP Used: GL-RAD-A-010 GL-RAD-A-036, GL-RAD-A-045, GL-RAD-A-043Solid Sample Dissolution by LEACH or DIGESTION  
Circle OneData Reviewed By: Sagala 3/26/10

# Blank Correction Report

**Batch ID 965495**

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202071665	DUP	Plutonium-238	1.26 g	-0.00122	0.00281	0.0184	.001261905	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00633	0.0037	0.0156	.000880952	pCi/g	NO
1202071666	LCS	Plutonium-238	0.107 g	5.05	0.466	0.279	.014859813	pCi/g	NO
		Plutonium-239/240	0.107 g	39.8	2.78	0.235	.010373832	pCi/g	NO
1202071664	MB	Plutonium-238	1.00 g	0.00159	0.00723	0.0264	.00159	pCi/g	YES
		Plutonium-239/240	1.00 g	0.00111	0.00347	0.0223	.00111	pCi/g	YES
248515001	RE36-10-7501	Plutonium-238	1.25 g	0.00574	0.00373	0.0232	.001272	pCi/g	YES
		Plutonium-239/240	1.25 g	-0.00455	0.00332	0.0196	.000888	pCi/g	YES
248515002	RE36-10-7524	Plutonium-238	1.26 g	0.00521	0.0043	0.0303	.001261905	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0453	0.0114	0.0256	.000880952	pCi/g	NO
248515003	RE36-10-7525	Plutonium-238	1.26 g	0.00499	0.00438	0.0259	.001261905	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0222	0.00828	0.0219	.000880952	pCi/g	NO
248517001	RE36-10-8292	Plutonium-238	1.26 g	0.00572	0.00332	0.0253	.001261905	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0114	0.00472	0.0214	.000880952	pCi/g	NO
248521001	RE36-10-8288	Plutonium-238	1.25 g	0.00896	0.00495	0.0278	.001272	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00435	0.00829	0.0235	.000888	pCi/g	YES
248521002	RE36-10-8279	Plutonium-238	1.25 g	0.00168	0.00428	0.0266	.001272	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0397	0.010	0.0225	.000888	pCi/g	NO
248521003	RE36-10-8277	Plutonium-238	1.26 g	0.00168	0.00544	0.0233	.001261905	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0492	0.0105	0.0197	.000880952	pCi/g	NO
248521004	RE36-10-8280	Plutonium-238	1.26 g	0.0049	0.0112	0.0266	.001261905	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0275	0.00937	0.0225	.000880952	pCi/g	NO
248521005	RE36-10-8278	Plutonium-238	1.26 g	0.0181	0.00627	0.0227	.001261905	pCi/g	NO
		Plutonium-239/240	1.26 g	-0.00123	0.00211	0.0192	.000880952	pCi/g	YES
248521006	RE36-10-8274	Plutonium-238	1.26 g	-0.00216	0.00574	0.0276	.001261905	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0193	0.00683	0.0233	.000880952	pCi/g	NO
248521007	RE36-10-8291	Plutonium-238	1.26 g	0.00447	0.00787	0.0251	.001261905	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0782	0.0132	0.0212	.000880952	pCi/g	NO
248521008	RE36-10-8287	Plutonium-238	1.25 g	0.00686	0.00872	0.0271	.001272	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0388	0.0092	0.0229	.000888	pCi/g	NO
248521009	RE36-10-8273	Plutonium-238	1.25 g	0.0142	0.00738	0.0228	.001272	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0762	0.0124	0.0193	.000888	pCi/g	NO
248521010	RE36-10-8275	Plutonium-238	1.26 g	-0.000778	0.00961	0.0258	.001261905	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0366	0.0095	0.0218	.000880952	pCi/g	NO
248521011	RE36-10-8276	Plutonium-238	1.25 g	0.026	0.00833	0.0239	.001272	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00281	0.00363	0.0202	.000888	pCi/g	YES
248526001	RE36-10-8466	Plutonium-238	1.25 g	-0.00237	0.00498	0.0213	.001272	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0025	0.00322	0.018	.000888	pCi/g	YES

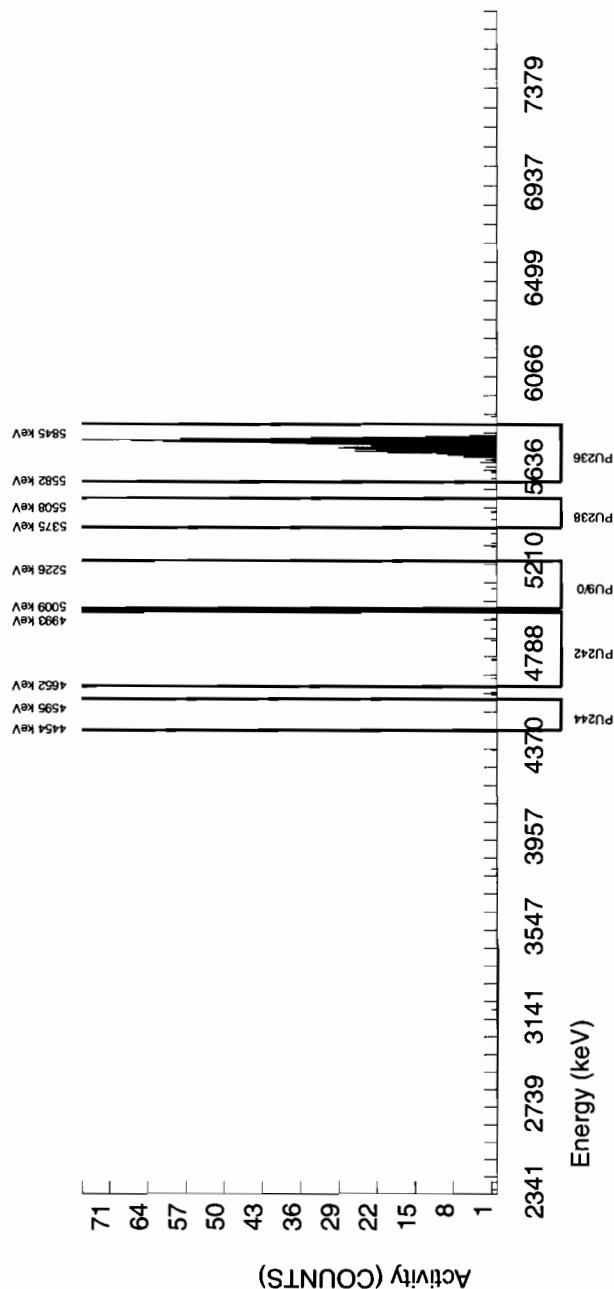
GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 965495 SAMPLE ID : S0248515001_PU SAMPLE QTY : 1.252 G SAMPLE DATE : 25-FEB-2010 00:00:00 ANALYST : MXE1 % YIELD : 88.940		CHAMBER : 075 DETECTOR S/N : 80010 AVERAGE %EFFICIENCY : 32.1597 COUNT DATE : 25-MAR-2010 16:55:33 ELAPSED LIVE TIME(SEC) : 43199.99	LIB FILE : ENV_ALPHA_PU BKG FILE : B075.CNF;1115 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W075.CNF;292 CAL DATE : 12-MAR-2010
TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 3.0160E+00 dpm RESULTS : 2.6824E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
PU-236	5749.000	5759.815	26.581
PU-238	5499.000	5425.150	74.248
PU-9/0	5155.000	5104.265	4.950
PU-242	4890.000	4834.653	262.343
PU-244	4589.000	4589.297	4.950
	GROSS AREA	NET AREA	BKG AREA
	610.000	609.280	0.720
	4.000	3.280	0.720
	1.000	-2.600	3.600
	6.000	4.560	1.440
	1.000	0.280	0.720
	%ABUN	BKG Sg	ACTIVITY pCi/G
	100.0000	0.8485	1.09E+00
	99.90000	2.4495	5.74E-03
	99.90000	1.9732	-4.55E-03
	100.0000	*****	7.97E-03
	99.90000	6.4609	4.90E-04
	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G
	7.69E-02	3.20E-03	1.11E-02
	3.73E-03	9.24E-03	2.32E-02
	3.32E-03	7.44E-03	1.96E-02
	4.66E-03	4.70E-01	9.44E-01
	2.16E-03	2.44E-02	5.35E-02
	UNC pCi/G		
	4.40E-02		
	3.72E-03		
	3.31E-03		
	4.63E-03		
	2.15E-03		

## NOTES:

\* BKG Sg calculated via blank population.  
(Sg updated 8-MAR-2010)

\* BKG Sg of PU-236 calculated as sqrt(BKG AREA).



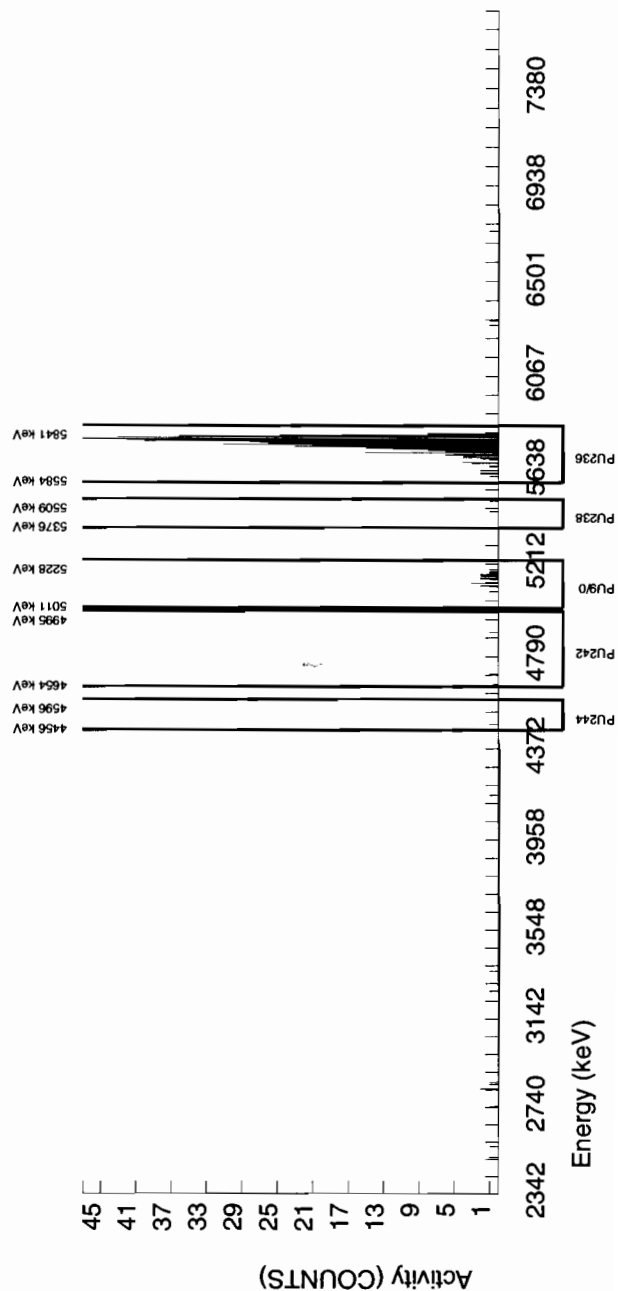
**GEL Laboratories LLC**  
**ALPHA SPECTROSCOPY REPORT**

BATCH NUMBER : 965495 SAMPLE ID : S0248515002_PU SAMPLE QTY : 1.257 G SAMPLE DATE : 25-FEB-2010 00:00:00 ANALYST : MXE1 % YIELD : 69.680				CHAMBER : 076 DETECTOR SN : 78779 AVERAGE %EFFICIENCY : 31.3281 COUNT DATE : 25-MAR-2010 16:55:33 ELAPSED LIVE TIME(SEC) : 43199.99				LIB FILE : ENV_ALPHA_PU BKG FILE : B076.CNF;1118 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W076.CNF;297 CAL DATE : 12-MAR-2010					
TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 3.0160E+00 dpm RESULTS : 2.1015E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	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-236	5749.000	5766.255	43.476	465.000	465.000	0.000	0.0000	100.0000	1.08E+00	8.40E-02	0.00E+00	6.18E-03	5.01E-02
PU-238	5499.000	5447.316	118.840	3.000	2.280	0.720	2.4495	99.90000	5.21E+03	4.30E-03	1.21E-02	3.03E-02	4.28E-03
PU-9/0	5155.000	5146.695	54.344	22.000	19.840	2.160	1.9732	99.90000	4.53E-02	1.14E-02	9.72E-03	2.56E-02	1.11E-02
PU242	4890.000	4820.312	307.004	4.000	2.560	1.440	*****	100.0000	5.84E+03	5.13E-03	6.13E-01	1.23E+00	5.12E-03
PU-244	4589.000	4515.484	59.420	2.000	1.280	0.720	6.4609	99.90000	2.92E-03	3.63E-03	3.18E-02	6.98E-02	3.62E-03

## NOTES:

\* BKG Sg calculated via blank population.  
(Sg updated 8-MAR-2010)

\* BKG Sg of PU-236 calculated as sqrt(BKG AREA).

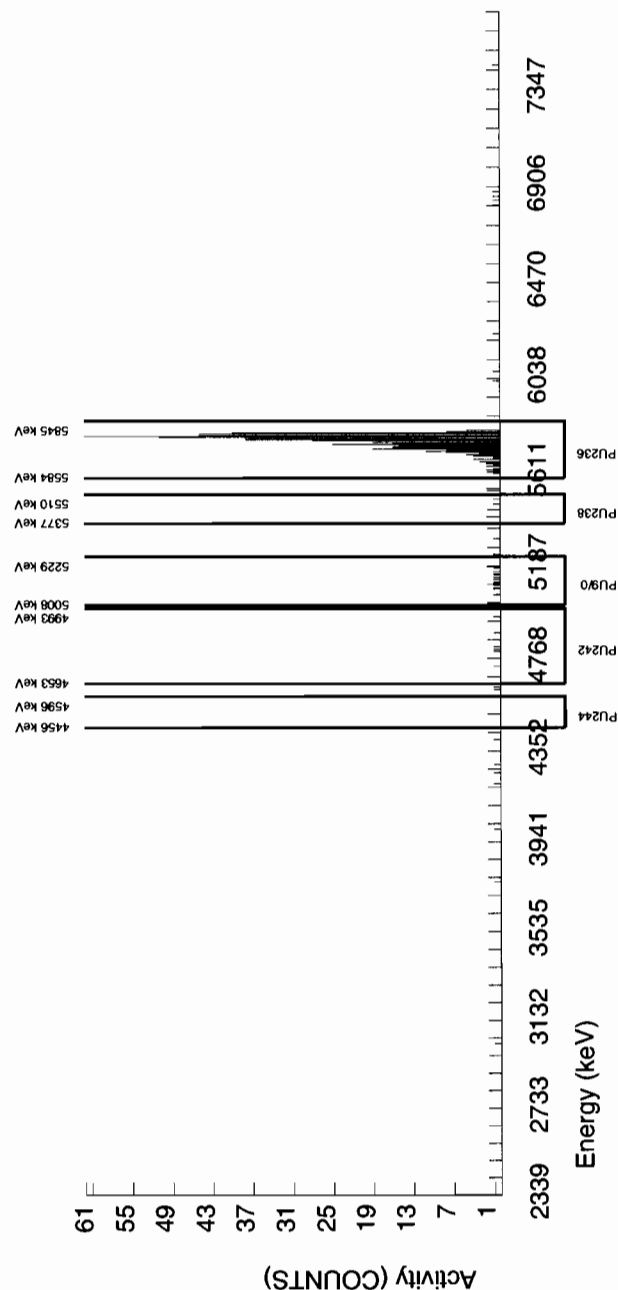


# GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 965495 SAMPLE ID : S0248515003_PU SAMPLE QTY : 1.259 G SAMPLE DATE : 25-FEB-2010 00:00:00 ANALYST : MXE1 % YIELD : 71.864				CHAMBER : 031 DETECTOR S/N : 79988 AVERAGE %EFFICIENCY : 35.5462 COUNT DATE : 25-MAR-2010 18:40:50 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B031.CNF;1121 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W031.CNF;347 CAL DATE : 4-MAR-2010					
TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 3.0160E+00 dpm RESULTS : 2.1674E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	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-236	5749.000	5760.526	34.171	547.000	544.120	2.880	1.6971	100.0000	1.08E+00	7.97E-02	7.12E-03	1.95E-02	4.65E-02
PU-238	5499.000	5448.657	4.902	4.000	2.560	1.440	2.4495	99.90000	4.99E-03	4.38E-03	1.03E-02	2.59E-02	4.37E-03
PU-9/0	5155.000	5125.996	7.200	15.000	11.400	3.600	1.9732	99.90000	2.22E-02	8.28E-03	8.29E-03	2.19E-02	8.17E-03
PU242	4890.000	4838.156	215.693	6.000	0.960	5.040	*****	100.0000	1.87E-03	6.04E-03	5.23E-01	1.05E+00	6.04E-03
PU-244	4589.000	4525.827	0.000	0.000	-0.720	0.720	6.4609	99.90000	-1.40E-03	2.40E-03	2.71E-02	5.96E-02	2.40E-03

## NOTES:

- \* BKG Sg calculated via blank population.  
(Sg updated 8-MAR-2010)
- \* BKG Sg of PU-236 calculated as sqrt(BKG AREA).



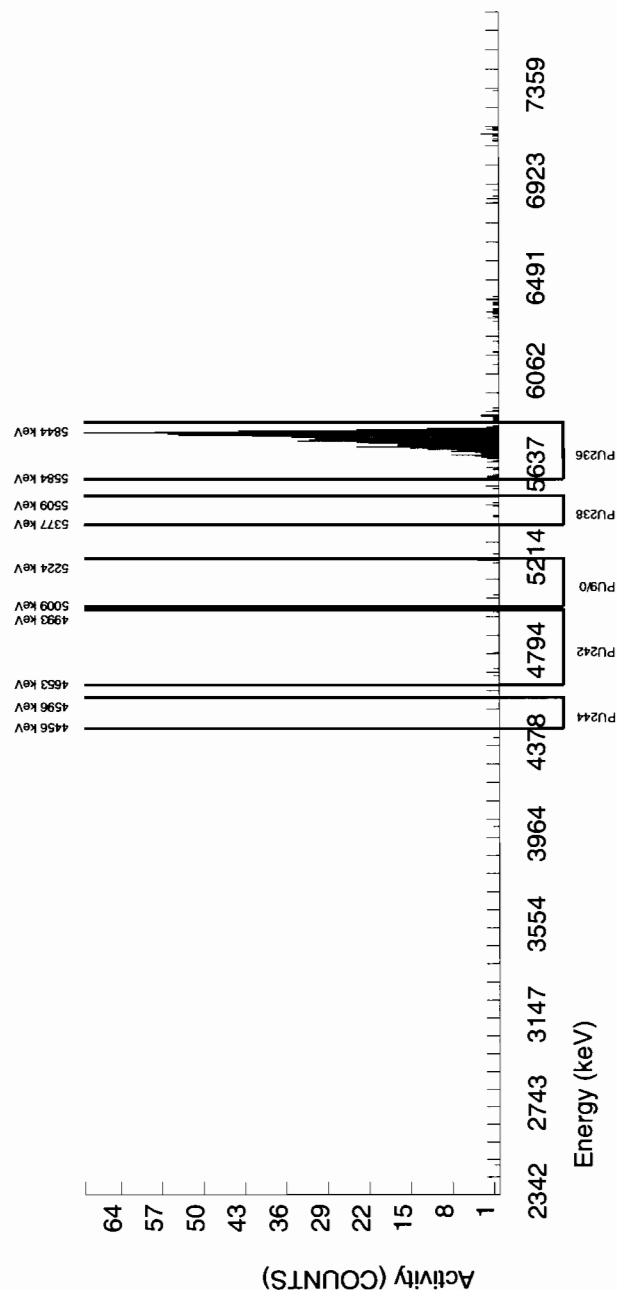
GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 965495 SAMPLE ID : S0248526001_PU SAMPLE QTY : 1.250 G SAMPLE DATE : 25-FEB-2010 00:00:00 ANALYST : MXE1 % YIELD : 91.407				CHAMBER : 024 DETECTOR S/N : 76542 AVERAGE %EFFICIENCY : 34.2324 COUNT DATE : 25-MAR-2010 20:23:06 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B024.CNF;1112 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W024.CNF;303 CAL DATE : 4-MAR-2010					
TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 3.0160E+00 dpm RESULTS : 2.7568E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	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-236	5749.000	5775.805	32.186	678.000	666.480	11.520	3.3941	100.0000	1.09E+00	7.55E-02	1.17E-02	2.78E-02	4.27E-02
PU-238	5499.000	5453.342	64.265	5.000	-1.480	6.480	2.4495	99.900000	-2.37E-03	4.98E-03	8.46E-03	2.13E-02	4.98E-03
PU-9/0	5155.000	5096.377	189.676	3.000	1.560	1.440	1.9732	99.900000	2.50E-03	3.22E-03	6.82E-03	1.80E-02	3.22E-03
PU242	4890.000	4757.658	318.830	6.000	3.840	2.160	*****	100.0000	6.14E-03	4.41E-03	4.30E-01	8.65E-01	4.40E-03
PU-244	4589.000	4525.752	0.000	0.000	-1.440	1.440	6.4609	99.900000	-2.31E-03	2.29E-03	2.23E-02	4.90E-02	2.29E-03

## NOTES:

\* BKG Sg calculated via blank population.  
(Sg updated 8-MAR-2010)

\* BKG Sg of PU-236 calculated as sqrt(BKG AREA).



GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

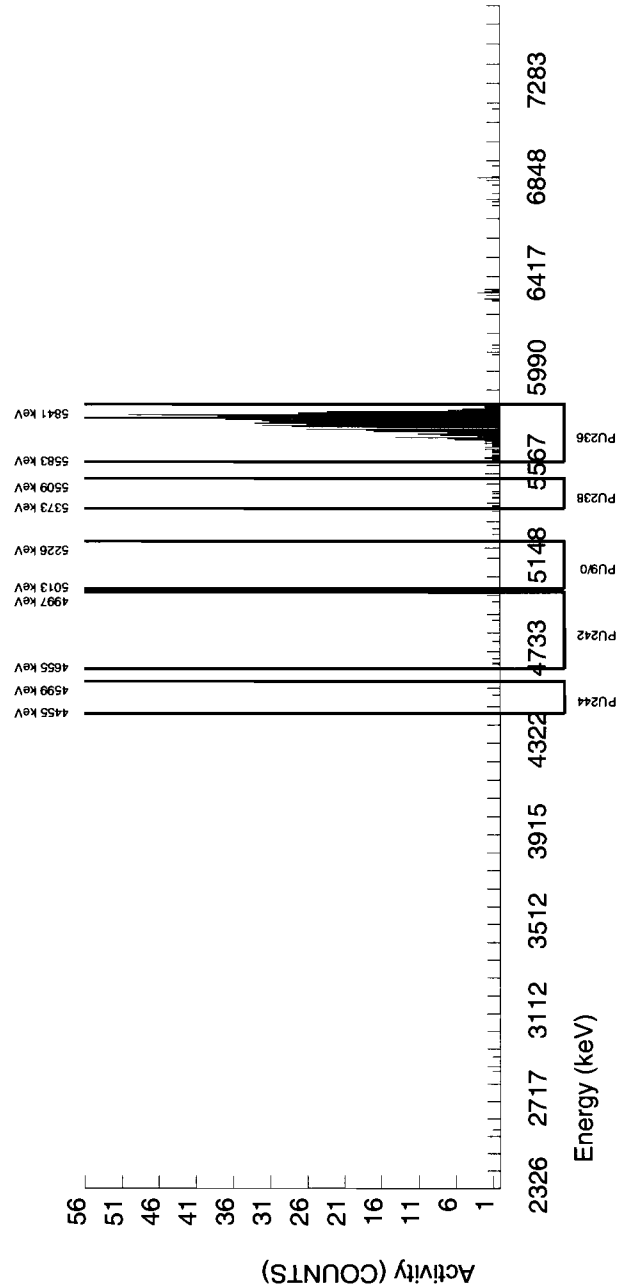
BATCH NUMBER : 965495 SAMPLE ID : S1202071664_PU SAMPLE QTY : 1.000 G SAMPLE DATE : 22-MAR-2010 00:00:00 ANALYST : MXE1 % YIELD : 92.083		CHAMBER : 025 DETECTOR S/N : 45-149AA5 AVERAGE %EFFICIENCY : 34.1770 COUNT DATE : 25-MAR-2010 20:23:07 ELAPSED LIVE TIME(SEC) : 43200.00	LIB FILE : ENV_ALPHA_PU BKG FILE : B025.CNF;1123 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W025.CNF;330 CAL DATE : 4-MAR-2010
TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 2.9663E+00 dpm RESULTS : 2.7315E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
PU-236	5749.000	5766.323	56.215
PU-238	5499.000	5425.698	107.009
PU-9/0	5155.000	5200.045	4.864
PU242	4890.000	4782.784	266.914
PU-244	4589.000	4542.234	4.864
	GROSS AREA	NET AREA	BKG AREA
	684.000	670.320	13.680
	8.000	0.800	7.200
	2.000	0.560	1.440
	6.000	5.280	0.720
	1.000	1.000	0.000
			BKG Sg
			3.6986
			2.4495
			1.9732
			*****
			100.0000
			99.90000
			99.90000
			1.34E+00
			1.59E-03
			1.11E-03
			1.05E-02
			1.99E-03
			ACTIVITY pCi/G
			1.34E+00
			1.59E-02
			7.23E-03
			3.47E-03
			5.11E-03
			2.77E-02
			6.09E-02
			1.07E+00
			2.23E-02
			8.47E-03
			5.35E-01
			5.08E-03
			3.47E-03
			7.23E-03
			5.25E-02
			3.71E-02
			1.59E-02
			9.29E-02
			1-SIGMA
			TPU
			DLC pCi/G
			MDC pCi/G
			UNC pCi/G

## NOTES:

\* BKG Sg calculated via blank population.

(Sg updated 8-MAR-2010)

\* BKG Sg of PU-236 calculated as sqrt(BKG AREA).





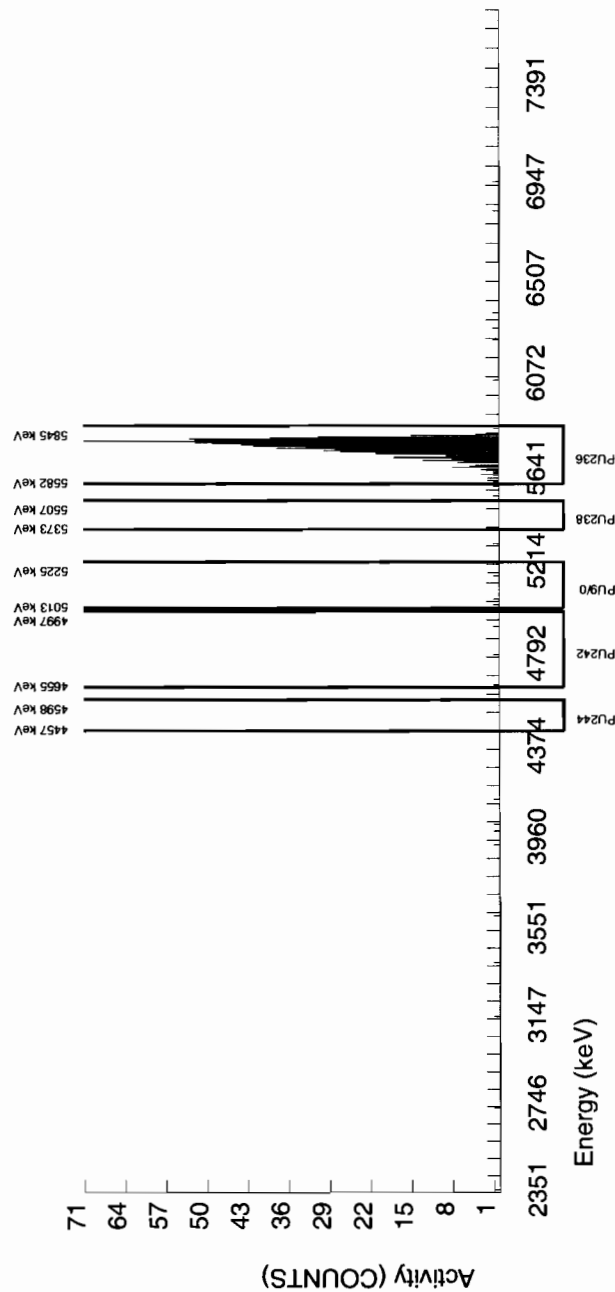
GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 965495 SAMPLE ID : S1202071665_PU SAMPLE QTY : 1.256 G SAMPLE DATE : 25-FEB-2010 00:00:00 ANALYST : MXE1 % YIELD : 106.608				CHAMBER : 026 DETECTOR S/N : 78204 AVERAGE %EFFICIENCY : 33.6708 COUNT DATE : 25-MAR-2010 20:23:07 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B026.CNF;1124 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W026.CNF;304 CAL DATE : 4-MAR-2010					
TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 3.0160E+00 dpm RESULTS : 3.2153E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	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-236	5749.000	5755.764	47.667	766.000	764.560	1.440	1.2000	100.0000	1.08E+00	7.15E-02	3.59E-03	1.09E-02	3.92E-02
PU-238	5499.000	5442.778	0.000	2.000	-0.880	2.880	2.4495	99.900000	-1.22E-03	2.81E-03	7.34E-03	1.84E-02	2.81E-03
PU-9/0	5155.000	5107.159	4.920	6.000	4.560	1.440	1.9732	99.900000	6.33E-03	3.70E-03	5.91E-03	1.56E-02	3.68E-03
PU242	4890.000	4844.314	280.467	4.000	-1.040	5.040	*****	100.0000	-1.44E-03	3.83E-03	3.73E-01	7.50E-01	3.83E-03
PU-244	4589.000	4527.499	0.000	0.000	-0.720	0.720	6.4609	99.900000	-1.00E-03	1.71E-03	1.94E-02	4.25E-02	1.71E-03

## NOTES:

\* BKG Sg calculated via blank population.  
(Sg updated 8-MAR-2010)

\* BKG Sg of PU-236 calculated as sqrt(BKG AREA).

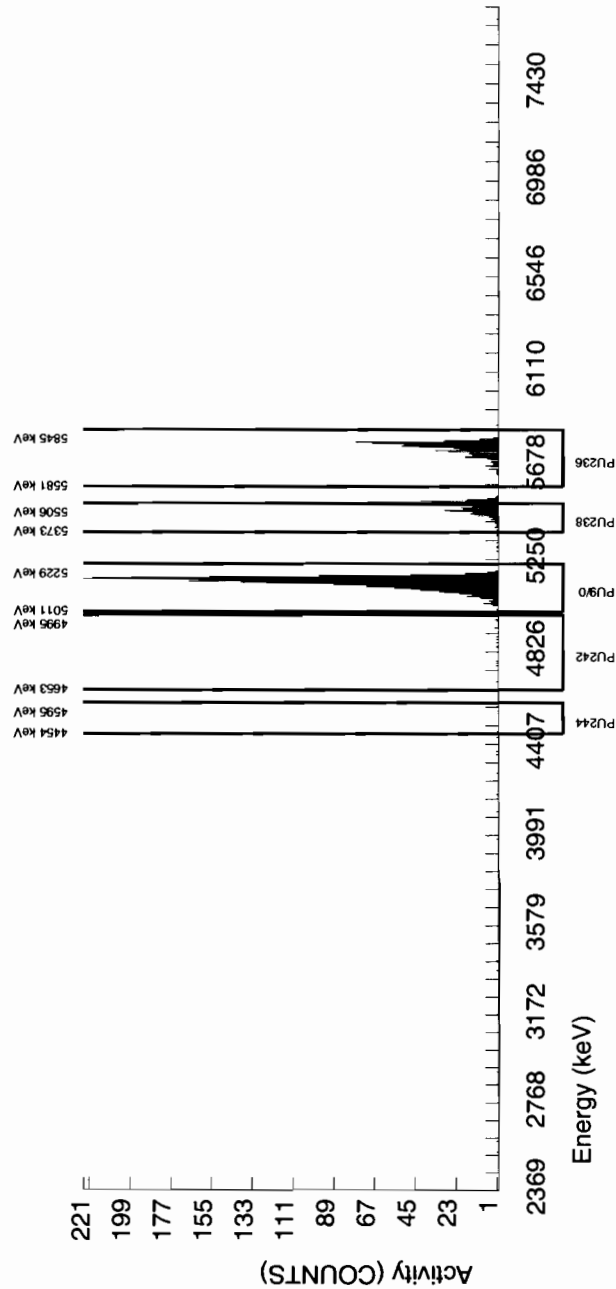


GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 965495 SAMPLE ID : S1202071666_PU SAMPLE QTY : 0.107 G SAMPLE DATE : 22-MAR-2010 00:00:00 ANALYST : MXE1 % YIELD : 81.537				CHAMBER : 027 DETECTOR S/N : 42484 AVERAGE %EFFICIENCY : 34.2191 COUNT DATE : 25-MAR-2010 20:23:07 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B027.CNF;1130 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W027.CNF;331 CAL DATE : 4-MAR-2010					
TRACER ID : 1430-C NUCLIDE : PU-236 NOMINAL : 2.9663E+00 dpm RESULTS : 2.4186E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	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-236	5749.000	5766.654	25.159	595.000	594.280	0.720	0.8485	100.0000	1.25E+01	9.69E-01	3.84E-02	1.34E-01	5.13E-01
PU-238	5499.000	5477.545	0.000	242.000	240.560	1.440	2.4495	99.90000	5.05E+00	4.66E-01	1.11E-01	2.79E-01	3.27E-01
PU-9/0	5155.000	5150.152	34.627	1899.000	1898.280	0.720	1.9732	99.90000	3.98E+01	2.78E+00	8.93E-02	2.35E-01	9.14E-01
PU242	4890.000	4877.799	39.737	16.000	13.840	2.160	*****	100.0000	2.90E-01	8.99E-02	5.64E+00	1.13E+01	8.78E-02
PU-244	4589.000	4526.901	114.244	2.000	2.000	0.000	6.4609	99.90000	4.20E-02	2.98E-02	2.92E-01	6.42E-01	2.97E-02

## NOTES:

- \* BKG Sg calculated via blank population.  
(Sg updated 8-MAR-2010)
- \* BKG Sg of PU-236 calculated as sqrt(BKG AREA).



## Radiochemistry Batch Checklist, Rev10

Batch# 965496 Product: V Date: 3/30/10

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 RCL/ 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 RCL/ LLD.	✓		Case narrative
(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 stated.	✓		
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 REMF, 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: JapLMR- 3/30/10Secondary Review Performed By: KABullatt 3/30/10

3/31

# Uranium Que Sheet

15-MAR-10

Batch #: 965496 Analyst: MXE1 First Client Due Date: 31-MAR-10 Internal Due Date: 20-MAR-10  
 Tracer Isotope: U-232/20-236 Tracer Code: 1283-1A Expiration Date: 12/9/10 Vol: 0.1  
 LCS Isotope: U-238 LCS Code: / Expiration Date: / Vol: /  
 Spike Isotope: U-238 Spike Code: / Expiration Date: / Vol: /  
 Prep Date: 3/22/10 Initials: NAE Pipet ID: 1071058 Balance ID: 50410772  
 Witness: JEH 3-22-10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Aliquot (g) (1/1)	U Det #
248515001-1	RE36-10-7501	SAMPLE		.1 pCi/g	SOIL	LANL010	25-FEB-10	1	1	0.504	1
248515002-1	RE36-10-7524	SAMPLE		.1 pCi/g	SOIL	LANL010	25-FEB-10	2	2	0.503	2
248515003-1	RE36-10-7525	SAMPLE		.1 pCi/g	SOIL	LANL010	25-FEB-10	3	3	0.502	3
248517001-1	RE36-10-8292	SAMPLE		.1 pCi/g	SOIL	LANL010	25-FEB-10	4	4	0.519	4
248521001-1	RE36-10-8288	SAMPLE		.1 pCi/g	SOIL	LANL010	25-FEB-10	5	5	0.506	5
248521002-1	RE36-10-8279	SAMPLE		.1 pCi/g	SOIL	LANL010	25-FEB-10	6	6	0.511	6
248521003-1	RE36-10-8277	SAMPLE		.1 pCi/g	SOIL	LANL010	25-FEB-10	7	7	0.515	7
248521004-1	RE36-10-8280	SAMPLE		.1 pCi/g	SOIL	LANL010	25-FEB-10	8	8	0.509	8
248521005-1	RE36-10-8278	SAMPLE		.1 pCi/g	SOIL	LANL010	25-FEB-10	9	9	0.502	9
248521006-1	RE36-10-8274	SAMPLE		.1 pCi/g	SOIL	LANL010	25-FEB-10	10	10	0.508	10
248521007-1	RE36-10-8291	SAMPLE		.1 pCi/g	SOIL	LANL010	25-FEB-10	11	11	0.503	11
248521008-1	RE36-10-8287	SAMPLE		.1 pCi/g	SOIL	LANL010	25-FEB-10	12	12	0.506	12
248521009-1	RE36-10-8273	SAMPLE		.1 pCi/g	SOIL	LANL010	25-FEB-10	13	13	0.514	13
248521010-1	RE36-10-8275	SAMPLE		.1 pCi/g	SOIL	LANL010	25-FEB-10	14	14	0.505	14
248521011-1	RE36-10-8276	SAMPLE		.1 pCi/g	SOIL	LANL010	25-FEB-10	15	15	0.503	15
248526001-1	RE36-10-8466	SAMPLE		.1 pCi/g	SOIL	LANL010	25-FEB-10	16	16	0.505	16
1202071667-1	MB for batch 965496	MB		.1 pCi/g	SOIL	QC ACCOUNT		17	17	1	17
1202071668-1	RE36-10-8466(248526001DUP)	DUP		.1 pCi/g	SOIL	QC ACCOUNT	25-FEB-10	18	18	0.516	18
1202071669-1	LCS for batch 965496	LCS		.1 pCi/g	SOIL	QC ACCOUNT		19	19	0.101	19

MSW 0244-A exp. 10/31/20

Choose SOP used: GL-RAD-A-011

Solid Sample Dissolution by: LEACH or DIGESTION  
 Circle One

Data Reviewed By: 506/MS-3/20/10

# Blank Correction Report

**Batch ID 965496**

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202071668	DUP	Uranium-233/234	0.516 g	0.894	0.0889	0.116	.016996124	pCi/g	NO
		Uranium-235/236	0.516 g	0.0709	0.0221	0.0706	.017286822	pCi/g	YES
		Uranium-238	0.516 g	0.967	0.0945	0.0813	.024418605	pCi/g	NO
1202071669	LCS	Uranium-233/234	0.101 g	7.26	0.696	0.586	.086831683	pCi/g	NO
		Uranium-235/236	0.101 g	0.386	0.104	0.358	.088316832	pCi/g	YES
		Uranium-238	0.101 g	6.01	0.593	0.412	.124752475	pCi/g	NO
1202071667	MB	Uranium-233/234	1.00 g	0.00877	0.00477	0.0509	.00877	pCi/g	YES
		Uranium-235/236	1.00 g	0.00892	0.00634	0.0311	.00892	pCi/g	YES
		Uranium-238	1.00 g	0.0126	0.00549	0.0358	.0126	pCi/g	YES
248515001	RE36-10-7501	Uranium-233/234	0.504 g	0.937	0.0894	0.103	.017400794	pCi/g	NO
		Uranium-235/236	0.504 g	0.0226	0.0121	0.0631	.017698413	pCi/g	YES
		Uranium-238	0.504 g	1.06	0.0985	0.0726	.025	pCi/g	NO
248515002	RE36-10-7524	Uranium-233/234	0.503 g	1.25	0.121	0.133	.017435388	pCi/g	NO
		Uranium-235/236	0.503 g	0.0759	0.0218	0.0814	.017733598	pCi/g	YES
		Uranium-238	0.503 g	1.83	0.164	0.0936	.025049702	pCi/g	NO
248515003	RE36-10-7525	Uranium-233/234	0.502 g	1.33	0.136	0.174	.017470120	pCi/g	NO
		Uranium-235/236	0.502 g	0.0456	0.0218	0.106	.017768924	pCi/g	YES
		Uranium-238	0.502 g	1.26	0.130	0.122	.025099602	pCi/g	NO
248517001	RE36-10-8292	Uranium-233/234	0.519 g	0.947	0.093	0.113	.016897881	pCi/g	NO
		Uranium-235/236	0.519 g	0.0744	0.0212	0.0691	.017186898	pCi/g	YES
		Uranium-238	0.519 g	1.07	0.102	0.0796	.024277457	pCi/g	NO
248521001	RE36-10-8288	Uranium-233/234	0.506 g	1.04	0.0961	0.0979	.017332016	pCi/g	NO
		Uranium-235/236	0.506 g	0.0515	0.0186	0.0598	.017628458	pCi/g	YES
		Uranium-238	0.506 g	0.857	0.0821	0.0688	.024901186	pCi/g	NO
248521002	RE36-10-8279	Uranium-233/234	0.511 g	3.43	0.305	0.188	.017162427	pCi/g	NO
		Uranium-235/236	0.511 g	0.157	0.0397	0.115	.017455969	pCi/g	NO
		Uranium-238	0.511 g	3.24	0.290	0.132	.024657534	pCi/g	NO
248521003	RE36-10-8277	Uranium-233/234	0.515 g	1.43	0.130	0.117	.017029126	pCi/g	NO
		Uranium-235/236	0.515 g	0.0976	0.0256	0.0716	.017320388	pCi/g	NO
		Uranium-238	0.515 g	1.40	0.128	0.0824	.024466019	pCi/g	NO
248521004	RE36-10-8280	Uranium-233/234	0.509 g	3.49	0.298	0.157	.017229862	pCi/g	NO
		Uranium-235/236	0.509 g	0.179	0.0389	0.0961	.017524558	pCi/g	NO
		Uranium-238	0.509 g	3.01	0.261	0.111	.024754420	pCi/g	NO
248521005	RE36-10-8278	Uranium-233/234	0.502 g	0.937	0.0891	0.102	.017470120	pCi/g	NO
		Uranium-235/236	0.502 g	0.0582	0.0178	0.0624	.017768924	pCi/g	YES
		Uranium-238	0.502 g	0.974	0.092	0.0718	.025099602	pCi/g	NO
248521006	RE36-10-8274	Uranium-233/234	0.508 g	1.18	0.109	0.107	.017263780	pCi/g	NO
		Uranium-235/236	0.508 g	0.0844	0.0218	0.0653	.017559055	pCi/g	YES
		Uranium-238	0.508 g	1.41	0.125	0.0752	.024803150	pCi/g	NO
248521007	RE36-10-8291	Uranium-233/234	0.503 g	1.66	0.165	0.185	.017435388	pCi/g	NO
		Uranium-235/236	0.503 g	0.114	0.0336	0.113	.017733598	pCi/g	NO

## Blank Correction Report

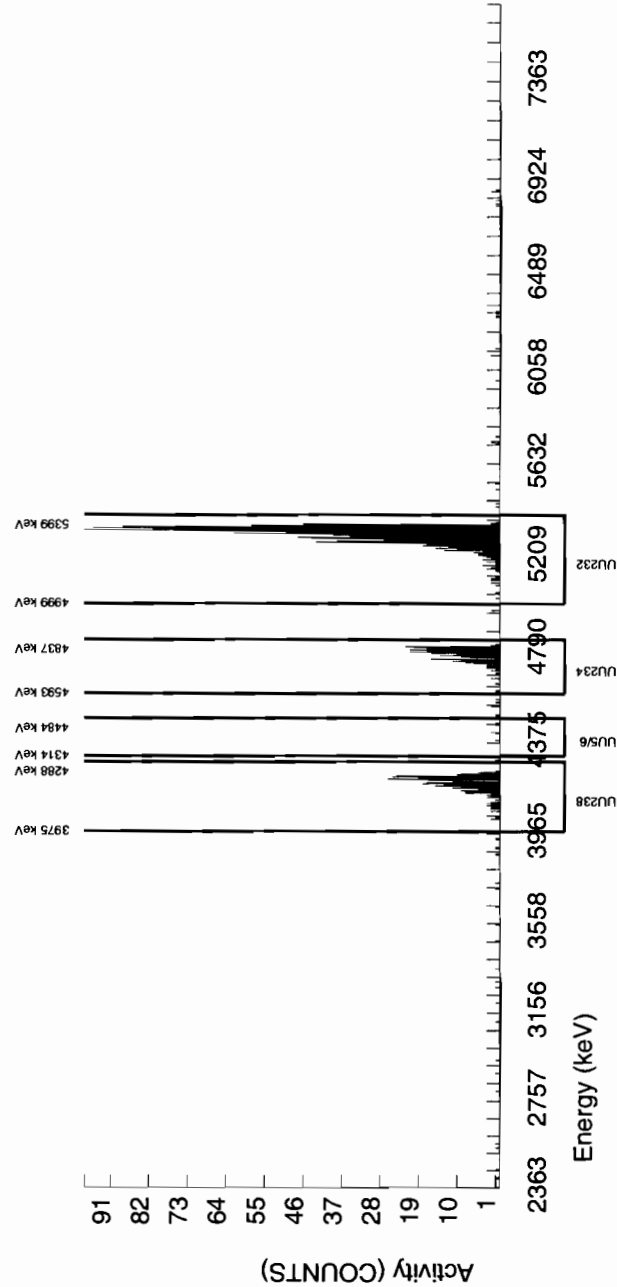
GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
248521007	RE36-10-8291	Uranium-238	0.503 g	2.25	0.211	0.130	.025049702	pCi/g	NO
248521008	RE36-10-8287	Uranium-233/234	0.506 g	1.36	0.132	0.149	.017332016	pCi/g	NO
		Uranium-235/236	0.506 g	0.0521	0.0188	0.0908	.017628458	pCi/g	YES
		Uranium-238	0.506 g	1.58	0.149	0.104	.024901186	pCi/g	NO
248521009	RE36-10-8273	Uranium-233/234	0.514 g	1.65	0.157	0.158	.017062257	pCi/g	NO
		Uranium-235/236	0.514 g	0.111	0.0306	0.0967	.017354086	pCi/g	NO
		Uranium-238	0.514 g	2.11	0.192	0.111	.024513619	pCi/g	NO
248521010	RE36-10-8275	Uranium-233/234	0.505 g	1.26	0.125	0.151	.017366337	pCi/g	NO
		Uranium-235/236	0.505 g	0.0594	0.0203	0.092	.017663366	pCi/g	YES
		Uranium-238	0.505 g	1.54	0.147	0.106	.024950495	pCi/g	NO
248521011	RE36-10-8276	Uranium-233/234	0.503 g	1.05	0.103	0.127	.017435388	pCi/g	NO
		Uranium-235/236	0.503 g	0.0611	0.019	0.0775	.017733598	pCi/g	YES
		Uranium-238	0.503 g	0.971	0.0974	0.0891	.025049702	pCi/g	NO
248526001	RE36-10-8466	Uranium-233/234	0.505 g	0.961	0.0964	0.125	.017366337	pCi/g	NO
		Uranium-235/236	0.505 g	0.0657	0.0196	0.0763	.017663366	pCi/g	YES
		Uranium-238	0.505 g	0.811	0.0844	0.0878	.024950495	pCi/g	NO

GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 965496 SAMPLE ID : S0248515001_UU SAMPLE QTY : 0.504 G SAMPLE DATE : 25-FEB-2010 00:00:00 ANALYST : MXE1 % YIELD : 70.103		CHAMBER : 001 DETECTOR S/N : 79451 AVERAGE %EFFICIENCY : 34.8147 COUNT DATE : 27-MAR-2010 13:01:46 ELAPSED LIVE TIME(SEC) : 59999.99	LIB FILE : ENV_ALPHA_UU BKG FILE : B001.CNF:1135 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W001.CNF:384 CAL DATE : 4-MAR-2010
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5027E+00 dpm RESULTS : 3.1565E+00 dpm	MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
U232	5302.100	5313.553	41.076
U-3/4	4763.020	4768.415	59.293
U-235	4391.000	4432.234	7.205
U-238	4184.730	4194.344	49.602
	GROSS AREA	NET AREA	BKG AREA
	1104.000	1098.000	6.000
	257.000	255.888	0.000
	6.000	5.000	1.000
	290.000	289.000	1.000
	BKG Sg	%ABUN	ACTIVITY pCi/G
	2.4495	100.0000	4.02E+00
	5.4790	100.0000	9.37E-01
	2.4127	80.90000	2.26E-02
	3.6781	100.0000	1.06E+00
	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G
	3.14E-01	2.09E-02	5.17E-02
	8.94E-02	4.67E-02	1.03E-01
	1.21E-02	2.54E-02	6.31E-02
	9.85E-02	3.13E-02	7.26E-02
	UNC pCi/G		
	1.22E-01		
	5.86E-02		
	1.20E-02		
	6.25E-02		

## NOTES:

- \* BKG Sg calculated via blank population.  
(Sg updated 8-MAR-2010)
- \* BKG Sg of U232 calculated as sqrt(BKG AREA).
- \* Corrections made to the following net area due to tracer impurity:  
U-3/4

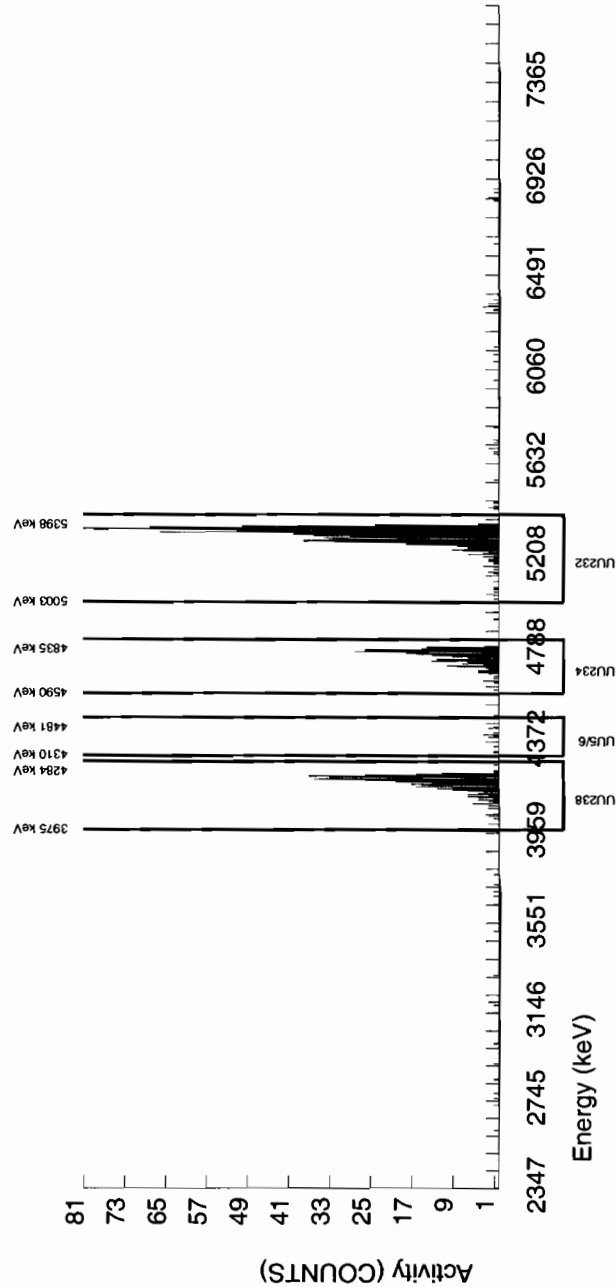


GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 965496 SAMPLE ID : S0248515002_UU SAMPLE QTY : 0.503 G SAMPLE DATE : 25-FEB-2010 00:00:00 ANALYST : MXE1 % YIELD : 62.172				CHAMBER : 002 DETECTOR S/N : 79452 AVERAGE %EFFICIENCY : 30.4967 COUNT DATE : 27-MAR-2010 13:01:46 ELAPSED LIVE TIME(SEC) : 59999.99				LIB FILE : ENV_ALPHA_UU BKG FILE : B002.CNF:1125 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W002.CNF:330 CAL DATE : 4-MAR-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5027E+00 dpm RESULTS : 2.7994E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5309.108	34.654	858.000	853.000	5.000	2.2361	100.0000	4.03E+00	3.28E-01	2.46E-02	6.19E-02	1.39E-01
U-3/4	4763.020	4761.781	30.754	270.000	264.136	5.000	5.4790	100.0000	1.25E+00	1.21E-01	6.02E-02	1.33E-01	7.82E-02
U-235	4391.000	4399.011	43.155	13.000	13.000	0.000	2.4127	80.90000	7.59E-02	2.18E-02	3.28E-02	8.14E-02	2.11E-02
U-238	4184.730	4191.724	34.177	387.000	387.000	0.000	3.6781	100.0000	1.83E+00	1.64E-01	4.04E-02	9.36E-02	9.29E-02

## NOTES:

- \* BKG Sg calculated via blank population.  
(Sg updated 8-MAR-2010)
- \* BKG Sg of U232 calculated as sqrt(BKG AREA).
- \* Corrections made to the following net area due to tracer impurity:  
U-3/4



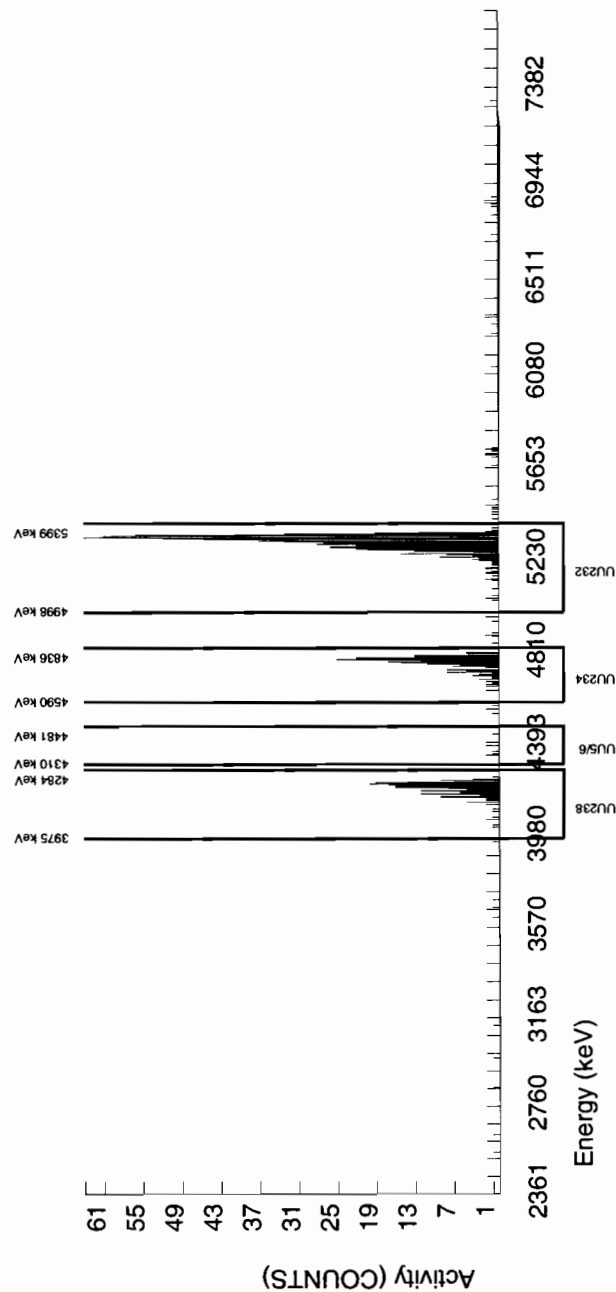


GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 965496 SAMPLE ID : S0248515003_UU SAMPLE QTY : 0.502 G SAMPLE DATE : 25-FEB-2010 00:00:00 ANALYST : MXE1 % YIELD : 45.308				CHAMBER : 003 DETECTOR S/N : 79453 AVERAGE %EFFICIENCY : 32.1827 COUNT DATE : 27-MAR-2010 13:01:46 ELAPSED LIVE TIME(SEC) : 59999.99				LIB FILE : ENV_ALPHA_UU BKG FILE : B003.CNF;1120 BKG DATE : 21-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W003.CNF;343 CAL DATE : 4-MAR-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5027E+00 dpm RESULTS : 2.0401E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5317.585	35.657	662.000	656.000	6.000	2.4495	100.0000	4.04E+00	3.47E-01	3.51E-02	8.68E-02	1.59E-01
U-3/4	4763.020	4774.641	33.005	216.000	215.335	0.000	5.4790	100.0000	1.33E+00	1.36E-01	7.84E-02	1.74E-01	9.03E-02
U-235	4391.000	4389.223	59.573	7.000	6.000	1.000	2.4127	80.90000	4.56E-02	2.18E-02	4.27E-02	1.06E-01	2.15E-02
U-238	4184.730	4204.441	59.691	205.000	205.000	0.000	3.6781	100.0000	1.26E+00	1.30E-01	5.27E-02	1.22E-01	8.81E-02

## NOTES:

- \* BKG Sg calculated via blank population.  
(Sg updated 8-MAR-2010)
- \* BKG Sg of U232 calculated as sqrt(BKG AREA).
- \* Corrections made to the following net area  
due to tracer impurity:  
U-3/4



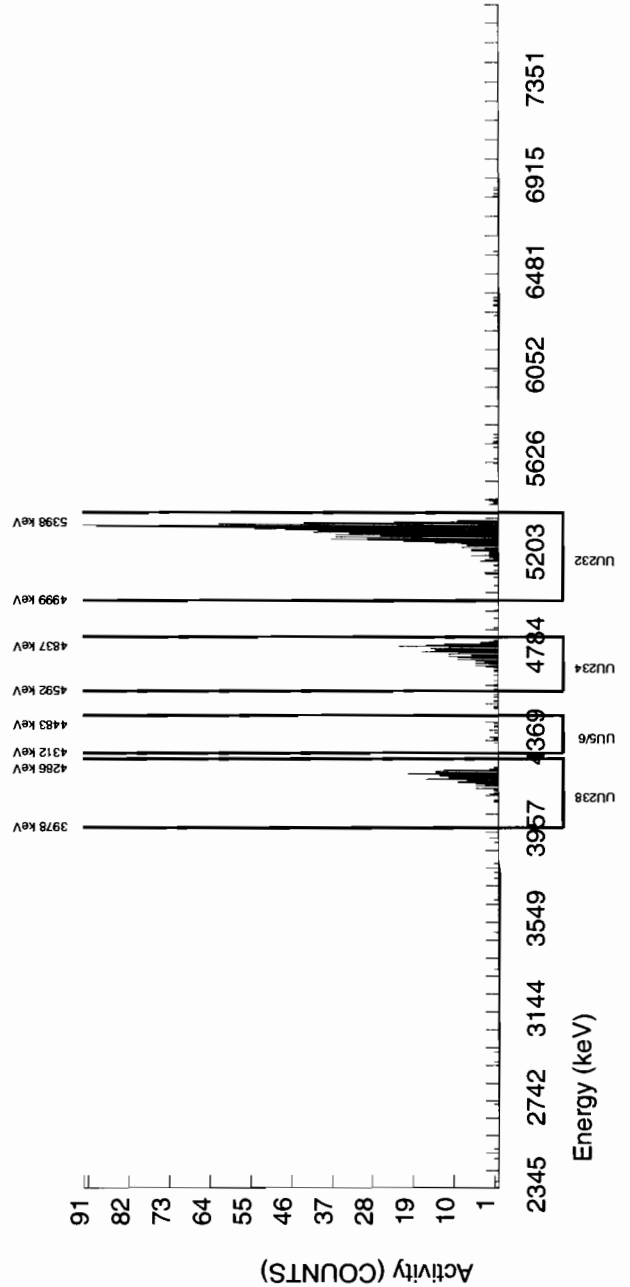
Alpha Spectroscopy Software Version 2.1  
effective date: 01-14-2010

GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 965496 SAMPLE ID : S0248526001_UU SAMPLE QTY : 0.505 G SAMPLE DATE : 25-FEB-2010 00:00:00 ANALYST : MXE1 % YIELD : 76.287				CHAMBER : 122 DETECTOR S/N : 75546 AVERAGE %EFFICIENCY : 26.3997 COUNT DATE : 29-MAR-2010 12:38:11 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B122.CNF:461 BKG DATE : 28-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W122.CNF:124 CAL DATE : 19-MAR-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5027E+00 dpm RESULTS : 3.4350E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5314.536	28.294	909.000	906.000	3.000	1.7321	100.0000	4.02E+00	3.23E-01	1.78E-02	4.77E-02	1.34E-01
U-3/4	4763.020	4769.516	38.874	220.000	217.082	2.000	5.4790	100.0000	9.61E-01	9.64E-02	5.65E-02	1.25E-01	6.59E-02
U-235	4391.000	4400.077	36.976	12.000	12.000	0.000	2.4127	80.90000	6.57E-02	1.96E-02	3.07E-02	7.63E-02	1.90E-02
U-238	4184.730	4204.772	43.897	183.000	183.000	0.000	3.6781	100.0000	8.11E-01	8.44E-02	3.79E-02	8.78E-02	5.99E-02

NOTES:

- \* BKG Sg calculated via blank population.  
(Sg updated 8-MAR-2010)
- \* BKG Sg of U232 calculated as sqrt(BKG AREA).
- \* Corrections made to the following net area due to tracer impurity:  
U-3/4

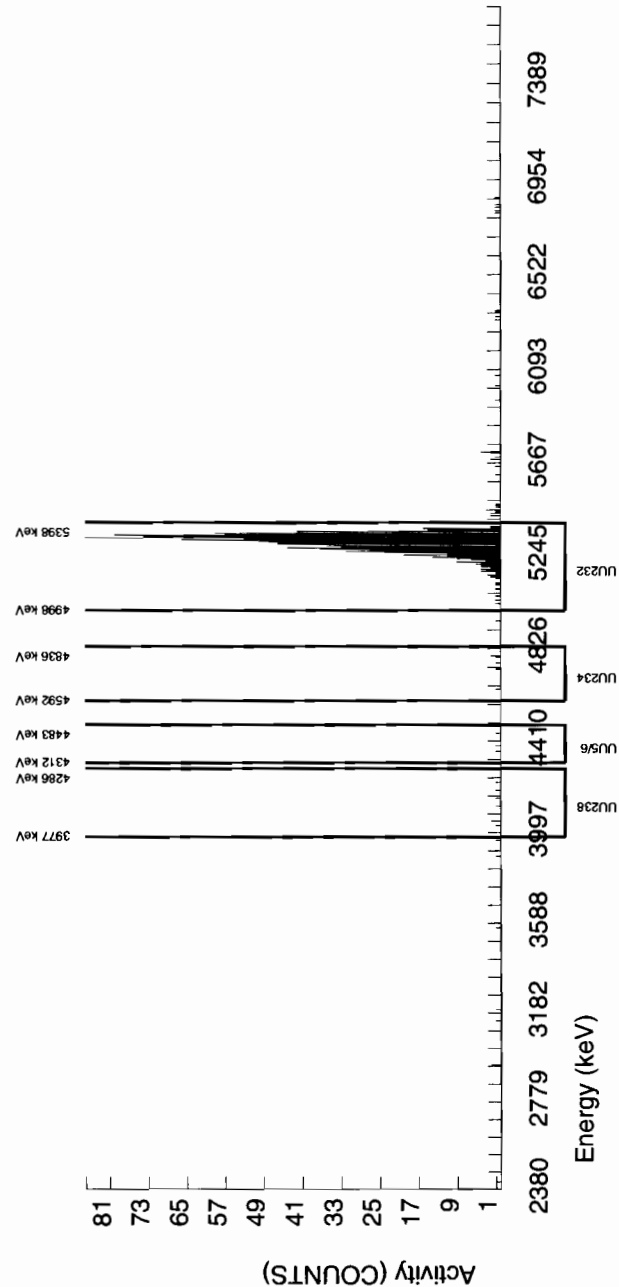


GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 965496 SAMPLE ID : S1202071667_UU SAMPLE QTY : 1.000 G SAMPLE DATE : 22-MAR-2010 00:00:00 ANALYST : MXE1 % YIELD : 91.649		CHAMBER : 123 DETECTOR S/N : 45-142V3 AVERAGE %EFFICIENCY : 27.2378 COUNT DATE : 29-MAR-2010 12:38:15 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_UU BKG FILE : B123.CNF:459 BKG DATE : 28-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W123.CNF:120 CAL DATE : 19-MAR-2010
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.4996E+00 dpm RESULTS : 4.1238E+00 dpm	MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
U232	5302.100	5311.578	69.448
U-3/4	4763.020	4755.920	7.306
U-235	4391.000	4405.786	0.000
U-238	4184.730	4102.917	4.975
	GROSS AREA	NET AREA	PEAK AREA
	1127.000	1123.000	4.000
	7.000	4.862	1.000
	6.000	4.000	2.000
	8.000	7.000	1.000
	BKG Sg	BKG AREA	BKG Sg
	2.0000	2.0000	2.0000
	5.4790	5.4790	5.4790
	2.4127	2.4127	2.4127
	3.6781	3.6781	3.6781
	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA
	100.0000	2.03E+00	1.57E-01
	100.0000	8.77E-03	4.77E-03
	80.90000	8.92E-03	6.34E-03
	100.0000	1.26E-02	5.49E-03
			DLC pCi/G
			8.40E-03
			2.30E-02
			1.25E-02
			1.54E-02
			MDC pCi/G
			2.17E-02
			5.09E-02
			3.11E-02
			3.58E-02
			UNC pCi/G
			6.07E-02
			4.73E-03
			6.31E-03
			5.41E-03

## NOTES:

- \* BKG Sg calculated via blank population.  
(Sg updated 8-MAR-2010)
- \* BKG Sg of U232 calculated as sqrt(BKG AREA).
- \* Corrections made to the following net area  
due to tracer impurity:  
U-3/4

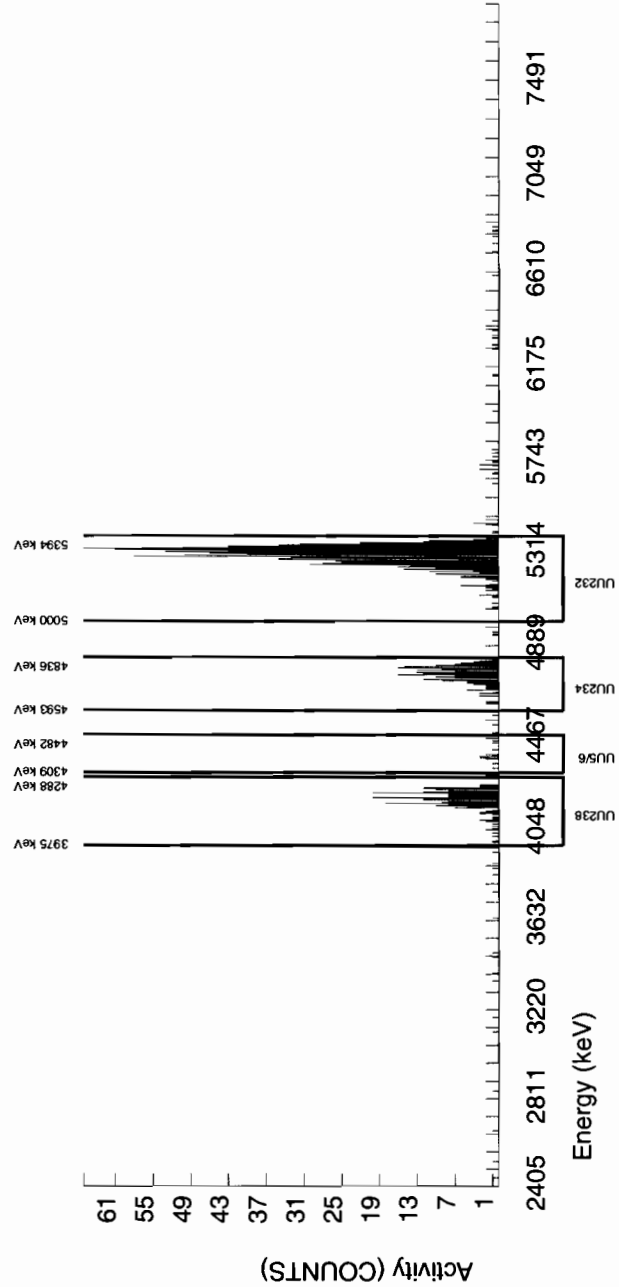


# GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 965496 SAMPLE ID : S1202071668_UU SAMPLE QTY : 0.516 G SAMPLE DATE : 25-FEB-2010 00:00:00 ANALYST : MXE1 % YIELD : 79.855				CHAMBER : 124 DETECTOR S/N : 45-142V2 AVERAGE %EFFICIENCY : 26.6674 COUNT DATE : 29-MAR-2010 12:38:17 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B124.CNF:455 BKG DATE : 28-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W124.CNF:116 CAL DATE : 19-MAR-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5027E+00 dpm RESULTS : 3.5956E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5309.034	68.031	961.000	958.000	3.000	1.7321	100.0000	3.93E+00	3.13E-01	1.65E-02	4.41E-02	1.27E-01
U-3/4	4763.020	4762.239	69.940	219.000	218.029	0.000	5.4790	100.0000	8.94E-01	8.89E-02	5.23E-02	1.16E-01	6.05E-02
U-235	4391.000	4392.442	22.414	16.000	14.000	2.000	2.4127	80.90000	7.09E-02	2.21E-02	2.84E-02	7.06E-02	2.15E-02
U-238	4184.730	4191.114	72.892	236.000	236.000	0.000	3.6781	100.0000	9.67E-01	9.45E-02	3.51E-02	8.13E-02	6.30E-02

## NOTES:

- \* BKG Sg calculated via blank population.  
(Sg updated 8-MAR-2010)
- \* BKG Sg of U232 calculated as sqrt(BKG AREA).
- \* Corrections made to the following net area due to tracer impurity:  
U-3/4

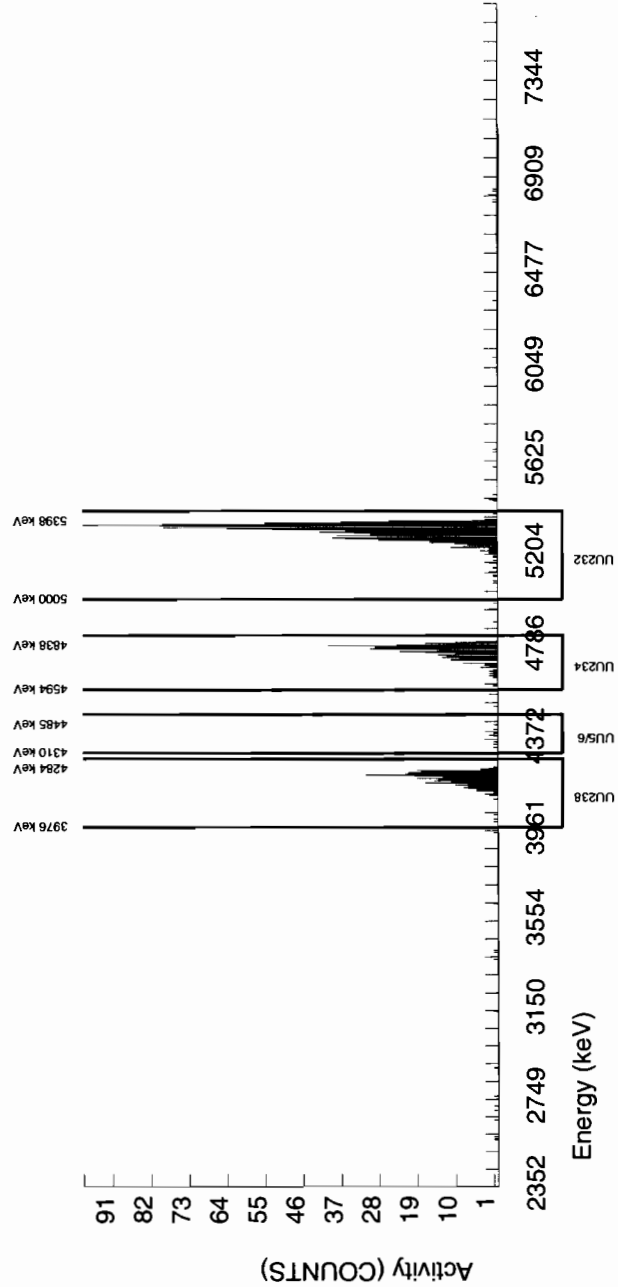


GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 965496 SAMPLE ID : S1202071669_UU SAMPLE QTY : 0.101 G SAMPLE DATE : 22-MAR-2010 00:00:00 ANALYST : MXE1 % YIELD : 79.425		CHAMBER : 125 DETECTOR S/N : 75547 AVERAGE %EFFICIENCY : 27.0077 COUNT DATE : 29-MAR-2010 12:38:20 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_UU BKG FILE : B125.CNF;465 BKG DATE : 28-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W125.CNF;134 CAL DATE : 18-MAR-2010
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.4996E+00 dpm RESULTS : 3.5738E+00 dpm	MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/g	LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/g	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
U232	5302.100	5312.873	32.379
U-3/4	4763.020	4769.329	34.451
U-235	4391.000	4401.995	19.680
U-238	4184.730	4199.055	56.237
	GROSS AREA	NET AREA	PEAK AREA
	972.000	965.000	7.000
	352.000	349.022	2.000
	15.000	15.000	0.000
	289.000	289.000	0.000
	BKG Sg	BKG AREA	BKG Sg
	2.6458	7.000	2.6458
	5.4790	2.000	5.4790
	2.4127	0.000	2.4127
	3.6781	0.000	3.6781
	%ABUN	ACTIVITY pCi/g	TPU 1-SIGMA
	100.0000	2.01E+01	1.72E+00
	100.0000	7.26E+00	6.96E-01
	80.90000	3.85E-01	1.04E-01
	100.0000	6.01E+00	5.93E-01
			DLC pCi/g
			1.28E-01
			2.65E-01
			1.44E-01
			1.78E-01
			MDC pCi/g
			3.12E-01
			5.86E-01
			3.58E-01
			4.12E-01
			UNC pCi/g
			6.51E-01
			3.91E-01
			9.95E-02
			3.53E-01

## NOTES:

- \* BKG Sg calculated via blank population.  
(Sg updated 8-MAR-2010)
- \* BKG Sg of U232 calculated as sqrt(BKG AREA).
- \* Corrections made to the following net area  
due to tracer impurity:  
U-3/4



# Radiochemistry Batch Checklist, Rev10

Batch# 969981 Product: Am Date: 3/31/10

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 stated.	✓		
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: Jap ML- 3/31/10

Secondary Review Performed By: Quon 3/31/10

4/1

# Am/Cm Que Sheet

29-MAR-10

Batch #: 969981 Analyst: MXE1 First Client Due Date: 31-MAR-10 Internal Due Date: 25-MAR-10 Comments:   
 Tracer(s): Am241/Cm244 Tracer Code: 445-96-2-VV Expiration Date: 03/27/10 Vol: 0.1 g/0.3116   
 LCS Isotope(s): Am241/Cm244 LCS Code(s): 00341/00 Expiration Date: 03/24/10 Vol(s): 0.3116   
 Spike Isotope(s): Am241/Cm244 Spike Code(s): 00341/00 Expiration Date: 03/24/10 Vol(s): 0.3116   
 Prep Date: 3/22/10 Initials: ME Pipet ID: 1642319 Balance ID: 58/10272 Witness: 03/25/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Aliquot (g/l/n)	Am/Cm	Det #
248515002-2	RE36-10-7524	SAMPLE	.05 pCi/g	SOIL	LANL010	25-FEB-10	1	1	1.259	228		
248521011-2	RE36-10-8276	SAMPLE	.05 pCi/g	SOIL	LANL010	25-FEB-10	2	2	1.251	229		
1202082742-1	MB for batch 969981	MB	UCF pCi/g to pCi/soil	QC ACCOUNT	QC ACCOUNT	25-FEB-10	3	3	1.00	231		
1202082743-2	RE36-10-8276(248521011DUP)	DUP	.05 pCi/g	SOIL	QC ACCOUNT	25-FEB-10	4	4	1.252	232		
1202082744-1	LCS for batch 969981	LCS	UCF pCi/g to pCi/soil	QC ACCOUNT	QC ACCOUNT	25-FEB-10	5	5	0.106	233		

\*SEM 0244-B exp: 04/30/20

Choose SOP Used: GL-RAD-A-011  
 GL-RAD-A-036

Solid Sample Dissolution by: LEACH or DIGESTION  
 Circle One

Data Reviewed By: SOLML-3/31/10  
 Page 1 of 1

GEL Laboratories LLC, Radiochemistry Division

# Blank Correction Report

**Batch ID 969981**

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202082743	DUP	Americium-241	1.25 g	-0.00742	0.00576	0.0312	-.000236	pCi/g	YES
1202082744	LCS	Americium-241	0.106 g	27.9	2.02	0.188	-.00278302	pCi/g	NO
1202082742	MB	Americium-241	1.00 g	-0.000295	0.0021	0.0232	-.000295	pCi/g	NO
248515002	RE36-10-7524	Americium-241	1.26 g	0.00454	0.00234	0.0186	-.00023413	pCi/g	NO
248521011	RE36-10-8276	Americium-241	1.25 g	0.00427	0.00318	0.0178	-.000236	pCi/g	NO

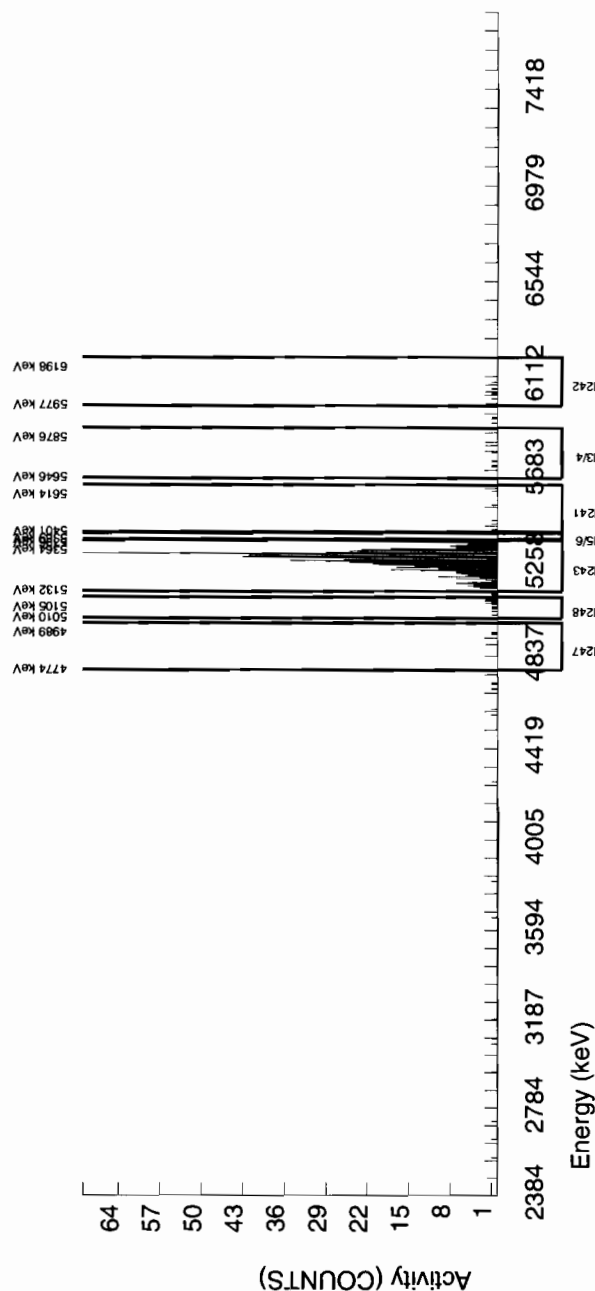


GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 969981 SAMPLE ID : S0248515002_AM SAMPLE QTY : 1.259 G SAMPLE DATE : 25-FEB-2010 00:00:00 ANALYST : MXE1 % YIELD : 78.902				CHAMBER : 228 DETECTOR S/N : 79421 AVERAGE %EFFICIENCY : 38.1285 COUNT DATE : 30-MAR-2010 14:31:14 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B228.CNF:93 BKG DATE : 28-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W228.CNF:33 CAL DATE : 30-MAR-2010					
TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 1.7953E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5488.358	169.215	5.000	3.812	0.000	2.7707	99.94000	4.54E-03	2.34E-03	7.67E-03	1.86E-02	2.32E-03
AM243	5270.000	5281.112	25.834	684.000	683.000	1.000	1.0000	99.78000	8.14E-01	6.06E-02	2.77E-03	8.78E-03	3.12E-02
CM-242	6102.000	6040.047	84.608	13.000	13.000	0.000	4.0092	100.0000	1.79E-02	5.08E-03	1.11E-02	2.54E-02	4.95E-03
CM-3/4	5795.020	5764.818	19.908	10.000	9.000	1.000	4.8510	100.0000	1.07E-02	4.02E-03	1.34E-02	3.01E-02	3.96E-03
CM-5/6	5386.000	5374.800	4.977	3.000	3.000	0.000	6.1294	86.09000	4.14E-03	2.41E-03	1.97E-02	4.31E-02	2.39E-03
CM-247	4946.000	4926.262	4.977	5.000	4.000	1.000	6.3427	79.30000	6.00E-03	3.69E-03	2.21E-02	4.83E-02	3.67E-03
CM-248	5078.600	5075.768	24.885	12.000	12.000	0.000	11.0244	91.00000	1.57E-02	4.64E-03	3.35E-02	7.06E-02	4.53E-03

## NOTES:

- \* BKG Sg calculated via blank population.  
(Sg updated 8-MAR-2010)
- \* BKG Sg of AM243 calculated as sqrt(BKG AREA).
- \* Corrections made to the following net area  
due to tracer impurity:  
AM-241

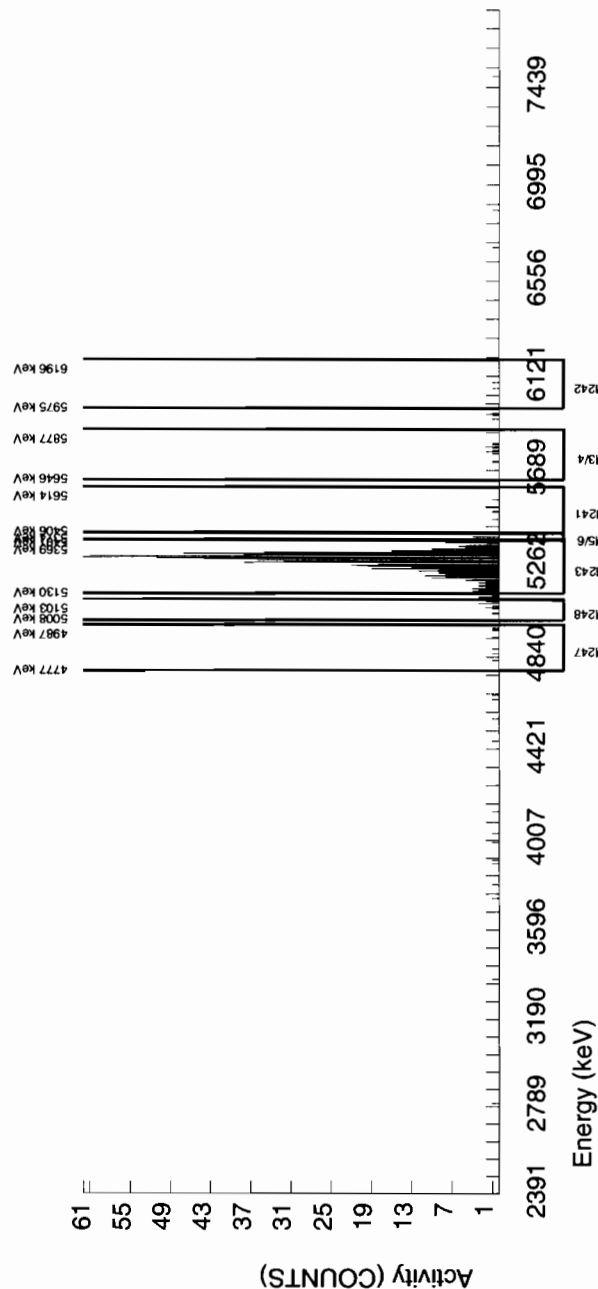


GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 969981 SAMPLE ID : S0248521011_AM SAMPLE QTY : 1.251 G SAMPLE DATE : 25-FEB-2010 00:00:00 ANALYST : MXE1 % YIELD : 82.157		CHAMBER : 229 DETECTOR S/N : 79422 AVERAGE %EFFICIENCY : 38.4945 COUNT DATE : 30-MAR-2010 14:31:17 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_AM BKG FILE : B229.CNF:93 BKG DATE : 28-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W229.CNF:33 CAL DATE : 30-MAR-2010
TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 1.8693E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
AM-241	5479.150	5529.547	4.944
AM243	5270.000	5282.052	47.002
CM-242	6102.000	6022.245	24.719
CM-3/4	5795.020	5783.871	7.261
CM-5/6	5386.000	5382.974	17.303
CM-247	4946.000	4918.614	143.371
CM-248	5078.600	5068.269	20.919
	GROSS AREA	NET AREA	BKG AREA
	719.000	3.751	2.000
	7.000	718.000	1.000
	6.000	5.000	1.000
	10.000	10.000	0.000
	9.000	9.000	0.000
	8.000	8.000	0.000
	14.000	14.000	0.000
		BKG Sg	%ABUN
		2.7707	99.94000
		1.0000	99.78000
		4.0092	100.0000
		4.8510	100.0000
		6.1294	86.09000
		6.3427	79.30000
		11.0244	91.00000
		ACTIVITY pCi/G	TPU 1-SIGMA
		4.27E-03	3.18E-03
		8.19E-01	6.02E-02
		6.58E-03	3.51E-03
		1.14E-02	3.68E-03
		1.19E-02	4.04E-03
		1.15E-02	4.13E-03
		1.75E-02	4.81E-03
			DLC pCi/G
			7.34E-03
			2.65E-03
			1.06E-02
			1.28E-02
			1.89E-02
			2.12E-02
			3.21E-02
			MDC pCi/G
			1.78E-02
			8.40E-03
			2.43E-02
			2.88E-02
			4.13E-02
			4.63E-02
			6.76E-02
			UNC pCi/G
			3.17E-03
			3.06E-02
			3.48E-03
			3.61E-03
			3.97E-03
			4.06E-03
			4.68E-03

## NOTES:

- \* BKG Sg calculated via blank population.  
(Sg updated 8-MAR-2010)
- \* BKG Sg of AM243 calculated as sqrt(BKG AREA).
- \* Corrections made to the following net area  
due to tracer impurity:  
AM-241



**GEL Laboratories LLC**  
**ALPHA SPECTROSCOPY REPORT**

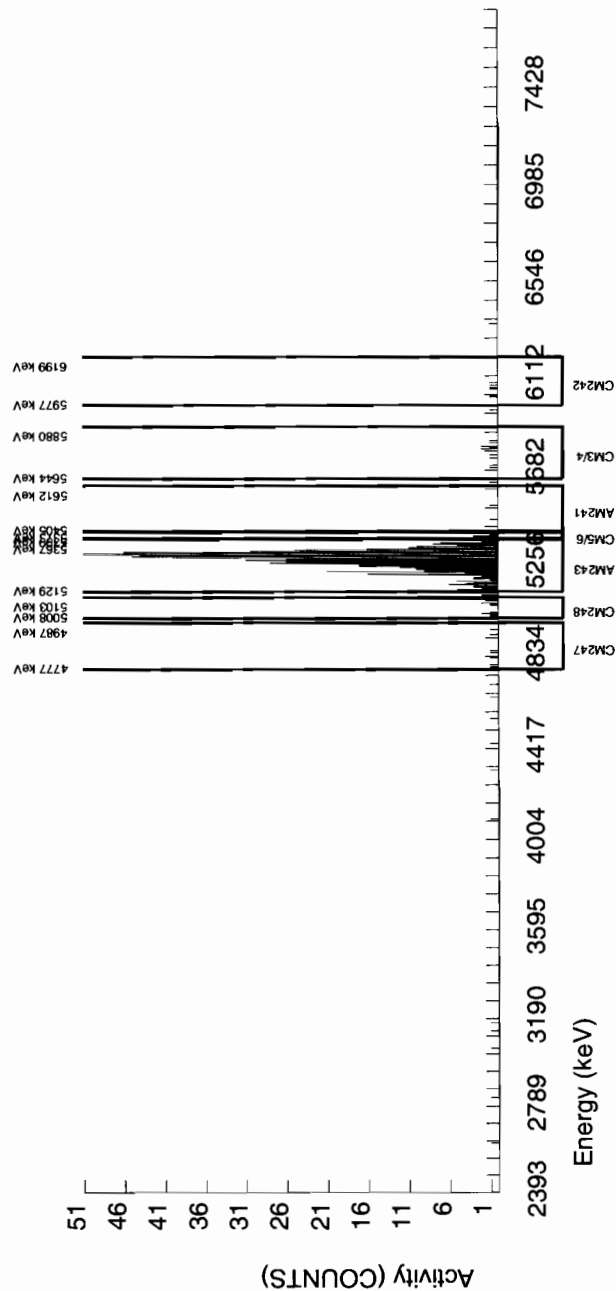
BATCH NUMBER : 969981 SAMPLE ID : S1202082742_AM SAMPLE QTY : 1.000 G SAMPLE DATE : 29-MAR-2010 00:00:00 ANALYST : MXE1 % YIELD : 74.811				CHAMBER : 231 DETECTOR S/N : 79424 AVERAGE %EFFICIENCY : 40.5669 COUNT DATE : 30-MAR-2010 14:31:22 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B231.CNF;93 BKG DATE : 28-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W231.CNF;33 CAL DATE : 30-MAR-2010					
TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 1.7022E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3147E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3147E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5495.063	64.051	2.000	-0.199	1.000	2.7707	99.94000	-2.95E-04	2.10E-03	9.57E-03	2.32E-02	2.10E-03
AM243	5270.000	5281.111	58.878	695.000	689.000	6.000	2.4495	99.78000	1.02E+00	7.65E-02	8.48E-03	2.10E-02	3.94E-02
CM-242	6102.000	6051.134	63.435	7.000	7.000	0.000	4.0092	100.0000	1.05E-02	4.02E-03	1.38E-02	3.17E-02	3.96E-03
CM-3/4	5795.020	5771.027	14.678	11.000	10.000	1.000	4.8510	100.0000	1.48E-02	5.23E-03	1.68E-02	3.75E-02	5.14E-03
CM-5/6	5386.000	5380.502	7.134	15.000	15.000	0.000	6.1294	86.09000	2.59E-02	6.88E-03	2.46E-02	5.38E-02	6.68E-03
CM-247	4946.000	4864.291	162.592	7.000	2.000	5.000	6.3427	79.30000	3.74E-03	6.49E-03	2.76E-02	6.03E-02	6.48E-03
CM-248	5078.600	5063.547	0.000	17.000	17.000	0.000	11.0244	91.00000	2.77E-02	6.95E-03	4.18E-02	8.81E-02	6.73E-03

## NOTES:

\* BKG Sg calculated via blank population.  
(Sg updated 8-MAR-2010)

\* BKG Sg of AM243 calculated as sqrt(BKG AREA).

\* Corrections made to the following net area due to tracer impurity:  
AM-241

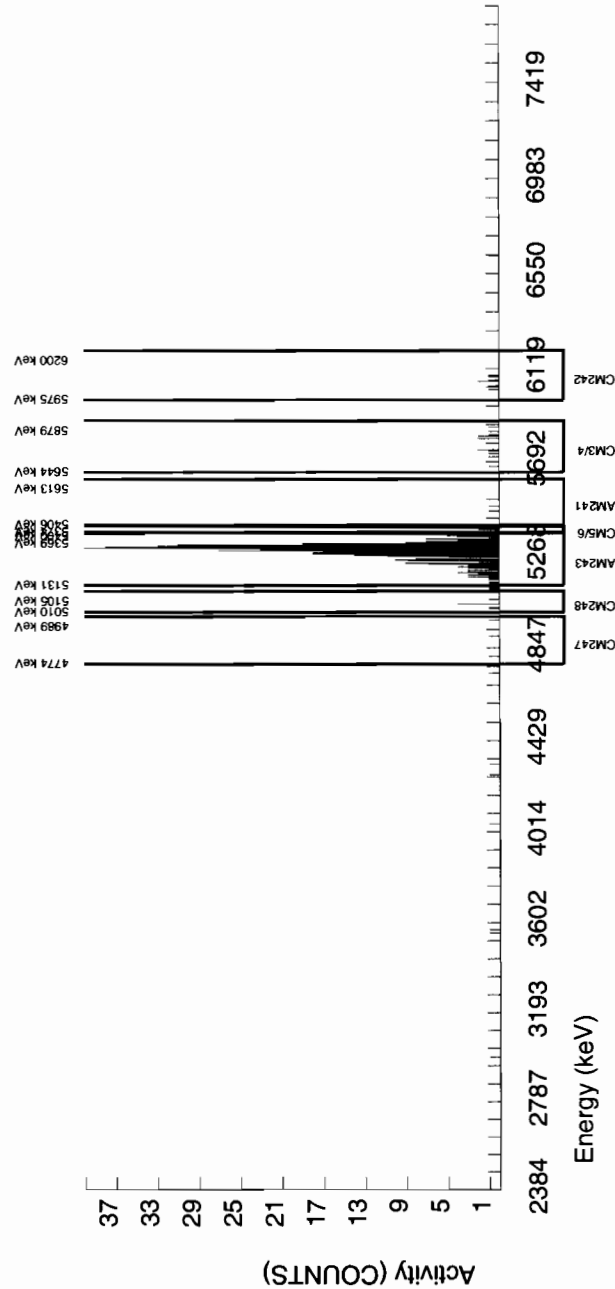


GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 969981 SAMPLE ID : S1202082743_AM SAMPLE QTY : 1.252 G SAMPLE DATE : 25-FEB-2010 00:00:00 ANALYST : MXE1 % YIELD : 46.352				CHAMBER : 232 DETECTOR S/N : 79425 AVERAGE %EFFICIENCY : 38.8663 COUNT DATE : 30-MAR-2010 14:31:25 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B232.CNF:95 BKG DATE : 28-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W232.CNF:33 CAL DATE : 30-MAR-2010					
TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 1.0547E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5460.415	85.277	3.000	-3.712	6.000	2.7707	99.94000	-7.42E-03	5.76E-03	1.29E-02	3.12E-02	5.75E-03
AM243	5270.000	5289.688	32.510	410.000	409.000	1.000	1.0000	99.78000	8.19E-01	7.10E-02	4.66E-03	1.47E-02	4.06E-02
CM-242	6102.000	6055.139	7.368	8.000	8.000	0.000	4.0092	100.0000	1.85E-02	6.66E-03	1.86E-02	4.27E-02	6.53E-03
CM-3/4	5795.020	5779.097	70.019	13.000	12.000	1.000	4.8510	100.0000	2.41E-02	7.69E-03	2.25E-02	5.05E-02	7.50E-03
CM-5/6	5386.000	5386.133	0.000	13.000	13.000	0.000	6.1294	86.09000	3.02E-02	8.64E-03	3.31E-02	7.24E-02	8.36E-03
CM-247	4946.000	4899.589	160.521	3.000	2.000	1.000	6.3427	79.30000	5.04E-03	5.05E-03	3.72E-02	8.11E-02	5.04E-03
CM-248	5078.600	5052.595	5.016	9.000	9.000	0.000	11.0244	91.00000	1.98E-02	6.73E-03	5.63E-02	1.19E-01	6.58E-03

## NOTES:

- \* BKG Sg calculated via blank population.  
(Sg updated 8-MAR-2010)
- \* BKG Sg of AM243 calculated as sqrt(BKG AREA).
- \* Corrections made to the following net area  
due to tracer impurity:  
AM-241

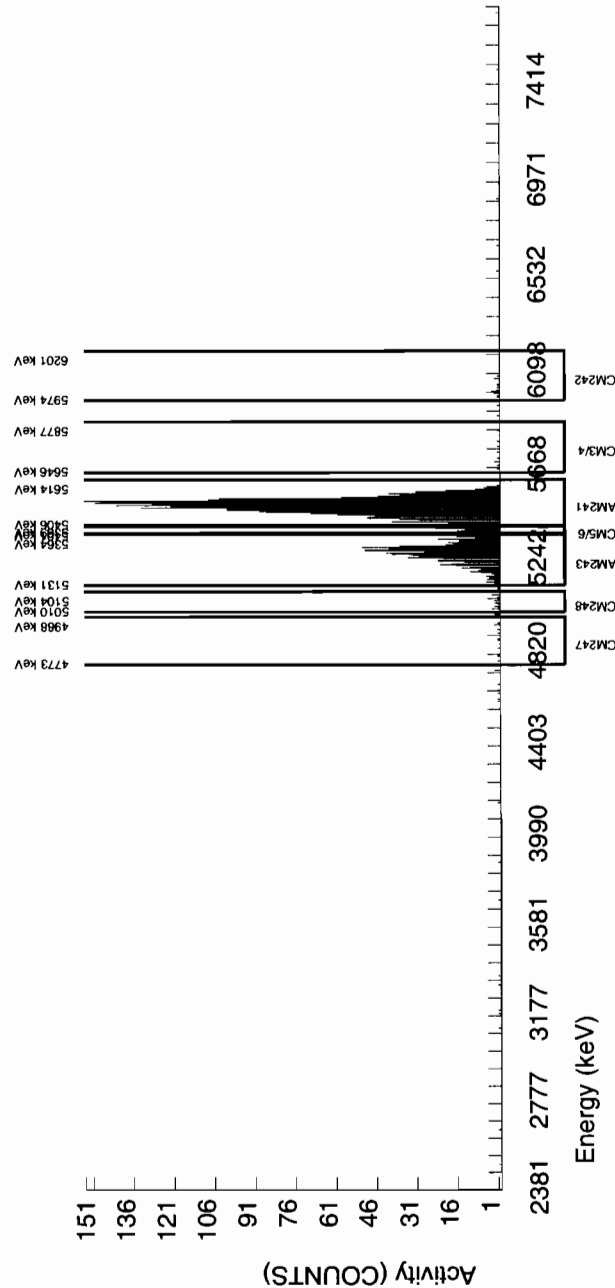


GEL Laboratories LLC  
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 969981 SAMPLE ID : S1202082744_AM SAMPLE QTY : 0.106 G SAMPLE DATE : 29-MAR-2010 00:00:00 ANALYST : MXE1 % YIELD : 90.133		CHAMBER : 233 DETECTOR S/N : 79426 AVERAGE %EFFICIENCY : 39.1441 COUNT DATE : 30-MAR-2010 14:31:27 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_AM BKG FILE : B233.CNF:94 BKG DATE : 28-MAR-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W233.CNF:34 CAL DATE : 30-MAR-2010
TRACER ID : 445-96-2-VV NUCLIDE : AM243 NOMINAL : 2.2753E+00 dpm RESULTS : 2.0508E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3147E+01 pCi/g	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3147E+01 pCi/g	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
AM-241	5479.150	5497.830	63.901
AM243	5270.000	5280.461	55.720
CM-242	6102.000	6035.920	66.423
CM-3/4	5795.020	5734.368	4.920
CM-5/6	5386.000	5386.426	0.000
CM-247	4946.000	4915.207	0.000
CM-248	5078.600	5055.596	73.803
	GROSS AREA	NET AREA	BKG AREA
	2321.000	2318.606	1.000
	803.000	801.000	2.000
	17.000	17.000	0.000
	9.000	9.000	0.000
	113.000	113.000	0.000
	15.000	15.000	0.000
	23.000	23.000	0.000
	%ABUN	BKG Sg	ACTIVITY pCi/g
	99.94000	2.7707	2.79E+01
	99.78000	1.4142	9.67E+00
	100.0000	4.0092	2.06E-01
	100.0000	4.8510	1.08E-01
	86.09000	6.1294	1.58E+00
	79.30000	6.3427	2.28E-01
	91.00000	11.0244	3.04E-01
	TPU 1-SIGMA	DLC pCi/g	MDC pCi/g
	2.02E+00	7.77E-02	1.88E-01
	7.52E-01	3.97E-02	1.12E-01
	5.21E-02	1.12E-01	2.57E-01
	3.69E-02	1.36E-01	3.04E-01
	1.85E-01	1.99E-01	4.37E-01
	6.09E-02	2.24E-01	4.89E-01
	6.69E-02	3.39E-01	7.15E-01
	UNC pCi/g		
	5.81E-01		
	3.42E-01		
	5.01E-02		
	3.61E-02		
	1.49E-01		
	5.88E-02		
	6.35E-02		

## NOTES:

- \* BKG Sg calculated via blank population.  
(Sg updated 8-MAR-2010)
- \* BKG Sg of AM243 calculated as sqrt(BKG AREA).
- \* Corrections made to the following net area  
due to tracer impurity:  
AM-241



# Radiochemistry Batch Checklist, Rev10

Batch# 961099 Product: YS Date: 3/23/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			NA
Samples have been blank corrected (if required)			NA
If activity less 10* MDA/ MDC, error is 150% or less of sample activity. If greater 10* MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits.	✓		
Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5* MDA/ MDC, then RPD is 100% or less. If greater 5* MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%.	✓		
Or meets the client's required RER acceptance criteria.			
Tracer yield is 15-125% . Carrier yield 25-125%.			NA
Or meets the client's contract acceptance criteria.			
Method blank is less than the RDL/ LLD.	✓		
(If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.			NA
Smears Taken for Radioactive batches.			NA
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.			
All line outs initialed and dated.	✓		
No transcription errors are apparent.			
Aux data is correct.			NA
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly statused.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hlt notification complete (if necessary)			NA
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.			NA
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			NA
Aliquot Correction completed if required.			NA
Review sample historical results if available (If REMF, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: Heulau 3/23/10

Secondary Review Performed By: fi Hartley 3/25/10

LAWL  
3/31/10

## Gamma Spec Que Sheet

03/04/2010

Batch #: 961099 Analyst: MXR1 First Client Due Date: 03/31/2010 Internal Due Date: 03/20/2010

Gamma Spike Isotope: Mixed Gamma Spike Code: NA Vol: NA Nominal Concentration: NA

Gamma LCS Isotope: Mixed Gamma LCS Code: 1032-A Expiration Date: 12/2/10 Vol: 1.0mL Nominal Concentration: 4m 241-15.9 (437-5.561)

Initials: MS Prep Date: 3/6/10 Library: SOULD Witness: NA (640-4.337)

Sample ID	Client Description / Container ID	Type	Hazard Code	Client	Matrix	Collect Date	Geometry	Detector	Sealing Date/Time (if Applicable)
248515001-1	RE36-10-7501	SAMPLE	LANL010	SOIL	25-FEB-10 12:00:00	U	CAV	115.40	1
248515002-1	RE36-10-7524	SAMPLE	LANL010	SOIL	25-FEB-10 12:00:00	U		105.04	5
248515003-1	RE36-10-7525	SAMPLE	LANL010	SOIL	25-FEB-10 12:00:00	U		101.89	17
248517001-1	RE36-10-8292	SAMPLE	LANL010	SOIL	25-FEB-10 12:00:00	U		118.57	18
248521001-1	RE36-10-8288	SAMPLE	LANL010	SOIL	25-FEB-10 12:00:00	U		116.74	19
248521002-1	RE36-10-8279	SAMPLE	LANL010	SOIL	25-FEB-10 12:00:00	U		93.39	22
248521003-1	RE36-10-8277	SAMPLE	LANL010	SOIL	25-FEB-10 12:00:00	U		127.78	23
248521004-1	RE36-10-8280	SAMPLE	LANL010	SOIL	25-FEB-10 12:00:00	U		102.78	5
248521005-1	RE36-10-8278	SAMPLE	LANL010	SOIL	25-FEB-10 12:00:00	U		138.24	20
248521006-1	RE36-10-8274	SAMPLE	LANL010	SOIL	25-FEB-10 12:00:00	U		124.55	22
248521007-1	RE36-10-8291	SAMPLE	LANL010	SOIL	25-FEB-10 12:00:00	U		94.55	23
248521008-1	RE36-10-8287	SAMPLE	LANL010	SOIL	25-FEB-10 12:00:00	U		125.43	6
248521009-1	RE36-10-8273	SAMPLE	LANL010	SOIL	25-FEB-10 12:00:00	U		106.26	21
248521010-1	RE36-10-8275	SAMPLE	LANL010	SOIL	25-FEB-10 12:00:00	U		118.51	5
248521011-1	RE36-10-8276	SAMPLE	LANL010	SOIL	25-FEB-10 12:00:00	U		127.14	6
248526001-1	RE36-10-8466	SAMPLE	LANL010	SOIL	25-FEB-10 12:00:00	U		133.46	25
1202061469-1	MB	MB	QC ACCOUNT	SOIL	25-FEB-10 12:00:00	U		138.24	11
1202061470-1	DUP RE36-10-8466(248526001)	DUP	QC ACCOUNT	SOIL	25-FEB-10 12:00:00	U		133.66	12
1202061471-1	LCS	LCS	QC ACCOUNT	SOIL	25-FEB-10 12:00:00	U		155.44	20

GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By: Heuleman 3/23/10

Page 1 of 1

## Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
961099	248515001	SAMPLE	19-MAR-10		Americium-241	-0.02975	0.3055	0.200
					Cerium-139	0.01085	0.06301	0.050
					Sodium-22	-0.01358	0.09443	0.080
961099	248515002	SAMPLE	19-MAR-10		Cerium-139	-0.01952	0.0634	0.050
					Cesium-134	0.06145	0.1279	0.100
					Europium-152	-0.04487	0.2164	0.200
					Sodium-22	-0.02552	0.09177	0.080
					Tin-113	-0.03998	0.1029	0.100
961099	248515003	SAMPLE	19-MAR-10		Cerium-139	0.0067	0.05995	0.050
					Cesium-134	0.0363	0.1263	0.100
					Cobalt-60	-0.0124	0.1051	0.100
					Europium-152	-0.02114	0.2054	0.200
					Sodium-22	0.04317	0.1158	0.080
961099	248517001	SAMPLE	19-MAR-10		Americium-241	0.01443	0.2962	0.200
961099	248521001	SAMPLE	19-MAR-10		Americium-241	-0.2299	0.2915	0.200
					Cerium-139	0.00736	0.06227	0.050
					Sodium-22	0.0247	0.08407	0.080
					Thorium-234	1.651	2.73	2.00
961099	248521002	SAMPLE	19-MAR-10		Americium-241	0.00107	0.2611	0.200
					Cerium-139	-0.0065	0.05951	0.050
961099	248521003	SAMPLE	19-MAR-10		Americium-241	-0.2094	0.3639	0.200
					Cerium-139	-0.02197	0.05769	0.050
					Sodium-22	0.00419	0.08545	0.080
					Thorium-234	0.4782	3.194	2.00
961099	248521004	SAMPLE	19-MAR-10					
961099	248521005	SAMPLE	19-MAR-10					
961099	248521006	SAMPLE	19-MAR-10					
961099	248521007	SAMPLE	19-MAR-10		Americium-241	0.1365	0.3233	0.200
					Cerium-139	0.00831	0.05244	0.050
961099	248521008	SAMPLE	19-MAR-10		Americium-241	0.06564	0.2296	0.200
961099	248521009	SAMPLE	19-MAR-10					
961099	248521010	SAMPLE	20-MAR-10		Cerium-139	-0.01255	0.06199	0.050
					Cesium-134	0.09313	0.1174	0.100
					Europium-152	-0.016	0.2019	0.200
					Tin-113	0.02304	0.1029	0.100
961099	248521011	SAMPLE	20-MAR-10		Americium-241	-0.03372	0.3132	0.200
					Cerium-139	-0.01403	0.05819	0.050
					Cesium-134	0.073	0.1055	0.100
					Sodium-22	-0.00052	0.08276	0.080
					Thorium-234	1.58	2.849	2.00
961099	248526001	SAMPLE	19-MAR-10		Sodium-22	-0.01771	0.08363	0.080
961099	1202061469	MB	20-MAR-10					
961099	1202061470	DUP	20-MAR-10		Americium-241	0.08004	0.2852	0.200



## Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
961099	1202061470	DUP	20-MAR-10		Cerium-139	-0.01147	0.05635	0.050
					Cesium-134	0.08606	0.101	0.100
					Sodium-22	0.01471	0.09368	0.080
					Thorium-234	1.87	2.387	2.00
961099	1202061471	LCS	20-MAR-10		Cerium-139	0.00887	0.07493	0.050
					Cesium-134	0.01997	0.148	0.100
					Europium-152	-0.01901	0.2823	0.200
					Mercury-203	0.05997	0.1118	0.100
					Ruthenium-106	-0.214	0.9365	0.800
					Thorium-234	-0.3045	2.669	2.00
					Tin-113	0.00634	0.1341	0.100







Cadmium-109	INT	5.614	0.6344	pCi/g	1.282	Y	87.37	3	1.418	IDENTIFIED	10.39	✓ UT
Cerium-143		46200	6887	pCi/g	0	N	0	8	0	SHORT_HLIF	0	
Cesium-134	LA	0.208	0.06641	pCi/g	0.1033	0.100	0	8	0	FAIL_ABUND	0	☑ UI Data rejected due to low abundance.
Cesium-137	✓	0.1657	0.03337	pCi/g	0.07122	0.100	661.5	2	1.714	IDENTIFIED	19.93	
Gross Gamma		11.66	1.543	pCi/g	4.903	N		0				
Iodine-133	HE	2.29E+05	1.06E+06	pCi/g	0	N	0	8	0	SHORT_HLIF	0	
Lead-212	✓	2.024	0.1005	pCi/g	0.111	0.100	238.6	2	1.296	IDENTIFIED	3.376	
Lead-214	✓	1.853	0.1222	pCi/g	0.1429	0.100	351.9	2	1.306	IDENTIFIED	5.071	
Molybdenum-99	HE	28.6	47.32	pCi/g	0	N	0	8	0	SHORT_HLIF	0	
Neptunium-237	AM	1.62	0.2497	pCi/g	0.3755	N	87.37	3	1.418	IDENTIFIED	10.39	
Niobium-95m	HE	0.4175	0.1001	pCi/g	0.3132	N	0	8	0	NOT_IDENTI	0	
Potassium-40	Y	30.41	1.468	pCi/g	0.5449	1.00	1461	1	1.92	IDENTIFIED	3.072	
Radium-224	INT	5.446	0.673	pCi/g	1.189	Y	241.5	1	1.682	IDENTIFIED	12.03	✓ UT
Radium-226	✓	1.517	0.11	pCi/g	0.1327	Y	609.5	2	1.474	IDENTIFIED	6.076	
Radium-228	✓	2.177	0.2372	pCi/g	0.2444	0.500	911.8	3	1.855	IDENTIFIED	9.21	
Sodium-24	HE	4.73E+08	1.13E+09	pCi/g	0	N	0	8	0	SHORT_HLIF	0	
Strontium-85	LA	0.1302	0.02684	pCi/g	0.09239	Y	0	8	0	NOT_IDENTI	0	☑ UI Data rejected due to low abundance.
Thallium-208	✓	0.6997	0.05529	pCi/g	0.06798	0.080	583.5	1	1.648	IDENTIFIED	7.137	
Thorium-228	AM	2.024	0.1005	pCi/g	0.111	N	238.6	2	1.296	IDENTIFIED	3.376	
Thorium-232	AM	2.177	0.2372	pCi/g	0.2444	N	911.8	3	1.855	IDENTIFIED	9.21	
Tin-126	AM	0.5429	0.06134	pCi/g	0.1245	N	87.37	3	1.418	IDENTIFIED	10.39	
Total Uranium		4.9762	2.40E-06	ug/g	4.0639	N		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	
248521002	25-FEB-10 12:00	19-MAR-10 20:42	22.4	SAMPLE	LOAD	I	LANL	LANL01004KEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 <i>u</i>	2.051	0.2415	pCi/g	0.2419	N	911.2	3	2.129	IDENTIFIED	9.627	<input type="checkbox"/>
Annihilation Rad.	0.1413	0.03758	pCi/g	0.05055	N	510.9	1	1.678	IDENTIFIED	26.12	<input type="checkbox"/>
Barium-137m <i>u</i>	0.5919	0.05026	pCi/g	0.07261	N	661.7	2	1.659	IDENTIFIED	6.656	<input type="checkbox"/>
Bismuth-211 <i>INT</i>	5.373	0.3993	pCi/g	0.3563	Y	352	2	1.369	IDENTIFIED	4.631	<input checked="" type="checkbox"/> <i>UI</i>
Bismuth-212 <i>hA</i>	2.306	0.4974	pCi/g	1.272	N	0	7	0	FAIL_ABUND	0	<input type="checkbox"/>
Bismuth-214 <i>Y</i>	1.372	0.1149	pCi/g	0.1259	0.200	609.3	2	1.653	IDENTIFIED	6.015	<input type="checkbox"/>
Cadmium-109 <i>INT</i>	3.184	0.5349	pCi/g	1.408	Y	87.16	3	1.355	IDENTIFIED	16.13	<input checked="" type="checkbox"/> <i>UI</i>
Cerium-143	39060	6408	pCi/g	0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>
Cesium-134 <i>LA</i>	0.1073	0.02825	pCi/g	0.09888	0.100	0	7	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> <i>UI</i> Data rejected due to low abundance.
Cesium-137 <i>V</i>	0.6253	0.05312	pCi/g	0.0767	0.100	661.7	2	1.659	IDENTIFIED	6.656	<input type="checkbox"/>
Gross Gamma	10.72	1.348	pCi/g	3.033	N		0				<input type="checkbox"/>
Iodine-135	2.45E+22	0	pCi/g	0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>
Lead-212 <i>V</i>	1.93	0.1431	pCi/g	0.1105	0.100	238.7	2	1.235	IDENTIFIED	3.331	<input type="checkbox"/>
Lead-214 <i>V</i>	1.95	0.1546	pCi/g	0.1295	0.100	352	2	1.369	IDENTIFIED	4.631	<input type="checkbox"/>
Neptunium-237 <i>u</i>	0.9185	0.1819	pCi/g	0.3898	N	87.16	3	1.355	IDENTIFIED	16.13	<input type="checkbox"/>
Potassium-40 <i>V</i>	25.99	1.466	pCi/g	0.6113	1.00	1461	1	2.572	IDENTIFIED	3.29	<input type="checkbox"/>
Promethium-149 HE	760.6	524.1	pCi/g	0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>
Radium-224 <i>INT</i>	4.717	0.738	pCi/g	1.183	Y	241.7	1	1.619	IDENTIFIED	14.33	<input checked="" type="checkbox"/> <i>UI</i>
Radium-226 <i>✓</i>	1.372	0.1149	pCi/g	0.1259	Y	609.3	2	1.653	IDENTIFIED	6.015	<input type="checkbox"/>
Radium-228 <i>✓</i>	2.051	0.2415	pCi/g	0.2419	0.500	911.2	3	2.129	IDENTIFIED	9.627	<input type="checkbox"/>









Total Uranium 9.6309 2.38E-06 ug/g 2.1565 N 0 ☐  
 Uranium-238 *W* 3.229 0.8001 pCi/g 1.448 N 63.17 2 0.9484 IDENTIFIED 23.13 ☐

\*\*\* = 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
248521007	25-FEB-10 12:00	19-MAR-10 23:12	22.5	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228 <i>W</i>	1.977	0.2154	pCi/g	0.2093	N	910.3	3	1.527	IDENTIFIED	9.137		<input type="checkbox"/>	
Annihilation Rad.	0.1673	0.04281	pCi/g	0.05096	N	510.2	1	2.064	IDENTIFIED	25.41		<input type="checkbox"/>	
Barium-137m <i>W</i>	1.951	0.07746	pCi/g	0.06504	N	660.8	2	1.476	IDENTIFIED	3.037		<input type="checkbox"/>	
Bismuth-211 <i>W</i>	4.632	0.2763	pCi/g	0.3451	Y	351.5	2	1.315	IDENTIFIED	4.996		<input checked="" type="checkbox"/>	<i>U</i>
Bismuth-212 <i>W</i>	2.017	0.4434	pCi/g	1.127	N	0	7	0	FAIL_ABUND	0		<input type="checkbox"/>	
Bismuth-214 <i>✓</i>	1.645	0.1057	pCi/g	0.1177	0.200	608.5	2	1.39	IDENTIFIED	5.191		<input type="checkbox"/>	
Cadmium-109 <i>W</i>	4.777	0.5164	pCi/g	1.282	Y	87.01	3	1.015	IDENTIFIED	9.664		<input checked="" type="checkbox"/>	<i>U</i>
Cerium-143	64820	8633	pCi/g	0	N	0	7	0	SHORT_HLIF	0		<input type="checkbox"/>	
Cesium-135 HE	0.4062	0.09846	pCi/g	0.2964	N	0	7	0	NOT_IDENTI	0		<input type="checkbox"/>	
Cesium-137 <i>✓</i>	2.061	0.08201	pCi/g	0.06871	0.100	660.8	2	1.476	IDENTIFIED	3.037		<input type="checkbox"/>	
Gross Gamma	12.15	1.386	pCi/g	3.352	N	0						<input type="checkbox"/>	
Lead-212 <i>✓</i>	2.044	0.09296	pCi/g	0.09473	0.100	238.3	2	1.149	IDENTIFIED	2.744		<input type="checkbox"/>	
Lead-214 <i>✓</i>	1.681	0.1105	pCi/g	0.1291	0.100	351.5	2	1.315	IDENTIFIED	4.996		<input type="checkbox"/>	
Molybdenum-99 HE	18.3	39.34	pCi/g	0	N	0	7	0	SHORT_HLIF	0		<input type="checkbox"/>	
Neptunium-237 <i>W</i>	1.378	0.2075	pCi/g	0.3776	N	87.01	3	1.015	IDENTIFIED	9.664		<input type="checkbox"/>	
Niobium-95m <i>W</i>	0.9483	0.09864	pCi/g	0.3055	N	0	7	0	NOT_IDENTI	0		<input type="checkbox"/>	
Potassium-40 <i>✓</i>	26.82	1.308	pCi/g	0.5841	1.00	1459	1	2.091	IDENTIFIED	3.13		<input type="checkbox"/>	
Radium-224 <i>W</i>	5.83	0.6703	pCi/g	1.015	Y	241.3	1	1.861	IDENTIFIED	11.15		<input checked="" type="checkbox"/>	<i>U</i>
Radium-226 <i>✓</i>	1.645	0.1057	pCi/g	0.1177	Y	608.5	2	1.39	IDENTIFIED	5.191		<input type="checkbox"/>	
Radium-228 <i>✓</i>	1.977	0.2154	pCi/g	0.2093	0.500	910.3	3	1.527	IDENTIFIED	9.137		<input type="checkbox"/>	
Silver-110m <i>W</i>	0.5118	0.03556	pCi/g	0.1253	N	0	7	0	NOT_IDENTI	0		<input type="checkbox"/>	
Sodium-24 HE	1.74E+09	1.39E+09	pCi/g	0	N	0	7	0	SHORT_HLIF	0		<input type="checkbox"/>	
Thallium-208 <i>✓</i>	0.6406	0.0475	pCi/g	0.05843	0.080	582.5	1	1.409	IDENTIFIED	6.671		<input type="checkbox"/>	
Thorium-228 <i>W</i>	2.044	0.09296	pCi/g	0.09473	N	238.3	2	1.149	IDENTIFIED	2.744		<input type="checkbox"/>	
Thorium-232 <i>W</i>	1.977	0.2154	pCi/g	0.2093	N	910.3	3	1.527	IDENTIFIED	9.137		<input type="checkbox"/>	
Thorium-234 <i>✓</i>	2.65	1.089	pCi/g	2.582	2.00	63.2	2	0.9613	IDENTIFIED	40.07		<input type="checkbox"/>	
Tin-126 <i>W</i>	0.4618	0.04992	pCi/g	0.1246	N	87.01	3	1.015	IDENTIFIED	9.664		<input type="checkbox"/>	
Total Uranium	7.9582	3.24E-06	ug/g	3.8431	N	0						<input type="checkbox"/>	
Uranium-238 HE	2.65	1.089	pCi/g	2.582	N	63.2	2	0.9613	IDENTIFIED	40.07		<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
248521008	25-FEB-10 12:00	19-MAR-10 23:14	22.5	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228 <i>W</i>	1.675	0.1806	pCi/g	0.1791	N	911.3	3	1.594	IDENTIFIED	8.931		<input type="checkbox"/>	
Annihilation Rad.	0.15	0.03425	pCi/g	0.03717	N	511.2	1	2.022	IDENTIFIED	22.43		<input type="checkbox"/>	
Barium-137m <i>W</i>	0.5489	0.03648	pCi/g	0.05592	N	661.8	2	1.414	IDENTIFIED	5.272		<input type="checkbox"/>	
Bismuth-211 <i>W</i>	4.385	0.2767	pCi/g	0.2858	Y	352.1	2	1.298	IDENTIFIED	4.225		<input checked="" type="checkbox"/>	<i>U</i>
Bismuth-212 <i>W</i>	1.887	0.3782	pCi/g	0.9763	N	0	6	0	FAIL_ABUND	0		<input type="checkbox"/>	
Bismuth-214 <i>✓</i>	1.463	0.09931	pCi/g	0.095	0.200	609.5	2	1.555	IDENTIFIED	4.631		<input type="checkbox"/>	

Cadmium-109	INT	4.177	0.4924	pCi/g	0.9226	Y	87.21	3	1.265	IDENTIFIED	10.42	✓ UI
Cadmium-115	HE	76.11	44.67	pCi/g	0	N	0	6	0	SHORT_HLIF	0	□
Cerium-143		24530	4160	pCi/g	0	N	0	6	0	SHORT_HLIF	0	□
Cesium-134	LA	0.1038	0.02592	pCi/g	0.08073	0.100	0	6	0	FAIL_ABUND	0	☒ UI Data rejected due to low abundance.
Cesium-137	✓	0.5799	0.03857	pCi/g	0.05907	0.100	661.8	2	1.414	IDENTIFIED	5.272	□
Gross Gamma		10.53	1.386	pCi/g	3.507	N		0				□
Iodine-135		9.22E+22	0	pCi/g	0	N	0	6	0	SHORT_HLIF	0	□
Lead-212	✓	1.62	0.09896	pCi/g	0.09645	0.100	238.7	2	1.135	IDENTIFIED	3.311	□
Lead-214	✓	1.591	0.1096	pCi/g	0.1071	0.100	352.1	2	1.298	IDENTIFIED	4.225	□
Neptunium-237	LA	1.205	0.1901	pCi/g	0.2709	N	87.21	3	1.265	IDENTIFIED	10.42	□
Potassium-40	✓	25.95	1.401	pCi/g	0.4777	1.00	1461	1	2.066	IDENTIFIED	2.63	□
Radium-224	INT	3.537	0.4052	pCi/g	1.155	Y	241.9	1	1.426	IDENTIFIED	10.49	✓ UI
Radium-226	✓	1.463	0.09931	pCi/g	0.095	Y	609.5	2	1.555	IDENTIFIED	4.631	□
Radium-228	✓	1.675	0.1806	pCi/g	0.1791	0.500	911.3	3	1.594	IDENTIFIED	8.931	□
Strontium-85	LA	0.1142	0.01823	pCi/g	0.06779	Y	0	6	0	NOT_IDENTI	0	☒ UI Data rejected due to low abundance.
Thallium-208	✓	0.531	0.04343	pCi/g	0.0505	0.080	583.3	1	1.53	IDENTIFIED	6.788	□
Thorium-228	LA	1.62	0.09896	pCi/g	0.09645	N	238.7	2	1.135	IDENTIFIED	3.311	□
Thorium-232	LA	1.675	0.1806	pCi/g	0.1791	N	911.3	3	1.594	IDENTIFIED	8.931	□
Tin-126	LA	0.4037	0.0476	pCi/g	0.08964	N	87.21	3	1.265	IDENTIFIED	10.42	□
Total Uranium		5.4946	2.21E-06	ug/g	2.7715	N		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	
248521009	25-FEB-10 12:00	19-MAR-10 23:15	22.5	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Actinium-228	ML	1.95	0.221	pCi/g	0.2257	N	910.7	3	1.394	IDENTIFIED 9.704	<input type="checkbox"/>
Annihilation Rad.		0.1408	0.03757	pCi/g	0.04847	N	510.8	1	1.384	IDENTIFIED 26.26	<input type="checkbox"/>
Barium-137m	ML	1.916	0.1196	pCi/g	0.06621	N	661.5	2	1.297	IDENTIFIED 2.913	<input type="checkbox"/>
Bismuth-211	INT	5.66	0.3482	pCi/g	0.2948	Y	351.8	2	1.084	IDENTIFIED 4.185	<input checked="" type="checkbox"/> UI
Bismuth-212	LA	3.053	0.4943	pCi/g	1.315	N	0	8	0	FAIL_ABUND 0	<input type="checkbox"/>
Bismuth-214	✓	1.75	0.1434	pCi/g	0.1119	0.200	609.2	2	1.371	IDENTIFIED 5.654	<input type="checkbox"/>
Cadmium-109	INT	5.036	0.3852	pCi/g	0.5997	Y	87.22	3	0.998	IDENTIFIED 6.056	<input checked="" type="checkbox"/> UI
Cerium-143		19720	3467	pCi/g	0	N	0	8	0	SHORT_HLIF 0	<input type="checkbox"/>
Cesium-134	LA	0.1567	0.02712	pCi/g	0.1001	0.100	0	8	0	NOT_IDENTI 0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Cesium-135	HE	0.2591	0.07092	pCi/g	0.2273	N	0	8	0	NOT_IDENTI 0	<input type="checkbox"/>
Cesium-137	✓	2.024	0.1265	pCi/g	0.06995	0.100	661.5	2	1.297	IDENTIFIED 2.913	<input type="checkbox"/>
Gross Gamma		14.04	1.412	pCi/g	3.858	N		0			<input type="checkbox"/>
Iodine-133	HE	1.59E+06	1.18E+06	pCi/g	0	N	0	8	0	SHORT_HLIF 0	<input type="checkbox"/>
Lead-210	✓	4.249	0.3612	pCi/g	0.5287	N	46.57	1	0.6929	IDENTIFIED 7.065	<input type="checkbox"/>
Lead-212	✓	2.22	0.1222	pCi/g	0.0783	0.100	238.5	2	0.8572	IDENTIFIED 2.309	<input type="checkbox"/>
Lead-214	✓	2.054	0.1385	pCi/g	0.1073	0.100	351.8	2	1.084	IDENTIFIED 4.185	<input type="checkbox"/>
Neptunium-237	ML	1.453	0.1885	pCi/g	0.172	N	87.22	3	0.998	IDENTIFIED 6.056	<input type="checkbox"/>
Potassium-40	✓	31.66	1.629	pCi/g	0.615	1.00	1460	1	1.976	IDENTIFIED 2.871	<input type="checkbox"/>
Radium-224	INT	6.999	0.7294	pCi/g	0.8416	Y	241.5	1	1.828	IDENTIFIED 9.426	<input checked="" type="checkbox"/> UI
Radium-226	✓	1.75	0.1434	pCi/g	0.1119	Y	609.2	2	1.371	IDENTIFIED 5.654	<input type="checkbox"/>
Radium-228	✓	1.95	0.221	pCi/g	0.2257	0.500	910.7	3	1.394	IDENTIFIED 9.704	<input type="checkbox"/>
Sodium-24	HE	3.78E+07	1.41E+09	pCi/g	0	N	0	8	0	SHORT_HLIF 0	<input type="checkbox"/>

Strontium-85	LA	0.07993	0.02168	pCi/g	0.07145	Y	0	8	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> UI	Data rejected due to low abundance.
Technetium-99m		4.60E+24	0	pCi/g	0	N	0	8	0	SHORT_HLIF	0	<input type="checkbox"/>	
Thallium-208	V	0.6997	0.05641	pCi/g	0.05521	0.080	583	1	1.173	IDENTIFIED	5.949	<input type="checkbox"/>	
Thorium-228	M	2.22	0.1222	pCi/g	0.0783	N	238.5	2	0.8572	IDENTIFIED	2.309	<input type="checkbox"/>	
Thorium-232	M	1.95	0.221	pCi/g	0.2257	N	910.7	3	1.394	IDENTIFIED	9.704	<input type="checkbox"/>	
Thorium-234	V	3.386	0.4538	pCi/g	0.6663	2.00	63.33	2	0.9187	IDENTIFIED	9.91	<input type="checkbox"/>	
Tin-126	M	0.4868	0.03724	pCi/g	0.05787	N	87.22	3	0.998	IDENTIFIED	6.056	<input type="checkbox"/>	
Total Uranium		10.087	1.35E-06	ug/g	0.99335	N		0				<input type="checkbox"/>	
Uranium-238	M	3.386	0.4538	pCi/g	0.6663	N	63.33	2	0.9187	IDENTIFIED	9.91	<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
248521010	25-FEB-10 12:00	20-MAR-10 11:10	23	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	M	2.076	0.2232	pCi/g	0.3223	N	910.5	3	1.982	IDENTIFIED	8.675	<input type="checkbox"/>		
Annihilation Rad.	HE	0.1066	0.04122	pCi/g	0.05843	N	510.3	1	1.581	IDENTIFIED	38.54	<input type="checkbox"/>		
Barium-137m	M	0.7057	0.05184	pCi/g	0.07988	N	661.1	2	1.559	IDENTIFIED	6.57	<input type="checkbox"/>		
Bismuth-211	INT	4.287	0.3257	pCi/g	0.4195	Y	351.6	2	1.398	IDENTIFIED	6.489	<input checked="" type="checkbox"/> Uf		
Bismuth-212	HE	2.062	0.5509	pCi/g	1.483	N	0	7	0	FAIL_ABUND	0	<input type="checkbox"/>		
Bismuth-214	V	1.43	0.1175	pCi/g	0.1466	0.200	608.8	2	1.271	IDENTIFIED	7.047	<input type="checkbox"/>		
Cadmium-109	INT	3.442	0.4885	pCi/g	1.274	Y	86.76	3	1.229	IDENTIFIED	13.67	<input checked="" type="checkbox"/> Uf		
Cerium-143		80520	12500	pCi/g	0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>		
Cesium-137	V	0.7455	0.0548	pCi/g	0.08439	0.100	661.1	2	1.559	IDENTIFIED	6.57	<input type="checkbox"/>		
Gross Gamma		10.5	1.578	pCi/g	4.676	N		0				<input type="checkbox"/>		
Lead-210	V	3.274	0.509	pCi/g	0.9593	N	45.96	1	1.166	IDENTIFIED	15.06	<input type="checkbox"/>		
Lead-212	V	1.904	0.1221	pCi/g	0.1208	0.100	238.3	2	1.233	IDENTIFIED	3.434	<input type="checkbox"/>		
Lead-214	V	1.556	0.1258	pCi/g	0.1515	0.100	351.6	2	1.398	IDENTIFIED	6.489	<input type="checkbox"/>		
Molybdenum-99 HE		77.02	54.61	pCi/g	0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>		
Neptunium-237	M	0.9922	0.1751	pCi/g	0.4119	N	86.76	3	1.229	IDENTIFIED	13.67	<input type="checkbox"/>		
Niobium-95m	LA	1.374	0.1344	pCi/g	0.4162	N	0	7	0	NOT_IDENTI	0	<input type="checkbox"/>		
Potassium-40	V	25.45	1.262	pCi/g	0.6669	1.00	1460	1	2.064	IDENTIFIED	3.86	<input type="checkbox"/>		
Promethium-149 HE		262.1	649.6	pCi/g	0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>		
Radium-224	INT	4.668	0.7589	pCi/g	1.295	Y	241.3	1	1.846	IDENTIFIED	15.5	<input checked="" type="checkbox"/> Uf		
Radium-226	V	1.43	0.1175	pCi/g	0.1466	Y	608.8	2	1.271	IDENTIFIED	7.047	<input type="checkbox"/>		
Radium-228	V	2.076	0.2232	pCi/g	0.3223	0.500	910.5	3	1.982	IDENTIFIED	8.675	<input type="checkbox"/>		
Silver-110m	HE	0.1696	0.03305	pCi/g	0.1115	N	0	7	0	NOT_IDENTI	0	<input type="checkbox"/>		
Sodium-24	HE	4.53E+09	3.11E+09	pCi/g	0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>		
Thallium-208	V	0.5144	0.05183	pCi/g	0.06734	0.080	582.9	1	1.723	IDENTIFIED	9.383	<input type="checkbox"/>		
Thorium-228	M	1.904	0.1221	pCi/g	0.1208	N	238.3	2	1.233	IDENTIFIED	3.434	<input type="checkbox"/>		
Thorium-232	M	2.076	0.2232	pCi/g	0.3223	N	910.5	3	1.982	IDENTIFIED	8.675	<input type="checkbox"/>		
Thorium-234	V	1.743	0.6294	pCi/g	1.245	2.00	63.09	2	1.125	IDENTIFIED	34.96	<input type="checkbox"/>		
Tin-126	M	0.3325	0.04719	pCi/g	0.1229	N	86.76	3	1.229	IDENTIFIED	13.67	<input type="checkbox"/>		
Total Uranium		5.1884	1.87E-06	ug/g	1.8557	N		0				<input type="checkbox"/>		
Uranium-238	HE	1.743	0.6294	pCi/g	1.245	N	63.09	2	1.125	IDENTIFIED	34.96	<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
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248521011	25-FEB-10 12:00	20-MAR-10 11:10	23	SAMPLE	LOAD	I	LANL	LANL01004GEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228 <i>W</i>	1.711	0.216	pCi/g	0.2763	N	911.5	3	1.175	IDENTIFIED	11.08	<input type="checkbox"/>
Annihilation Rad. HE	0.1023	0.04065	pCi/g	0.06058	N	510.9	1	1.617	IDENTIFIED	39.49	<input type="checkbox"/>
Bismuth-211 <i>INT</i>	4.255	0.3395	pCi/g	0.3795	Y	352	2	1.157	IDENTIFIED	6.456	<input checked="" type="checkbox"/> <i>UJ</i>
Bismuth-212 <i>W</i>	2.596	0.4984	pCi/g	1.452	N	0	4	0	FAIL_ABUND	0	<input type="checkbox"/>
Bismuth-214 <i>Y</i>	1.369	0.1162	pCi/g	0.1327	0.200	609.3	2	1.412	IDENTIFIED	6.888	<input type="checkbox"/>
Cadmium-109 <i>INT</i>	2.148	0.6	pCi/g	1.421	Y	87.1	3	1.041	IDENTIFIED	27.38	<input checked="" type="checkbox"/> <i>UJ</i>
Cerium-143	34270	6473	pCi/g	0	N	0	4	0	SHORT_HLIF	0	<input type="checkbox"/>
Gross Gamma	9.127	1.265	pCi/g	3.452	N	0					<input type="checkbox"/>
Iodine-133 HE	25810	1.67E+06	pCi/g	0	N	0	4	0	SHORT_HLIF	0	<input type="checkbox"/>
Lead-212 <i>✓</i>	1.915	0.1192	pCi/g	0.1051	0.100	238.7	2	1.216	IDENTIFIED	3.517	<input type="checkbox"/>
Lead-214 <i>✓</i>	1.544	0.1304	pCi/g	0.138	0.100	352	2	1.157	IDENTIFIED	6.456	<input type="checkbox"/>
Neptunium-237 HE	0.6193	0.1847	pCi/g	0.4686	N	87.1	3	1.041	IDENTIFIED	27.38	<input type="checkbox"/>
Potassium-40 <i>Y</i>	25.22	1.536	pCi/g	0.6358	1.00	1461	1	2.172	IDENTIFIED	3.859	<input type="checkbox"/>
Radium-224 <i>INT</i>	5.134	0.7034	pCi/g	1.127	Y	241.7	1	1.678	IDENTIFIED	12.91	<input checked="" type="checkbox"/> <i>UJ</i>
Radium-226 <i>✓</i>	1.369	0.1162	pCi/g	0.1327	Y	609.3	2	1.412	IDENTIFIED	6.888	<input type="checkbox"/>
Radium-228 <i>✓</i>	1.711	0.216	pCi/g	0.2763	0.500	911.5	3	1.175	IDENTIFIED	11.08	<input type="checkbox"/>
Strontium-85 <i>LA</i>	0.1084	0.02902	pCi/g	0.09834	Y	0	4	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Thallium-208 <i>✓</i>	0.5851	0.05811	pCi/g	0.06641	0.080	583.3	1	1.6	IDENTIFIED	8.82	<input type="checkbox"/>
Thorium-228 <i>W</i>	1.915	0.1192	pCi/g	0.1051	N	238.7	2	1.216	IDENTIFIED	3.517	<input type="checkbox"/>
Thorium-232 <i>W</i>	1.711	0.216	pCi/g	0.2763	N	911.5	3	1.175	IDENTIFIED	11.08	<input type="checkbox"/>
Tin-126 HE	0.2075	0.05797	pCi/g	0.138	N	87.1	3	1.041	IDENTIFIED	27.38	<input type="checkbox"/>
Total Uranium	4.6975	2.43E-06	ug/g	4.242	N	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
248526001	25-FEB-10 12:00	19-MAR-10 20:43	22.4	SAMPLE	LOAD	I	LANL	LANL01004GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228 <i>W</i>	2.387	0.2205	pCi/g	0.2442	N	911.1	3	1.655	IDENTIFIED	6.929	<input type="checkbox"/>
Annihilation Rad.	0.1527	0.03356	pCi/g	0.04431	N	510.9	1	1.311	IDENTIFIED	21.37	<input type="checkbox"/>
Bismuth-211 <i>INT</i>	4.708	0.3377	pCi/g	0.3446	Y	351.9	2	1.182	IDENTIFIED	4.877	<input checked="" type="checkbox"/> <i>UJ</i>
Bismuth-212 HE	1.825	0.4591	pCi/g	1.294	N	0	6	0	FAIL_ABUND	0	<input type="checkbox"/>
Bismuth-214 <i>✓</i>	1.617	0.1275	pCi/g	0.1048	0.200	609.4	2	1.472	IDENTIFIED	5.057	<input type="checkbox"/>
Cadmium-109 <i>INT</i>	4.543	0.4458	pCi/g	0.7675	Y	87.26	3	1.16	IDENTIFIED	8.224	<input checked="" type="checkbox"/> <i>UJ</i>
Cerium-143	18600	3613	pCi/g	0	N	0	6	0	SHORT_HLIF	0	<input type="checkbox"/>
Gross Gamma	11.48	1.313	pCi/g	3.131	N	0					<input type="checkbox"/>
Iodine-133 HE	6.48E+05	1.00E+06	pCi/g	0	N	0	6	0	SHORT_HLIF	0	<input type="checkbox"/>
Lead-210 <i>✓</i>	1.651	0.3284	pCi/g	0.6164	N	46.41	1	0.9663	IDENTIFIED	19.22	<input type="checkbox"/>
Lead-212 <i>✓</i>	2.145	0.1357	pCi/g	0.08657	0.100	238.6	2	0.9452	IDENTIFIED	2.721	<input type="checkbox"/>
Lead-214 <i>✓</i>	1.709	0.1313	pCi/g	0.1254	0.100	351.9	2	1.182	IDENTIFIED	4.877	<input type="checkbox"/>
Molybdenum-99 HE	20.71	41.8	pCi/g	0	N	0	6	0	SHORT_HLIF	0	<input type="checkbox"/>
Neptunium-237 <i>W</i>	1.311	0.1882	pCi/g	0.2371	N	87.26	3	1.16	IDENTIFIED	8.224	<input type="checkbox"/>
Potassium-40 <i>✓</i>	35.76	1.797	pCi/g	0.5575	1.00	1461	1	2.064	IDENTIFIED	2.668	<input type="checkbox"/>
Promethium-149 HE	152.1	421.7	pCi/g	0	N	0	6	0	SHORT_HLIF	0	<input type="checkbox"/>
Radium-224 <i>INT</i>	4.759	0.7375	pCi/g	0.9289	Y	241.4	1	1.769	IDENTIFIED	14.58	<input checked="" type="checkbox"/> <i>UJ</i>
Radium-226 <i>✓</i>	1.617	0.1275	pCi/g	0.1048	Y	609.4	2	1.472	IDENTIFIED	5.057	<input type="checkbox"/>



Name	Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	1.111	0.2752	pCi/g	0.5166	N	911.5	3	2.109	IDENTIFIED		23.97		☐	
Americium-241	13.77	0.6143	pCi/g	0.4066	0.200	59.65	1	1.107	IDENTIFIED		2.138		☐	
Barium-137m	5.837	0.3191	pCi/g	0.08916	N	662.1	2	1.531	IDENTIFIED		2.167		☐	
Bismuth-211	2.426	0.3402	pCi/g	0.5728	Y	352.1	2	1.203	IDENTIFIED		13.18		☐	
Bismuth-212 HE	1.997	0.5395	pCi/g	1.655	N	0	6	0	FAIL_ABUND	0			☐	
Bismuth-214	0.8831	0.1309	pCi/g	0.1951	0.200	609.6	2	1.305	IDENTIFIED		13.73		☐	
Cadmium-109	32.07	1.942	pCi/g	1.932	Y	88.19	2	1.132	IDENTIFIED		3.79		☐	
Cerium-143	442.3	132.7	pCi/g	0	N	0	6	0	SHORT_HLIF	0			☐	
Cesium-137	6.166	0.3375	pCi/g	0.09419	0.100	662.1	2	1.531	IDENTIFIED		2.167		☐	
Cobalt-57	0.1504	0.02677	pCi/g	0.06066	N	122.2	1	1.1	IDENTIFIED		17.3		☐	
Cobalt-60	6.106	0.2979	pCi/g	0.07525	0.100	1333	1	1.736	IDENTIFIED		2.501		☐	
Gross Gamma	27.06	2.36	pCi/g	3.804	N		0						☐	
Iodine-133 HE	498.1	3094	pCi/g	0	N	0	6	0	SHORT_HLIF	0			☐	
Lead-212	0.9728	0.09787	pCi/g	0.1825	0.100	238.6	2	1.052	IDENTIFIED		8.527		☐	
Lead-214	0.8804	0.1258	pCi/g	0.1993	0.100	352.1	2	1.203	IDENTIFIED		13.18		☐	
Neptunium-237	3.39	0.454	pCi/g	0.9202	N	0	6	0	NOT_IDENTI	0			☐	
Potassium-40	1.158	0.4351	pCi/g	0.6965	1.00	1462	1	1.231	IDENTIFIED		37.32		☐	
Radium-224	4.19	0.6582	pCi/g	2.284	Y	0	6	0	NOT_IDENTI	0			☐	
Radium-226	0.8831	0.1309	pCi/g	0.1951	Y	609.6	2	1.305	IDENTIFIED		13.73		☐	
Radium-228	1.111	0.2752	pCi/g	0.5166	0.500	911.5	3	2.109	IDENTIFIED		23.97		☐	
Technetium-99m HE	1.68E+15	4.14E+15	pCi/g	0	N	0	6	0	SHORT_HLIF	0			☐	
Thallium-208	0.2851	0.06265	pCi/g	0.1038	0.080	583.8	1	1.43	IDENTIFIED		21.36		☐	
Thorium-228	0.9728	0.09787	pCi/g	0.1825	N	238.6	2	1.052	IDENTIFIED		8.527		☐	
Thorium-232	1.111	0.2752	pCi/g	0.5166	N	911.5	3	2.109	IDENTIFIED		23.97		☐	
Tin-126	3.138	0.19	pCi/g	0.1896	N	88.19	2	1.132	IDENTIFIED		3.79		☐	

\*\*\* = Number of isotopes identified with a keyline at this energy.

# Result Greater Than DL

Batch Id	Sample Id	Sample Type	Run Date	Parmname	Result	Uncertainty	Units	DL	RDL
961099	248526001	SAMPLE	19-MAR-10	Molybdenum-99	20.71	41.8	pCi/g	0	N
				Potassium-40	35.76	1.797	pCi/g	0.2789	1.00
				Promethium-149	152.1	421.7	pCi/g	0	N
				Radium-224	4.759	0.7375	pCi/g	0.4647	Y
				Radium-226	1.617	0.1275	pCi/g	0.05245	Y
				Radium-228	2.387	0.2205	pCi/g	0.1222	0.500
				Strontium-85	0.04462	0.02191	pCi/g	0.03467	Y
				Technetium-99m	1.31E+25	0	pCi/g	0	N
				Thallium-208	0.6515	0.05532	pCi/g	0.02768	0.080
				Thorium-234	1.538	0.4724	pCi/g	0.4057	2.00
				Yttrium-91	27.27	14.22	pCi/g	25.2	N
961099	1202061469	MB	20-MAR-10	Americium-241	0.04797	0.0212	pCi/g	0.04012	0.200
				Iodine-135	2.11E+14	2.77E+14	pCi/g	0	N
961099	1202061470	DUP	20-MAR-10	Bismuth-211	4.802	0.3187	pCi/g	0.1775	Y
				Bismuth-214	1.51	0.1185	pCi/g	0.05706	0.200
				Cadmium-109	3.907	0.5889	pCi/g	0.6471	Y
				Cadmium-115	50.96	68.49	pCi/g	0	N
				Cerium-143	37560	6564	pCi/g	0	N
				Cesium-134	0.08606	0.03105	pCi/g	0.05054	0.100
				Gross Gamma	11.85	1.665	pCi/g	2.033	N
				Iodine-133	8.59E+05	1.70E+06	pCi/g	0	N
				Lead-212	1.976	0.1133	pCi/g	0.0506	0.100
				Lead-214	1.743	0.1253	pCi/g	0.06456	0.100
				Mercury-203	0.0801	0.02563	pCi/g	0.04216	0.100
				Potassium-40	36.53	1.928	pCi/g	0.2103	1.00
				Promethium-149	259.8	556.8	pCi/g	0	N
				Radium-224	4.837	0.7097	pCi/g	0.5422	Y
				Radium-226	1.51	0.1185	pCi/g	0.05706	Y
				Radium-228	2.44	0.2357	pCi/g	0.1232	0.500
				Strontium-85	0.07766	0.02346	pCi/g	0.03981	Y
				Thallium-208	0.759	0.05396	pCi/g	0.02946	0.080
				Thorium-234	1.87	1.02	pCi/g	1.194	2.00
961099	1202061471	LCS	20-MAR-10	Americium-241	13.77	0.6143	pCi/g	0.2034	0.200
				Barium-137m	5.837	0.3191	pCi/g	0.04461	N
				Bismuth-211	2.426	0.3402	pCi/g	0.2866	Y
				Bismuth-214	0.8831	0.1309	pCi/g	0.09762	0.200
				Cadmium-109	32.07	1.942	pCi/g	0.9664	Y

VAX/VMS Nuclide Identification Report Generated 19-MAR-2010 22:40:29.26

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*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248515001.CNF;1
Sample date        : 25-FEB-2010 12:00:00 Acquisition date : 19-MAR-2010 20:40:00
Sample ID          : G248515001 Sample quantity   : 1.15400E+02 GRAM
Detector name      : GAM01 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.12 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials  : MXR1
Abundance limit    : 75.00000 Sensitivity      : 5.00000
Batch ID           : 961099 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	62.67*	111	512	2.65	126.07	121	11	1.55E-02	41.4	
2	4	74.91*	371	492	1.58	150.53	144	17	5.15E-02	12.7	1.22E+00
3	4	77.15*	557	374	1.19	155.02	144	17	7.73E-02	7.7	
4	0	87.86*	89	565	1.02	176.43	170	9	1.24E-02	49.7	
5	0	93.09*	206	449	1.58	186.87	183	9	2.86E-02	21.3	
6	0	163.67	61	215	1.21	327.95	324	7	8.51E-03	41.8	
7	0	186.18*	187	336	1.38	372.96	368	11	2.60E-02	21.3	
8	0	210.08	117	379	1.46	420.72	414	12	1.62E-02	34.6	
9	3	239.07*	1150	189	1.24	478.67	471	20	1.60E-01	3.6	1.09E+00
10	3	241.97	262	259	1.71	484.47	471	20	3.64E-02	16.5	
11	0	270.42	115	241	1.19	541.33	535	13	1.59E-02	29.4	
12	0	295.70	279	191	1.52	591.87	587	9	3.87E-02	10.8	
13	0	328.30	83	124	1.32	657.04	654	8	1.15E-02	25.5	
14	0	338.66	239	185	1.29	677.73	671	13	3.32E-02	13.4	
15	0	352.34*	577	147	1.26	705.08	699	12	8.01E-02	6.0	
16	0	463.93*	51	108	1.04	928.12	923	11	7.12E-03	42.8	
17	0	511.69*	177	137	1.99	1023.59	1015	20	2.46E-02	19.8	
18	0	583.70*	307	113	1.39	1167.52	1162	14	4.26E-02	9.6	
19	0	609.85*	380	82	1.54	1219.79	1214	13	5.28E-02	7.4	
20	0	728.08	66	94	1.54	1456.10	1448	13	9.13E-03	32.8	
21	0	795.58	51	44	1.21	1591.00	1585	12	7.05E-03	29.9	
22	0	911.70*	236	41	1.78	1823.09	1816	17	3.28E-02	9.2	
23	0	969.03*	176	82	5.17	1937.68	1926	24	2.44E-02	15.9	
24	0	1121.34*	72	78	1.59	2242.07	2233	14	1.00E-02	28.9	
25	0	1461.19*	971	9	2.07	2921.27	2911	17	1.35E-01	3.3	
26	0	1765.05*	55	10	2.39	3528.50	3521	12	7.67E-03	18.4	
27	0	1848.84	14	4	1.59	3695.94	3691	9	1.91E-03	38.5	

Flag: "\*" = Peak area was modified by background subtraction



## VMS Nuclide Identification Report V3.1 Generated 19-MAR-2010 22:40:32

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248515001.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 25-FEB-2010 12:00:00 Acquisition date : 19-MAR-2010 20:40:00
Sample ID         : G248515001 Sample quantity : 115.40 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA1 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.12 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	+	1460.82	*	3.134E+01	3.472E+00	7.266E-01	6.459E-02	43.129
CD-109	+	88.03	*	1.556E+00	1.553E+00	1.831E+00	1.732E-01	0.850
SN-126		64.28		2.077E-01	7.662E-01	1.115E+00	1.641E-01	0.186
	+	86.94		6.253E-01	6.737E-01	7.459E-01	3.097E-01	0.838
	+	87.57	*	1.504E-01	1.502E-01	1.813E-01	1.708E-02	0.830
TL-208		277.37		4.053E-01	4.956E-01	8.222E-01	1.060E-01	0.493
	+	583.19	*	5.484E-01	1.162E-01	7.564E-02	6.860E-03	7.251
		860.56		4.942E-01	3.944E-01	7.094E-01	6.797E-02	0.697
BI-211		72.87		7.307E+00	4.451E+00	6.841E+00	5.610E-01	1.068
	+	351.06	*	4.504E+00	6.796E-01	3.948E-01	3.591E-02	11.408
PB-212	+	74.82		2.818E+00	8.017E-01	6.844E-01	8.764E-02	4.117
	+	77.11		2.415E+00	4.250E-01	3.907E-01	3.315E-02	6.181
	+	238.63	*	1.975E+00	2.466E-01	1.082E-01	1.101E-02	18.251
		300.09		1.164E+00	1.163E+00	1.788E+00	1.952E-01	0.651
BI-214	+	609.32	*	1.317E+00	2.343E-01	1.373E-01	1.361E-02	9.594
	+	1120.29		1.320E+00	7.749E-01	6.631E-01	7.127E-02	1.990
	+	1764.49		1.421E+00	5.371E-01	3.848E-01	3.227E-02	3.694
PB-214	+	74.82		4.995E+00	1.393E+00	1.213E+00	1.395E-01	4.117
	+	77.11		4.257E+00	8.274E-01	6.887E-01	8.150E-02	6.181
	+	242.00		2.729E+00	9.465E-01	6.585E-01	7.099E-02	4.144
	+	295.22		1.331E+00	3.230E-01	2.897E-01	3.243E-02	4.596
	+	351.93	*	1.634E+00	2.626E-01	1.459E-01	1.551E-02	11.199
RA-224	+	240.99	*	4.826E+00	1.650E+00	1.160E+00	1.054E-01	4.159
RA-226	+	609.32	*	1.317E+00	2.343E-01	1.373E-01	1.361E-02	9.594
	+	1120.29		1.320E+00	7.749E-01	6.631E-01	7.127E-02	1.990
	+	1764.49		1.421E+00	5.371E-01	3.848E-01	3.227E-02	3.694
AC-228	+	338.32		2.071E+00	1.028E+00	4.526E-01	1.890E-01	4.576
	+	911.20	*	2.061E+00	4.535E-01	2.883E-01	3.435E-02	7.149
	+	968.97		2.656E+00	1.064E+00	4.760E-01	1.165E-01	5.580
RA-228	+	338.32		2.071E+00	1.028E+00	4.526E-01	1.890E-01	4.576
	+	911.20	*	2.061E+00	4.535E-01	2.883E-01	3.435E-02	7.149
	+	968.97		2.656E+00	1.064E+00	4.760E-01	1.165E-01	5.580
TH-228	+	74.82		2.818E+00	7.540E-01	6.844E-01	5.754E-02	4.117
	+	77.11		2.415E+00	4.250E-01	3.907E-01	3.315E-02	6.181

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	238.63	*	1.975E+00	2.466E-01	1.082E-01	1.101E-02	18.251
		300.09		1.164E+00	1.359E+00	1.788E+00	1.096E+00	0.651
TH-232	+	338.32		2.071E+00	5.849E-01	4.526E-01	3.984E-02	4.576
	+	911.20	*	2.061E+00	4.535E-01	2.883E-01	3.435E-02	7.149
	+	968.97		2.656E+00	1.064E+00	4.760E-01	1.165E-01	5.580
TH-234	+	63.29	*	3.632E+00	3.080E+00	2.583E+00	4.639E-01	1.406
	+	92.59		2.875E+00	1.383E+00	1.336E+00	2.976E-01	2.153
U-235		89.96		3.766E-01	1.536E+00	1.749E+00	4.349E-01	0.215
	+	93.35		2.172E+00	1.055E+00	1.003E+00	2.333E-01	2.166
		143.76	*	-1.802E-01	2.390E-01	3.827E-01	6.474E-02	-0.471
	+	163.33		7.074E-01	6.044E-01	8.495E-01	1.521E-01	0.833
	+	185.72		2.067E-01	8.986E-02	7.897E-02	6.862E-03	2.617
		205.31		-1.521E-01	6.498E-01	9.416E-01	1.720E-01	-0.161
NP-237	+	86.48	*	4.488E-01	4.579E-01	5.383E-01	1.235E-01	0.834
		95.86		-7.900E-01	1.266E+00	1.716E+00	4.136E-01	-0.461
U-238	+	63.29	*	3.632E+00	3.080E+00	2.583E+00	4.639E-01	1.406
	+	92.59		2.875E+00	1.253E+00	1.336E+00	1.218E-01	2.153
ANH-511	+	511.00	*	2.414E-01	9.779E-02	5.828E-02	4.940E-03	4.141

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	2.455E-01	4.480E-01	7.488E-01	6.811E-02	0.328
NA-22		1274.54	*	-1.358E-02	5.801E-02	9.467E-02	7.950E-03	-0.143
NA-24		1368.63	*	7.698E+02	5.801E-02	Half-Life too short		
SC-46		889.28	*	-2.692E-02	5.241E-02	8.089E-02	7.312E-03	-0.333
	+	1120.55		2.370E-01	1.383E-01	1.842E-01	1.547E-02	1.287
V-48		944.13		5.821E-01	1.395E+00	2.378E+00	2.142E-01	0.245
		983.53	*	4.405E-02	1.262E-01	2.123E-01	1.895E-02	0.207
		1312.11		6.070E-02	1.193E-01	2.117E-01	1.795E-02	0.287
CR-51		320.08	*	-1.089E-01	5.745E-01	9.109E-01	8.562E-02	-0.120
MN-54		834.85	*	2.612E-02	4.774E-02	8.212E-02	7.309E-03	0.318
CO-56		846.77	*	3.365E-02	5.223E-02	9.086E-02	8.118E-03	0.370
		1037.84		1.278E-01	4.097E-01	6.856E-01	6.315E-02	0.186
		1238.28		1.947E-01	1.302E-01	2.403E-01	2.055E-02	0.810
		1771.35		-8.721E-03	3.024E-01	4.361E-01	3.651E-02	-0.020
CO-57		122.06	*	2.900E-03	3.199E-02	5.095E-02	4.486E-03	0.057
		136.47		-2.141E-01	2.383E-01	3.884E-01	3.585E-02	-0.551
CO-58		810.76	*	-9.740E-03	4.916E-02	7.915E-02	7.003E-03	-0.123
FE-59		1099.45	*	-1.115E-01	1.367E-01	1.996E-01	1.840E-02	-0.559
		1291.59		5.558E-02	1.652E-01	2.860E-01	2.751E-02	0.194
CO-60		1173.23		-5.118E-02	5.288E-02	7.945E-02	6.430E-03	-0.644
		1332.49	*	-4.868E-02	4.381E-02	6.016E-02	5.128E-03	-0.809
ZN-65		1115.54	*	-1.211E-02	1.380E-01	1.888E-01	1.593E-02	-0.064
SE-75		121.12		-6.595E-02	1.692E-01	2.631E-01	2.949E-02	-0.251
		136.00		-5.934E-02	4.741E-02	7.592E-02	6.572E-03	-0.782
		264.66	*	-4.858E-03	6.324E-02	9.127E-02	8.385E-03	-0.053
		279.54		-1.752E-02	1.445E-01	2.368E-01	2.239E-02	-0.074

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	400.66			-1.175E-01	3.483E-01	5.414E-01	5.787E-02	-0.217
SR-85	514.00	*		1.743E-01	6.195E-02	1.133E-01	9.603E-03	1.539
Y-88	898.04			1.198E-02	5.872E-02	9.777E-02	8.895E-03	0.123
	1836.06	*		-3.060E-02	4.760E-02	6.620E-02	5.444E-03	-0.462
Y-91	1204.77	*		1.419E+01	3.107E+01	5.406E+01	4.429E+00	0.262
NB-94	702.65	*		6.264E-03	4.363E-02	7.319E-02	6.144E-03	0.086
	871.09			-2.445E-02	4.048E-02	6.164E-02	5.546E-03	-0.397
NB-95	765.81	*		6.264E-03	5.464E-02	9.107E-02	7.892E-03	0.069
NB-95M	235.69	*		2.126E-01	1.713E-01	2.688E-01	2.762E-02	0.791
ZR-95	724.19			2.021E-02	1.437E-01	2.099E-01	1.938E-02	0.096
	756.73	*		9.442E-02	1.006E-01	1.786E-01	1.702E-02	0.529
MO-99	140.51			4.220E-05	1.006E-01	Half-Life	too short	
	181.07			6.842E-05	1.006E-01	Half-Life	too short	
	366.42			-8.103E-05	1.006E-01	Half-Life	too short	
	739.50	*		-7.047E-05	1.006E-01	Half-Life	too short	
	777.92			-1.219E-04	1.006E-01	Half-Life	too short	
TC-99M	140.51	*		5.771E+18	1.006E-01	Half-Life	too short	
RU-103	497.08	*		4.076E-03	5.937E-02	9.552E-02	1.324E-02	0.043
	610.33	+		1.545E+01	3.390E+00	4.094E+00	6.643E-01	3.773
RH-106	621.93	*		1.698E-01	3.813E-01	6.592E-01	8.624E-02	0.258
	1050.41			6.427E-01	3.452E+00	5.689E+00	4.961E-01	0.113
RU-106	621.93	*		1.698E-01	3.810E-01	6.592E-01	5.506E-02	0.258
	1050.41			6.427E-01	3.452E+00	5.689E+00	4.961E-01	0.113
AG-108M	433.94	*		-1.032E-02	3.832E-02	6.052E-02	5.179E-03	-0.171
	614.28			-2.832E-02	4.730E-02	6.373E-02	5.524E-03	-0.444
	722.91			-5.239E-03	5.456E-02	7.750E-02	6.795E-03	-0.068
AG-110M	657.76	*		-5.720E-02	4.181E-02	6.033E-02	5.115E-03	-0.948
	677.62			-9.849E-02	3.775E-01	6.128E-01	5.228E-02	-0.161
	706.68			-8.723E-02	2.711E-01	4.373E-01	3.790E-02	-0.199
	763.94			-1.338E-01	2.060E-01	3.197E-01	2.844E-02	-0.418
	884.68			-1.723E-02	6.284E-02	9.974E-02	9.270E-03	-0.173
	937.49			-8.269E-02	1.334E-01	2.013E-01	1.875E-02	-0.411
	1384.29			-4.782E-02	1.940E-01	3.106E-01	2.740E-02	-0.154
	1505.03			-2.840E-01	3.256E-01	4.506E-01	3.901E-02	-0.630
SN-113	391.69	*		-2.325E-02	6.043E-02	9.536E-02	7.943E-03	-0.244
CD-115	260.90			-1.904E-04	6.043E-02	Half-Life	too short	
	492.35			1.371E-04	6.043E-02	Half-Life	too short	
	527.90	*		-7.813E-06	6.043E-02	Half-Life	too short	
SN-117M	156.02			-1.528E+00	3.799E+00	6.311E+00	5.374E-01	-0.242
	158.56	*		2.509E-02	9.929E-02	1.578E-01	1.343E-02	0.159
TE-123M	159.00	*		6.729E-03	3.880E-02	5.839E-02	5.002E-03	0.115
SB-124	602.73			1.941E-02	5.508E-02	8.969E-02	7.544E-03	0.216
	645.85			3.087E-01	7.043E-01	1.213E+00	1.065E-01	0.255
	722.78			-8.942E-02	5.934E-01	8.371E-01	7.272E-02	-0.107
	1690.97	*		-2.024E-02	1.040E-01	1.632E-01	1.450E-02	-0.124
SB-125	427.87	*		-2.466E-02	1.218E-01	1.937E-01	1.629E-02	-0.127
	463.37	+		6.196E-01	5.330E-01	6.800E-01	6.150E-02	0.911
	600.60			-2.326E-01	2.260E-01	3.469E-01	3.146E-02	-0.670
	635.95			2.709E-01	3.089E-01	5.530E-01	4.992E-02	0.490

## ----- Non-Identified Nuclides -----

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TE-125M	109.28	*		5.149E+00	1.335E+01	2.160E+01	2.277E+00	0.238
I-126	388.63			9.213E-02	3.101E-01	5.132E-01	4.157E-02	0.180
	666.33	*		-9.615E-02	3.863E-01	6.290E-01	5.167E-02	-0.153
	753.82			-9.895E-01	3.634E+00	5.866E+00	5.055E-01	-0.169
SB-126	414.70			4.786E-02	1.480E-01	2.445E-01	1.999E-02	0.196
	666.50			6.822E-04	1.331E-01	2.216E-01	1.820E-02	0.003
	695.00			4.429E-02	1.557E-01	2.640E-01	2.207E-02	0.168
	697.00			-1.496E-01	5.541E-01	9.007E-01	7.537E-02	-0.166
	720.70	*		2.043E-01	2.987E-01	4.650E-01	3.942E-02	0.439
	856.80			-9.170E-01	9.557E-01	1.418E+00	1.270E-01	-0.647
SB-127	252.40			7.278E+00	2.018E+01	3.364E+01	1.425E+01	0.216
	273.00			-9.045E+00	7.980E+00	1.143E+01	1.691E+00	-0.791
	685.70	*		-2.475E+00	5.831E+00	9.303E+00	1.260E+00	-0.266
	783.70			7.865E+00	1.671E+01	2.859E+01	4.183E+00	0.275
I-131	80.19			2.102E+00	1.105E+01	1.600E+01	1.415E+00	0.131
	284.31			1.380E+00	3.432E+00	5.776E+00	5.552E-01	0.239
	364.49	*		-1.167E-01	2.710E-01	4.277E-01	3.858E-02	-0.273
	636.99			1.671E+00	3.416E+00	5.933E+00	5.265E-01	0.282
TE-132	49.72			-1.726E+01	1.220E+02	1.977E+02	2.609E+01	-0.087
	111.76			-1.975E+02	2.117E+02	3.205E+02	4.267E+01	-0.616
	116.30			-2.053E+01	1.750E+02	2.765E+02	3.688E+01	-0.074
	228.16	*		1.155E+00	4.330E+00	7.286E+00	1.288E+00	0.159
BA-133	81.00			-2.030E-01	1.348E-01	1.725E-01	2.693E-02	-1.177
	276.40			4.176E-01	4.983E-01	7.603E-01	1.098E-01	0.549
	302.85			-5.763E-02	1.806E-01	2.912E-01	3.892E-02	-0.198
	356.01	*		-8.621E-03	5.770E-02	8.112E-02	1.050E-02	-0.106
	383.85			2.674E-02	3.434E-01	5.607E-01	6.799E-02	0.048
I-133	529.87	*		2.546E-01	3.434E-01	Half-Life	too short	
	875.33			2.840E+01	3.434E-01	Half-Life	too short	
	1298.22			-7.485E+01	3.434E-01	Half-Life	too short	
CS-134	563.25			-2.695E-01	4.472E-01	7.161E-01	6.132E-02	-0.376
	569.33			1.549E-01	2.241E-01	3.961E-01	3.403E-02	0.391
	604.72			3.608E-02	4.592E-02	7.229E-02	6.091E-03	0.499
+	795.86	*		1.340E-01	8.099E-02	1.156E-01	1.021E-02	1.160
	801.95			7.176E-02	5.725E-01	8.833E-01	7.813E-02	0.081
	1365.19			1.091E-01	1.364E+00	2.294E+00	2.058E-01	0.048
CS-135	268.22	*		1.325E-01	2.067E-01	3.137E-01	3.271E-02	0.422
I-135	546.56			1.416E+18	2.067E-01	Half-Life	too short	
	836.80			-1.560E+17	2.067E-01	Half-Life	too short	
	1038.76			-4.909E+17	2.067E-01	Half-Life	too short	
	1131.51			2.403E+17	2.067E-01	Half-Life	too short	
	1260.41	*		7.107E+16	2.067E-01	Half-Life	too short	
	1457.56			3.060E+19	2.067E-01	Half-Life	too short	
	1678.03			6.077E+17	2.067E-01	Half-Life	too short	
	1791.20			-3.631E+17	2.067E-01	Half-Life	too short	
CS-136	153.25			1.171E-01	1.469E+00	2.491E+00	2.538E-01	0.047
	176.60			-4.933E-01	8.569E-01	1.403E+00	1.334E-01	-0.352
	273.65			-6.102E-01	1.077E+00	1.494E+00	1.471E-01	-0.409
	340.55			1.128E+00	3.498E-01	5.861E-01	5.339E-02	1.925

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		818.51		1.565E-02	1.296E-01	2.157E-01	1.912E-02	0.073
		1048.07	*	1.374E-01	2.151E-01	3.694E-01	3.360E-02	0.372
		1235.36		-4.739E-01	1.109E+00	1.787E+00	2.060E-01	-0.265
BA-137M		661.66	*	1.868E-02	4.211E-02	7.265E-02	5.951E-03	0.257
CS-137		661.66	*	1.973E-02	4.448E-02	7.675E-02	6.300E-03	0.257
CE-139		165.86	*	1.085E-02	4.102E-02	6.193E-02	5.274E-03	0.175
BA-140	+	162.66		1.953E+00	1.641E+00	2.545E+00	2.317E-01	0.767
		304.85		-1.040E+00	2.531E+00	4.028E+00	1.184E+00	-0.258
		423.72		-9.351E-01	3.708E+00	5.855E+00	1.920E+00	-0.160
		537.26	*	8.859E-02	4.781E-01	8.148E-01	2.761E-01	0.109
LA-140	+	328.76		1.318E+00	6.831E-01	1.079E+00	1.011E-01	1.221
		487.02		8.428E-02	2.648E-01	4.349E-01	3.905E-02	0.194
		815.77		2.538E-01	5.818E-01	9.970E-01	9.801E-02	0.255
		1596.21	*	-1.204E-01	1.714E-01	2.491E-01	2.149E-02	-0.483
CE-141		145.44	*	-4.628E-02	8.708E-02	1.417E-01	1.233E-02	-0.327
CE-143		57.36		-4.118E-02	8.708E-02	Half-Life	too short	
		293.27	*	1.472E-02	8.708E-02	Half-Life	too short	
		664.57		-6.251E-04	8.708E-02	Half-Life	too short	
		721.93		4.095E-02	8.708E-02	Half-Life	too short	
CE-144		80.12		6.878E-01	3.256E+00	4.721E+00	4.117E-01	0.146
		133.52	*	2.671E-02	2.480E-01	3.939E-01	6.021E-02	0.068
PM-144		476.78		2.687E-02	8.323E-02	1.369E-01	1.256E-02	0.196
		618.01		6.678E-03	4.041E-02	6.673E-02	5.751E-03	0.100
		696.49	*	-7.093E-03	4.671E-02	7.661E-02	6.414E-03	-0.093
PR-144		696.51	*	-5.439E-01	3.508E+00	5.753E+00	4.812E-01	-0.095
		1489.16		-1.664E+01	1.408E+01	1.733E+01	1.500E+00	-0.960
PM-146		453.88	*	2.141E-02	5.231E-02	8.676E-02	8.996E-03	0.247
		633.25		-1.036E+00	1.665E+00	2.541E+00	9.688E-01	-0.408
		735.93		1.103E-01	1.768E-01	3.044E-01	8.525E-02	0.362
		747.24		-4.013E-03	1.199E-01	1.975E-01	2.877E-02	-0.020
ND-147		91.11		1.267E+00	8.104E-01	9.949E-01	9.841E-02	1.273
		319.41		-4.865E-01	6.819E+00	1.089E+01	9.774E-01	-0.045
		531.02	*	2.552E-02	1.048E+00	1.770E+00	2.632E-01	0.014
PM-149		285.90	*	1.396E-04	1.048E+00	Half-Life	too short	
EU-152		121.78		-1.258E-03	9.007E-02	1.428E-01	1.435E-02	-0.009
		244.70		4.023E-01	4.429E-01	6.835E-01	6.222E-02	0.589
		344.28	*	4.567E-02	1.331E-01	1.961E-01	1.812E-02	0.233
		778.90		-8.746E-03	3.221E-01	5.296E-01	4.615E-02	-0.017
		964.08		4.976E-01	4.256E-01	6.870E-01	6.162E-02	0.724
		1085.87		4.275E-01	5.129E-01	8.973E-01	7.692E-02	0.476
		1112.07		-2.579E-01	4.140E-01	5.729E-01	4.839E-02	-0.450
		1408.01		1.418E-01	2.224E-01	3.994E-01	3.440E-02	0.355
GD-153		69.67		-6.798E-01	2.515E+00	3.573E+00	2.866E-01	-0.190
		97.43	*	-1.174E-02	1.206E-01	1.706E-01	1.515E-02	-0.069
		103.18		-1.861E-01	1.383E-01	2.051E-01	1.789E-02	-0.908
EU-154		123.07		-9.680E-03	6.509E-02	1.025E-01	1.175E-02	-0.094
		723.31		5.697E-02	2.422E-01	3.578E-01	3.355E-02	0.159
		873.19		1.258E-02	3.406E-01	5.597E-01	6.814E-02	0.022
		996.26		5.030E-03	4.457E-01	7.239E-01	1.275E-01	0.007

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	+	1004.73		5.238E-02	2.571E-01	4.263E-01	5.041E-02	0.123
		1274.44	*	-4.408E-02	1.649E-01	2.681E-01	3.004E-02	-0.164
		86.55		1.829E-01	1.827E-01	2.206E-01	2.072E-02	0.829
		105.31	*	2.143E-02	1.297E-01	2.084E-01	1.832E-02	0.103
TB-160	+	86.79		5.187E-01	5.179E-01	6.262E-01	5.848E-02	0.828
		197.04		-3.742E-01	7.010E-01	1.145E+00	1.006E-01	-0.327
		215.65		7.854E-01	1.052E+00	1.690E+00	1.511E-01	0.465
		298.57		1.163E-01	1.752E-01	2.644E-01	2.403E-02	0.440
HO-166M		879.36	*	1.509E-02	1.901E-01	3.135E-01	2.827E-02	0.048
		962.29		1.085E-01	7.519E-01	1.093E+00	9.806E-02	0.099
		966.15		7.688E-01	3.131E-01	5.915E-01	5.304E-02	1.300
		1177.93		1.098E-01	4.907E-01	8.402E-01	6.813E-02	0.131
		1271.85		-2.043E-01	1.073E+00	1.759E+00	1.474E-01	-0.116
		80.57		-1.750E-01	3.593E-01	5.012E-01	4.390E-02	-0.349
		184.41		9.622E-02	4.860E-02	7.808E-02	6.776E-03	1.232
		280.46		-1.351E-01	1.065E-01	1.620E-01	1.481E-02	-0.834
		410.95		7.670E-02	3.371E-01	5.530E-01	4.510E-02	0.139
		711.68	*	5.288E-02	7.327E-02	1.287E-01	1.086E-02	0.411
		752.31		-3.294E-01	3.689E-01	5.604E-01	4.826E-02	-0.588
		810.29		-3.682E-02	7.172E-02	1.116E-01	9.852E-03	-0.330
TA-182		67.75		6.728E-02	1.682E-01	2.475E-01	1.961E-02	0.272
		100.11		1.737E-01	2.357E-01	3.814E-01	3.353E-02	0.455
		152.43		-1.371E-02	4.256E-01	7.187E-01	6.123E-02	-0.019
		222.11		-8.657E-02	4.430E-01	7.313E-01	6.571E-02	-0.118
IR-192	+	1121.30		6.462E-01	3.769E-01	5.003E-01	4.201E-02	1.292
		1189.05		-1.007E-01	4.168E-01	6.836E-01	5.567E-02	-0.147
		1221.41	*	-5.179E-02	2.795E-01	4.606E-01	3.796E-02	-0.112
		1231.02		-4.633E-01	6.046E-01	9.359E-01	7.740E-02	-0.495
		295.96		1.054E+00	2.465E-01	3.732E-01	3.419E-02	2.824
		308.46		1.075E-02	1.264E-01	2.085E-01	1.894E-02	0.052
		316.51	*	7.806E-03	4.650E-02	7.699E-02	6.937E-03	0.101
		468.07		1.010E-01	1.024E-01	1.579E-01	1.427E-02	0.640
		70.83		-1.727E+00	2.137E+00	2.925E+00	4.616E-01	-0.590
		72.87		2.026E+00	1.262E+00	1.897E+00	2.904E-01	1.068
		279.20	*	2.907E-02	5.333E-02	9.036E-02	8.452E-03	0.322
		72.81		3.747E-01	2.547E-01	3.894E-01	3.192E-02	0.962
BI-207	+	74.97		8.125E-01	2.172E-01	2.928E-01	2.441E-02	2.775
		569.70		1.698E-03	3.584E-02	6.041E-02	5.117E-03	0.028
		1063.66	*	-8.265E-03	6.815E-02	1.086E-01	9.413E-03	-0.076
		1770.23		1.146E-01	5.931E-01	8.814E-01	7.381E-02	0.130
PB-210		46.54	*	-5.366E-01	4.806E+00	7.659E+00	7.173E-01	-0.070
PB-211		404.85	*	-1.105E-01	9.893E-01	1.587E+00	7.668E-01	-0.070
BI-212	+	427.09		-4.738E-01	1.985E+00	3.129E+00	1.445E+00	-0.151
		832.01		-1.145E+00	1.379E+00	1.855E+00	9.630E-01	-0.617
		727.33	*	1.813E+00	1.211E+00	1.507E+00	1.865E-01	1.203
		785.37		1.566E+00	4.004E+00	6.819E+00	5.958E-01	0.230
RN-219	+	1620.50		2.804E+00	3.268E+00	6.026E+00	5.186E-01	0.465
		271.23		8.717E-01	5.214E-01	5.619E-01	6.015E-02	1.551
		401.81	*	-1.317E-02	5.157E-01	8.336E-01	1.216E-01	-0.016

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-223		81.07		-4.698E-01	2.989E-01	3.887E-01	3.421E-02	-1.209
		83.79		2.386E-02	1.735E-01	2.491E-01	2.253E-02	0.096
		94.87		1.341E+00	6.260E-01	9.748E-01	8.766E-02	1.375
		144.24		-4.659E-01	8.016E-01	1.302E+00	1.244E-01	-0.358
		154.21		-9.804E-02	4.473E-01	7.492E-01	7.006E-02	-0.131
	+	269.46		6.773E-01	4.035E-01	4.257E-01	3.964E-02	1.591
		323.87	*	1.105E+00	9.059E-01	1.401E+00	2.451E-01	0.789
	+	338.28		8.218E+00	2.423E+00	3.000E+00	3.661E-01	2.739
		79.69		2.532E+00	1.615E+00	2.424E+00	4.185E-01	1.045
		235.96		2.115E-01	1.966E-01	3.052E-01	3.270E-02	0.693
AC-227		256.23	*	1.793E-01	3.243E-01	5.503E-01	6.837E-02	0.326
		299.98		1.085E+00	1.299E+00	1.973E+00	2.569E-01	0.550
		304.50		-1.041E+00	2.103E+00	3.346E+00	5.609E-01	-0.311
		334.37		-3.577E+00	2.859E+00	3.269E+00	5.136E-01	-1.094
		79.80		1.311E+00	2.156E+00	3.163E+00	6.898E-01	0.414
		235.96		2.115E-01	1.965E-01	3.052E-01	3.098E-02	0.693
TH-227		256.23	*	1.793E-01	3.245E-01	5.503E-01	7.670E-02	0.326
		299.98		1.085E+00	1.299E+00	1.973E+00	2.569E-01	0.550
		304.50		-1.041E+00	2.103E+00	3.346E+00	5.609E-01	-0.311
		334.37		-3.577E+00	2.859E+00	3.269E+00	5.136E-01	-1.094
		85.43		2.938E-01	2.903E-01	4.323E-01	3.978E-02	0.680
	+	88.47		2.319E-01	2.315E-01	2.823E-01	2.660E-02	0.822
TH-229		193.51	*	2.543E-01	6.210E-01	1.058E+00	9.271E-02	0.240
	+	210.85		2.852E+00	1.990E+00	2.105E+00	1.875E-01	1.355
		283.69	*	5.189E-01	1.783E+00	2.983E+00	4.444E-01	0.174
PA-231		301.36		7.069E-01	7.560E-01	1.256E+00	1.567E-01	0.563
TH-231		81.07		-4.698E-01	2.989E-01	3.887E-01	3.421E-02	-1.209
		83.79		2.386E-02	1.735E-01	2.491E-01	2.253E-02	0.096
		94.87		1.341E+00	6.260E-01	9.748E-01	8.766E-02	1.375
		144.24		-4.659E-01	8.016E-01	1.302E+00	1.244E-01	-0.358
		154.21		-9.804E-02	4.473E-01	7.492E-01	7.006E-02	-0.131
	+	269.46		6.773E-01	4.035E-01	4.257E-01	3.964E-02	1.591
		323.87	*	1.105E+00	9.059E-01	1.401E+00	2.451E-01	0.789
	+	338.28		8.218E+00	2.423E+00	3.000E+00	3.661E-01	2.739
		300.13		5.728E-01	5.818E-01	8.888E-01	1.342E-01	0.644
		311.90	*	4.591E-03	8.133E-02	1.339E-01	1.239E-02	0.034
PA-233		340.48		3.196E+00	1.263E+00	1.730E+00	4.174E-01	1.847
		94.67		6.807E-01	2.425E-01	3.718E-01	4.712E-02	1.831
		98.44		5.301E-02	1.253E-01	1.865E-01	1.041E-01	0.284
PA-234		111.00		-9.762E-02	2.358E-01	3.679E-01	4.458E-02	-0.265
		131.20		3.291E-03	1.362E-01	2.156E-01	1.864E-02	0.015
		569.50		9.675E-03	3.176E-01	5.345E-01	4.528E-02	0.018
		733.00		-3.597E-01	5.406E-01	6.985E-01	1.548E-01	-0.515
		880.51		1.499E-02	3.671E-01	6.030E-01	5.439E-02	0.025
		883.24		-2.407E-02	3.686E-01	5.982E-01	4.024E-01	-0.040
		926.50		1.518E-02	2.094E-01	3.440E-01	8.746E-02	0.044
		946.00	*	-1.092E-01	3.774E-01	5.941E-01	1.125E-01	-0.184
		949.00		2.298E-01	5.402E-01	9.189E-01	8.269E-02	0.250
		766.42		4.531E+00	1.311E+01	2.197E+01	1.115E+01	0.206
PA-234M								

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1001.03		*	1.755E+00	6.011E+00	1.004E+01	1.024E+00	0.175
NP-239	99.53			2.686E-01	2.054E-01	3.390E-01	2.986E-02	0.792
	103.37			-1.431E-01	1.226E-01	1.839E-01	1.603E-02	-0.779
	106.12			5.155E-02	1.040E-01	1.693E-01	1.470E-02	0.304
	117.23		*	-1.870E-01	5.012E-01	7.817E-01	6.810E-02	-0.239
	228.18			7.074E-02	2.668E-01	4.493E-01	4.054E-02	0.157
	277.60			2.290E-01	2.172E-01	3.761E-01	3.440E-02	0.609
AM-241	59.54		*	-2.975E-02	2.071E-01	2.974E-01	2.451E-02	-0.100
CM-247	278.00			8.826E-01	9.232E-01	1.592E+00	1.456E-01	0.554
	287.50			-1.365E-01	1.509E+00	2.473E+00	2.258E-01	-0.055
	402.40		*	-3.396E-03	4.896E-02	7.891E-02	6.398E-03	-0.043
CF-249	252.80			7.369E-01	1.195E+00	2.038E+00	1.861E-01	0.361
	333.37			-1.413E-03	3.569E-01	3.677E-01	3.254E-02	-0.004
	388.16		*	1.191E-02	5.101E-02	8.405E-02	6.815E-03	0.142
CF-251	177.52		*	-1.569E-01	1.540E-01	2.465E-01	2.123E-02	-0.636
	227.38			1.486E-01	4.460E-01	7.532E-01	6.793E-02	0.197
	285.41			6.249E-01	2.678E+00	4.468E+00	4.081E-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]G248515001
* Acquisition date   : 19-MAR-2010 20:40:00 Detector SN#      :
* Detector ID        : GAM01 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance   : 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:01.12 Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 25-FEB-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G248515001 Analyst initials: MXR1
* Batch Number       : 961099 Sample Quantity : 1.1540E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 12-JAN-2010 15:15:52 MS Isotope      :
* MSD DPM             : 0.000 MSD Isotope                   :
* LCS DPM             : 0.000 LCS Isotope                    :
* LCSD DPM            : 0.000 LCSD Isotope                   :
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## Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act error	MDA (pCi/GRAM )	
K-40	3.134E+01	3.402E+00	7.238E-01	0.000E+00
CD-109	1.556E+00	1.522E+00	1.874E+00	0.000E+00
SN-126	1.504E-01	1.472E-01	1.856E-01	0.000E+00
TL-208	5.484E-01	1.139E-01	7.603E-02	0.000E+00
BI-211	4.504E+00	6.660E-01	3.988E-01	0.000E+00
PB-212	1.975E+00	2.417E-01	1.097E-01	0.000E+00
BI-214	1.317E+00	2.297E-01	1.379E-01	0.000E+00
PB-214	1.634E+00	2.574E-01	1.474E-01	0.000E+00
RA-224	4.826E+00	1.617E+00	1.176E+00	0.000E+00
RA-226	1.317E+00	2.297E-01	1.379E-01	0.000E+00
AC-228	2.061E+00	4.444E-01	2.885E-01	0.000E+00
RA-228	2.061E+00	4.444E-01	2.885E-01	0.000E+00
TH-228	1.975E+00	2.417E-01	1.097E-01	0.000E+00
TH-232	2.061E+00	4.444E-01	2.885E-01	0.000E+00
TH-234	3.632E+00	3.018E+00	2.652E+00	0.000E+00
U-235	-1.802E-01	2.342E-01	3.899E-01	0.000E+00
NP-237	4.488E-01	4.488E-01	5.510E-01	0.000E+00
U-238	3.632E+00	3.018E+00	2.652E+00	0.000E+00
ANH-511	2.414E-01	9.583E-02	5.866E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L. Act error ) Ided	MDA (pCi/GRAM )	
BE-7	2.455E-01	4.390E-01	7.542E-01	0.000E+00 NOT IDENT.
NA-22	-1.358E-02	5.685E-02	9.443E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	2.479E+09	0.000E+00	0.000E+00 SHORT HLIF
SC-46	-2.692E-02	5.136E-02	8.097E-02	0.000E+00 FAIL ABUN
V-48	4.405E-02	1.237E-01	2.123E-01	0.000E+00 NOT IDENT.
CR-51	-1.089E-01	5.630E-01	9.209E-01	0.000E+00 NOT IDENT.
MN-54	2.612E-02	4.678E-02	8.226E-02	0.000E+00 NOT IDENT.
CO-56	3.365E-02	5.119E-02	9.099E-02	0.000E+00 NOT IDENT.

CO-57	2.900E-03	3.135E-02	5.199E-02	0.000E+00	NOT IDENT.
CO-58	-9.740E-03	4.817E-02	7.931E-02	0.000E+00	NOT IDENT.
FE-59	-1.115E-01	1.340E-01	1.994E-01	0.000E+00	NOT IDENT.
CO-60	-4.868E-02	4.293E-02	5.999E-02	0.000E+00	NOT IDENT.
ZN-65	-1.211E-02	1.352E-01	1.886E-01	0.000E+00	NOT IDENT.
SE-75	-4.858E-03	6.198E-02	9.245E-02	0.000E+00	NOT IDENT.
SR-85	0.000E+00	6.071E-02	1.140E-01	0.000E+00	NOT IDENT.
Y-88	-3.060E-02	4.665E-02	6.579E-02	0.000E+00	NOT IDENT.
Y-91	1.419E+01	3.045E+01	5.396E+01	0.000E+00	NOT IDENT.
NB-94	6.264E-03	4.276E-02	7.344E-02	0.000E+00	NOT IDENT.
NB-95	6.264E-03	5.354E-02	9.130E-02	0.000E+00	NOT IDENT.
NB-95M	2.126E-01	1.679E-01	2.726E-01	0.000E+00	NOT IDENT.
ZR-95	9.442E-02	9.861E-02	1.791E-01	0.000E+00	NOT IDENT.
MO-99	0.000E+00	9.268E+01	0.000E+00	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	2.182E+25	0.000E+00	0.000E+00	SHORT HLIF
RU-103	4.076E-03	5.818E-02	9.616E-02	0.000E+00	FAIL ABUN
RH-106	1.698E-01	3.737E-01	6.621E-01	0.000E+00	NOT IDENT.
RU-106	1.698E-01	3.733E-01	6.621E-01	0.000E+00	NOT IDENT.
AG-108M	-1.032E-02	3.755E-02	6.101E-02	0.000E+00	NOT IDENT.
AG-110M	-5.720E-02	4.097E-02	6.057E-02	0.000E+00	NOT IDENT.
SN-113	-2.325E-02	5.923E-02	9.623E-02	0.000E+00	NOT IDENT.
CD-115	0.000E+00	1.281E+02	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	2.509E-02	9.731E-02	1.606E-01	0.000E+00	NOT IDENT.
TE-123M	6.729E-03	3.802E-02	5.943E-02	0.000E+00	NOT IDENT.
SB-124	-2.024E-02	1.019E-01	1.623E-01	0.000E+00	NOT IDENT.
SB-125	-2.466E-02	1.194E-01	1.953E-01	0.000E+00	FAIL ABUN
TE-125M	5.149E+00	1.308E+01	2.207E+01	0.000E+00	NOT IDENT.
I-126	-9.615E-02	3.786E-01	6.315E-01	0.000E+00	NOT IDENT.
SB-126	2.043E-01	2.927E-01	4.664E-01	0.000E+00	NOT IDENT.
SB-127	-2.475E+00	5.715E+00	9.336E+00	0.000E+00	NOT IDENT.
I-131	-1.167E-01	2.656E-01	4.319E-01	0.000E+00	NOT IDENT.
TE-132	1.155E+00	4.243E+00	7.390E+00	0.000E+00	NOT IDENT.
BA-133	-8.621E-03	5.654E-02	8.193E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	2.243E+06	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	7.937E-02	1.158E-01	0.000E+00	FAIL ABUN
CS-135	1.325E-01	2.025E-01	3.177E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	7.059E+23	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.374E-01	2.108E-01	3.692E-01	0.000E+00	NOT IDENT.
BA-137M	1.868E-02	4.126E-02	7.294E-02	0.000E+00	NOT IDENT.
CS-137	1.973E-02	4.359E-02	7.705E-02	0.000E+00	NOT IDENT.
CE-139	1.085E-02	4.020E-02	6.301E-02	0.000E+00	NOT IDENT.
BA-140	8.859E-02	4.685E-01	8.197E-01	0.000E+00	FAIL ABUN
LA-140	-1.204E-01	1.680E-01	2.479E-01	0.000E+00	FAIL ABUN
CE-141	-4.628E-02	8.534E-02	1.444E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	7.764E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	2.671E-02	2.430E-01	4.016E-01	0.000E+00	NOT IDENT.
PM-144	-7.093E-03	4.577E-02	7.688E-02	0.000E+00	NOT IDENT.
PR-144	-5.439E-01	3.438E+00	5.772E+00	0.000E+00	NOT IDENT.
PM-146	2.141E-02	5.126E-02	8.742E-02	0.000E+00	NOT IDENT.
ND-147	2.552E-02	1.027E+00	1.780E+00	0.000E+00	NOT IDENT.
PM-149	0.000E+00	1.067E+03	0.000E+00	0.000E+00	SHORT HLIF
EU-152	4.567E-02	1.304E-01	1.981E-01	0.000E+00	NOT IDENT.
GD-153	-1.174E-02	1.182E-01	1.745E-01	0.000E+00	NOT IDENT.
EU-154	-4.408E-02	1.616E-01	2.675E-01	0.000E+00	NOT IDENT.
EU-155	2.143E-02	1.271E-01	2.129E-01	0.000E+00	FAIL ABUN
TB-160	1.509E-02	1.863E-01	3.138E-01	0.000E+00	FAIL ABUN
HO-166M	5.288E-02	7.180E-02	1.291E-01	0.000E+00	NOT IDENT.
TA-182	-5.179E-02	2.739E-01	4.596E-01	0.000E+00	FAIL ABUN
IR-192	7.806E-03	4.557E-02	7.785E-02	0.000E+00	FAIL ABUN
HG-203	2.907E-02	5.227E-02	9.148E-02	0.000E+00	NOT IDENT.
BI-207	-8.265E-03	6.679E-02	1.085E-01	0.000E+00	FAIL ABUN
PB-210	-5.366E-01	4.710E+00	7.886E+00	0.000E+00	NOT IDENT.
PB-211	-1.105E-01	9.695E-01	1.601E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	1.187E+00	1.511E+00	0.000E+00	FAIL ABUN
RN-219	-1.317E-02	5.054E-01	8.410E-01	0.000E+00	FAIL ABUN
RA-223	1.105E+00	8.878E-01	1.416E+00	0.000E+00	FAIL ABUN
AC-227	1.793E-01	3.178E-01	5.575E-01	0.000E+00	NOT IDENT.
TH-227	1.793E-01	3.180E-01	5.575E-01	0.000E+00	NOT IDENT.
TH-229	2.543E-01	6.086E-01	1.075E+00	0.000E+00	FAIL ABUN
PA-231	5.189E-01	1.747E+00	3.019E+00	0.000E+00	NOT IDENT.
TH-231	1.105E+00	8.878E-01	1.416E+00	0.000E+00	FAIL ABUN
PA-233	4.591E-03	7.970E-02	1.354E-01	0.000E+00	NOT IDENT.
PA-234	-1.092E-01	3.699E-01	5.944E-01	0.000E+00	NOT IDENT.
PA-234M	1.755E+00	5.891E+00	1.004E+01	0.000E+00	NOT IDENT.
NP-239	-1.870E-01	4.912E-01	7.980E-01	0.000E+00	NOT IDENT.
AM-241	-2.975E-02	2.029E-01	3.055E-01	0.000E+00	NOT IDENT.
CM-247	-3.396E-03	4.799E-02	7.960E-02	0.000E+00	NOT IDENT.
CF-249	1.191E-02	4.999E-02	8.482E-02	0.000E+00	NOT IDENT.

CF-251	-1.569E-01	1.509E-01	2.506E-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]G248515001.CNF;1
Sample date        : 25-FEB-2010 12:00:00 Acquisition date : 19-MAR-2010 20:40:00
Sample ID          : G248515001      Sample quantity   : 1.15400E+02 GRAM
Detector name      : GAM01           Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00   Elapsed real time: 0 02:00:01.12  0.0%
Energy tolerance   : 1.50000 keV     Analyst Initials  : MXR1
Abundance limit    : 75.00000        Sensitivity       : 5.00000
Batch ID           : 961099          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	1460.82	971	10.66*	9.455E-01	3.134E+01	3.134E+01	11.08
CD-109	88.03	89	3.70*	5.229E+00	1.504E+00	1.556E+00	99.85
SN-126	64.28	-----	9.60	2.906E+00	-----	Line Not Found	-----
	86.94	89	8.90	5.229E+00	6.253E-01	6.253E-01	107.74
	87.57	89	37.00*	5.229E+00	1.504E-01	1.504E-01	99.85
TL-208	277.37	-----	6.60	3.885E+00	-----	Line Not Found	-----
	583.19	307	85.00*	2.142E+00	5.484E-01	5.484E-01	21.19
	860.56	-----	12.50	1.522E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.23	3.944E+00	-----	Line Not Found	-----
	351.06	577	12.92*	3.225E+00	4.504E+00	4.504E+00	15.09
PB-212	74.82	371	10.28	4.161E+00	2.818E+00	2.818E+00	28.45
	77.11	557	17.10	4.385E+00	2.415E+00	2.415E+00	17.60
	238.63	1150	43.60*	4.345E+00	1.975E+00	1.975E+00	12.48
	300.09	-----	3.30	3.656E+00	-----	Line Not Found	-----
BI-214	609.32	380	45.49*	2.064E+00	1.317E+00	1.317E+00	17.80
	1120.29	72	14.92	1.192E+00	1.320E+00	1.320E+00	58.71
	1764.49	55	15.30	8.255E-01	1.421E+00	1.421E+00	37.79
PB-214	74.82	371	5.80	4.161E+00	4.995E+00	4.995E+00	27.88
	77.11	557	9.70	4.385E+00	4.257E+00	4.257E+00	19.44
	242.00	262	7.25	4.306E+00	2.729E+00	2.729E+00	34.68
	295.22	279	18.42	3.698E+00	1.331E+00	1.331E+00	24.26
	351.93	577	35.60*	3.225E+00	1.634E+00	1.634E+00	16.07
RA-224	240.99	262	4.10*	4.306E+00	4.826E+00	4.826E+00	34.20
RA-226	609.32	380	45.49*	2.064E+00	1.317E+00	1.317E+00	17.80
	1120.29	72	14.92	1.192E+00	1.320E+00	1.320E+00	58.71
	1764.49	55	15.30	8.255E-01	1.421E+00	1.421E+00	37.79
AC-228	338.32	239	11.27	3.327E+00	2.071E+00	2.071E+00	49.64
	911.20	236	25.80*	1.443E+00	2.061E+00	2.061E+00	22.00
	968.97	176	15.80	1.364E+00	2.656E+00	2.656E+00	40.06
RA-228	338.32	239	11.27	3.327E+00	2.071E+00	2.071E+00	49.64
	911.20	236	25.80*	1.443E+00	2.061E+00	2.061E+00	22.00
	968.97	176	15.80	1.364E+00	2.656E+00	2.656E+00	40.06

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
TH-228	74.82	371	10.28	4.161E+00	2.818E+00	2.818E+00	26.76
	77.11	557	17.10	4.385E+00	2.415E+00	2.415E+00	17.60
	238.63	1150	43.60*	4.345E+00	1.975E+00	1.975E+00	12.48
	300.09	-----	3.30	3.656E+00	-----	Line Not Found	-----
TH-232	338.32	239	11.27	3.327E+00	2.071E+00	2.071E+00	28.24
	911.20	236	25.80*	1.443E+00	2.061E+00	2.061E+00	22.00
	968.97	176	15.80	1.364E+00	2.656E+00	2.656E+00	40.06
TH-234	63.29	111	3.70*	2.695E+00	3.632E+00	3.632E+00	84.81
	92.59	206	4.23	5.515E+00	2.875E+00	2.875E+00	48.11
U-235	89.96	-----	3.47	5.353E+00	-----	Line Not Found	-----
	93.35	206	5.60	5.515E+00	2.172E+00	2.172E+00	48.58
	143.76	-----	10.96*	5.865E+00	-----	Line Not Found	-----
	163.33	61	5.08	5.549E+00	7.074E-01	7.074E-01	85.44
NP-237	185.72	187	57.20	5.158E+00	2.067E-01	2.067E-01	43.48
	205.31	-----	5.01	4.840E+00	-----	Line Not Found	-----
	86.48	89	12.40*	5.229E+00	4.488E-01	4.488E-01	102.03
	95.86	-----	2.68	5.636E+00	-----	Line Not Found	-----
U-238	63.29	111	3.70*	2.695E+00	3.632E+00	3.632E+00	84.81
	92.59	206	4.23	5.515E+00	2.875E+00	2.875E+00	43.60
ANH-511	511.00	177	100.00*	2.390E+00	2.414E-01	2.414E-01	40.51

Flag: "\*" = Keyline

Total number of lines in spectrum 27  
Number of unidentified lines 1  
Number of lines tentatively identified by NID 26 96.30%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	3.134E+01	3.134E+01	0.347E+01	11.08	
CD-109	461.40D	1.03	1.504E+00	1.556E+00	1.553E+00	99.85	
SN-126	2.30E+05Y	1.00	1.504E-01	1.504E-01	1.502E-01	99.85	
TL-208	1.41E+10Y	1.00	5.484E-01	5.484E-01	1.162E-01	21.19	
BI-211	7.04E+08Y	1.00	4.504E+00	4.504E+00	0.680E+00	15.09	
PB-212	1.41E+10Y	1.00	1.975E+00	1.975E+00	0.247E+00	12.48	
BI-214	1600.00Y	1.00	1.317E+00	1.317E+00	0.234E+00	17.80	
PB-214	1600.00Y	1.00	1.634E+00	1.634E+00	0.263E+00	16.07	
RA-224	1.41E+10Y	1.00	4.826E+00	4.826E+00	1.650E+00	34.20	
RA-226	1600.00Y	1.00	1.317E+00	1.317E+00	0.234E+00	17.80	
AC-228	1.41E+10Y	1.00	2.061E+00	2.061E+00	0.453E+00	22.00	
RA-228	1.41E+10Y	1.00	2.061E+00	2.061E+00	0.453E+00	22.00	
TH-228	1.41E+10Y	1.00	1.975E+00	1.975E+00	0.247E+00	12.48	
TH-232	1.41E+10Y	1.00	2.061E+00	2.061E+00	0.453E+00	22.00	
TH-234	4.47E+09Y	1.00	3.632E+00	3.632E+00	3.080E+00	84.81	
U-235	7.04E+08Y	1.00	2.067E-01	2.067E-01	0.899E-01	43.48	K
NP-237	2.14E+06Y	1.00	4.488E-01	4.488E-01	4.579E-01	102.03	
U-238	4.47E+09Y	1.00	3.632E+00	3.632E+00	3.080E+00	84.81	
ANH-511	1.00E+09Y	1.00	2.414E-01	2.414E-01	0.978E-01	40.51	
Total Activity :			6.543E+01	6.548E+01			

Grand Total Activity : 6.543E+01 6.548E+01

Flags: "K" = Keyline not found  
"E" = Manually edited

"M" = Manually accepted  
"A" = Nuclide specific abn. limit

Unidentified Energy Lines  
Sample ID : G248515001

Page : 4  
Acquisition date : 19-MAR-2010 20:40:00

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	210.08	117	379	1.46	420.72	414	12	1.62E-02	69.2	4.76E+00	T
0	270.42	115	241	1.19	541.33	535	13	1.59E-02	58.8	3.96E+00	T
0	328.30	83	124	1.32	657.04	654	8	1.15E-02	51.0	3.41E+00	T
0	463.93	51	108	1.04	928.12	923	11	7.12E-03	85.6	2.59E+00	T
0	728.08	66	94	1.54	1456.10	1448	13	9.13E-03	65.7	1.77E+00	T
0	795.58	51	44	1.21	1591.00	1585	12	7.05E-03	59.8	1.63E+00	T
0	1848.84	14	4	1.59	3695.94	3691	9	1.91E-03	77.0	8.04E-01	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248515001.CNF;1
* Acquisition date   : 19-MAR-2010 20:40:00 Detector SN#      :
* Detector ID        : GAM01 Sensitivity      : 5.00000
* Geometry           : CAN Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.00000
* Elapsed real time  : 0 02:00:01.12 Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 25-FEB-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G248515001 Analyst initials: MXR1
* Batch Number       : 961099 Sample Quantity : 1.15400E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 12-JAN-2010 15:15:52.7MS Isotope      :
* MSD ID             : MSD Isotope      :
* LCS ID             : 1032-A LCS Isotope :
*****

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## Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.134E+01	3.472E+00	7.266E-01	6.459E-02	43.129
CD-109	1.556E+00	1.553E+00	1.831E+00	1.732E-01	0.850
SN-126	1.504E-01	1.502E-01	1.813E-01	1.708E-02	0.830
TL-208	5.484E-01	1.162E-01	7.564E-02	6.860E-03	7.251
BI-211	4.504E+00	6.796E-01	3.948E-01	3.591E-02	11.408
PB-212	1.975E+00	2.466E-01	1.082E-01	1.101E-02	18.251
BI-214	1.317E+00	2.343E-01	1.373E-01	1.361E-02	9.594
PB-214	1.634E+00	2.626E-01	1.459E-01	1.551E-02	11.199
RA-224	4.826E+00	1.650E+00	1.160E+00	1.054E-01	4.159
RA-226	1.317E+00	2.343E-01	1.373E-01	1.361E-02	9.594
AC-228	2.061E+00	4.535E-01	2.883E-01	3.435E-02	7.149
RA-228	2.061E+00	4.535E-01	2.883E-01	3.435E-02	7.149
TH-228	1.975E+00	2.466E-01	1.082E-01	1.101E-02	18.251
TH-232	2.061E+00	4.535E-01	2.883E-01	3.435E-02	7.149
TH-234	3.632E+00	3.080E+00	2.583E+00	4.639E-01	1.406
U-235	2.067E-01	8.986E-02	3.827E-01	6.474E-02	0.540
NP-237	4.488E-01	4.579E-01	5.383E-01	1.235E-01	0.834
U-238	3.632E+00	3.080E+00	2.583E+00	4.639E-01	1.406



---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	2.414E-01	9.779E-02	5.828E-02	4.940E-03	4.141

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	2.455E-01		4.480E-01	7.488E-01	6.811E-02	0.328
NA-22	-1.358E-02		5.801E-02	9.467E-02	7.950E-03	-0.143
NA-24	7.698E+02		1.265E+03	Half-Life too short		
SC-46	-2.692E-02		5.241E-02	8.089E-02	7.312E-03	-0.333
V-48	4.405E-02		1.262E-01	2.123E-01	1.895E-02	0.207
CR-51	-1.089E-01		5.745E-01	9.109E-01	8.562E-02	-0.120
MN-54	2.612E-02		4.774E-02	8.212E-02	7.309E-03	0.318
CO-56	3.365E-02		5.223E-02	9.086E-02	8.118E-03	0.370
CO-57	2.900E-03		3.199E-02	5.095E-02	4.486E-03	0.057
CO-58	-9.740E-03		4.916E-02	7.915E-02	7.003E-03	-0.123
FE-59	-1.115E-01		1.367E-01	1.996E-01	1.840E-02	-0.559
CO-60	-4.868E-02		4.381E-02	6.016E-02	5.128E-03	-0.809
ZN-65	-1.211E-02		1.380E-01	1.888E-01	1.593E-02	-0.064
SE-75	-4.858E-03		6.324E-02	9.127E-02	8.385E-03	-0.053
SR-85	1.743E-01		6.195E-02	1.133E-01	9.603E-03	1.539
Y-88	-3.060E-02		4.760E-02	6.620E-02	5.444E-03	-0.462
Y-91	1.419E+01		3.107E+01	5.406E+01	4.429E+00	0.262
NB-94	6.264E-03		4.363E-02	7.319E-02	6.144E-03	0.086
NB-95	6.264E-03		5.464E-02	9.107E-02	7.892E-03	0.069
NB-95M	2.126E-01		1.713E-01	2.688E-01	2.762E-02	0.791
ZR-95	9.442E-02		1.006E-01	1.786E-01	1.702E-02	0.529
MO-99	-7.047E-05		4.728E-05	Half-Life too short		
TC-99M	5.771E+18		1.113E+19	Half-Life too short		
RU-103	4.076E-03		5.937E-02	9.552E-02	1.324E-02	0.043
RH-106	1.698E-01		3.813E-01	6.592E-01	8.624E-02	0.258
RU-106	1.698E-01		3.810E-01	6.592E-01	5.506E-02	0.258
AG-108M	-1.032E-02		3.832E-02	6.052E-02	5.179E-03	-0.171
AG-110M	-5.720E-02		4.181E-02	6.033E-02	5.115E-03	-0.948
SN-113	-2.325E-02		6.043E-02	9.536E-02	7.943E-03	-0.244
CD-115	-7.813E-06		6.536E-05	Half-Life too short		
SN-117M	2.509E-02		9.929E-02	1.578E-01	1.343E-02	0.159
TE-123M	6.729E-03		3.880E-02	5.839E-02	5.002E-03	0.115
SB-124	-2.024E-02		1.040E-01	1.632E-01	1.450E-02	-0.124
SB-125	-2.466E-02		1.218E-01	1.937E-01	1.629E-02	-0.127
TE-125M	5.149E+00		1.335E+01	2.160E+01	2.277E+00	0.238
I-126	-9.615E-02		3.863E-01	6.290E-01	5.167E-02	-0.153
SB-126	2.043E-01		2.987E-01	4.650E-01	3.942E-02	0.439
SB-127	-2.475E+00		5.831E+00	9.303E+00	1.260E+00	-0.266
I-131	-1.167E-01		2.710E-01	4.277E-01	3.858E-02	-0.273
TE-132	1.155E+00		4.330E+00	7.286E+00	1.288E+00	0.159
BA-133	-8.621E-03		5.770E-02	8.112E-02	1.050E-02	-0.106
I-133	2.546E-01		1.144E+00	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-134	1.340E-01	+	8.099E-02	1.156E-01	1.021E-02	1.160
CS-135	1.325E-01		2.067E-01	3.137E-01	3.271E-02	0.422
I-135	7.107E+16		3.601E+17	Half-Life too short		
CS-136	1.374E-01		2.151E-01	3.694E-01	3.360E-02	0.372
BA-137M	1.868E-02		4.211E-02	7.265E-02	5.951E-03	0.257
CS-137	1.973E-02		4.448E-02	7.675E-02	6.300E-03	0.257
CE-139	1.085E-02		4.102E-02	6.193E-02	5.274E-03	0.175
BA-140	8.859E-02		4.781E-01	8.148E-01	2.761E-01	0.109
LA-140	-1.204E-01		1.714E-01	2.491E-01	2.149E-02	-0.483
CE-141	-4.628E-02		8.708E-02	1.417E-01	1.233E-02	-0.327
CE-143	1.472E-02		3.961E-03	Half-Life too short		
CE-144	2.671E-02		2.480E-01	3.939E-01	6.021E-02	0.068
PM-144	-7.093E-03		4.671E-02	7.661E-02	6.414E-03	-0.093
PR-144	-5.439E-01		3.508E+00	5.753E+00	4.812E-01	-0.095
PM-146	2.141E-02		5.231E-02	8.676E-02	8.996E-03	0.247
ND-147	2.552E-02		1.048E+00	1.770E+00	2.632E-01	0.014
PM-149	1.396E-04		5.442E-04	Half-Life too short		
EU-152	4.567E-02		1.331E-01	1.961E-01	1.812E-02	0.233
GD-153	-1.174E-02		1.206E-01	1.706E-01	1.515E-02	-0.069
EU-154	-4.408E-02		1.649E-01	2.681E-01	3.004E-02	-0.164
EU-155	2.143E-02		1.297E-01	2.084E-01	1.832E-02	0.103
TB-160	1.509E-02		1.901E-01	3.135E-01	2.827E-02	0.048
HO-166M	5.288E-02		7.327E-02	1.287E-01	1.086E-02	0.411
TA-182	-5.179E-02		2.795E-01	4.606E-01	3.796E-02	-0.112
IR-192	7.806E-03		4.650E-02	7.699E-02	6.937E-03	0.101
HG-203	2.907E-02		5.333E-02	9.036E-02	8.452E-03	0.322
BI-207	-8.265E-03		6.815E-02	1.086E-01	9.413E-03	-0.076
PB-210	-5.366E-01		4.806E+00	7.659E+00	7.173E-01	-0.070
PB-211	-1.105E-01		9.893E-01	1.587E+00	7.668E-01	-0.070
BI-212	1.813E+00	+	1.211E+00	1.507E+00	1.865E-01	1.203
RN-219	-1.317E-02		5.157E-01	8.336E-01	1.216E-01	-0.016
RA-223	1.105E+00		9.059E-01	1.401E+00	2.451E-01	0.789
AC-227	1.793E-01		3.243E-01	5.503E-01	6.837E-02	0.326
TH-227	1.793E-01		3.245E-01	5.503E-01	7.670E-02	0.326
TH-229	2.543E-01		6.210E-01	1.058E+00	9.271E-02	0.240
PA-231	5.189E-01		1.783E+00	2.983E+00	4.444E-01	0.174
TH-231	1.105E+00		9.059E-01	1.401E+00	2.451E-01	0.789
PA-233	4.591E-03		8.133E-02	1.339E-01	1.239E-02	0.034
PA-234	-1.092E-01		3.774E-01	5.941E-01	1.125E-01	-0.184
PA-234M	1.755E+00		6.011E+00	1.004E+01	1.024E+00	0.175
NP-239	-1.870E-01		5.012E-01	7.817E-01	6.810E-02	-0.239
AM-241	-2.975E-02		2.071E-01	2.974E-01	2.451E-02	-0.100
CM-247	-3.396E-03		4.896E-02	7.891E-02	6.398E-03	-0.043
CF-249	1.191E-02		5.101E-02	8.405E-02	6.815E-03	0.142
CF-251	-1.569E-01		1.540E-01	2.465E-01	2.123E-02	-0.636

# 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]G248515001          *
* Acquisition date   : 19-MAR-2010 20:40:00 Detector SN#      :              *
* Detector ID        : GAM01                      Sensitivity   : 5.000        *
* Geometry           : CAN                        Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00              Abundance limit : 75.000        *
* Elapsed real time  : 0 02:00:01.12              Half life ratio : 8.000        *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 25-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G248515001              Analyst initials: MXR1          *
* Batch Number       : 961099                  Sample Quantity : 1.1540E+02 GRAM *
* Recovery           : 1.00000                 Carrier Weight  : 0.00000        *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME  : 12-JAN-2010 15:15:52 MS Isotope         :              *
* MSD DPM            : 0.000                      MSD Isotope    :              *
* LCS DPM            : 0.000                      LCS Isotope     :              *
* LCSD DPM           : 0.000                      LCSD Isotope   :              *
*****

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## Combined Activity-MDA Report

### ---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act Error	DLC (pCi/GRAM )	TPU
K-40	3.134E+01	3.402E+00	3.621E-01	1.736E+00
CD-109	1.556E+00	1.522E+00	9.374E-01	7.767E-01
SN-126	1.504E-01	1.472E-01	9.284E-02	7.510E-02
TL-208	5.484E-01	1.139E-01	3.804E-02	5.811E-02
BI-211	4.504E+00	6.660E-01	1.995E-01	3.398E-01
PB-212	1.975E+00	2.417E-01	5.490E-02	1.233E-01
BI-214	1.317E+00	2.297E-01	6.900E-02	1.172E-01
PB-214	1.634E+00	2.574E-01	7.375E-02	1.313E-01
RA-224	4.826E+00	1.617E+00	5.885E-01	8.251E-01
RA-226	1.317E+00	2.297E-01	6.900E-02	1.172E-01
AC-228	2.061E+00	4.444E-01	1.444E-01	2.267E-01
RA-228	2.061E+00	4.444E-01	1.444E-01	2.267E-01
TH-228	1.975E+00	2.417E-01	5.490E-02	1.233E-01
TH-232	2.061E+00	4.444E-01	1.444E-01	2.267E-01
TH-234	3.632E+00	3.018E+00	1.327E+00	1.540E+00
U-235	-1.802E-01	2.342E-01	1.951E-01	1.195E-01
NP-237	4.488E-01	4.488E-01	2.757E-01	2.290E-01
U-238	3.632E+00	3.018E+00	1.327E+00	1.540E+00
ANH-511	2.414E-01	9.583E-02	2.935E-02	4.889E-02

### ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L Act error	DLC (pCi/GRAM )	TPU
BE-7	2.455E-01	4.390E-01	3.773E-01	2.240E-01 NOT IDENT.
NA-22	-1.358E-02	5.685E-02	4.724E-02	2.900E-02 NOT IDENT.
NA-24	7.698E+08	2.479E+09	0.000E+00	1.265E+09 SHORT HLIF
SC-46	-2.692E-02	5.136E-02	4.051E-02	2.620E-02 FAIL ABUN
V-48	4.405E-02	1.237E-01	1.062E-01	6.310E-02 NOT IDENT.
CR-51	-1.089E-01	5.630E-01	4.607E-01	2.872E-01 NOT IDENT.
MN-54	2.612E-02	4.678E-02	4.115E-02	2.387E-02 NOT IDENT.
CO-56	3.365E-02	5.119E-02	4.552E-02	2.612E-02 NOT IDENT.

CO-57	2.900E-03	3.135E-02	2.601E-02	1.599E-02	NOT IDENT.
CO-58	-9.740E-03	4.817E-02	3.968E-02	2.458E-02	NOT IDENT.
FE-59	-1.115E-01	1.340E-01	9.974E-02	6.837E-02	NOT IDENT.
CO-60	-4.868E-02	4.293E-02	3.001E-02	2.190E-02	NOT IDENT.
ZN-65	-1.211E-02	1.352E-01	9.433E-02	6.898E-02	NOT IDENT.
SE-75	-4.858E-03	6.198E-02	4.625E-02	3.162E-02	NOT IDENT.
SR-85	1.743E-01	6.071E-02	5.703E-02	3.097E-02	NOT IDENT.
Y-88	-3.060E-02	4.665E-02	3.291E-02	2.380E-02	NOT IDENT.
Y-91	1.419E+01	3.045E+01	2.700E+01	1.554E+01	NOT IDENT.
NB-94	6.264E-03	4.276E-02	3.674E-02	2.182E-02	NOT IDENT.
NB-95	6.264E-03	5.354E-02	4.568E-02	2.732E-02	NOT IDENT.
NB-95M	2.126E-01	1.679E-01	1.364E-01	8.566E-02	NOT IDENT.
ZR-95	9.442E-02	9.861E-02	8.959E-02	5.031E-02	NOT IDENT.
MO-99	-7.047E+01	9.268E+01	0.000E+00	4.728E+01	SHORT HLIF
TC-99M	5.771E+24	2.182E+25	0.000E+00	0.000E+00	SHORT HLIF
RU-103	4.076E-03	5.818E-02	4.811E-02	2.969E-02	FAIL ABUN
RH-106	1.698E-01	3.737E-01	3.313E-01	1.907E-01	NOT IDENT.
RU-106	1.698E-01	3.733E-01	3.313E-01	1.905E-01	NOT IDENT.
AG-108M	-1.032E-02	3.755E-02	3.052E-02	1.916E-02	NOT IDENT.
AG-110M	-5.720E-02	4.097E-02	3.030E-02	2.090E-02	NOT IDENT.
SN-113	-2.325E-02	5.923E-02	4.814E-02	3.022E-02	NOT IDENT.
CD-115	-7.813E+00	1.281E+02	0.000E+00	6.536E+01	SHORT HLIF
SN-117M	2.509E-02	9.731E-02	8.034E-02	4.965E-02	NOT IDENT.
TE-123M	6.729E-03	3.802E-02	2.973E-02	1.940E-02	NOT IDENT.
SB-124	-2.024E-02	1.019E-01	8.122E-02	5.200E-02	NOT IDENT.
SB-125	-2.466E-02	1.194E-01	9.771E-02	6.091E-02	FAIL ABUN
TE-125M	5.149E+00	1.308E+01	1.104E+01	6.674E+00	NOT IDENT.
I-126	-9.615E-02	3.786E-01	3.159E-01	1.931E-01	NOT IDENT.
SB-126	2.043E-01	2.927E-01	2.333E-01	1.494E-01	NOT IDENT.
SB-127	-2.475E+00	5.715E+00	4.671E+00	2.916E+00	NOT IDENT.
I-131	-1.167E-01	2.656E-01	2.161E-01	1.355E-01	NOT IDENT.
TE-132	1.155E+00	4.243E+00	3.697E+00	2.165E+00	NOT IDENT.
BA-133	-8.621E-03	5.654E-02	4.099E-02	2.885E-02	NOT IDENT.
I-133	2.546E+05	2.243E+06	0.000E+00	1.144E+06	SHORT HLIF
CS-134	1.340E-01	7.937E-02	5.793E-02	4.049E-02	FAIL ABUN
CS-135	1.325E-01	2.025E-01	1.590E-01	1.033E-01	NOT IDENT.
I-135	7.107E+22	7.059E+23	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.374E-01	2.108E-01	1.847E-01	1.075E-01	NOT IDENT.
BA-137M	1.868E-02	4.126E-02	3.649E-02	2.105E-02	NOT IDENT.
CS-137	1.973E-02	4.359E-02	3.855E-02	2.224E-02	NOT IDENT.
CE-139	1.085E-02	4.020E-02	3.152E-02	2.051E-02	NOT IDENT.
BA-140	8.859E-02	4.685E-01	4.101E-01	2.390E-01	FAIL ABUN
LA-140	-1.204E-01	1.680E-01	1.240E-01	8.571E-02	FAIL ABUN
CE-141	-4.628E-02	8.534E-02	7.223E-02	4.354E-02	NOT IDENT.
CE-143	1.472E+04	7.764E+03	0.000E+00	3.961E+03	SHORT HLIF
CE-144	2.671E-02	2.430E-01	2.009E-01	1.240E-01	NOT IDENT.
PM-144	-7.093E-03	4.577E-02	3.846E-02	2.335E-02	NOT IDENT.
PR-144	-5.439E-01	3.438E+00	2.888E+00	1.754E+00	NOT IDENT.
PM-146	2.141E-02	5.126E-02	4.374E-02	2.615E-02	NOT IDENT.
ND-147	2.552E-02	1.027E+00	8.907E-01	5.239E-01	NOT IDENT.
PM-149	1.396E+02	1.067E+03	0.000E+00	5.442E+02	SHORT HLIF
EU-152	4.567E-02	1.304E-01	9.910E-02	6.653E-02	NOT IDENT.
GD-153	-1.174E-02	1.182E-01	8.729E-02	6.032E-02	NOT IDENT.
EU-154	-4.408E-02	1.616E-01	1.338E-01	8.245E-02	NOT IDENT.
EU-155	2.143E-02	1.271E-01	1.065E-01	6.485E-02	FAIL ABUN
TB-160	1.509E-02	1.863E-01	1.570E-01	9.505E-02	FAIL ABUN
HO-166M	5.288E-02	7.180E-02	6.460E-02	3.663E-02	NOT IDENT.
TA-182	-5.179E-02	2.739E-01	2.300E-01	1.397E-01	FAIL ABUN
IR-192	7.806E-03	4.557E-02	3.895E-02	2.325E-02	FAIL ABUN
HG-203	2.907E-02	5.227E-02	4.577E-02	2.667E-02	NOT IDENT.
BI-207	-8.265E-03	6.679E-02	5.428E-02	3.408E-02	FAIL ABUN
PB-210	-5.366E-01	4.710E+00	3.945E+00	2.403E+00	NOT IDENT.
PB-211	-1.105E-01	9.695E-01	8.011E-01	4.946E-01	NOT IDENT.
BI-212	1.813E+00	1.187E+00	7.561E-01	6.057E-01	FAIL ABUN
RN-219	-1.317E-02	5.054E-01	4.207E-01	2.579E-01	FAIL ABUN
RA-223	1.105E+00	8.878E-01	7.086E-01	4.530E-01	FAIL ABUN
AC-227	1.793E-01	3.178E-01	2.789E-01	1.621E-01	NOT IDENT.
TH-227	1.793E-01	3.180E-01	2.789E-01	1.622E-01	NOT IDENT.
TH-229	2.543E-01	6.086E-01	5.379E-01	3.105E-01	FAIL ABUN
PA-231	5.189E-01	1.747E+00	1.511E+00	8.916E-01	NOT IDENT.
TH-231	1.105E+00	8.878E-01	7.086E-01	4.530E-01	FAIL ABUN
PA-233	4.591E-03	7.970E-02	6.773E-02	4.067E-02	NOT IDENT.
PA-234	-1.092E-01	3.699E-01	2.974E-01	1.887E-01	NOT IDENT.
PA-234M	1.755E+00	5.891E+00	5.023E+00	3.005E+00	NOT IDENT.
NP-239	-1.870E-01	4.912E-01	3.992E-01	2.506E-01	NOT IDENT.
AM-241	-2.975E-02	2.029E-01	1.528E-01	1.035E-01	NOT IDENT.
CM-247	-3.396E-03	4.799E-02	3.982E-02	2.448E-02	NOT IDENT.
CF-249	1.191E-02	4.999E-02	4.243E-02	2.551E-02	NOT IDENT.

CF-251

-1.569E-01

1.509E-01

1.254E-01

7.698E-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
46.54	240.5730
49.72	264.8398
57.36	0.0000
59.54	266.2274
63.29	307.6726
63.29	307.6726
64.28	368.5778
67.75	362.7875
69.67	384.8016
70.83	412.8466
72.81	372.2802
72.87	372.3155
72.87	372.3155
74.82	372.9415
74.82	372.9415
74.82	372.9415
74.97	373.0295
77.11	374.2878
77.11	374.2878
77.11	374.2878
79.69	286.7238
79.80	337.2831
80.12	337.4473
80.19	337.4837
80.57	376.8290
81.00	435.8387
81.07	435.8856
81.07	435.8856
83.79	386.8472
83.79	386.8472
85.43	376.2814
86.48	514.5455
86.55	514.5956
86.79	514.7745
86.94	514.8867
87.57	534.0369
88.03	514.5981
88.47	439.0039
89.96	439.9374
91.11	440.6518
92.59	420.5362
92.59	420.5362
93.35	420.9807
94.67	281.3491
94.87	289.7527
94.87	289.7527
95.86	330.1642
97.43	310.8141
98.44	287.8105
99.53	250.2454
100.11	273.9165
103.18	314.3093
103.37	308.7735
105.31	282.5320
106.12	280.5721
109.28	290.7446
111.00	318.5790
111.76	349.5172
116.30	292.1211
117.23	289.0195
121.12	271.9929
121.78	267.6090
122.06	267.6961
123.07	281.8145
131.20	304.1688
133.52	263.0482
136.00	290.6064

136.47	277.6193
140.51	0.0000
140.51	0.0000
143.76	278.9061
144.24	278.1628
144.24	278.1628
145.44	272.3222
152.43	273.3914
153.25	273.6186
154.21	269.4227
154.21	269.4227
156.02	272.5900
158.56	250.8768
159.00	248.1173
162.66	267.1758
163.33	251.1473
165.86	246.8854
176.60	255.2133
177.52	268.2005
181.07	0.0000
184.41	261.4288
185.72	238.0226
193.51	223.9209
197.04	244.0885
205.31	239.2520
210.85	208.7986
215.65	211.1177
222.11	217.8886
227.38	218.7871
228.16	210.3523
228.18	210.3557
235.69	174.6140
235.96	189.9704
235.96	189.9704
238.63	184.2114
238.63	184.2114
240.99	184.5366
242.00	184.6758
244.70	174.2506
252.40	181.2404
252.80	173.5374
256.23	181.7391
256.23	181.7391
260.90	0.0000
264.66	161.1211
268.22	148.9756
269.46	156.9507
269.46	156.9507
271.23	157.1411
273.65	199.9010
276.40	159.2723
277.37	162.3089
277.60	154.8655
278.00	156.8795
279.20	161.9455
279.54	180.7494
280.46	193.7091
283.69	153.5194
284.31	151.5992
285.41	152.7029
285.90	0.0000
287.50	155.8932
293.27	0.0000
295.22	170.6530
295.96	175.7261
298.57	168.0231
299.98	168.1743
299.98	168.1743
300.09	160.1782
300.09	160.1782
300.13	160.1807
301.36	162.5977
302.85	174.4991
304.50	173.6784
304.50	173.6784
304.85	163.6765
308.46	137.8822
311.90	144.2307

316.51	137.5647
319.41	139.8362
320.08	142.9342
323.87	115.4253
323.87	115.4253
328.76	166.1090
333.37	143.0655
334.37	182.0035
334.37	182.0035
338.28	126.0592
338.28	126.0592
338.32	126.0611
338.32	126.0611
338.32	126.0611
340.48	139.5631
340.55	128.0735
344.28	115.1890
351.06	118.9459
351.93	122.9312
356.01	117.6249
364.49	122.7678
366.42	0.0000
383.85	96.7407
388.16	112.7732
388.63	108.5857
391.69	124.6008
400.66	113.5226
401.81	112.5280
402.40	121.0589
404.85	135.0363
410.95	129.0610
414.70	107.9367
423.72	108.4314
427.09	108.6148
427.87	114.0354
433.94	105.7475
453.88	83.8968
463.37	89.7488
468.07	77.2224
473.00	109.9442
476.78	83.7037
477.60	80.4297
487.02	84.0980
492.35	0.0000
497.08	87.8154
511.00	85.0042
514.00	85.1156
527.90	0.0000
529.87	0.0000
531.02	74.0102
537.26	75.1134
546.56	0.0000
563.25	87.8227
569.33	58.6938
569.50	71.5387
569.70	71.5444
583.19	82.9995
600.60	96.5732
602.73	77.8327
604.72	68.2057
609.32	72.6756
609.32	72.6756
610.33	72.7042
614.28	76.2375
618.01	67.5179
621.93	60.8566
621.93	60.8566
633.25	64.8779
635.95	47.0605
636.99	54.6115
645.85	70.8527
657.76	76.8571
661.66	58.9121
661.66	58.9121
664.57	0.0000
666.33	67.5783
666.50	62.8225
677.62	63.0738



685.70	65.1728
695.00	75.9642
696.49	82.7372
696.51	82.7393
697.00	88.5253
702.65	74.2384
706.68	72.4109
711.68	53.1940
720.70	53.3578
721.93	0.0000
722.78	71.1956
722.91	71.1974
723.31	64.7347
724.19	69.6108
727.33	64.1744
733.00	68.1953
735.93	48.7585
739.50	0.0000
747.24	58.7314
752.31	80.4024
753.82	75.5375
756.73	53.0244
763.94	72.8347
765.81	61.0615
766.42	54.1782
777.92	0.0000
778.90	57.3642
783.70	59.4346
785.37	58.4757
795.86	49.7205
801.95	52.6636
810.29	55.9412
810.76	48.9557
815.77	44.0290
818.51	46.0696
832.01	65.3698
834.85	53.3468
836.80	0.0000
846.77	44.4490
856.80	72.9545
860.56	50.7202
871.09	48.8438
873.19	44.8014
875.33	0.0000
879.36	48.9633
880.51	52.0409
883.24	51.0620
884.68	50.0611
889.28	53.1972
898.04	54.3586
911.20	50.4463
911.20	50.4463
911.20	50.4463
926.50	41.3604
937.49	47.7115
944.13	35.3306
946.00	48.8646
949.00	39.5410
962.29	41.7744
964.08	45.2778
966.15	46.0002
968.97	46.0356
968.97	46.0356
968.97	46.0356
983.53	44.1174
996.26	44.2682
1001.03	39.0478
1004.73	40.1431
1037.84	39.4263
1038.76	0.0000
1048.07	44.8731
1050.41	47.0379
1050.41	47.0379
1063.66	47.1969
1085.87	38.8336
1099.45	57.3658
1112.07	51.5728
1115.54	52.5224

1120.29	60.9219
1120.29	60.9219
1120.55	60.9273
1121.30	61.6637
1131.51	0.0000
1173.23	53.2540
1177.93	49.6362
1189.05	57.1386
1204.77	53.6458
1221.41	66.8496
1231.02	61.4131
1235.36	72.6521
1238.28	54.0588
1260.41	0.0000
1271.85	52.5866
1274.44	46.0412
1274.54	45.1016
1291.59	31.1241
1298.22	0.0000
1312.11	21.7890
1332.49	31.3994
1365.19	19.1618
1368.63	0.0000
1384.29	25.9717
1408.01	20.2993
1457.56	0.0000
1460.82	23.4473
1489.16	20.6309
1505.03	22.6659
1596.21	26.0677
1620.50	15.1062
1678.03	0.0000
1690.97	13.2587
1764.49	10.3300
1764.49	10.3300
1770.23	8.8630
1771.35	9.3080
1791.20	0.0000
1836.06	15.6824

TOTAL URANIUM BY GAMMA SPEC REPORT  
Sample:G248515001

Total Uranium Activity	1.0721E+01	ug/g
Total Uranium Counting Unc.	8.9801E+00	ug/g
Total Uranium Tpu	4.5817E-06	ug/g
Total Uranium Mda	3.9476E+00	ug/g

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*****
*
*               GEL Laboratories LLC
*               2040 SAVAGE ROAD
*               CHARLESTON , SC 29417
*               GROSS GAMMA REPORT
*
*****
*
*  BATCH ID      : 961099          SAMPLE ID   : G248515001
*  ANALYST       : MXR1            DETECTOR    : GAM01
*  SAMPLE DATE   : 25-FEB-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 19-MAR-2010 20:40:00.34  SAMPLE ALQT: 115.400 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.896E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.578E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.622E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.758E+00

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VAX/VMS Nuclide Identification Report Generated 19-MAR-2010 22:41:14.65

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248515002.CNF;1
Sample date        : 25-FEB-2010 12:00:00 Acquisition date : 19-MAR-2010 20:40:31
Sample ID          : G248515002 Sample quantity : 1.05040E+02 GRAM
Detector name      : GAM05 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.74 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 961099 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	46.16*	228	537	1.12	93.31	89	10	3.16E-02	21.8	
2	0	62.68*	254	730	1.23	126.33	120	12	3.53E-02	22.6	
3	5	74.41*	685	562	1.17	149.80	145	20	9.52E-02	6.8	2.90E+00
4	5	76.73*	1149	454	1.24	154.44	145	20	1.60E-01	4.5	
5	2	83.79	175	402	1.62	168.56	165	27	2.43E-02	21.3	9.06E-01
6	2	86.88	361	397	1.31	174.73	165	27	5.02E-02	11.1	
7	2	89.53	237	393	1.34	180.03	165	27	3.29E-02	16.4	
8	2	92.47*	378	437	1.57	185.91	165	27	5.25E-02	12.0	
9	0	185.34*	243	343	1.39	371.62	365	11	3.37E-02	16.7	
10	0	209.13	120	278	1.09	419.20	415	10	1.67E-02	27.5	
11	2	238.32*	1155	203	1.23	477.57	472	19	1.60E-01	3.6	2.77E+00
12	2	241.43	282	250	1.85	483.78	472	19	3.92E-02	15.7	
13	0	269.51	122	237	1.11	539.93	534	12	1.70E-02	26.8	
14	0	294.66*	376	243	1.16	590.22	584	12	5.22E-02	9.9	
15	0	338.22*	183	237	1.10	677.32	670	13	2.54E-02	19.1	
16	0	351.59*	670	189	1.31	704.05	698	14	9.31E-02	5.9	
17	0	461.78	91	102	1.36	924.35	918	11	1.27E-02	23.8	
18	0	510.71*	87	124	2.14	1022.16	1015	16	1.20E-02	35.9	
19	0	582.84*	326	135	1.60	1166.35	1158	14	4.53E-02	9.5	
20	0	608.77*	401	144	1.49	1218.18	1210	16	5.57E-02	8.4	
21	0	661.14	357	140	1.45	1322.88	1315	16	4.96E-02	9.1	
22	0	726.35	97	51	2.09	1453.21	1448	11	1.34E-02	17.5	
23	0	794.11*	42	42	1.73	1588.64	1583	11	5.83E-03	35.1	
24	0	910.61*	231	44	1.68	1821.47	1816	12	3.20E-02	8.4	
25	0	968.30	102	67	1.12	1936.76	1932	12	1.42E-02	19.1	
26	0	1119.53*	96	33	1.52	2238.96	2234	11	1.33E-02	15.8	
27	0	1459.92*	828	20	2.05	2919.00	2911	19	1.15E-01	3.7	
28	0	1587.23	27	16	1.69	3173.30	3164	16	3.75E-03	38.3	
29	0	1592.47*	17	4	1.37	3183.74	3179	9	2.31E-03	37.0	
30	0	1729.82	31	9	3.66	3458.07	3451	13	4.28E-03	27.4	
31	0	1763.73	58	7	1.97	3525.80	3518	13	8.02E-03	16.1	

Flag: "\*" = Peak area was modified by background subtraction

## VMS Nuclide Identification Report V3.1 Generated 19-MAR-2010 22:41:17

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248515002.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 25-FEB-2010 12:00:00 Acquisition date : 19-MAR-2010 20:40:31
Sample ID         : G248515002 Sample quantity : 105.04 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA5 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.74 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	+	1460.82	*	2.767E+01	2.690E+00	7.079E-01	4.403E-02	39.080
CD-109	+	88.03	*	4.589E+00	1.080E+00	1.162E+00	8.847E-02	3.950
SN-126		64.28		9.576E-01	3.944E-01	5.860E-01	8.734E-02	1.634
	+	86.94		1.845E+00	8.634E-01	4.655E-01	1.916E-01	3.963
	+	87.57	*	4.437E-01	1.045E-01	1.122E-01	8.543E-03	3.956
CS-135	+	268.22	*	6.264E-01	3.420E-01	3.372E-01	3.608E-02	1.858
BA-137M	+	661.66	*	7.043E-01	1.364E-01	8.552E-02	5.624E-03	8.235
CS-137	+	661.66	*	7.441E-01	1.442E-01	9.035E-02	5.961E-03	8.235
TL-208		277.37		2.936E-01	5.197E-01	8.884E-01	1.156E-01	0.330
	+	583.19	*	6.067E-01	1.239E-01	8.875E-02	6.518E-03	6.836
		860.56		7.378E-01	4.349E-01	7.975E-01	8.092E-02	0.925
PB-210	+	46.54	*	2.518E+00	1.115E+00	1.037E+00	7.998E-02	2.428
BI-211	+	72.87		2.210E+01	3.790E+00	5.847E+00	4.603E-01	3.780
	+	351.06	*	5.269E+00	7.481E-01	4.750E-01	3.765E-02	11.092
PB-212	+	74.82		2.964E+00	5.456E-01	4.917E-01	6.139E-02	6.028
	+	77.11		2.996E+00	3.547E-01	2.969E-01	2.311E-02	10.091
	+	238.63	*	1.982E+00	2.582E-01	1.238E-01	1.340E-02	16.009
		300.09		2.514E-01	1.231E+00	1.808E+00	1.941E-01	0.139
BI-214	+	609.32	*	1.450E+00	2.735E-01	1.685E-01	1.422E-02	8.605
	+	1120.29		1.820E+00	6.010E-01	6.291E-01	6.044E-02	2.893
	+	1764.49		1.566E+00	5.113E-01	4.396E-01	2.542E-02	3.561
PB-214	+	74.82		5.253E+00	9.206E-01	8.714E-01	9.712E-02	6.028
	+	77.11		5.281E+00	7.620E-01	5.234E-01	5.935E-02	10.091
	+	242.00		2.942E+00	9.824E-01	7.530E-01	8.556E-02	3.907
	+	295.22		1.795E+00	4.072E-01	3.562E-01	3.949E-02	5.038
	+	351.93	*	1.912E+00	2.913E-01	1.728E-01	1.664E-02	11.067
RA-224	+	240.99	*	5.202E+00	1.711E+00	1.327E+00	1.298E-01	3.920
RA-226	+	609.32	*	1.450E+00	2.735E-01	1.685E-01	1.422E-02	8.605
	+	1120.29		1.820E+00	6.010E-01	6.291E-01	6.044E-02	2.893
	+	1764.49		1.566E+00	5.113E-01	4.396E-01	2.542E-02	3.561
AC-228	+	338.32		1.596E+00	9.008E-01	5.079E-01	2.111E-01	3.142
	+	911.20	*	2.114E+00	4.463E-01	3.365E-01	4.271E-02	6.283
	+	968.97		1.620E+00	7.379E-01	7.002E-01	1.725E-01	2.314
RA-228	+	338.32		1.596E+00	9.008E-01	5.079E-01	2.111E-01	3.142

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	+	911.20	*	2.114E+00	4.463E-01	3.365E-01	4.271E-02	6.283
	+	968.97		1.620E+00	7.379E-01	7.002E-01	1.725E-01	2.314
	+	74.82		2.964E+00	4.645E-01	4.917E-01	3.892E-02	6.028
	+	77.11		2.996E+00	3.547E-01	2.969E-01	2.311E-02	10.091
TH-229	+	238.63	*	1.982E+00	2.582E-01	1.238E-01	1.340E-02	16.009
	+	300.09		2.514E-01	1.241E+00	1.808E+00	1.107E+00	0.139
	+	85.43		1.117E+00	2.629E-01	2.806E-01	2.146E-02	3.980
	+	88.47		4.516E-01	1.525E-01	1.734E-01	1.333E-02	2.604
TH-232	+	193.51	*	-2.138E-01	7.514E-01	1.188E+00	1.186E-01	-0.180
	+	210.85		2.067E+00	1.407E+00	2.109E+00	2.102E-01	0.980
	+	338.32		1.596E+00	6.224E-01	5.079E-01	3.982E-02	3.142
	+	911.20	*	2.114E+00	4.463E-01	3.365E-01	4.271E-02	6.283
TH-234	+	968.97		1.620E+00	7.379E-01	7.002E-01	1.725E-01	2.314
	+	63.29	*	3.043E+00	1.482E+00	1.260E+00	2.286E-01	2.416
	+	92.59		4.117E+00	1.340E+00	9.965E-01	2.192E-01	4.132
U-235	+	89.96		3.123E+00	1.277E+00	1.205E+00	2.938E-01	2.592
	+	93.35		3.110E+00	1.034E+00	7.498E-01	1.729E-01	4.148
	+	143.76	*	7.520E-02	2.735E-01	4.415E-01	8.420E-02	0.170
	+	163.33		-6.166E-02	5.775E-01	9.259E-01	1.738E-01	-0.067
NP-237	+	185.72		2.673E-01	9.292E-02	8.642E-02	8.625E-03	3.093
	+	205.31		-2.065E-01	7.674E-01	1.049E+00	1.975E-01	-0.197
	+	86.48	*	1.324E+00	4.174E-01	3.337E-01	7.445E-02	3.968
	+	95.86		-7.491E-01	1.185E+00	1.627E+00	3.925E-01	-0.460
U-238	+	63.29	*	3.043E+00	1.482E+00	1.260E+00	2.286E-01	2.416
	+	92.59		4.117E+00	1.047E+00	9.965E-01	8.373E-02	4.132
ANH-511	+	511.00	*	1.218E-01	8.776E-02	6.292E-02	4.027E-03	1.936

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	2.819E-01	4.601E-01	7.846E-01	5.619E-02	0.359
NA-22		1274.54	*	-2.552E-02	6.008E-02	9.237E-02	5.380E-03	-0.276
NA-24		1368.63	*	-1.273E+02	6.008E-02	Half-Life too short		
SC-46		889.28	*	1.975E-02	5.779E-02	9.857E-02	9.900E-03	0.200
V-48	+	1120.55		3.269E-01	1.057E-01	1.858E-01	1.278E-02	1.759
		944.13		2.565E-01	1.935E+00	3.225E+00	3.119E-01	0.080
	+	983.53	*	2.672E-02	1.378E-01	2.309E-01	2.115E-02	0.116
		1312.11		5.069E-02	1.536E-01	2.580E-01	1.496E-02	0.197
CR-51		320.08	*	5.762E-02	5.981E-01	9.990E-01	8.828E-02	0.058
MN-54		834.85	*	2.185E-02	5.762E-02	9.833E-02	9.008E-03	0.222
CO-56		846.77	*	1.615E-02	6.165E-02	1.045E-01	9.771E-03	0.155
		1037.84		1.075E-01	4.639E-01	7.778E-01	6.854E-02	0.138
		1238.28		1.384E-01	1.507E-01	2.597E-01	1.605E-02	0.533
		1771.35		-4.903E-01	3.879E-01	4.819E-01	2.783E-02	-1.018
CO-57		122.06	*	3.830E-03	3.260E-02	5.326E-02	7.556E-03	0.072
		136.47		-1.427E-01	2.754E-01	4.358E-01	5.835E-02	-0.328
CO-58		810.76	*	-8.727E-02	5.908E-02	8.381E-02	7.377E-03	-1.041
FE-59		1099.45	*	8.598E-03	1.520E-01	2.497E-01	2.022E-02	0.034

## ----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-60	1291.59			1.076E-01	1.617E-01	2.844E-01	2.112E-02	0.378
	1173.23			-4.578E-02	6.796E-02	1.034E-01	6.000E-03	-0.443
	1332.49	*		1.842E-03	4.470E-02	7.262E-02	4.203E-03	0.025
ZN-65	1115.54	*		1.137E-01	1.466E-01	2.264E-01	1.582E-02	0.502
SE-75	121.12			3.168E-02	1.715E-01	2.809E-01	4.389E-02	0.113
	136.00			-8.732E-03	5.381E-02	8.663E-02	1.130E-02	-0.101
	264.66	*		1.540E-03	6.976E-02	1.018E-01	9.717E-03	0.015
	279.54			1.075E-02	1.499E-01	2.512E-01	2.407E-02	0.043
	400.66			-3.563E-01	3.677E-01	5.658E-01	5.159E-02	-0.630
	514.00	*		1.219E-01	6.084E-02	1.016E-01	6.510E-03	1.200
SR-85	898.04			-1.173E-02	5.945E-02	9.640E-02	9.856E-03	-0.122
Y-88	1836.06	*		3.679E-03	3.570E-02	6.032E-02	3.451E-03	0.061
Y-91	1204.77	*		2.851E+01	3.583E+01	6.213E+01	3.610E+00	0.459
NB-94	702.65	*		1.921E-02	4.854E-02	8.356E-02	5.979E-03	0.230
	871.09			-5.406E-03	4.260E-02	6.960E-02	6.783E-03	-0.078
	765.81	*		6.149E-02	6.622E-02	1.174E-01	9.500E-03	0.524
NB-95	235.69	*		1.298E+00	2.763E-01	4.301E-01	4.712E-02	3.019
NB-95M	724.19			3.857E-01	1.701E-01	2.941E-01	2.440E-02	1.311
ZR-95	756.73	*		5.164E-02	1.114E-01	1.925E-01	1.717E-02	0.268
MO-99	140.51			-1.682E-04	1.114E-01	Half-Life	too short	
	181.07			6.530E-05	1.114E-01	Half-Life	too short	
	366.42			2.004E-04	1.114E-01	Half-Life	too short	
	739.50	*		-3.386E-05	1.114E-01	Half-Life	too short	
	777.92			-1.751E-05	1.114E-01	Half-Life	too short	
	140.51	*		-2.303E+19	1.114E-01	Half-Life	too short	
TC-99M	497.08	*		2.191E-02	6.560E-02	1.093E-01	1.387E-02	0.200
RU-103	610.33			1.609E+01	3.294E+00	4.318E+00	6.639E-01	3.726
	621.93	*		2.137E-02	4.506E-01	7.286E-01	8.770E-02	0.029
RH-106	1050.41			-4.544E-01	3.691E+00	5.973E+00	4.863E-01	-0.076
RU-106	621.93	*		2.137E-02	4.505E-01	7.286E-01	4.803E-02	0.029
	1050.41			-4.544E-01	3.691E+00	5.973E+00	4.863E-01	-0.076
AG-108M	433.94	*		-2.015E-02	4.173E-02	6.622E-02	4.275E-03	-0.304
	614.28			5.623E-03	5.602E-02	7.874E-02	5.477E-03	0.071
AG-110M	722.91			4.613E-02	5.811E-02	9.109E-02	7.076E-03	0.506
	657.76	*		1.700E-01	6.903E-02	1.165E-01	8.054E-03	1.459
	677.62			3.137E-01	4.676E-01	8.209E-01	5.837E-02	0.382
	706.68			6.549E-02	2.988E-01	5.086E-01	3.819E-02	0.129
	763.94			-2.077E-01	2.461E-01	3.833E-01	3.186E-02	-0.542
	884.68			3.189E-03	6.973E-02	1.159E-01	1.183E-02	0.028
	937.49			-2.252E-01	1.719E-01	2.463E-01	2.471E-02	-0.914
	1384.29			5.625E-03	2.315E-01	3.885E-01	2.395E-02	0.014
	1505.03			-3.912E-01	3.868E-01	5.434E-01	3.194E-02	-0.720
SN-113	391.69	*		-3.998E-02	6.496E-02	1.029E-01	6.385E-03	-0.388
CD-115	260.90			5.007E-04	6.496E-02	Half-Life	too short	
	492.35			-5.524E-04	6.496E-02	Half-Life	too short	
	527.90	*		-1.848E-04	6.496E-02	Half-Life	too short	
SN-117M	156.02			-2.948E+00	4.596E+00	7.207E+00	7.947E-01	-0.409
	158.56	*		3.480E-02	1.089E-01	1.777E-01	1.911E-02	0.196
	159.00	*		8.123E-03	4.072E-02	6.619E-02	7.112E-03	0.123
TE-123M								



## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-124	602.73			-8.883E-02	8.317E-02	1.032E-01	6.798E-03	-0.861
	645.85			2.292E-01	8.500E-01	1.394E+00	1.007E-01	0.164
	722.78			3.906E-01	6.257E-01	9.658E-01	7.414E-02	0.404
	1690.97	*		1.457E-03	1.100E-01	1.822E-01	1.158E-02	0.008
SB-125	427.87	*		9.326E-03	1.276E-01	2.104E-01	1.318E-02	0.044
	463.37			4.441E-01	5.117E-01	7.564E-01	5.360E-02	0.587
	600.60			1.884E-01	3.009E-01	4.641E-01	3.433E-02	0.406
	635.95			1.998E-01	3.905E-01	6.548E-01	4.900E-02	0.305
TE-125M	109.28	*		-7.330E+00	1.408E+01	2.193E+01	2.849E+00	-0.334
I-126	388.63			-9.787E-03	3.555E-01	5.849E-01	3.481E-02	-0.017
	666.33	*		2.059E-01	5.523E-01	7.961E-01	5.286E-02	0.259
	753.82			2.301E+00	3.765E+00	6.577E+00	5.201E-01	0.350
	414.70			-1.206E-01	1.588E-01	2.480E-01	1.478E-02	-0.486
SB-126	666.50			6.559E-02	1.926E-01	2.767E-01	1.838E-02	0.237
	695.00			-2.115E-02	1.738E-01	2.889E-01	2.035E-02	-0.073
	697.00			-2.541E-01	5.915E-01	9.603E-01	6.793E-02	-0.265
	720.70	*		1.503E-01	3.014E-01	4.625E-01	3.430E-02	0.325
SB-127	856.80			2.406E-01	1.032E+00	1.743E+00	1.658E-01	0.138
	252.40			4.303E+00	2.071E+01	3.494E+01	1.484E+01	0.123
	473.00			1.194E+00	8.072E+00	1.332E+01	1.824E+00	0.090
	685.70	*		-5.670E+00	6.915E+00	1.080E+01	1.375E+00	-0.525
I-131	783.70			1.962E+01	1.862E+01	3.315E+01	4.778E+00	0.592
	80.19			1.419E+01	1.098E+01	1.258E+01	9.889E-01	1.128
	284.31			-3.877E+00	3.737E+00	5.855E+00	5.656E-01	-0.662
	364.49	*		-1.333E-01	2.878E-01	4.619E-01	3.501E-02	-0.289
TE-132	636.99			-1.616E+00	4.373E+00	6.815E+00	4.977E-01	-0.237
	49.72			-4.444E+01	2.698E+01	3.556E+01	4.390E+00	-1.250
	111.76			-8.205E+00	2.051E+02	3.339E+02	5.245E+01	-0.025
	116.30			7.581E+00	1.729E+02	2.821E+02	4.635E+01	0.027
BA-133	228.16	*		-3.349E-01	4.445E+00	7.457E+00	1.353E+00	-0.045
	81.00			1.370E-01	1.234E-01	1.384E-01	2.080E-02	0.990
	276.40			3.502E-01	5.033E-01	8.202E-01	1.194E-01	0.427
	302.85			-1.365E-01	1.902E-01	3.040E-01	4.009E-02	-0.449
I-133	356.01	*		3.667E-02	6.457E-02	9.675E-02	1.169E-02	0.379
	383.85			2.130E-01	4.400E-01	7.437E-01	8.079E-02	0.286
	529.87	*		-1.001E+00	4.400E-01	Half-Life	too short	
	875.33			1.599E+01	4.400E-01	Half-Life	too short	
CS-134	1298.22			-5.080E+01	4.400E-01	Half-Life	too short	
	563.25			1.007E-01	5.388E-01	8.670E-01	5.759E-02	0.116
	569.33			8.301E-02	2.894E-01	4.659E-01	3.121E-02	0.178
	604.72			3.230E-02	5.974E-02	8.751E-02	5.788E-03	0.369
I-135	795.86	*		6.145E-02	8.393E-02	1.284E-01	1.106E-02	0.478
	801.95			-3.952E-01	6.385E-01	9.898E-01	8.604E-02	-0.399
	1365.19			2.768E-01	1.641E+00	2.710E+00	1.731E-01	0.102
	546.56			1.546E+18	1.641E+00	Half-Life	too short	
I-135	836.80			2.862E+18	1.641E+00	Half-Life	too short	
	1038.76			4.883E+17	1.641E+00	Half-Life	too short	
	1131.51			8.973E+17	1.641E+00	Half-Life	too short	
	1260.41	*		-7.330E+17	1.641E+00	Half-Life	too short	

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-136	1457.56			1.144E+20	1.641E+00	Half-Life	too short	
	1678.03			6.011E+17	1.641E+00	Half-Life	too short	
	1791.20			6.791E+17	1.641E+00	Half-Life	too short	
	153.25			1.440E+00	1.721E+00	2.855E+00	3.605E-01	0.504
	176.60			-3.525E-01	9.840E-01	1.555E+00	1.671E-01	-0.227
	273.65			-4.107E-01	1.131E+00	1.604E+00	1.613E-01	-0.256
	340.55			7.731E-01	3.315E-01	5.458E-01	4.443E-02	1.416
	818.51			4.802E-02	1.557E-01	2.655E-01	2.368E-02	0.181
	1048.07	*		-7.080E-02	2.200E-01	3.484E-01	2.986E-02	-0.203
	1235.36			1.213E+00	1.290E+00	2.239E+00	2.218E-01	0.541
CE-139	165.86	*		-1.952E-02	4.015E-02	6.316E-02	6.271E-03	-0.309
BA-140	162.66			6.584E-01	1.573E+00	2.578E+00	2.780E-01	0.255
LA-140	304.85			1.077E-01	2.656E+00	4.431E+00	1.299E+00	0.024
	423.72			2.554E-01	4.092E+00	6.743E+00	2.179E+00	0.038
	537.26	*		-1.207E-01	5.508E-01	8.762E-01	2.930E-01	-0.138
	328.76			7.445E-01	6.274E-01	1.095E+00	9.474E-02	0.680
	487.02			2.834E-01	2.954E-01	5.121E-01	3.597E-02	0.553
CE-141	815.77			-9.898E-02	6.882E-01	1.129E+00	1.112E-01	-0.088
	1596.21	*		4.738E-02	1.613E-01	2.470E-01	1.452E-02	0.192
	145.44	*		-3.815E-02	9.938E-02	1.581E-01	1.933E-02	-0.241
CE-143	57.36			3.637E-03	9.938E-02	Half-Life	too short	
CE-144	293.27	*		6.118E-02	9.938E-02	Half-Life	too short	
	664.57			8.370E-02	9.938E-02	Half-Life	too short	
	721.93			3.195E-02	9.938E-02	Half-Life	too short	
PM-144	80.12			4.246E+00	3.230E+00	3.707E+00	2.865E-01	1.145
	133.52	*		-4.221E-02	2.660E-01	4.284E-01	7.832E-02	-0.099
PR-144	476.78			-1.579E-04	8.576E-02	1.400E-01	1.017E-02	-0.001
	618.01			-2.210E-02	4.881E-02	7.375E-02	5.094E-03	-0.300
	696.49	*		-3.181E-02	5.147E-02	8.235E-02	5.826E-03	-0.386
PM-146	696.51	*		-2.401E+00	3.866E+00	6.184E+00	4.370E-01	-0.388
	1489.16			-1.696E+00	1.714E+01	2.811E+01	1.652E+00	-0.060
	453.88	*		4.673E-02	6.387E-02	1.038E-01	9.042E-03	0.450
ND-147	633.25			6.138E-02	2.184E+00	3.523E+00	1.331E+00	0.017
	735.93			-7.633E-02	2.011E-01	3.235E-01	8.975E-02	-0.236
	747.24			-4.132E-02	1.208E-01	1.951E-01	2.755E-02	-0.212
	91.11			2.568E+00	6.593E-01	9.750E-01	8.680E-02	2.633
	319.41			3.298E+00	7.068E+00	1.203E+01	1.010E+00	0.274
PM-149	531.02	*		5.668E-01	1.365E+00	2.144E+00	2.963E-01	0.264
EU-152	285.90	*		-2.884E-04	1.365E+00	Half-Life	too short	
GD-153	121.78			1.274E-02	9.205E-02	1.505E-01	2.249E-02	0.085
	244.70			-1.067E-02	4.690E-01	6.847E-01	6.675E-02	-0.016
	344.28	*		-4.487E-02	1.637E-01	2.164E-01	1.779E-02	-0.207
	778.90			-2.998E-02	3.666E-01	6.067E-01	5.028E-02	-0.049
	964.08			7.667E-01	5.002E-01	8.172E-01	7.698E-02	0.938
	1085.87			-3.889E-01	5.407E-01	8.149E-01	6.134E-02	-0.477
	1112.07			7.374E-02	4.723E-01	7.264E-01	5.115E-02	0.102
	1408.01			8.271E-02	2.158E-01	3.798E-01	2.219E-02	0.218
GD-153	69.67			2.485E-01	1.503E+00	2.189E+00	1.741E-01	0.114
	97.43	*		1.327E-01	1.073E-01	1.625E-01	1.507E-02	0.816

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154		103.18		-7.813E-02	1.365E-01	2.180E-01	2.254E-02	-0.358
		123.07		2.089E-02	6.650E-02	1.093E-01	1.741E-02	0.191
		723.31		3.954E-01	2.702E-01	4.473E-01	3.780E-02	0.884
		873.19		-5.448E-02	3.465E-01	5.641E-01	7.198E-02	-0.097
		996.26		-3.046E-01	5.630E-01	8.083E-01	1.427E-01	-0.377
EU-155		1004.73		-1.601E-01	3.121E-01	4.866E-01	5.748E-02	-0.329
		1274.44	*	-7.387E-02	1.695E-01	2.600E-01	2.453E-02	-0.284
	+	86.55		5.396E-01	1.272E-01	2.007E-01	1.551E-02	2.688
		105.31	*	9.498E-02	1.288E-01	2.152E-01	2.331E-02	0.441
	+	86.79		1.530E+00	3.602E-01	5.694E-01	4.342E-02	2.687
TB-160		197.04		3.465E-01	9.004E-01	1.440E+00	1.439E-01	0.241
		215.65		4.339E-01	1.054E+00	1.713E+00	1.704E-01	0.253
		298.57		1.677E-01	1.862E-01	2.851E-01	2.537E-02	0.588
		879.36	*	7.506E-02	1.973E-01	3.384E-01	3.344E-02	0.222
		962.29		9.427E-01	9.781E-01	1.529E+00	1.444E-01	0.617
HO-166M		966.15		1.490E+00	4.776E-01	8.222E-01	7.724E-02	1.812
		1177.93		-6.653E-02	6.096E-01	9.712E-01	5.635E-02	-0.069
		1271.85		-2.604E-01	1.050E+00	1.651E+00	9.594E-02	-0.158
	+	80.57		4.136E-01	3.467E-01	3.948E-01	3.048E-02	1.048
		184.41		2.124E-01	7.382E-02	9.624E-02	9.603E-03	2.206
TA-182		280.46		-4.760E-02	1.142E-01	1.868E-01	1.729E-02	-0.255
		410.95		3.793E-01	3.599E-01	6.254E-01	3.712E-02	0.606
		711.68	*	2.624E-02	7.966E-02	1.369E-01	9.971E-03	0.192
		752.31		6.454E-02	3.724E-01	6.305E-01	4.971E-02	0.102
		810.29		-1.166E-01	8.208E-02	1.171E-01	1.028E-02	-0.995
IR-192		67.75		-8.254E-02	9.532E-02	1.330E-01	1.065E-02	-0.621
		100.11		6.892E-02	2.115E-01	3.499E-01	3.416E-02	0.197
		152.43		1.271E-01	4.998E-01	8.149E-01	9.295E-02	0.156
		222.11		-1.003E-02	4.535E-01	7.634E-01	7.571E-02	-0.013
		1121.30		8.479E-01	2.654E-01	4.905E-01	3.367E-02	1.729
HG-203		1189.05		-1.817E-01	4.330E-01	6.729E-01	3.907E-02	-0.270
		1221.41	*	-4.352E-02	2.968E-01	4.751E-01	2.762E-02	-0.092
		1231.02		-2.828E-01	7.803E-01	1.227E+00	7.133E-02	-0.231
	+	295.96		1.420E+00	3.091E-01	4.246E-01	3.828E-02	3.345
		308.46		-1.250E-02	1.403E-01	2.325E-01	2.026E-02	-0.054
BI-207		316.51	*	-6.051E-03	4.950E-02	8.175E-02	6.939E-03	-0.074
		468.07		3.508E-02	1.092E-01	1.722E-01	1.219E-02	0.204
		70.83		4.123E-01	1.328E+00	1.942E+00	3.049E-01	0.212
		72.87		6.129E+00	1.316E+00	1.622E+00	2.454E-01	3.780
		279.20	*	-4.090E-03	5.741E-02	9.560E-02	9.068E-03	-0.043
PB-211		72.81		1.240E+00	2.163E-01	3.343E-01	2.633E-02	3.708
	+	74.97		8.545E-01	1.335E-01	2.605E-01	2.038E-02	3.281
		569.70		1.019E-02	4.497E-02	7.207E-02	4.717E-03	0.141
		1063.66	*	2.650E-02	7.499E-02	1.269E-01	1.005E-02	0.209
		1770.23		-2.705E+00	9.541E-01	7.975E-01	4.606E-02	-3.392
BI-212		404.85	*	2.867E-02	1.070E+00	1.762E+00	8.457E-01	0.016
		427.09		9.694E-01	2.178E+00	3.600E+00	1.651E+00	0.269
	+	832.01		1.048E+00	1.580E+00	2.598E+00	1.350E+00	0.403
		727.33	*	2.793E+00	1.029E+00	1.623E+00	1.902E-01	1.721

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	785.37			4.462E+00	4.724E+00	8.254E+00	6.922E-01	0.541
	1620.50			3.142E+00	3.119E+00	5.952E+00	3.493E-01	0.528
RN-219	271.23			5.030E-01	3.820E-01	5.941E-01	6.493E-02	0.847
	401.81	*		3.337E-02	5.668E-01	9.361E-01	1.261E-01	0.036
RA-223	81.07			3.087E-01	2.764E-01	3.132E-01	2.415E-02	0.986
	83.79		+	3.191E-01	1.384E-01	2.090E-01	1.603E-02	1.527
	94.87			9.628E-01	5.797E-01	8.846E-01	7.791E-02	1.088
	144.24			-2.453E-01	9.358E-01	1.480E+00	1.918E-01	-0.166
	154.21			5.398E-01	5.309E-01	8.853E-01	1.050E-01	0.610
	269.46		+	7.210E-01	3.922E-01	4.772E-01	4.579E-02	1.511
	323.87	*		-9.649E-01	9.426E-01	1.460E+00	2.506E-01	-0.661
	338.28		+	6.332E+00	2.527E+00	3.153E+00	3.635E-01	2.008
AC-227	79.69			-8.320E-01	1.326E+00	1.853E+00	3.116E-01	-0.449
	235.96			2.408E+00	4.011E-01	5.635E-01	6.406E-02	4.274
	256.23	*		-3.909E-02	3.274E-01	5.456E-01	6.977E-02	-0.072
	299.98			3.614E-01	1.358E+00	2.001E+00	2.576E-01	0.181
	304.50			-1.684E+00	2.252E+00	3.580E+00	5.944E-01	-0.470
	334.37			-2.281E-01	2.567E+00	3.669E+00	5.589E-01	-0.062
TH-227	79.80			2.947E+00	2.166E+00	2.407E+00	5.162E-01	1.224
	235.96			2.408E+00	3.925E-01	5.635E-01	6.107E-02	4.274
	256.23	*		-3.909E-02	3.274E-01	5.456E-01	7.781E-02	-0.072
	299.98			3.614E-01	1.358E+00	2.001E+00	2.576E-01	0.181
	304.50			-1.684E+00	2.252E+00	3.580E+00	5.944E-01	-0.470
	334.37			-2.281E-01	2.567E+00	3.669E+00	5.589E-01	-0.062
PA-231	283.69	*		-1.552E+00	1.941E+00	3.074E+00	4.590E-01	-0.505
	301.36			7.514E-02	8.034E-01	1.270E+00	1.563E-01	0.059
TH-231	81.07			3.087E-01	2.764E-01	3.132E-01	2.415E-02	0.986
	83.79		+	3.191E-01	1.384E-01	2.090E-01	1.603E-02	1.527
	94.87			9.628E-01	5.797E-01	8.846E-01	7.791E-02	1.088
	144.24			-2.453E-01	9.358E-01	1.480E+00	1.918E-01	-0.166
	154.21			5.398E-01	5.309E-01	8.853E-01	1.050E-01	0.610
	269.46		+	7.210E-01	3.922E-01	4.772E-01	4.579E-02	1.511
	323.87	*		-9.649E-01	9.426E-01	1.460E+00	2.506E-01	-0.661
	338.28		+	6.332E+00	2.527E+00	3.153E+00	3.635E-01	2.008
PA-233	300.13			1.111E-01	6.125E-01	8.975E-01	1.344E-01	0.124
	311.90	*		-2.346E-04	8.606E-02	1.431E-01	1.264E-02	-0.002
	340.48			2.510E+00	1.131E+00	1.629E+00	3.873E-01	1.541
PA-234	94.67			5.307E-01	2.199E-01	3.339E-01	4.177E-02	1.589
	98.44			1.535E-01	1.397E-01	1.771E-01	9.906E-02	0.867
	111.00			-1.219E-01	2.453E-01	3.816E-01	5.566E-02	-0.319
	131.20			-6.547E-02	1.431E-01	2.277E-01	3.058E-02	-0.287
	569.50			1.185E-01	3.966E-01	6.390E-01	4.182E-02	0.185
	733.00			3.818E-01	5.632E-01	8.971E-01	1.957E-01	0.426
	880.51			-6.008E-02	3.761E-01	6.126E-01	6.065E-02	-0.098
	883.24			-7.483E-02	3.940E-01	6.347E-01	4.278E-01	-0.118
	926.50			-7.695E-02	2.490E-01	3.974E-01	1.023E-01	-0.194
	946.00	*		2.047E-01	4.670E-01	7.957E-01	1.532E-01	0.257
	949.00			2.727E-01	6.579E-01	1.123E+00	1.080E-01	0.243
PA-234M	766.42			1.715E+01	1.842E+01	2.912E+01	1.475E+01	0.589

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	1001.03	*		-2.246E+00	6.834E+00	1.076E+01	1.099E+00	-0.209
	99.53			7.786E-02	1.872E-01	3.107E-01	3.000E-02	0.251
	103.37			4.861E-02	1.188E-01	1.969E-01	2.043E-02	0.247
	106.12			6.707E-02	1.037E-01	1.728E-01	1.884E-02	0.388
	117.23	*		-6.067E-01	5.109E-01	7.823E-01	1.029E-01	-0.776
	228.18			-1.857E-02	2.742E-01	4.603E-01	4.549E-02	-0.040
AM-241	277.60			1.656E-01	2.360E-01	4.062E-01	3.780E-02	0.408
	59.54	*		1.825E-02	8.780E-02	1.289E-01	1.154E-02	0.142
	278.00			6.379E-01	1.000E+00	1.717E+00	1.597E-01	0.372
CM-247	287.50			8.678E-01	1.736E+00	2.721E+00	2.483E-01	0.319
	402.40	*		3.135E-02	5.207E-02	8.869E-02	5.218E-03	0.353
	252.80			2.694E-01	1.245E+00	2.109E+00	2.038E-01	0.128
CF-249	333.37			-2.333E-01	2.794E-01	3.747E-01	2.995E-02	-0.623
	388.16	*		1.635E-02	5.811E-02	9.728E-02	5.809E-03	0.168
	177.52	*		1.073E-01	1.740E-01	2.865E-01	2.855E-02	0.375
CF-251	227.38			-1.241E-01	4.550E-01	7.568E-01	7.483E-02	-0.164
	285.41			-2.866E+00	2.943E+00	4.632E+00	4.246E-01	-0.619

# 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]G248515002      *
* Acquisition date   : 19-MAR-2010 20:40:31 Detector SN#                   *
* Detector ID        : GAM05 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time   : 0 02:00:00.00 Abundance limit : 75.000            *
* Elapsed real time   : 0 02:00:01.74 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 25-FEB-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G248515002 Analyst initials: MXR1                  *
* Batch Number       : 961099 Sample Quantity : 1.0504E+02 GRAM           *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                             *
* CALIB. DATE/TIME   : 11-JUN-2009 16:41:00 MS Isotope                    *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                               *
*****

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## Combined Activity-MDA Report

### ---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act error	MDA (pCi/GRAM )	
K-40	2.767E+01	2.637E+00	7.029E-01	0.000E+00
CD-109	4.589E+00	1.059E+00	1.170E+00	0.000E+00
SN-126	4.437E-01	1.024E-01	1.129E-01	0.000E+00
CS-135	6.264E-01	3.351E-01	3.377E-01	0.000E+00
BA-137M	7.043E-01	1.337E-01	8.525E-02	0.000E+00
CS-137	7.441E-01	1.413E-01	9.006E-02	0.000E+00
TL-208	6.067E-01	1.214E-01	8.852E-02	0.000E+00
PB-210	2.518E+00	1.093E+00	1.047E+00	0.000E+00
BI-211	5.269E+00	7.331E-01	4.750E-01	0.000E+00
PB-212	1.982E+00	2.530E-01	1.240E-01	0.000E+00
BI-214	1.450E+00	2.680E-01	1.681E-01	0.000E+00
PB-214	1.912E+00	2.854E-01	1.728E-01	0.000E+00
RA-224	5.202E+00	1.677E+00	1.329E+00	0.000E+00
RA-226	1.450E+00	2.680E-01	1.681E-01	0.000E+00
AC-228	2.114E+00	4.374E-01	3.349E-01	0.000E+00
RA-228	2.114E+00	4.374E-01	3.349E-01	0.000E+00
TH-228	1.982E+00	2.530E-01	1.240E-01	0.000E+00
TH-229	-2.138E-01	7.364E-01	1.191E+00	0.000E+00
TH-232	2.114E+00	4.374E-01	3.349E-01	0.000E+00
TH-234	3.043E+00	1.453E+00	1.270E+00	0.000E+00
U-235	7.520E-02	2.681E-01	4.434E-01	0.000E+00
NP-237	1.324E+00	4.090E-01	3.360E-01	0.000E+00
U-238	3.043E+00	1.453E+00	1.270E+00	0.000E+00
ANH-511	1.218E-01	8.601E-02	6.280E-02	0.000E+00

### ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L. Act error ) Ided	MDA (pCi/GRAM )	
BE-7	2.819E-01	4.509E-01	7.834E-01	0.000E+00 NOT IDENT.
NA-22	-2.552E-02	5.887E-02	9.177E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	3.167E+09	0.000E+00	0.000E+00 SHORT HLIF

SC-46	1.975E-02	5.664E-02	9.811E-02	0.000E+00	FAIL ABUN
V-48	2.672E-02	1.351E-01	2.297E-01	0.000E+00	NOT IDENT.
CR-51	5.762E-02	5.862E-01	9.994E-01	0.000E+00	NOT IDENT.
MN-54	2.185E-02	5.646E-02	9.790E-02	0.000E+00	NOT IDENT.
CO-56	1.615E-02	6.042E-02	1.040E-01	0.000E+00	NOT IDENT.
CO-57	3.830E-03	3.195E-02	5.354E-02	0.000E+00	NOT IDENT.
CO-58	-8.727E-02	5.790E-02	8.346E-02	0.000E+00	NOT IDENT.
FE-59	8.598E-03	1.490E-01	2.483E-01	0.000E+00	NOT IDENT.
CO-60	1.842E-03	4.381E-02	7.214E-02	0.000E+00	NOT IDENT.
ZN-65	1.137E-01	1.437E-01	2.251E-01	0.000E+00	NOT IDENT.
SE-75	1.540E-03	6.836E-02	1.019E-01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	5.962E-02	1.014E-01	0.000E+00	NOT IDENT.
Y-88	3.679E-03	3.499E-02	5.983E-02	0.000E+00	NOT IDENT.
Y-91	2.851E+01	3.512E+01	6.174E+01	0.000E+00	NOT IDENT.
NB-94	1.921E-02	4.757E-02	8.327E-02	0.000E+00	NOT IDENT.
NB-95	6.149E-02	6.489E-02	1.170E-01	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	2.708E-01	4.309E-01	0.000E+00	NOT IDENT.
ZR-95	5.164E-02	1.092E-01	1.918E-01	0.000E+00	NOT IDENT.
MO-99	0.000E+00	9.733E+01	0.000E+00	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	2.705E+25	0.000E+00	0.000E+00	SHORT HLIF
RU-103	2.191E-02	6.428E-02	1.091E-01	0.000E+00	NOT IDENT.
RH-106	2.137E-02	4.415E-01	7.265E-01	0.000E+00	NOT IDENT.
RU-106	2.137E-02	4.415E-01	7.265E-01	0.000E+00	NOT IDENT.
AG-108M	-2.015E-02	4.090E-02	6.615E-02	0.000E+00	NOT IDENT.
AG-110M	0.000E+00	6.765E-02	1.161E-01	0.000E+00	NOT IDENT.
SN-113	-3.998E-02	6.366E-02	1.029E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	1.651E+02	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	3.480E-02	1.067E-01	1.784E-01	0.000E+00	NOT IDENT.
TE-123M	8.123E-03	3.991E-02	6.645E-02	0.000E+00	NOT IDENT.
SB-124	1.457E-03	1.078E-01	1.808E-01	0.000E+00	NOT IDENT.
SB-125	9.326E-03	1.251E-01	2.102E-01	0.000E+00	NOT IDENT.
TE-125M	-7.330E+00	1.380E+01	2.205E+01	0.000E+00	NOT IDENT.
I-126	2.059E-01	5.412E-01	7.935E-01	0.000E+00	NOT IDENT.
SB-126	1.503E-01	2.954E-01	4.608E-01	0.000E+00	NOT IDENT.
SB-127	-5.670E+00	6.777E+00	1.076E+01	0.000E+00	NOT IDENT.
I-131	-1.333E-01	2.820E-01	4.618E-01	0.000E+00	NOT IDENT.
TE-132	-3.349E-01	4.356E+00	7.473E+00	0.000E+00	NOT IDENT.
BA-133	3.667E-02	6.328E-02	9.675E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	3.020E+06	0.000E+00	0.000E+00	SHORT HLIF
CS-134	6.145E-02	8.225E-02	1.279E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	9.007E+23	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-7.080E-02	2.156E-01	3.465E-01	0.000E+00	NOT IDENT.
CE-139	-1.952E-02	3.935E-02	6.340E-02	0.000E+00	NOT IDENT.
BA-140	-1.207E-01	5.398E-01	8.743E-01	0.000E+00	NOT IDENT.
LA-140	4.738E-02	1.581E-01	2.452E-01	0.000E+00	NOT IDENT.
CE-141	-3.815E-02	9.739E-02	1.588E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.904E+04	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-4.221E-02	2.606E-01	4.304E-01	0.000E+00	NOT IDENT.
PM-144	-3.181E-02	5.044E-02	8.207E-02	0.000E+00	NOT IDENT.
PR-144	-2.401E+00	3.788E+00	6.163E+00	0.000E+00	NOT IDENT.
PM-146	4.673E-02	6.259E-02	1.036E-01	0.000E+00	NOT IDENT.
ND-147	5.668E-01	1.338E+00	2.139E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	1.156E+03	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-4.487E-02	1.604E-01	2.164E-01	0.000E+00	NOT IDENT.
GD-153	1.327E-01	1.052E-01	1.636E-01	0.000E+00	NOT IDENT.
EU-154	-7.387E-02	1.661E-01	2.584E-01	0.000E+00	NOT IDENT.
EU-155	9.498E-02	1.262E-01	2.165E-01	0.000E+00	FAIL ABUN
TB-160	7.506E-02	1.934E-01	3.368E-01	0.000E+00	FAIL ABUN
HO-166M	2.624E-02	7.806E-02	1.364E-01	0.000E+00	FAIL ABUN
TA-182	-4.352E-02	2.908E-01	4.722E-01	0.000E+00	NOT IDENT.
IR-192	-6.051E-03	4.851E-02	8.179E-02	0.000E+00	FAIL ABUN
HG-203	-4.090E-03	5.626E-02	9.571E-02	0.000E+00	NOT IDENT.
BI-207	2.650E-02	7.349E-02	1.262E-01	0.000E+00	FAIL ABUN
PB-211	2.867E-02	1.048E+00	1.761E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	1.008E+00	1.617E+00	0.000E+00	FAIL ABUN
RN-219	3.337E-02	5.555E-01	9.355E-01	0.000E+00	NOT IDENT.
RA-223	-9.649E-01	9.237E-01	1.461E+00	0.000E+00	FAIL ABUN
AC-227	-3.909E-02	3.208E-01	5.465E-01	0.000E+00	NOT IDENT.
TH-227	-3.909E-02	3.208E-01	5.465E-01	0.000E+00	NOT IDENT.
PA-231	-1.552E+00	1.902E+00	3.077E+00	0.000E+00	NOT IDENT.
TH-231	-9.649E-01	9.237E-01	1.461E+00	0.000E+00	FAIL ABUN
PA-233	-2.346E-04	8.434E-02	1.432E-01	0.000E+00	NOT IDENT.
PA-234	2.047E-01	4.576E-01	7.918E-01	0.000E+00	NOT IDENT.
PA-234M	-2.246E+00	6.698E+00	1.070E+01	0.000E+00	NOT IDENT.
NP-239	-6.067E-01	5.007E-01	7.865E-01	0.000E+00	NOT IDENT.
AM-241	1.825E-02	8.604E-02	1.301E-01	0.000E+00	NOT IDENT.
CM-247	3.135E-02	5.102E-02	8.863E-02	0.000E+00	NOT IDENT.
CF-249	1.635E-02	5.694E-02	9.723E-02	0.000E+00	NOT IDENT.

CF-251

1.073E-01

1.705E-01

2.875E-01

0.000E+00 NOT IDENT.



```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248515002.CNF;1
Sample date        : 25-FEB-2010 12:00:00 Acquisition date : 19-MAR-2010 20:40:31
Sample ID          : G248515002 Sample quantity : 1.05040E+02 GRAM
Detector name      : GAM05 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.74 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 961099 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	1460.82	828	10.66*	1.004E+00	2.767E+01	2.767E+01	9.73
CD-109	88.03	361	3.70*	7.865E+00	4.437E+00	4.589E+00	23.54
SN-126	64.28	-----	9.60	8.070E+00	-----	Line Not Found	-----
	86.94	361	8.90	7.865E+00	1.845E+00	1.845E+00	46.80
	87.57	361	37.00*	7.865E+00	4.437E-01	4.437E-01	23.54
CS-135	268.22	122	16.00*	4.357E+00	6.264E-01	6.264E-01	54.60
BA-137M	661.66	357	89.90*	2.017E+00	7.033E-01	7.043E-01	19.37
CS-137	661.66	357	85.10*	2.017E+00	7.430E-01	7.441E-01	19.38
TL-208	277.37	-----	6.60	4.261E+00	-----	Line Not Found	-----
	583.19	326	85.00*	2.260E+00	6.067E-01	6.067E-01	20.42
	860.56	-----	12.50	1.589E+00	-----	Line Not Found	-----
PB-210	46.54	228	4.25*	7.613E+00	2.513E+00	2.518E+00	44.28
BI-211	72.87	-----	1.23	8.052E+00	-----	Line Not Found	-----
	351.06	670	12.92*	3.518E+00	5.269E+00	5.269E+00	14.20
PB-212	74.82	685	10.28	8.040E+00	2.964E+00	2.964E+00	18.41
	77.11	1149	17.10	8.016E+00	2.996E+00	2.996E+00	11.84
	238.63	1155	43.60*	4.777E+00	1.982E+00	1.982E+00	13.03
	300.09	-----	3.30	4.005E+00	-----	Line Not Found	-----
BI-214	609.32	401	45.49*	2.173E+00	1.450E+00	1.450E+00	18.86
	1120.29	96	14.92	1.259E+00	1.820E+00	1.820E+00	33.02
	1764.49	58	15.30	8.615E-01	1.565E+00	1.566E+00	32.66
PB-214	74.82	685	5.80	8.040E+00	5.253E+00	5.253E+00	17.52
	77.11	1149	9.70	8.016E+00	5.281E+00	5.281E+00	14.43
	242.00	282	7.25	4.732E+00	2.942E+00	2.942E+00	33.39
	295.22	376	18.42	4.064E+00	1.795E+00	1.795E+00	22.69
	351.93	670	35.60*	3.518E+00	1.912E+00	1.912E+00	15.23
RA-224	240.99	282	4.10*	4.732E+00	5.202E+00	5.202E+00	32.89
RA-226	609.32	401	45.49*	2.173E+00	1.450E+00	1.450E+00	18.86
	1120.29	96	14.92	1.259E+00	1.820E+00	1.820E+00	33.02
	1764.49	58	15.30	8.615E-01	1.565E+00	1.566E+00	32.66
AC-228	338.32	183	11.27	3.634E+00	1.596E+00	1.596E+00	56.46
	911.20	231	25.80*	1.511E+00	2.114E+00	2.114E+00	21.11

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
RA-228	968.97	102	15.80	1.430E+00	1.620E+00	1.620E+00	45.54
	338.32	183	11.27	3.634E+00	1.596E+00	1.596E+00	56.46
	911.20	231	25.80*	1.511E+00	2.114E+00	2.114E+00	21.11
TH-228	968.97	102	15.80	1.430E+00	1.620E+00	1.620E+00	45.54
	74.82	685	10.28	8.040E+00	2.964E+00	2.964E+00	15.67
	77.11	1149	17.10	8.016E+00	2.996E+00	2.996E+00	11.84
TH-229	238.63	1155	43.60*	4.777E+00	1.982E+00	1.982E+00	13.03
	300.09	-----	3.30	4.005E+00	-----	Line Not Found	-----
	85.43	361	14.70	7.865E+00	1.117E+00	1.117E+00	23.54
TH-232	88.47	237	24.00	7.816E+00	4.516E-01	4.516E-01	33.78
	193.51	-----	4.41*	5.516E+00	-----	Line Not Found	-----
	210.85	-----	2.80	5.209E+00	-----	Line Not Found	-----
TH-234	338.32	183	11.27	3.634E+00	1.596E+00	1.596E+00	39.00
	911.20	231	25.80*	1.511E+00	2.114E+00	2.114E+00	21.11
	968.97	102	15.80	1.430E+00	1.620E+00	1.620E+00	45.54
U-235	63.29	254	3.70*	8.061E+00	3.043E+00	3.043E+00	48.71
	92.59	378	4.23	7.758E+00	4.117E+00	4.117E+00	32.55
	89.96	237	3.47	7.816E+00	3.123E+00	3.123E+00	40.90
NP-237	93.35	378	5.60	7.758E+00	3.110E+00	3.110E+00	33.25
	143.76	-----	10.96*	6.557E+00	-----	Line Not Found	-----
	163.33	-----	5.08	6.119E+00	-----	Line Not Found	-----
U-238	185.72	243	57.20	5.670E+00	2.673E-01	2.673E-01	34.76
	205.31	-----	5.01	5.304E+00	-----	Line Not Found	-----
	86.48	361	12.40*	7.865E+00	1.324E+00	1.324E+00	31.52
ANH-511	95.86	-----	2.68	7.688E+00	-----	Line Not Found	-----
	63.29	254	3.70*	8.061E+00	3.043E+00	3.043E+00	48.71
	92.59	378	4.23	7.758E+00	4.117E+00	4.117E+00	25.42
	511.00	87	100.00*	2.545E+00	1.218E-01	1.218E-01	72.05

Flag: "\*" = Keyline

Total number of lines in spectrum 31  
Number of unidentified lines 6  
Number of lines tentatively identified by NID 25 80.65%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	2.767E+01	2.767E+01	0.269E+01	9.73	
CD-109	461.40D	1.03	4.437E+00	4.589E+00	1.080E+00	23.54	
SN-126	2.30E+05Y	1.00	4.437E-01	4.437E-01	1.045E-01	23.54	
CS-135	2.30E+06Y	1.00	6.264E-01	6.264E-01	3.420E-01	54.60	
BA-137M	30.08Y	1.00	7.033E-01	7.043E-01	1.364E-01	19.37	
CS-137	30.08Y	1.00	7.430E-01	7.441E-01	1.442E-01	19.38	
TL-208	1.41E+10Y	1.00	6.067E-01	6.067E-01	1.239E-01	20.42	
PB-210	22.20Y	1.00	2.513E+00	2.518E+00	1.115E+00	44.28	
BI-211	7.04E+08Y	1.00	5.269E+00	5.269E+00	0.748E+00	14.20	
PB-212	1.41E+10Y	1.00	1.982E+00	1.982E+00	0.258E+00	13.03	
BI-214	1600.00Y	1.00	1.450E+00	1.450E+00	0.273E+00	18.86	
PB-214	1600.00Y	1.00	1.912E+00	1.912E+00	0.291E+00	15.23	
RA-224	1.41E+10Y	1.00	5.202E+00	5.202E+00	1.711E+00	32.89	
RA-226	1600.00Y	1.00	1.450E+00	1.450E+00	0.273E+00	18.86	
AC-228	1.41E+10Y	1.00	2.114E+00	2.114E+00	0.446E+00	21.11	
RA-228	1.41E+10Y	1.00	2.114E+00	2.114E+00	0.446E+00	21.11	
TH-228	1.41E+10Y	1.00	1.982E+00	1.982E+00	0.258E+00	13.03	
TH-229	7340.00Y	1.00	4.516E-01	4.516E-01	1.525E-01	33.78	K
TH-232	1.41E+10Y	1.00	2.114E+00	2.114E+00	0.446E+00	21.11	
TH-234	4.47E+09Y	1.00	3.043E+00	3.043E+00	1.482E+00	48.71	
U-235	7.04E+08Y	1.00	2.673E-01	2.673E-01	0.929E-01	34.76	K
NP-237	2.14E+06Y	1.00	1.324E+00	1.324E+00	0.417E+00	31.52	
U-238	4.47E+09Y	1.00	3.043E+00	3.043E+00	1.482E+00	48.71	
ANH-511	1.00E+09Y	1.00	1.218E-01	1.218E-01	0.878E-01	72.05	
Total Activity :			7.158E+01	7.174E+01			

Grand Total Activity : 7.158E+01 7.174E+01

Flags: "K" = Keyline not found  
"E" = Manually edited

"M" = Manually accepted  
"A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
2	83.79	175	402	1.62	168.56	165	27	2.43E-02	42.7	7.92E+00	T
0	209.13	120	278	1.09	419.20	415	10	1.67E-02	55.0	5.24E+00	
0	461.78	91	102	1.36	924.35	918	11	1.27E-02	47.7	2.78E+00	
0	726.35	97	51	2.09	1453.21	1448	11	1.34E-02	34.9	1.85E+00	T
0	794.11	42	42	1.73	1588.64	1583	11	5.83E-03	70.2	1.71E+00	
0	1587.23	27	16	1.69	3173.30	3164	16	3.75E-03	76.6	9.37E-01	
0	1592.47	17	4	1.37	3183.74	3179	9	2.31E-03	74.0	9.35E-01	
0	1729.82	31	9	3.66	3458.07	3451	13	4.28E-03	54.9	8.75E-01	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248515002.CNF;1
* Acquisition date   : 19-MAR-2010 20:40:31  Detector SN#      :
* Detector ID        : GAM05                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance  : 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit    : 75.00000
* Elapsed real time  : 0 02:00:01.74          Half life ratio   : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 25-FEB-2010 12:00:00  Nuclide Library   : SOLID
* Sample ID          : G248515002            Analyst initials: MXR1
* Batch Number       : 961099                Sample Quantity  : 1.05040E+02 GRAM
*****
*                                     QC DATA                                *
*
* CALIB. DATE/TIME   : 11-JUN-2009 16:41:00.5MS Isotope       :
* MSD ID              :                      MSD Isotope       :
* LCS ID              : 1032-A                LCS Isotope      :
*****

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## Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.767E+01	2.690E+00	7.079E-01	4.403E-02	39.080
CD-109	4.589E+00	1.080E+00	1.162E+00	8.847E-02	3.950
SN-126	4.437E-01	1.045E-01	1.122E-01	8.543E-03	3.956
CS-135	6.264E-01	3.420E-01	3.372E-01	3.608E-02	1.858
BA-137M	7.043E-01	1.364E-01	8.552E-02	5.624E-03	8.235
CS-137	7.441E-01	1.442E-01	9.035E-02	5.961E-03	8.235
TL-208	6.067E-01	1.239E-01	8.875E-02	6.518E-03	6.836
PB-210	2.518E+00	1.115E+00	1.037E+00	7.998E-02	2.428
BI-211	5.269E+00	7.481E-01	4.750E-01	3.765E-02	11.092
PB-212	1.982E+00	2.582E-01	1.238E-01	1.340E-02	16.009
BI-214	1.450E+00	2.735E-01	1.685E-01	1.422E-02	8.605
PB-214	1.912E+00	2.913E-01	1.728E-01	1.664E-02	11.067
RA-224	5.202E+00	1.711E+00	1.327E+00	1.298E-01	3.920
RA-226	1.450E+00	2.735E-01	1.685E-01	1.422E-02	8.605
AC-228	2.114E+00	4.463E-01	3.365E-01	4.271E-02	6.283
RA-228	2.114E+00	4.463E-01	3.365E-01	4.271E-02	6.283
TH-228	1.982E+00	2.582E-01	1.238E-01	1.340E-02	16.009
TH-229	4.516E-01	1.525E-01	1.188E+00	1.186E-01	0.380

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	2.114E+00	4.463E-01	3.365E-01	4.271E-02	6.283
TH-234	3.043E+00	1.482E+00	1.260E+00	2.286E-01	2.416
U-235	2.673E-01	9.292E-02	4.415E-01	8.420E-02	0.605
NP-237	1.324E+00	4.174E-01	3.337E-01	7.445E-02	3.968
U-238	3.043E+00	1.482E+00	1.260E+00	2.286E-01	2.416
ANH-511	1.218E-01	8.776E-02	6.292E-02	4.027E-03	1.936

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	2.819E-01		4.601E-01	7.846E-01	5.619E-02	0.359
NA-22	-2.552E-02		6.008E-02	9.237E-02	5.380E-03	-0.276
NA-24	-1.273E+02		1.616E+03	Half-Life too short		
SC-46	1.975E-02		5.779E-02	9.857E-02	9.900E-03	0.200
V-48	2.672E-02		1.378E-01	2.309E-01	2.115E-02	0.116
CR-51	5.762E-02		5.981E-01	9.990E-01	8.828E-02	0.058
MN-54	2.185E-02		5.762E-02	9.833E-02	9.008E-03	0.222
CO-56	1.615E-02		6.165E-02	1.045E-01	9.771E-03	0.155
CO-57	3.830E-03		3.260E-02	5.326E-02	7.556E-03	0.072
CO-58	-8.727E-02		5.908E-02	8.381E-02	7.377E-03	-1.041
FE-59	8.598E-03		1.520E-01	2.497E-01	2.022E-02	0.034
CO-60	1.842E-03		4.470E-02	7.262E-02	4.203E-03	0.025
ZN-65	1.137E-01		1.466E-01	2.264E-01	1.582E-02	0.502
SE-75	1.540E-03		6.976E-02	1.018E-01	9.717E-03	0.015
SR-85	1.219E-01		6.084E-02	1.016E-01	6.510E-03	1.200
Y-88	3.679E-03		3.570E-02	6.032E-02	3.451E-03	0.061
Y-91	2.851E+01		3.583E+01	6.213E+01	3.610E+00	0.459
NB-94	1.921E-02		4.854E-02	8.356E-02	5.979E-03	0.230
NB-95	6.149E-02		6.622E-02	1.174E-01	9.500E-03	0.524
NB-95M	1.298E+00		2.763E-01	4.301E-01	4.712E-02	3.019
ZR-95	5.164E-02		1.114E-01	1.925E-01	1.717E-02	0.268
MO-99	-3.386E-05		4.966E-05	Half-Life too short		
TC-99M	-2.303E+19		1.380E+19	Half-Life too short		
RU-103	2.191E-02		6.560E-02	1.093E-01	1.387E-02	0.200
RH-106	2.137E-02		4.506E-01	7.286E-01	8.770E-02	0.029
RU-106	2.137E-02		4.505E-01	7.286E-01	4.803E-02	0.029
AG-108M	-2.015E-02		4.173E-02	6.622E-02	4.275E-03	-0.304
AG-110M	1.700E-01		6.903E-02	1.165E-01	8.054E-03	1.459
SN-113	-3.998E-02		6.496E-02	1.029E-01	6.385E-03	-0.388
CD-115	-1.848E-04		8.425E-05	Half-Life too short		
SN-117M	3.480E-02		1.089E-01	1.777E-01	1.911E-02	0.196
TE-123M	8.123E-03		4.072E-02	6.619E-02	7.112E-03	0.123
SB-124	1.457E-03		1.100E-01	1.822E-01	1.158E-02	0.008
SB-125	9.326E-03		1.276E-01	2.104E-01	1.318E-02	0.044
TE-125M	-7.330E+00		1.408E+01	2.193E+01	2.849E+00	-0.334
I-126	2.059E-01		5.523E-01	7.961E-01	5.286E-02	0.259
SB-126	1.503E-01		3.014E-01	4.625E-01	3.430E-02	0.325

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127	-5.670E+00		6.915E+00	1.080E+01	1.375E+00	-0.525
I-131	-1.333E-01		2.878E-01	4.619E-01	3.501E-02	-0.289
TE-132	-3.349E-01		4.445E+00	7.457E+00	1.353E+00	-0.045
BA-133	3.667E-02		6.457E-02	9.675E-02	1.169E-02	0.379
I-133	-1.001E+00		1.541E+00	Half-Life	too short	
CS-134	6.145E-02		8.393E-02	1.284E-01	1.106E-02	0.478
I-135	-7.330E+17		4.595E+17	Half-Life	too short	
CS-136	-7.080E-02		2.200E-01	3.484E-01	2.986E-02	-0.203
CE-139	-1.952E-02		4.015E-02	6.316E-02	6.271E-03	-0.309
BA-140	-1.207E-01		5.508E-01	8.762E-01	2.930E-01	-0.138
LA-140	4.738E-02		1.613E-01	2.470E-01	1.452E-02	0.192
CE-141	-3.815E-02		9.938E-02	1.581E-01	1.933E-02	-0.241
CE-143	6.118E-02	+	9.713E-03	Half-Life	too short	
CE-144	-4.221E-02		2.660E-01	4.284E-01	7.832E-02	-0.099
PM-144	-3.181E-02		5.147E-02	8.235E-02	5.826E-03	-0.386
PR-144	-2.401E+00		3.866E+00	6.184E+00	4.370E-01	-0.388
PM-146	4.673E-02		6.387E-02	1.038E-01	9.042E-03	0.450
ND-147	5.668E-01		1.365E+00	2.144E+00	2.963E-01	0.264
PM-149	-2.884E-04		5.899E-04	Half-Life	too short	
EU-152	-4.487E-02		1.637E-01	2.164E-01	1.779E-02	-0.207
GD-153	1.327E-01		1.073E-01	1.625E-01	1.507E-02	0.816
EU-154	-7.387E-02		1.695E-01	2.600E-01	2.453E-02	-0.284
EU-155	9.498E-02		1.288E-01	2.152E-01	2.331E-02	0.441
TB-160	7.506E-02		1.973E-01	3.384E-01	3.344E-02	0.222
HO-166M	2.624E-02		7.966E-02	1.369E-01	9.971E-03	0.192
TA-182	-4.352E-02		2.968E-01	4.751E-01	2.762E-02	-0.092
IR-192	-6.051E-03		4.950E-02	8.175E-02	6.939E-03	-0.074
HG-203	-4.090E-03		5.741E-02	9.560E-02	9.068E-03	-0.043
BI-207	2.650E-02		7.499E-02	1.269E-01	1.005E-02	0.209
PB-211	2.867E-02		1.070E+00	1.762E+00	8.457E-01	0.016
BI-212	2.793E+00	+	1.029E+00	1.623E+00	1.902E-01	1.721
RN-219	3.337E-02		5.668E-01	9.361E-01	1.261E-01	0.036
RA-223	-9.649E-01		9.426E-01	1.460E+00	2.506E-01	-0.661
AC-227	-3.909E-02		3.274E-01	5.456E-01	6.977E-02	-0.072
TH-227	-3.909E-02		3.274E-01	5.456E-01	7.781E-02	-0.072
PA-231	-1.552E+00		1.941E+00	3.074E+00	4.590E-01	-0.505
TH-231	-9.649E-01		9.426E-01	1.460E+00	2.506E-01	-0.661
PA-233	-2.346E-04		8.606E-02	1.431E-01	1.264E-02	-0.002
PA-234	2.047E-01		4.670E-01	7.957E-01	1.532E-01	0.257
PA-234M	-2.246E+00		6.834E+00	1.076E+01	1.099E+00	-0.209
NP-239	-6.067E-01		5.109E-01	7.823E-01	1.029E-01	-0.776
AM-241	1.825E-02		8.780E-02	1.289E-01	1.154E-02	0.142
CM-247	3.135E-02		5.207E-02	8.869E-02	5.218E-03	0.353
CF-249	1.635E-02		5.811E-02	9.728E-02	5.809E-03	0.168
CF-251	1.073E-01		1.740E-01	2.865E-01	2.855E-02	0.375

# VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G248515002          *
* Acquisition date   : 19-MAR-2010 20:40:31 Detector SN#      :             *
* Detector ID        : GAM05                      Sensitivity   : 5.000        *
* Geometry           : CAN                      Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00             Abundance limit: 75.000       *
* Elapsed real time  : 0 02:00:01.74             Half life ratio : 8.000       *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 25-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G248515002             Analyst initials: MXR1          *
* Batch Number       : 961099                 Sample Quantity : 1.0504E+02 GRAM  *
* Recovery           : 1.00000                Carrier Weight  : 0.00000        *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 11-JUN-2009 16:41:00 MS Isotope       :             *
* MSD DPM             : 0.000                 MSD Isotope     :             *
* LCS DPM             : 0.000                 LCS Isotope     :             *
* LCSD DPM            : 0.000                 LCSD Isotope    :             *
*****

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## Combined Activity-MDA Report

### ---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act Error	DLC (pCi/GRAM )	TPU
K-40	2.767E+01	2.637E+00	3.517E-01	1.345E+00
CD-109	4.589E+00	1.059E+00	5.852E-01	5.401E-01
SN-126	4.437E-01	1.024E-01	5.651E-02	5.223E-02
CS-135	6.264E-01	3.351E-01	1.689E-01	1.710E-01
BA-137M	7.043E-01	1.337E-01	4.265E-02	6.822E-02
CS-137	7.441E-01	1.413E-01	4.506E-02	7.210E-02
TL-208	6.067E-01	1.214E-01	4.429E-02	6.195E-02
PB-210	2.518E+00	1.093E+00	5.240E-01	5.574E-01
BI-211	5.269E+00	7.331E-01	2.376E-01	3.740E-01
PB-212	1.982E+00	2.530E-01	6.205E-02	1.291E-01
BI-214	1.450E+00	2.680E-01	8.408E-02	1.367E-01
PB-214	1.912E+00	2.854E-01	8.644E-02	1.456E-01
RA-224	5.202E+00	1.677E+00	6.651E-01	8.554E-01
RA-226	1.450E+00	2.680E-01	8.408E-02	1.367E-01
AC-228	2.114E+00	4.374E-01	1.675E-01	2.232E-01
RA-228	2.114E+00	4.374E-01	1.675E-01	2.232E-01
TH-228	1.982E+00	2.530E-01	6.205E-02	1.291E-01
TH-229	-2.138E-01	7.364E-01	5.960E-01	3.757E-01
TH-232	2.114E+00	4.374E-01	1.675E-01	2.232E-01
TH-234	3.043E+00	1.453E+00	6.356E-01	7.412E-01
U-235	7.520E-02	2.681E-01	2.218E-01	1.368E-01
NP-237	1.324E+00	4.090E-01	1.681E-01	2.087E-01
U-238	3.043E+00	1.453E+00	6.356E-01	7.412E-01
ANH-511	1.218E-01	8.601E-02	3.142E-02	4.388E-02

### ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L Act error	DLC (pCi/GRAM )	TPU
BE-7	2.819E-01	4.509E-01	3.919E-01	2.301E-01 NOT IDENT.
NA-22	-2.552E-02	5.887E-02	4.591E-02	3.004E-02 NOT IDENT.
NA-24	-1.273E+08	3.167E+09	0.000E+00	1.616E+09 SHORT HLIF



SC-46	1.975E-02	5.664E-02	4.908E-02	2.890E-02	FAIL ABUN
V-48	2.672E-02	1.351E-01	1.149E-01	6.892E-02	NOT IDENT.
CR-51	5.762E-02	5.862E-01	5.000E-01	2.991E-01	NOT IDENT.
MN-54	2.185E-02	5.646E-02	4.898E-02	2.881E-02	NOT IDENT.
CO-56	1.615E-02	6.042E-02	5.204E-02	3.083E-02	NOT IDENT.
CO-57	3.830E-03	3.195E-02	2.678E-02	1.630E-02	NOT IDENT.
CO-58	-8.727E-02	5.790E-02	4.176E-02	2.954E-02	NOT IDENT.
FE-59	8.598E-03	1.490E-01	1.242E-01	7.602E-02	NOT IDENT.
CO-60	1.842E-03	4.381E-02	3.609E-02	2.235E-02	NOT IDENT.
ZN-65	1.137E-01	1.437E-01	1.126E-01	7.330E-02	NOT IDENT.
SE-75	1.540E-03	6.836E-02	5.099E-02	3.488E-02	NOT IDENT.
SR-85	1.219E-01	5.962E-02	5.071E-02	3.042E-02	NOT IDENT.
Y-88	3.679E-03	3.499E-02	2.993E-02	1.785E-02	NOT IDENT.
Y-91	2.851E+01	3.512E+01	3.089E+01	1.792E+01	NOT IDENT.
NB-94	1.921E-02	4.757E-02	4.166E-02	2.427E-02	NOT IDENT.
NB-95	6.149E-02	6.489E-02	5.853E-02	3.311E-02	NOT IDENT.
NB-95M	1.298E+00	2.708E-01	2.156E-01	1.382E-01	NOT IDENT.
ZR-95	5.164E-02	1.092E-01	9.594E-02	5.572E-02	NOT IDENT.
MO-99	-3.386E+01	9.733E+01	0.000E+00	4.966E+01	SHORT HLIF
TC-99M	-2.303E+25	2.705E+25	0.000E+00	0.000E+00	SHORT HLIF
RU-103	2.191E-02	6.428E-02	5.458E-02	3.280E-02	NOT IDENT.
RH-106	2.137E-02	4.415E-01	3.635E-01	2.253E-01	NOT IDENT.
RU-106	2.137E-02	4.415E-01	3.635E-01	2.253E-01	NOT IDENT.
AG-108M	-2.015E-02	4.090E-02	3.309E-02	2.087E-02	NOT IDENT.
AG-110M	1.700E-01	6.765E-02	5.811E-02	3.451E-02	NOT IDENT.
SN-113	-3.998E-02	6.366E-02	5.147E-02	3.248E-02	NOT IDENT.
CD-115	-1.848E+02	1.651E+02	0.000E+00	8.425E+01	SHORT HLIF
SN-117M	3.480E-02	1.067E-01	8.928E-02	5.443E-02	NOT IDENT.
TE-123M	8.123E-03	3.991E-02	3.324E-02	2.036E-02	NOT IDENT.
SB-124	1.457E-03	1.078E-01	9.043E-02	5.500E-02	NOT IDENT.
SB-125	9.326E-03	1.251E-01	1.052E-01	6.381E-02	NOT IDENT.
TE-125M	-7.330E+00	1.380E+01	1.103E+01	7.042E+00	NOT IDENT.
I-126	2.059E-01	5.412E-01	3.970E-01	2.761E-01	NOT IDENT.
SB-126	1.503E-01	2.954E-01	2.305E-01	1.507E-01	NOT IDENT.
SB-127	-5.670E+00	6.777E+00	5.383E+00	3.458E+00	NOT IDENT.
I-131	-1.333E-01	2.820E-01	2.310E-01	1.439E-01	NOT IDENT.
TE-132	-3.349E-01	4.356E+00	3.739E+00	2.222E+00	NOT IDENT.
BA-133	3.667E-02	6.328E-02	4.840E-02	3.229E-02	NOT IDENT.
I-133	-1.001E+06	3.020E+06	0.000E+00	1.541E+06	SHORT HLIF
CS-134	6.145E-02	8.225E-02	6.399E-02	4.196E-02	NOT IDENT.
I-135	-7.330E+23	9.007E+23	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-7.080E-02	2.156E-01	1.733E-01	1.100E-01	NOT IDENT.
CE-139	-1.952E-02	3.935E-02	3.172E-02	2.008E-02	NOT IDENT.
BA-140	-1.207E-01	5.398E-01	4.374E-01	2.754E-01	NOT IDENT.
LA-140	4.738E-02	1.581E-01	1.226E-01	8.066E-02	NOT IDENT.
CE-141	-3.815E-02	9.739E-02	7.944E-02	4.969E-02	NOT IDENT.
CE-143	6.118E+04	1.904E+04	0.000E+00	9.713E+03	SHORT HLIF
CE-144	-4.221E-02	2.606E-01	2.153E-01	1.330E-01	NOT IDENT.
PM-144	-3.181E-02	5.044E-02	4.106E-02	2.573E-02	NOT IDENT.
PR-144	-2.401E+00	3.788E+00	3.083E+00	1.933E+00	NOT IDENT.
PM-146	4.673E-02	6.259E-02	5.185E-02	3.193E-02	NOT IDENT.
ND-147	5.668E-01	1.338E+00	1.070E+00	6.826E-01	FAIL ABUN
PM-149	-2.884E+02	1.156E+03	0.000E+00	5.899E+02	SHORT HLIF
EU-152	-4.487E-02	1.604E-01	1.083E-01	8.183E-02	NOT IDENT.
GD-153	1.327E-01	1.052E-01	8.184E-02	5.365E-02	NOT IDENT.
EU-154	-7.387E-02	1.661E-01	1.293E-01	8.474E-02	NOT IDENT.
EU-155	9.498E-02	1.262E-01	1.083E-01	6.438E-02	FAIL ABUN
TB-160	7.506E-02	1.934E-01	1.685E-01	9.867E-02	FAIL ABUN
HO-166M	2.624E-02	7.806E-02	6.823E-02	3.983E-02	FAIL ABUN
TA-182	-4.352E-02	2.908E-01	2.362E-01	1.484E-01	NOT IDENT.
IR-192	-6.051E-03	4.851E-02	4.092E-02	2.475E-02	FAIL ABUN
HG-203	-4.090E-03	5.626E-02	4.788E-02	2.871E-02	NOT IDENT.
BI-207	2.650E-02	7.349E-02	6.315E-02	3.749E-02	FAIL ABUN
PB-211	2.867E-02	1.048E+00	8.811E-01	5.349E-01	NOT IDENT.
BI-212	2.793E+00	1.008E+00	8.089E-01	5.143E-01	FAIL ABUN
RN-219	3.337E-02	5.555E-01	4.680E-01	2.834E-01	NOT IDENT.
RA-223	-9.649E-01	9.237E-01	7.309E-01	4.713E-01	FAIL ABUN
AC-227	-3.909E-02	3.208E-01	2.734E-01	1.637E-01	NOT IDENT.
TH-227	-3.909E-02	3.208E-01	2.734E-01	1.637E-01	NOT IDENT.
PA-231	-1.552E+00	1.902E+00	1.539E+00	9.706E-01	NOT IDENT.
TH-231	-9.649E-01	9.237E-01	7.309E-01	4.713E-01	FAIL ABUN
PA-233	-2.346E-04	8.434E-02	7.165E-02	4.303E-02	NOT IDENT.
PA-234	2.047E-01	4.576E-01	3.961E-01	2.335E-01	NOT IDENT.
PA-234M	-2.246E+00	6.698E+00	5.355E+00	3.417E+00	NOT IDENT.
NP-239	-6.067E-01	5.007E-01	3.935E-01	2.554E-01	NOT IDENT.
AM-241	1.825E-02	8.604E-02	6.507E-02	4.390E-02	NOT IDENT.
CM-247	3.135E-02	5.102E-02	4.434E-02	2.603E-02	NOT IDENT.
CF-249	1.635E-02	5.694E-02	4.865E-02	2.905E-02	NOT IDENT.

CF-251

1.073E-01

1.705E-01

1.438E-01

8.698E-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
46.54	408.2600
49.72	493.3202
57.36	0.0000
59.54	485.4901
63.29	511.7581
63.29	511.7581
64.28	538.8419
67.75	607.3944
69.67	553.9230
70.83	581.5872
72.81	591.0291
72.87	591.0771
72.87	591.0771
74.82	597.3485
74.82	597.3485
74.82	597.3485
74.97	597.4636
77.11	599.1180
77.11	599.1180
77.11	599.1180
79.69	601.0831
79.80	402.6376
80.12	402.7995
80.19	402.8349
80.57	403.0260
81.00	403.2418
81.07	403.2772
81.07	403.2772
83.79	382.9966
83.79	382.9966
85.43	383.7581
86.48	384.2424
86.55	384.2745
86.79	384.3839
86.94	384.4539
87.57	384.7413
88.03	384.9513
88.47	385.1512
89.96	385.8251
91.11	386.3430
92.59	387.0023
92.59	387.0023
93.35	382.4773
94.67	412.2679
94.87	426.9721
94.87	426.9721
95.86	450.2028
97.43	337.0244
98.44	343.6504
99.53	373.3020
100.11	369.4570
103.18	413.6968
103.37	368.7163
105.31	368.4535
106.12	379.0420
109.28	422.5529
111.00	414.0116
111.76	401.9353
116.30	348.7700
117.23	381.3009
121.12	319.1426
121.78	328.7394
122.06	329.8735
123.07	334.3750
131.20	392.7610
133.52	347.1729
136.00	332.0942

136.47	343.8744
140.51	0.0000
140.51	0.0000
143.76	334.3964
144.24	363.3011
144.24	363.3011
145.44	365.8166
152.43	342.2621
153.25	325.3195
154.21	313.7610
154.21	313.7610
156.02	371.2714
158.56	320.2892
159.00	322.5624
162.66	285.6563
163.33	305.2985
165.86	295.0699
176.60	299.7544
177.52	271.5016
181.07	0.0000
184.41	294.9305
185.72	283.7625
193.51	316.8558
197.04	301.0024
205.31	296.7351
210.85	258.3984
215.65	231.7893
222.11	228.7269
227.38	245.8518
228.16	234.1778
228.18	234.1810
235.69	247.7831
235.96	247.8262
235.96	247.8262
238.63	240.3278
238.63	240.3278
240.99	240.6858
242.00	240.8383
244.70	215.5620
252.40	201.8412
252.80	201.8906
256.23	204.1586
256.23	204.1586
260.90	0.0000
264.66	194.9780
268.22	201.5910
269.46	193.6670
269.46	193.6670
271.23	214.3728
273.65	217.7844
276.40	196.3187
277.37	202.9766
277.60	197.3901
278.00	197.4339
279.20	205.9976
279.54	194.7994
280.46	210.8304
283.69	193.3815
284.31	199.0838
285.41	199.2081
285.90	0.0000
287.50	163.9609
293.27	0.0000
295.22	256.6706
295.96	245.7495
298.57	186.1539
299.98	197.3470
299.98	197.3470
300.09	197.3597
300.09	197.3597
300.13	197.3648
301.36	199.0770
302.85	203.9823
304.50	206.0626
304.50	206.0626
304.85	177.6089
308.46	177.0020
311.90	165.8862

316.51	164.3784
319.41	154.0997
320.08	163.7275
323.87	214.8973
323.87	214.8973
328.76	170.2372
333.37	181.5628
334.37	159.1489
334.37	159.1489
338.28	156.5638
338.28	156.5638
338.32	156.5677
338.32	156.5677
338.32	156.5677
340.48	135.4524
340.55	135.4575
344.28	164.7892
351.06	169.2337
351.93	169.3059
356.01	134.8682
364.49	139.9906
366.42	0.0000
383.85	152.1370
388.16	146.4987
388.63	149.5014
391.69	147.7268
400.66	148.3270
401.81	134.4611
402.40	125.5294
404.85	155.5868
410.95	132.0081
414.70	141.2410
423.72	126.7106
427.09	114.8099
427.87	119.8861
433.94	127.2674
453.88	105.6712
463.37	126.1065
468.07	111.4064
473.00	95.4612
476.78	91.4933
477.60	82.2676
487.02	92.8960
492.35	0.0000
497.08	100.5155
511.00	92.7188
514.00	71.2695
527.90	0.0000
529.87	0.0000
531.02	80.8218
537.26	91.5263
546.56	0.0000
563.25	88.1409
569.33	75.5606
569.50	75.5640
569.70	77.6980
583.19	105.1562
600.60	95.2835
602.73	147.1302
604.72	102.3430
609.32	100.3428
609.32	100.3428
610.33	98.9378
614.28	81.0571
618.01	88.7326
621.93	78.0117
621.93	78.0117
633.25	89.1790
635.95	70.7526
636.99	88.1982
645.85	90.6354
657.76	73.0778
661.66	86.7052
661.66	86.7052
664.57	0.0000
666.33	78.7721
666.50	78.7756
677.62	76.2936

685.70	88.4648
695.00	93.3375
696.49	98.9280
696.51	98.9280
697.00	95.2444
702.65	81.5135
706.68	74.1943
711.68	63.1606
720.70	51.0904
721.93	0.0000
722.78	63.9035
722.91	63.9049
723.31	59.1197
724.19	60.7335
727.33	68.7877
733.00	58.8882
735.93	72.0371
739.50	0.0000
747.24	58.1956
752.31	63.9215
753.82	63.9492
756.73	66.8268
763.94	97.1451
765.81	71.7185
766.42	70.7870
777.92	0.0000
778.90	69.1445
783.70	59.7534
785.37	65.2148
795.86	70.1525
801.95	81.1161
810.29	76.4388
810.76	78.3598
815.77	64.1129
818.51	59.3725
832.01	64.3951
834.85	75.0245
836.80	0.0000
846.77	62.7201
856.80	64.8217
860.56	47.4538
871.09	45.6422
873.19	44.6954
875.33	0.0000
879.36	45.7397
880.51	52.5674
883.24	54.5531
884.68	53.5990
889.28	50.7347
898.04	55.7371
911.20	62.2310
911.20	62.2310
911.20	62.2310
926.50	58.1081
937.49	79.0039
944.13	68.2532
946.00	60.3671
949.00	55.4600
962.29	64.7227
964.08	61.3426
966.15	75.0127
968.97	90.5594
968.97	90.5594
968.97	90.5594
983.53	50.9294
996.26	61.1005
1001.03	59.1632
1004.73	63.2294
1037.84	48.5449
1038.76	0.0000
1048.07	53.7268
1050.41	53.7548
1050.41	53.7548
1063.66	48.8301
1085.87	56.2286
1099.45	57.4219
1112.07	53.4684
1115.54	47.6286

1120.29	50.4734
1120.29	50.4734
1120.55	35.3181
1121.30	33.5575
1131.51	0.0000
1173.23	70.8361
1177.93	66.7344
1189.05	55.3916
1204.77	58.7161
1221.41	65.2292
1231.02	82.2212
1235.36	67.5234
1238.28	70.7295
1260.41	0.0000
1271.85	44.6353
1274.44	45.7207
1274.54	45.7207
1291.59	23.4708
1298.22	0.0000
1312.11	34.2747
1332.49	21.5047
1365.19	23.8011
1368.63	0.0000
1384.29	32.5720
1408.01	19.6282
1457.56	0.0000
1460.82	20.7585
1489.16	20.8621
1505.03	30.4286
1596.21	11.8296
1620.50	11.6346
1678.03	0.0000
1690.97	12.7479
1764.49	12.1509
1764.49	12.1509
1770.23	52.6174
1771.35	24.8239
1791.20	0.0000
1836.06	6.0161

TOTAL URANIUM BY GAMMA SPEC REPORT  
Sample:G248515002

Total Uranium Activity	9.0888E+00	ug/g
Total Uranium Counting Unc.	4.3237E+00	ug/g
Total Uranium Tpu	2.2060E-06	ug/g
Total Uranium Mda	1.8936E+00	ug/g



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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 961099          SAMPLE ID   : G248515002
*  ANALYST       : MXR1            DETECTOR    : GAM05
*  SAMPLE DATE   : 25-FEB-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE : 19-MAR-2010 20:40:31.71  SAMPLE ALQT: 105.040 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.104E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.401E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 4.956E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 2.413E+00

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VAX/VMS Nuclide Identification Report Generated 19-MAR-2010 22:42:00.60

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                          *
*                               Charleston, SC 29414                     *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248515003.CNF;1
Sample date   : 25-FEB-2010 12:00:00 Acquisition date : 19-MAR-2010 20:40:59
Sample ID     : G248515003 Sample quantity : 1.01890E+02 GRAM
Detector name : GAM17 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:09.71 0.1%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 5.00000
Batch ID       : 961099 Detector SN# :
Matrix Spike ID : LCS ID : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.79*	182	357	1.00	93.21	88	10	2.53E-02	21.8	
2	0	63.43*	218	506	1.19	126.49	122	10	3.03E-02	21.0	
3	4	74.93*	549	308	1.03	149.51	143	15	7.62E-02	6.7	1.53E+00
4	4	77.22*	736	288	0.96	154.09	143	15	1.02E-01	5.4	
5	5	87.32*	276	207	1.08	174.29	165	28	3.83E-02	10.4	1.28E+00
6	5	89.90*	203	215	1.12	179.46	165	28	2.83E-02	14.6	
7	5	92.91*	353	237	1.50	185.48	165	28	4.91E-02	10.8	
8	5	94.77	71	168	1.24	189.21	165	28	9.88E-03	44.2	
9	0	129.41	92	245	1.16	258.50	254	9	1.28E-02	32.3	
10	0	185.96*	196	234	1.35	371.66	366	11	2.73E-02	17.3	
11	6	238.73*	908	103	1.17	477.23	470	21	1.26E-01	3.9	5.09E+00
12	6	241.48	268	166	1.93	482.73	470	21	3.72E-02	15.4	
13	0	270.00	91	139	1.47	539.80	535	11	1.26E-02	27.1	
14	0	277.71*	61	109	1.35	555.22	551	9	8.49E-03	34.5	
15	2	295.24*	277	100	1.17	590.29	584	27	3.85E-02	8.6	1.11E+00
16	2	300.00	69	108	1.40	599.83	584	27	9.57E-03	28.9	
17	0	338.32*	145	173	1.20	676.50	671	12	2.02E-02	20.2	
18	0	351.83*	511	138	1.22	703.53	697	12	7.10E-02	6.5	
19	0	463.13	54	79	1.13	926.24	921	10	7.48E-03	33.9	
20	0	511.18*	88	95	1.94	1022.40	1016	15	1.22E-02	31.0	
21	0	583.26*	229	108	1.56	1166.62	1161	15	3.19E-02	12.1	
22	0	609.30*	352	73	1.50	1218.73	1211	16	4.88E-02	7.8	
23	0	661.73	215	79	1.44	1323.66	1319	13	2.98E-02	10.9	
24	0	727.46	89	55	1.23	1455.19	1450	13	1.24E-02	20.1	
25	0	911.13*	137	63	1.43	1822.76	1817	14	1.91E-02	15.4	
26	0	968.99*	87	62	1.29	1938.56	1932	12	1.20E-02	21.8	
27	0	1121.04	91	39	1.62	2242.88	2237	15	1.26E-02	18.5	
28	0	1460.33*	606	4	1.81	2922.02	2913	17	8.42E-02	4.2	
29	0	1630.60	16	4	1.39	3262.87	3258	10	2.19E-03	36.1	
30	0	1764.23	60	4	2.09	3530.40	3523	14	8.39E-03	14.5	

Flag: "\*" = Peak area was modified by background subtraction

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248515003.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 25-FEB-2010 12:00:00 Acquisition date : 19-MAR-2010 20:40:59
Sample ID         : G248515003 Sample quantity : 101.89 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA17 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:09.71 0.1%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

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## Full Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.82	*	2.692E+01	3.275E+00	6.698E-01	5.947E-02	40.194
CD-109	+	88.03	*	4.255E+00	9.758E-01	1.081E+00	1.055E-01	3.936
SN-126	+	64.28		1.235E+00	5.542E-01	4.505E-01	7.191E-02	2.742
	+	86.94		1.710E+00	7.953E-01	4.331E-01	1.802E-01	3.949
	+	87.57	*	4.114E-01	9.435E-02	1.044E-01	1.019E-02	3.941
BA-137M	+	661.66	*	5.492E-01	1.284E-01	9.388E-02	7.908E-03	5.850
CS-137	+	661.66	*	5.801E-01	1.357E-01	9.917E-02	8.371E-03	5.850
HG-203		70.83		-3.284E-01	1.097E+00	1.643E+00	2.748E-01	-0.200
		72.87		5.801E-01	6.090E-01	1.052E+00	1.705E-01	0.551
	+	279.20	*	1.081E-01	7.525E-02	8.254E-02	7.749E-03	1.310
TL-208	+	277.37		9.573E-01	6.717E-01	7.372E-01	9.523E-02	1.299
	+	583.19	*	5.493E-01	1.426E-01	8.060E-02	7.614E-03	6.815
		860.56		9.943E-01	4.836E-01	9.324E-01	8.769E-02	1.066
PB-210	+	46.54	*	2.503E+00	1.125E+00	9.040E-01	9.746E-02	2.768
BI-211		72.87		2.092E+00	2.179E+00	3.794E+00	3.710E-01	0.551
	+	351.06	*	5.012E+00	7.980E-01	4.585E-01	4.279E-02	10.932
PB-212	+	74.82		2.894E+00	5.574E-01	4.228E-01	5.826E-02	6.845
	+	77.11		2.337E+00	3.398E-01	2.553E-01	2.489E-02	9.154
	+	238.63	*	1.909E+00	2.437E-01	1.098E-01	1.112E-02	17.377
	+	300.09		2.302E+00	1.354E+00	1.624E+00	1.785E-01	1.418
BI-214	+	609.32	*	1.640E+00	3.048E-01	1.690E-01	1.727E-02	9.705
	+	1120.29		2.302E+00	8.886E-01	7.451E-01	8.003E-02	3.090
	+	1764.49		2.167E+00	6.525E-01	4.411E-01	3.730E-02	4.912
PB-214	+	74.82		5.129E+00	9.448E-01	7.493E-01	9.424E-02	6.845
	+	77.11		4.120E+00	6.887E-01	4.501E-01	5.747E-02	9.154
	+	242.00		3.414E+00	1.112E+00	6.688E-01	7.187E-02	5.105
	+	295.22		1.637E+00	3.370E-01	2.863E-01	3.223E-02	5.716
	+	351.93	*	1.819E+00	3.065E-01	1.668E-01	1.807E-02	10.904
RA-224	+	240.99	*	6.037E+00	1.935E+00	1.178E+00	1.066E-01	5.124
RA-226	+	609.32	*	1.640E+00	3.048E-01	1.690E-01	1.727E-02	9.705
	+	1120.29		2.302E+00	8.886E-01	7.451E-01	8.003E-02	3.090
	+	1764.49		2.167E+00	6.525E-01	4.411E-01	3.730E-02	4.912
AC-228	+	338.32		1.576E+00	9.159E-01	5.154E-01	2.154E-01	3.058
	+	911.20	*	1.658E+00	5.477E-01	3.693E-01	4.317E-02	4.490

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	+	968.97		1.813E+00	9.074E-01	4.697E-01	1.146E-01	3.861
	+	338.32		1.576E+00	9.159E-01	5.154E-01	2.154E-01	3.058
	+	911.20	*	1.658E+00	5.477E-01	3.693E-01	4.317E-02	4.490
TH-228	+	968.97		1.813E+00	9.074E-01	4.697E-01	1.146E-01	3.861
	+	74.82		2.894E+00	4.823E-01	4.228E-01	4.156E-02	6.845
	+	77.11		2.337E+00	3.398E-01	2.553E-01	2.489E-02	9.154
TH-232	+	238.63	*	1.909E+00	2.437E-01	1.098E-01	1.112E-02	17.377
	+	300.09		2.302E+00	1.939E+00	1.624E+00	9.953E-01	1.418
	+	338.32		1.576E+00	6.518E-01	5.154E-01	4.644E-02	3.058
TH-234	+	911.20	*	1.658E+00	5.477E-01	3.693E-01	4.317E-02	4.490
	+	968.97		1.813E+00	9.074E-01	4.697E-01	1.146E-01	3.861
	+	63.29	*	3.205E+00	1.476E+00	1.169E+00	2.224E-01	2.742
U-235	+	92.59		4.668E+00	1.459E+00	9.279E-01	2.101E-01	5.031
	+	89.96		3.254E+00	1.253E+00	1.121E+00	2.811E-01	2.901
	+	93.35		3.526E+00	1.128E+00	7.027E-01	1.662E-01	5.018
NP-237		143.76	*	-1.217E-01	2.456E-01	3.744E-01	6.667E-02	-0.325
		163.33		4.847E-01	5.261E-01	8.880E-01	1.592E-01	0.546
	+	185.72		2.631E-01	9.388E-02	7.952E-02	6.810E-03	3.308
U-238		205.31		-5.437E-02	6.151E-01	9.634E-01	1.755E-01	-0.056
	+	86.48	*	1.228E+00	3.815E-01	3.104E-01	7.179E-02	3.954
	+	95.86		1.490E+00	1.368E+00	1.426E+00	3.504E-01	1.045
ANH-511	+	63.29	*	3.205E+00	1.476E+00	1.169E+00	2.224E-01	2.742
	+	92.59		4.668E+00	1.109E+00	9.279E-01	9.257E-02	5.031
	+	511.00	*	1.574E-01	9.856E-02	6.273E-02	5.603E-03	2.510

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	-5.457E-02	5.097E-01	8.278E-01	7.875E-02	-0.066
NA-22		1274.54	*	4.317E-02	6.692E-02	1.167E-01	9.832E-03	0.370
NA-24		1368.63	*	-2.286E+03	6.692E-02	Half-Life too short		
SC-46		889.28	*	-9.969E-03	6.153E-02	9.990E-02	8.746E-03	-0.100
V-48	+	1120.55		4.135E-01	1.572E-01	2.191E-01	1.838E-02	1.888
		944.13		-1.848E+00	1.686E+00	2.343E+00	2.050E-01	-0.789
		983.53	*	1.035E-02	1.479E-01	2.449E-01	2.136E-02	0.042
CR-51		1312.11		-1.642E-02	1.429E-01	2.354E-01	1.998E-02	-0.070
		320.08	*	-1.075E-01	5.696E-01	9.462E-01	9.030E-02	-0.114
		834.85	*	7.518E-02	6.492E-02	1.180E-01	1.038E-02	0.637
CO-56		846.77	*	-2.552E-02	6.341E-02	1.006E-01	8.845E-03	-0.254
		1037.84		1.938E-01	5.250E-01	8.945E-01	8.126E-02	0.217
		1238.28		2.079E-01	1.614E-01	2.904E-01	2.496E-02	0.716
CO-57		1771.35		-2.600E-01	3.779E-01	5.068E-01	4.280E-02	-0.513
		122.06	*	-1.278E-02	2.876E-02	4.639E-02	5.435E-03	-0.276
		136.47		-2.841E-02	2.510E-01	4.104E-01	4.617E-02	-0.069
CO-58		810.76	*	-7.009E-02	6.112E-02	8.774E-02	7.727E-03	-0.799
FE-59		1099.45	*	-8.875E-02	1.642E-01	2.492E-01	2.287E-02	-0.356
CO-60		1291.59		-1.337E-01	1.855E-01	2.607E-01	2.512E-02	-0.513
		1173.23		-3.404E-02	6.874E-02	1.042E-01	8.508E-03	-0.327

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1332.49		*	-1.240E-02	6.629E-02	1.059E-01	9.027E-03	-0.117
ZN-65	1115.54		*	-1.191E-01	1.831E-01	2.299E-01	1.936E-02	-0.518
SE-75	121.12		*	-1.106E-01	1.519E-01	2.404E-01	3.263E-02	-0.460
	136.00		*	-1.839E-02	4.872E-02	7.849E-02	8.489E-03	-0.234
	264.66		*	2.370E-02	6.519E-02	9.494E-02	8.724E-03	0.250
	279.54		*	9.556E-02	1.531E-01	2.412E-01	2.289E-02	0.396
	400.66		*	2.297E-01	3.694E-01	6.389E-01	7.016E-02	0.359
SR-85	514.00		*	5.896E-02	6.540E-02	1.027E-01	9.179E-03	0.574
Y-88	898.04		*	5.341E-02	7.038E-02	1.251E-01	1.099E-02	0.427
	1836.06		*	-1.849E-02	5.295E-02	7.812E-02	6.514E-03	-0.237
Y-91	1204.77		*	-2.552E+01	4.059E+01	6.089E+01	5.025E+00	-0.419
NB-94	702.65		*	-6.218E-03	4.509E-02	7.491E-02	6.426E-03	-0.083
	871.09		*	7.472E-03	4.975E-02	8.390E-02	7.363E-03	0.089
NB-95	765.81		*	4.116E-02	7.002E-02	1.231E-01	1.075E-02	0.334
NB-95M	235.69		*	-5.966E-02	1.877E-01	2.588E-01	2.647E-02	-0.230
ZR-95	724.19		*	8.203E-02	1.674E-01	2.601E-01	2.436E-02	0.315
	756.73		*	4.158E-03	1.184E-01	1.991E-01	1.913E-02	0.021
MO-99	140.51		*	-2.642E-05	1.184E-01	Half-Life	too short	
	181.07		*	-2.097E-06	1.184E-01	Half-Life	too short	
	366.42		*	-2.171E-04	1.184E-01	Half-Life	too short	
	739.50		*	-6.820E-05	1.184E-01	Half-Life	too short	
	777.92		*	-2.097E-04	1.184E-01	Half-Life	too short	
TC-99M	140.51		*	-3.621E+18	1.184E-01	Half-Life	too short	
RU-103	497.08		*	1.994E-02	6.732E-02	1.127E-01	1.595E-02	0.177
	610.33	+	*	1.924E+01	4.347E+00	4.904E+00	8.049E-01	3.924
RH-106	621.93		*	-4.023E-01	4.943E-01	7.219E-01	9.601E-02	-0.557
	1050.41		*	2.439E+00	3.821E+00	6.722E+00	5.785E-01	0.363
RU-106	621.93		*	-4.023E-01	4.926E-01	7.219E-01	6.271E-02	-0.557
	1050.41		*	2.439E+00	3.821E+00	6.722E+00	5.785E-01	0.363
AG-108M	433.94		*	-3.960E-02	3.694E-02	5.441E-02	4.877E-03	-0.728
	614.28		*	-1.730E-02	5.452E-02	7.277E-02	6.555E-03	-0.238
	722.91		*	1.694E-02	5.974E-02	9.087E-02	8.101E-03	0.186
AG-110M	657.76		*	1.588E-02	6.398E-02	9.239E-02	8.053E-03	0.172
	677.62		*	-1.313E-01	4.298E-01	6.598E-01	5.767E-02	-0.199
	706.68		*	1.098E-01	2.938E-01	5.123E-01	4.528E-02	0.214
	763.94		*	-2.272E-01	2.640E-01	4.060E-01	3.640E-02	-0.560
	884.68		*	-1.986E-02	7.744E-02	1.245E-01	1.124E-02	-0.160
	937.49		*	-1.577E-01	1.818E-01	2.689E-01	2.436E-02	-0.587
	1384.29		*	1.028E-01	2.446E-01	4.330E-01	3.817E-02	0.237
	1505.03		*	-5.442E-01	5.085E-01	6.970E-01	6.027E-02	-0.781
SN-113	391.69		*	2.859E-03	5.939E-02	9.905E-02	8.606E-03	0.029
CD-115	260.90		*	-3.686E-04	5.939E-02	Half-Life	too short	
	492.35		*	4.138E-04	5.939E-02	Half-Life	too short	
	527.90		*	-1.061E-04	5.939E-02	Half-Life	too short	
SN-117M	156.02		*	-2.622E+00	3.983E+00	6.263E+00	5.766E-01	-0.419
	158.56		*	-1.955E-02	8.997E-02	1.449E-01	1.303E-02	-0.135
TE-123M	159.00		*	-8.352E-03	3.378E-02	5.430E-02	4.887E-03	-0.154
SB-124	602.73		*	1.183E-02	6.821E-02	9.830E-02	8.634E-03	0.120
	645.85		*	-2.998E-01	7.799E-01	1.195E+00	1.080E-01	-0.251

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-125		722.78		1.509E-01	6.597E-01	9.960E-01	8.801E-02	0.152
		1690.97	*	-4.702E-02	1.190E-01	1.753E-01	1.564E-02	-0.268
		427.87	*	-1.582E-01	1.180E-01	1.694E-01	1.494E-02	-0.934
	+	463.37		8.452E-01	5.783E-01	7.917E-01	7.485E-02	1.068
		600.60		-1.428E-01	2.654E-01	4.043E-01	3.807E-02	-0.353
TE-125M		635.95		-7.022E-02	4.027E-01	6.340E-01	5.900E-02	-0.111
		109.28	*	8.186E+00	1.187E+01	2.027E+01	2.521E+00	0.404
	I-126	388.63		1.856E-01	3.183E-01	5.520E-01	4.671E-02	0.336
SB-126		666.33	*	6.135E-01	5.460E-01	8.791E-01	7.422E-02	0.698
		753.82		1.249E+00	4.029E+00	6.948E+00	6.053E-01	0.180
		414.70		1.778E-02	1.564E-01	2.610E-01	2.238E-02	0.068
		666.50		1.636E-01	1.965E-01	3.052E-01	2.577E-02	0.536
		695.00		2.552E-02	1.751E-01	2.989E-01	2.557E-02	0.085
SB-127		697.00		1.263E-01	5.974E-01	1.026E+00	8.777E-02	0.123
		720.70	*	-8.770E-02	3.410E-01	5.265E-01	4.545E-02	-0.167
		856.80		-1.139E+00	1.121E+00	1.650E+00	1.450E-01	-0.690
		252.40		1.408E+01	2.162E+01	3.453E+01	1.462E+01	0.408
		473.00		2.566E+00	9.483E+00	1.587E+01	2.388E+00	0.162
I-131		685.70	*	-1.045E+00	6.552E+00	1.024E+01	1.401E+00	-0.102
		783.70		1.931E+01	1.968E+01	3.541E+01	5.187E+00	0.545
		80.19		5.134E-01	9.300E+00	1.127E+01	1.109E+00	0.046
		284.31		4.539E+00	3.461E+00	6.270E+00	6.056E-01	0.724
		364.49	*	3.776E-02	2.996E-01	5.044E-01	4.687E-02	0.075
TE-132		636.99		-5.917E-01	4.349E+00	6.876E+00	6.296E-01	-0.086
		49.72		-9.625E+00	2.045E+01	3.065E+01	4.365E+00	-0.314
		111.76		-1.614E+02	1.845E+02	2.865E+02	4.289E+01	-0.563
		116.30		-6.475E+01	1.505E+02	2.434E+02	3.697E+01	-0.266
		228.16	*	3.951E-01	4.610E+00	7.406E+00	1.307E+00	0.053
BA-133		81.00		4.133E-02	9.917E-02	1.236E-01	1.998E-02	0.334
	+	276.40		8.860E-01	6.244E-01	8.064E-01	1.166E-01	1.099
		302.85		-8.097E-02	1.700E-01	2.775E-01	3.729E-02	-0.292
		356.01	*	3.117E-03	6.322E-02	9.350E-02	1.226E-02	0.033
		383.85		-1.664E-01	3.790E-01	6.078E-01	7.515E-02	-0.274
I-133		529.87	*	-1.674E+00	3.790E-01	Half-Life	too short	
		875.33		-5.719E+01	3.790E-01	Half-Life	too short	
		1298.22		5.990E+01	3.790E-01	Half-Life	too short	
CS-134		563.25		4.597E-01	5.232E-01	9.149E-01	8.222E-02	0.502
		569.33		-1.554E-01	3.097E-01	4.775E-01	4.301E-02	-0.326
		604.72		2.514E-02	5.623E-02	8.372E-02	7.362E-03	0.300
		795.86	*	3.630E-02	7.321E-02	1.271E-01	1.123E-02	0.286
		801.95		-3.693E-01	6.229E-01	9.755E-01	8.611E-02	-0.379
CS-135		1365.19		2.925E-01	1.579E+00	2.726E+00	2.444E-01	0.107
		268.22	*	1.117E-01	2.280E-01	3.360E-01	3.506E-02	0.333
	I-135	546.56		-1.211E+18	2.280E-01	Half-Life	too short	
		836.80		4.682E+18	2.280E-01	Half-Life	too short	
		1038.76		7.053E+17	2.280E-01	Half-Life	too short	
I-135		1131.51		2.670E+17	2.280E-01	Half-Life	too short	
		1260.41	*	-1.450E+17	2.280E-01	Half-Life	too short	
		1457.56		6.361E+19	2.280E-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
	1678.03			-1.158E+18	2.280E-01	Half-Life	too short	
	1791.20			5.513E+17	2.280E-01	Half-Life	too short	
CS-136	153.25			2.207E+00	1.512E+00	2.623E+00	2.878E-01	0.841
	176.60			3.238E-01	8.940E-01	1.479E+00	1.386E-01	0.219
	273.65			1.486E-02	1.344E+00	1.476E+00	1.457E-01	0.010
	340.55			3.711E-01	3.158E-01	5.103E-01	4.754E-02	0.727
	818.51			-7.434E-02	1.576E-01	2.481E-01	2.185E-02	-0.300
	1048.07	*		5.591E-02	2.529E-01	4.236E-01	3.805E-02	0.132
	1235.36			3.772E-01	1.457E+00	2.406E+00	2.781E-01	0.157
CE-139	165.86	*		6.696E-03	3.647E-02	5.998E-02	5.001E-03	0.112
BA-140	162.66			1.055E+00	1.399E+00	2.369E+00	2.182E-01	0.445
	304.85			-6.128E-01	2.764E+00	4.024E+00	1.184E+00	-0.152
	423.72			2.658E+00	4.019E+00	6.827E+00	2.246E+00	0.389
	537.26	*		3.807E-01	5.739E-01	9.673E-01	3.289E-01	0.394
LA-140	328.76			6.208E-01	5.742E-01	1.024E+00	9.767E-02	0.606
	487.02			-3.015E-02	2.910E-01	4.720E-01	4.441E-02	-0.064
	815.77			6.290E-01	6.979E-01	1.269E+00	1.242E-01	0.495
	1596.21	*		-1.171E-01	2.060E-01	3.044E-01	2.627E-02	-0.385
CE-141	145.44	*		-9.439E-03	8.185E-02	1.333E-01	1.360E-02	-0.071
CE-143	57.36			-4.383E-03	8.185E-02	Half-Life	too short	
	293.27	*		1.718E-02	8.185E-02	Half-Life	too short	
	664.57			1.246E-01	8.185E-02	Half-Life	too short	
	721.93			1.596E-02	8.185E-02	Half-Life	too short	
CE-144	80.12			7.426E-02	2.732E+00	3.303E+00	3.217E-01	0.022
	133.52	*		1.459E-01	2.464E-01	3.766E-01	6.291E-02	0.388
PM-144	476.78			1.611E-02	9.468E-02	1.574E-01	1.510E-02	0.102
	618.01			7.412E-03	4.907E-02	8.014E-02	7.173E-03	0.092
	696.49	*		-2.345E-03	5.119E-02	8.593E-02	7.358E-03	-0.027
PR-144	696.51	*		-1.379E-01	3.849E+00	6.467E+00	5.534E-01	-0.021
	1489.16			-3.564E+00	1.724E+01	2.739E+01	2.368E+00	-0.130
PM-146	453.88	*		-2.573E-03	6.006E-02	9.846E-02	1.056E-02	-0.026
	633.25			-1.445E+00	2.280E+00	3.305E+00	1.262E+00	-0.437
	735.93			9.741E-02	2.044E-01	3.567E-01	1.000E-01	0.273
	747.24			3.194E-02	1.490E-01	2.548E-01	3.727E-02	0.125
ND-147	91.11	+		1.665E+00	5.170E-01	7.861E-01	8.283E-02	2.118
	319.41			9.176E-01	6.725E+00	1.142E+01	1.042E+00	0.080
	531.02	*		4.286E-01	1.175E+00	1.980E+00	2.997E-01	0.217
PM-149	285.90	*		4.188E-04	1.175E+00	Half-Life	too short	
EU-152	121.78			-4.477E-02	8.067E-02	1.292E-01	1.636E-02	-0.347
	244.70			-2.279E-01	4.487E-01	6.029E-01	5.465E-02	-0.378
	344.28	*		-2.114E-02	1.343E-01	2.060E-01	1.948E-02	-0.103
	778.90			-4.425E-01	3.655E-01	5.225E-01	4.574E-02	-0.847
	964.08			6.388E-01	4.904E-01	8.221E-01	7.184E-02	0.777
	1085.87			6.212E-01	6.219E-01	1.124E+00	9.568E-02	0.552
	1112.07			1.710E-01	4.947E-01	8.355E-01	7.037E-02	0.205
	1408.01			2.246E-01	2.945E-01	5.402E-01	4.647E-02	0.416
GD-153	69.67			1.616E-01	1.278E+00	1.959E+00	1.924E-01	0.082
	97.43	*		-4.953E-02	9.222E-02	1.332E-01	1.362E-02	-0.372
	103.18			-1.979E-01	1.165E-01	1.744E-01	1.837E-02	-1.135

## ----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154		123.07		2.616E-02	5.624E-02	9.502E-02	1.311E-02	0.275
		723.31		1.683E-02	2.656E-01	3.923E-01	3.732E-02	0.043
		873.19		-2.205E-02	4.174E-01	6.875E-01	8.255E-02	-0.032
		996.26		-3.713E-01	5.279E-01	7.797E-01	1.365E-01	-0.476
		1004.73		-3.234E-03	3.232E-01	5.291E-01	6.187E-02	-0.006
EU-155		1274.44	*	1.038E-01	1.902E-01	3.275E-01	3.676E-02	0.317
	+	86.55		5.003E-01	1.149E-01	1.862E-01	1.831E-02	2.686
		105.31	*	1.152E-01	1.140E-01	1.973E-01	2.119E-02	0.584
TB-160	+	86.79		1.419E+00	3.254E-01	5.297E-01	5.167E-02	2.678
		197.04		-1.984E-02	8.132E-01	1.284E+00	1.115E-01	-0.015
		215.65		1.040E+00	9.735E-01	1.658E+00	1.469E-01	0.627
	+	298.57		3.475E-01	2.033E-01	2.811E-01	2.580E-02	1.236
		879.36	*	1.650E-01	2.315E-01	4.118E-01	3.610E-02	0.401
		962.29		8.411E-01	8.793E-01	1.439E+00	1.258E-01	0.584
		966.15		1.254E+00	4.615E-01	8.328E-01	7.277E-02	1.506
		1177.93		5.222E-02	6.186E-01	1.011E+00	8.268E-02	0.052
		1271.85		6.169E-02	1.182E+00	1.913E+00	1.609E-01	0.032
HO-166M		80.57		4.250E-01	2.597E-01	3.552E-01	3.459E-02	1.197
		184.41		3.598E-02	5.210E-02	8.033E-02	6.867E-03	0.448
		280.46		-9.417E-02	1.144E-01	1.581E-01	1.451E-02	-0.596
		410.95		1.650E-01	3.618E-01	6.176E-01	5.281E-02	0.267
		711.68	*	-5.229E-02	8.779E-02	1.390E-01	1.196E-02	-0.376
		752.31		-6.060E-02	4.188E-01	6.923E-01	6.030E-02	-0.088
		810.29		-9.020E-02	8.557E-02	1.246E-01	1.095E-02	-0.724
		67.75		1.892E-02	8.016E-02	1.237E-01	1.219E-02	0.153
TA-182		100.11		2.268E-01	1.840E-01	3.221E-01	3.339E-02	0.704
		152.43		-1.030E-02	4.328E-01	7.067E-01	6.718E-02	-0.015
		222.11		2.073E-01	4.557E-01	7.500E-01	6.684E-02	0.276
	+	1121.30		1.127E+00	4.285E-01	6.059E-01	5.082E-02	1.861
		1189.05		-3.646E-01	4.447E-01	6.322E-01	5.191E-02	-0.577
		1221.41	*	-3.193E-02	3.359E-01	5.360E-01	4.446E-02	-0.060
		1231.02		-5.027E-01	8.593E-01	1.297E+00	1.078E-01	-0.388
IR-192	+	295.96		1.295E+00	2.534E-01	4.208E-01	3.889E-02	3.078
		308.46		-2.686E-02	1.406E-01	2.170E-01	1.996E-02	-0.124
		316.51	*	2.432E-02	4.651E-02	8.092E-02	7.404E-03	0.301
		468.07		-1.016E-01	1.216E-01	1.571E-01	1.484E-02	-0.647
BI-207		72.81		9.691E-02	1.243E-01	2.154E-01	2.106E-02	0.450
	+	74.97		8.343E-01	1.387E-01	2.064E-01	2.014E-02	4.043
		569.70		-3.147E-03	4.528E-02	7.280E-02	6.473E-03	-0.043
		1063.66	*	-6.242E-02	8.726E-02	1.299E-01	1.114E-02	-0.480
PB-211		1770.23		2.662E-03	7.044E-01	9.889E-01	8.353E-02	0.003
		404.85	*	-1.184E+00	1.147E+00	1.496E+00	7.235E-01	-0.792
		427.09		-1.087E+00	2.017E+00	3.068E+00	1.419E+00	-0.354
BI-212		832.01		-1.731E+00	1.947E+00	2.602E+00	1.350E+00	-0.665
	+	727.33	*	3.370E+00	1.422E+00	1.914E+00	2.389E-01	1.760
		785.37		8.949E-01	4.814E+00	8.152E+00	7.143E-01	0.110
RN-219		1620.50		-2.644E-01	3.756E+00	6.110E+00	5.264E-01	-0.043
	+	271.23		8.503E-01	4.702E-01	5.624E-01	6.028E-02	1.512
		401.81	*	2.464E-01	5.606E-01	9.579E-01	1.418E-01	0.257



## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-223		81.07		-2.944E-02	2.342E-01	2.793E-01	2.720E-02	-0.105
		83.79		1.362E-01	1.219E-01	1.920E-01	1.871E-02	0.709
	+	94.87		7.018E-01	6.250E-01	7.773E-01	7.843E-02	0.903
		144.24		1.222E-01	8.117E-01	1.286E+00	1.417E-01	0.095
		154.21		5.087E-01	4.697E-01	8.055E-01	8.155E-02	0.631
	+	269.46		6.607E-01	3.637E-01	4.325E-01	4.033E-02	1.528
AC-227		323.87	*	-7.137E-01	8.773E-01	1.329E+00	2.336E-01	-0.537
	+	338.28		6.255E+00	2.640E+00	3.204E+00	3.958E-01	1.952
		79.69		-1.446E-01	1.139E+00	1.566E+00	2.791E-01	-0.092
		235.96		-1.588E-02	2.113E-01	2.978E-01	3.178E-02	-0.053
		256.23	*	-2.720E-01	3.569E-01	5.345E-01	6.634E-02	-0.509
	+	299.98		2.533E+00	1.500E+00	2.144E+00	2.806E-01	1.181
TH-227		304.50		-1.384E+00	2.292E+00	3.205E+00	5.391E-01	-0.432
		334.37		1.394E+00	2.444E+00	3.791E+00	5.998E-01	0.368
		79.80		-1.949E-01	1.504E+00	2.067E+00	4.598E-01	-0.094
		235.96		-1.588E-02	2.113E-01	2.978E-01	3.009E-02	-0.053
		256.23	*	-2.720E-01	3.573E-01	5.345E-01	7.444E-02	-0.509
	+	299.98		2.533E+00	1.500E+00	2.144E+00	2.806E-01	1.181
TH-229		304.50		-1.384E+00	2.292E+00	3.205E+00	5.391E-01	-0.432
		334.37		1.394E+00	2.444E+00	3.791E+00	5.998E-01	0.368
		85.43		4.633E-01	1.884E-01	3.313E-01	3.230E-02	1.398
	+	88.47		6.342E-01	1.455E-01	2.370E-01	2.318E-02	2.676
		193.51	*	-6.044E-01	6.972E-01	1.067E+00	9.224E-02	-0.567
		210.85		2.015E+00	1.128E+00	1.969E+00	1.736E-01	1.023
PA-231		283.69	*	6.129E-01	1.793E+00	3.096E+00	4.621E-01	0.198
	+	301.36		1.627E+00	9.616E-01	1.342E+00	1.684E-01	1.213
TH-231		81.07		-2.944E-02	2.342E-01	2.793E-01	2.720E-02	-0.105
		83.79		1.362E-01	1.219E-01	1.920E-01	1.871E-02	0.709
	+	94.87		7.018E-01	6.250E-01	7.773E-01	7.843E-02	0.903
		144.24		1.222E-01	8.117E-01	1.286E+00	1.417E-01	0.095
		154.21		5.087E-01	4.697E-01	8.055E-01	8.155E-02	0.631
	+	269.46		6.607E-01	3.637E-01	4.325E-01	4.033E-02	1.528
PA-233		323.87	*	-7.137E-01	8.773E-01	1.329E+00	2.336E-01	-0.537
	+	338.28		6.255E+00	2.640E+00	3.204E+00	3.958E-01	1.952
	+	300.13		1.146E+00	6.843E-01	9.674E-01	1.466E-01	1.185
		311.90	*	5.423E-02	8.110E-02	1.423E-01	1.335E-02	0.381
		340.48		1.290E+00	9.783E-01	1.528E+00	3.699E-01	0.844
	+	94.67		2.543E-01	2.276E-01	3.033E-01	4.082E-02	0.839
PA-234		98.44		1.586E-01	1.323E-01	1.613E-01	9.042E-02	0.983
		111.00		-1.278E-01	2.057E-01	3.302E-01	4.585E-02	-0.387
		131.20		2.550E-03	1.313E-01	1.938E-01	2.152E-02	0.013
		569.50		-1.154E-01	4.117E-01	6.485E-01	5.766E-02	-0.178
		733.00		-1.137E-01	5.889E-01	8.351E-01	1.855E-01	-0.136
		880.51		7.151E-02	4.450E-01	7.496E-01	6.571E-02	0.095
		883.24		6.845E-02	4.519E-01	7.567E-01	5.088E-01	0.090
		926.50		-7.739E-02	2.509E-01	3.966E-01	1.004E-01	-0.195
		946.00	*	-3.967E-01	4.251E-01	6.001E-01	1.130E-01	-0.661
		949.00		5.939E-01	6.495E-01	1.179E+00	1.032E-01	0.504
PA-234M		766.42		1.512E+01	1.946E+01	3.204E+01	1.626E+01	0.472

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	1001.03	*		4.765E+00	6.929E+00	1.222E+01	1.227E+00	0.390
	99.53			2.661E-01	1.643E-01	2.906E-01	3.003E-02	0.916
	103.37			-2.037E-01	1.052E-01	1.546E-01	1.630E-02	-1.318
	106.12			9.431E-02	9.439E-02	1.630E-01	1.745E-02	0.578
	117.23	*		-4.605E-01	4.380E-01	6.804E-01	7.750E-02	-0.677
AM-241	228.18			2.437E-02	2.843E-01	4.567E-01	4.092E-02	0.053
	277.60	+		4.375E-01	3.044E-01	4.173E-01	3.830E-02	1.049
CM-247	59.54	*		1.080E-01	7.607E-02	1.224E-01	1.300E-02	0.882
	278.00	+		1.858E+00	1.293E+00	1.738E+00	1.595E-01	1.069
CF-249	287.50			-1.940E-01	1.511E+00	2.537E+00	2.331E-01	-0.076
	402.40	*		3.526E-02	5.097E-02	8.868E-02	7.532E-03	0.398
	252.80			5.116E-01	1.285E+00	2.094E+00	1.907E-01	0.244
CF-251	333.37			6.422E-02	2.546E-01	3.855E-01	3.486E-02	0.167
	388.16	*		1.478E-02	5.315E-02	9.018E-02	7.638E-03	0.164
	177.52	*		5.185E-02	1.636E-01	2.698E-01	2.285E-02	0.192
	227.38			1.378E-01	4.630E-01	7.535E-01	6.746E-02	0.183
	285.41			1.816E+00	2.701E+00	4.752E+00	4.365E-01	0.382

## VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     *
*               GEL Laboratories LLC                                     *
*               2040 Savage Road                                         *
*               Charleston, SC 29414                                     *
*****
*
*               DETECTOR DATA
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248515003
* Acquisition date   : 19-MAR-2010 20:40:59 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 02:00:09.71 Half life ratio : 8.000
*****
*
*               SAMPLE DATA
*
* Sample date       : 25-FEB-2010 12:00:00 Nuclide Library : SOLID
* Sample ID         : G248515003 Analyst initials: MXR1
* Batch Number      : 961099 Sample Quantity : 1.0189E+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	2.692E+01	3.210E+00	6.643E-01	0.000E+00
CD-109	4.255E+00	9.563E-01	1.083E+00	0.000E+00
SN-126	4.114E-01	9.246E-02	1.046E-01	0.000E+00
BA-137M	5.492E-01	1.258E-01	9.338E-02	0.000E+00
CS-137	5.801E-01	1.330E-01	9.865E-02	0.000E+00
HG-203	1.081E-01	7.375E-02	8.235E-02	0.000E+00
TL-208	5.493E-01	1.397E-01	8.020E-02	0.000E+00
PB-210	2.503E+00	1.102E+00	9.075E-01	0.000E+00
BI-211	5.012E+00	7.820E-01	4.570E-01	0.000E+00
PB-212	1.909E+00	2.388E-01	1.096E-01	0.000E+00
BI-214	1.640E+00	2.987E-01	1.682E-01	0.000E+00
PB-214	1.819E+00	3.004E-01	1.663E-01	0.000E+00
RA-224	6.037E+00	1.896E+00	1.176E+00	0.000E+00
RA-226	1.640E+00	2.987E-01	1.682E-01	0.000E+00
AC-228	1.658E+00	5.367E-01	3.669E-01	0.000E+00
RA-228	1.658E+00	5.367E-01	3.669E-01	0.000E+00
TH-228	1.909E+00	2.388E-01	1.096E-01	0.000E+00
TH-232	1.658E+00	5.367E-01	3.669E-01	0.000E+00
TH-234	3.205E+00	1.446E+00	1.172E+00	0.000E+00
U-235	-1.217E-01	2.407E-01	3.744E-01	0.000E+00
NP-237	1.228E+00	3.738E-01	3.110E-01	0.000E+00
U-238	3.205E+00	1.446E+00	1.172E+00	0.000E+00
ANH-511	1.574E-01	9.659E-02	6.246E-02	0.000E+00

## ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L. Act error ) Ided	MDA (pCi/GRAM )	
BE-7	-5.457E-02	4.995E-01	8.243E-01	0.000E+00 NOT IDENT.
NA-22	4.317E-02	6.558E-02	1.158E-01	0.000E+00 NOT IDENT.
NA-24	0.000E+00	2.795E+09	0.000E+00	0.000E+00 SHORT HLIF
SC-46	-9.969E-03	6.030E-02	9.927E-02	0.000E+00 FAIL ABUN

V-48	1.035E-02	1.449E-01	2.432E-01	0.000E+00	NOT IDENT.
CR-51	-1.075E-01	5.582E-01	9.436E-01	0.000E+00	NOT IDENT.
MN-54	7.518E-02	6.362E-02	1.173E-01	0.000E+00	NOT IDENT.
CO-56	-2.552E-02	6.215E-02	1.000E-01	0.000E+00	NOT IDENT.
CO-57	-1.278E-02	2.819E-02	4.641E-02	0.000E+00	NOT IDENT.
CO-58	-7.009E-02	5.990E-02	8.721E-02	0.000E+00	NOT IDENT.
FE-59	-8.875E-02	1.609E-01	2.474E-01	0.000E+00	NOT IDENT.
CO-60	-1.240E-02	6.497E-02	1.051E-01	0.000E+00	NOT IDENT.
ZN-65	-1.191E-01	1.794E-01	2.283E-01	0.000E+00	NOT IDENT.
SE-75	2.370E-02	6.388E-02	9.474E-02	0.000E+00	NOT IDENT.
SR-85	5.896E-02	6.410E-02	1.023E-01	0.000E+00	NOT IDENT.
Y-88	-1.849E-02	5.189E-02	7.743E-02	0.000E+00	NOT IDENT.
Y-91	-2.552E+01	3.978E+01	6.043E+01	0.000E+00	NOT IDENT.
NB-94	-6.218E-03	4.418E-02	7.449E-02	0.000E+00	NOT IDENT.
NB-95	4.116E-02	6.862E-02	1.224E-01	0.000E+00	NOT IDENT.
NB-95M	-5.966E-02	1.839E-01	2.584E-01	0.000E+00	NOT IDENT.
ZR-95	4.158E-03	1.161E-01	1.979E-01	0.000E+00	NOT IDENT.
MO-99	0.000E+00	1.095E+02	0.000E+00	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	2.189E+25	0.000E+00	0.000E+00	SHORT HLIF
RU-103	1.994E-02	6.597E-02	1.123E-01	0.000E+00	FAIL ABUN
RH-106	-4.023E-01	4.844E-01	7.182E-01	0.000E+00	NOT IDENT.
RU-106	-4.023E-01	4.828E-01	7.182E-01	0.000E+00	NOT IDENT.
AG-108M	-3.960E-02	3.620E-02	5.420E-02	0.000E+00	NOT IDENT.
AG-110M	1.588E-02	6.270E-02	9.190E-02	0.000E+00	NOT IDENT.
SN-113	2.859E-03	5.820E-02	9.870E-02	0.000E+00	NOT IDENT.
CD-115	0.000E+00	1.601E+02	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-1.955E-02	8.817E-02	1.449E-01	0.000E+00	NOT IDENT.
TE-123M	-8.352E-03	3.310E-02	5.428E-02	0.000E+00	NOT IDENT.
SB-124	-4.702E-02	1.166E-01	1.738E-01	0.000E+00	NOT IDENT.
SB-125	-1.582E-01	1.156E-01	1.688E-01	0.000E+00	FAIL ABUN
TE-125M	8.186E+00	1.163E+01	2.029E+01	0.000E+00	NOT IDENT.
I-126	6.135E-01	5.351E-01	8.744E-01	0.000E+00	NOT IDENT.
SB-126	-8.770E-02	3.342E-01	5.235E-01	0.000E+00	NOT IDENT.
SB-127	-1.045E+00	6.421E+00	1.019E+01	0.000E+00	NOT IDENT.
I-131	3.776E-02	2.936E-01	5.028E-01	0.000E+00	NOT IDENT.
TE-132	3.951E-01	4.518E+00	7.394E+00	0.000E+00	NOT IDENT.
BA-133	3.117E-03	6.196E-02	9.321E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	2.699E+06	0.000E+00	0.000E+00	SHORT HLIF
CS-134	3.630E-02	7.175E-02	1.263E-01	0.000E+00	NOT IDENT.
CS-135	1.117E-01	2.235E-01	3.352E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	8.700E+23	0.000E+00	0.000E+00	SHORT HLIF
CS-136	5.591E-02	2.478E-01	4.207E-01	0.000E+00	NOT IDENT.
CE-139	6.696E-03	3.574E-02	5.995E-02	0.000E+00	NOT IDENT.
BA-140	3.807E-01	5.624E-01	9.629E-01	0.000E+00	NOT IDENT.
LA-140	-1.171E-01	2.019E-01	3.018E-01	0.000E+00	NOT IDENT.
CE-141	-9.439E-03	8.021E-02	1.333E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	8.436E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	1.459E-01	2.415E-01	3.767E-01	0.000E+00	NOT IDENT.
PM-144	-2.345E-03	5.016E-02	8.545E-02	0.000E+00	NOT IDENT.
PR-144	-1.379E-01	3.772E+00	6.432E+00	0.000E+00	NOT IDENT.
PM-146	-2.573E-03	5.886E-02	9.806E-02	0.000E+00	NOT IDENT.
ND-147	4.286E-01	1.151E+00	1.971E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	1.091E+03	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-2.114E-02	1.316E-01	2.054E-01	0.000E+00	NOT IDENT.
GD-153	-4.953E-02	9.038E-02	1.334E-01	0.000E+00	NOT IDENT.
EU-154	1.038E-01	1.864E-01	3.250E-01	0.000E+00	NOT IDENT.
EU-155	1.152E-01	1.117E-01	1.975E-01	0.000E+00	FAIL ABUN
TB-160	1.650E-01	2.269E-01	4.092E-01	0.000E+00	FAIL ABUN
HO-166M	-5.229E-02	8.603E-02	1.382E-01	0.000E+00	NOT IDENT.
TA-182	-3.193E-02	3.292E-01	5.320E-01	0.000E+00	FAIL ABUN
IR-192	2.432E-02	4.558E-02	8.070E-02	0.000E+00	FAIL ABUN
BI-207	-6.242E-02	8.551E-02	1.290E-01	0.000E+00	FAIL ABUN
PB-211	-1.184E+00	1.124E+00	1.490E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	1.393E+00	1.904E+00	0.000E+00	FAIL ABUN
RN-219	2.464E-01	5.494E-01	9.545E-01	0.000E+00	FAIL ABUN
RA-223	-7.137E-01	8.597E-01	1.325E+00	0.000E+00	FAIL ABUN
AC-227	-2.720E-01	3.497E-01	5.334E-01	0.000E+00	FAIL ABUN
TH-227	-2.720E-01	3.501E-01	5.334E-01	0.000E+00	FAIL ABUN
TH-229	-6.044E-01	6.833E-01	1.066E+00	0.000E+00	FAIL ABUN
PA-231	6.129E-01	1.757E+00	3.089E+00	0.000E+00	FAIL ABUN
TH-231	-7.137E-01	8.597E-01	1.325E+00	0.000E+00	FAIL ABUN
PA-233	5.423E-02	7.948E-02	1.419E-01	0.000E+00	FAIL ABUN
PA-234	-3.967E-01	4.166E-01	5.962E-01	0.000E+00	FAIL ABUN
PA-234M	4.765E+00	6.790E+00	1.214E+01	0.000E+00	NOT IDENT.
NP-239	-4.605E-01	4.293E-01	6.809E-01	0.000E+00	FAIL ABUN
AM-241	1.080E-01	7.454E-02	1.228E-01	0.000E+00	NOT IDENT.
CM-247	3.526E-02	4.995E-02	8.836E-02	0.000E+00	FAIL ABUN
CF-249	1.478E-02	5.209E-02	8.986E-02	0.000E+00	NOT IDENT.

CF-251	5.185E-02	1.603E-01	2.696E-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]G248515003.CNF;1
Sample date        : 25-FEB-2010 12:00:00 Acquisition date : 19-MAR-2010 20:40:59
Sample ID          : G248515003 Sample quantity : 1.01890E+02 GRAM
Detector name      : GAM17 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:09.71 0.1%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 961099 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	1460.82	606	10.66*	7.780E-01	2.692E+01	2.692E+01	12.17
CD-109	88.03	276	3.70*	6.674E+00	4.114E+00	4.255E+00	22.93
SN-126	64.28	218	9.60	6.778E+00	1.235E+00	1.235E+00	44.87
	86.94	276	8.90	6.674E+00	1.710E+00	1.710E+00	46.50
	87.57	276	37.00*	6.674E+00	4.114E-01	4.114E-01	22.93
BA-137M	661.66	215	89.90*	1.603E+00	5.484E-01	5.492E-01	23.38
CS-137	661.66	215	85.10*	1.603E+00	5.793E-01	5.801E-01	23.39
HG-203	70.83	-----	3.69	6.807E+00	-----	Line Not Found	-----
	72.87	-----	6.19	6.803E+00	-----	Line Not Found	-----
	279.20	61	81.56*	3.564E+00	7.746E-02	1.081E-01	69.61
TL-208	277.37	61	6.60	3.564E+00	9.573E-01	9.573E-01	70.17
	583.19	229	85.00*	1.811E+00	5.493E-01	5.493E-01	25.96
	860.56	-----	12.50	1.246E+00	-----	Line Not Found	-----
PB-210	46.54	182	4.25*	6.327E+00	2.498E+00	2.503E+00	44.93
BI-211	72.87	-----	1.23	6.803E+00	-----	Line Not Found	-----
	351.06	511	12.92*	2.908E+00	5.012E+00	5.012E+00	15.92
PB-212	74.82	549	10.28	6.795E+00	2.894E+00	2.894E+00	19.26
	77.11	736	17.10	6.781E+00	2.337E+00	2.337E+00	14.54
	238.63	908	43.60*	4.020E+00	1.909E+00	1.909E+00	12.77
	300.09	69	3.30	3.341E+00	2.302E+00	2.302E+00	58.79
BI-214	609.32	352	45.49*	1.736E+00	1.640E+00	1.640E+00	18.58
	1120.29	91	14.92	9.763E-01	2.302E+00	2.302E+00	38.59
	1764.49	60	15.30	6.715E-01	2.167E+00	2.167E+00	30.12
PB-214	74.82	549	5.80	6.795E+00	5.129E+00	5.129E+00	18.42
	77.11	736	9.70	6.781E+00	4.120E+00	4.120E+00	16.72
	242.00	268	7.25	3.985E+00	3.414E+00	3.414E+00	32.57
	295.22	277	18.42	3.387E+00	1.637E+00	1.637E+00	20.59
	351.93	511	35.60*	2.908E+00	1.819E+00	1.819E+00	16.85
RA-224	240.99	268	4.10*	3.985E+00	6.037E+00	6.037E+00	32.05
RA-226	609.32	352	45.49*	1.736E+00	1.640E+00	1.640E+00	18.58
	1120.29	91	14.92	9.763E-01	2.302E+00	2.302E+00	38.59
	1764.49	60	15.30	6.715E-01	2.167E+00	2.167E+00	30.12

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
AC-228	338.32	145	11.27	3.011E+00	1.576E+00	1.576E+00	58.10
	911.20	137	25.80*	1.181E+00	1.658E+00	1.658E+00	33.03
	968.97	87	15.80	1.115E+00	1.813E+00	1.813E+00	50.05
RA-228	338.32	145	11.27	3.011E+00	1.576E+00	1.576E+00	58.10
	911.20	137	25.80*	1.181E+00	1.658E+00	1.658E+00	33.03
	968.97	87	15.80	1.115E+00	1.813E+00	1.813E+00	50.05
TH-228	74.82	549	10.28	6.795E+00	2.894E+00	2.894E+00	16.67
	77.11	736	17.10	6.781E+00	2.337E+00	2.337E+00	14.54
	238.63	908	43.60*	4.020E+00	1.909E+00	1.909E+00	12.77
TH-232	300.09	69	3.30	3.341E+00	2.302E+00	2.302E+00	84.22
	338.32	145	11.27	3.011E+00	1.576E+00	1.576E+00	41.35
	911.20	137	25.80*	1.181E+00	1.658E+00	1.658E+00	33.03
TH-234	968.97	87	15.80	1.115E+00	1.813E+00	1.813E+00	50.05
	63.29	218	3.70*	6.778E+00	3.205E+00	3.205E+00	46.04
	92.59	353	4.23	6.592E+00	4.668E+00	4.668E+00	31.26
U-235	89.96	203	3.47	6.638E+00	3.254E+00	3.254E+00	38.51
	93.35	353	5.60	6.592E+00	3.526E+00	3.526E+00	31.99
	143.76	-----	10.96*	5.592E+00	-----	Line Not Found	-----
	163.33	-----	5.08	5.211E+00	-----	Line Not Found	-----
	185.72	196	57.20	4.806E+00	2.631E-01	2.631E-01	35.68
	205.31	-----	5.01	4.493E+00	-----	Line Not Found	-----
NP-237	86.48	276	12.40*	6.674E+00	1.228E+00	1.228E+00	31.07
	95.86	71	2.68	6.561E+00	1.490E+00	1.490E+00	91.82
U-238	63.29	218	3.70*	6.778E+00	3.205E+00	3.205E+00	46.04
	92.59	353	4.23	6.592E+00	4.668E+00	4.668E+00	23.75
ANH-511	511.00	88	100.00*	2.055E+00	1.574E-01	1.574E-01	62.60

Flag: "\*" = Keyline

Total number of lines in spectrum 30  
Number of unidentified lines 2  
Number of lines tentatively identified by NID 28 93.33%

Nuclide Type :

Nuclide	Hliffe	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	2.692E+01	2.692E+01	0.328E+01	12.17	
CD-109	461.40D	1.03	4.114E+00	4.255E+00	0.976E+00	22.93	
SN-126	2.30E+05Y	1.00	4.114E-01	4.114E-01	0.943E-01	22.93	
BA-137M	30.08Y	1.00	5.484E-01	5.492E-01	1.284E-01	23.38	
CS-137	30.08Y	1.00	5.793E-01	5.801E-01	1.357E-01	23.39	
HG-203	46.59D	1.40	7.746E-02	1.081E-01	0.753E-01	69.61	
TL-208	1.41E+10Y	1.00	5.493E-01	5.493E-01	1.426E-01	25.96	
PB-210	22.20Y	1.00	2.498E+00	2.503E+00	1.125E+00	44.93	
BI-211	7.04E+08Y	1.00	5.012E+00	5.012E+00	0.798E+00	15.92	
PB-212	1.41E+10Y	1.00	1.909E+00	1.909E+00	0.244E+00	12.77	
BI-214	1600.00Y	1.00	1.640E+00	1.640E+00	0.305E+00	18.58	
PB-214	1600.00Y	1.00	1.819E+00	1.819E+00	0.307E+00	16.85	
RA-224	1.41E+10Y	1.00	6.037E+00	6.037E+00	1.935E+00	32.05	
RA-226	1600.00Y	1.00	1.640E+00	1.640E+00	0.305E+00	18.58	
AC-228	1.41E+10Y	1.00	1.658E+00	1.658E+00	0.548E+00	33.03	
RA-228	1.41E+10Y	1.00	1.658E+00	1.658E+00	0.548E+00	33.03	
TH-228	1.41E+10Y	1.00	1.909E+00	1.909E+00	0.244E+00	12.77	
TH-232	1.41E+10Y	1.00	1.658E+00	1.658E+00	0.548E+00	33.03	
TH-234	4.47E+09Y	1.00	3.205E+00	3.205E+00	1.476E+00	46.04	
U-235	7.04E+08Y	1.00	2.631E-01	2.631E-01	0.939E-01	35.68	K
NP-237	2.14E+06Y	1.00	1.228E+00	1.228E+00	0.381E+00	31.07	
U-238	4.47E+09Y	1.00	3.205E+00	3.205E+00	1.476E+00	46.04	
ANH-511	1.00E+09Y	1.00	1.574E-01	1.574E-01	0.986E-01	62.60	
Total Activity :			6.870E+01	6.887E+01			

Grand Total Activity : 6.870E+01 6.887E+01

Flags: "K" = Keyline not found "M" = Manually accepted  
"E" = Manually edited "A" = Nuclide specific abn. limit



Unidentified Energy Lines  
Sample ID : G248515003

Page : 4  
Acquisition date : 19-MAR-2010 20:40:59

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	129.41	92	245	1.16	258.50	254	9	1.28E-02	64.6	5.89E+00	
0	270.00	91	139	1.47	539.80	535	11	1.26E-02	54.2	3.65E+00	T
0	463.13	54	79	1.13	926.24	921	10	7.48E-03	67.8	2.26E+00	T
0	727.46	89	55	1.23	1455.19	1450	13	1.24E-02	40.3	1.46E+00	T
0	1630.60	16	4	1.39	3262.87	3258	10	2.19E-03	72.2	7.13E-01	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248515003.CNF;1
* Acquisition date   : 19-MAR-2010 20:40:59   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 02:00:09.71           Half life ratio  : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 25-FEB-2010 12:00:00   Nuclide Library : SOLID
* Sample ID          : G248515003             Analyst initials: MXR1
* Batch Number       : 961099                 Sample Quantity  : 1.01890E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 6-JAN-2010 11:41:36.18MS Isotope      :
* MSD ID             :                          MSD Isotope    :
* LCS ID             : 1032-A                   LCS Isotope     :
*****

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## Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.692E+01	3.275E+00	6.698E-01	5.947E-02	40.194
CD-109	4.255E+00	9.758E-01	1.081E+00	1.055E-01	3.936
SN-126	4.114E-01	9.435E-02	1.044E-01	1.019E-02	3.941
BA-137M	5.492E-01	1.284E-01	9.388E-02	7.908E-03	5.850
CS-137	5.801E-01	1.357E-01	9.917E-02	8.371E-03	5.850
HG-203	1.081E-01	7.525E-02	8.254E-02	7.749E-03	1.310
TL-208	5.493E-01	1.426E-01	8.060E-02	7.614E-03	6.815
PB-210	2.503E+00	1.125E+00	9.040E-01	9.746E-02	2.768
BI-211	5.012E+00	7.980E-01	4.585E-01	4.279E-02	10.932
PB-212	1.909E+00	2.437E-01	1.098E-01	1.112E-02	17.377
BI-214	1.640E+00	3.048E-01	1.690E-01	1.727E-02	9.705
PB-214	1.819E+00	3.065E-01	1.668E-01	1.807E-02	10.904
RA-224	6.037E+00	1.935E+00	1.178E+00	1.066E-01	5.124
RA-226	1.640E+00	3.048E-01	1.690E-01	1.727E-02	9.705
AC-228	1.658E+00	5.477E-01	3.693E-01	4.317E-02	4.490
RA-228	1.658E+00	5.477E-01	3.693E-01	4.317E-02	4.490
TH-228	1.909E+00	2.437E-01	1.098E-01	1.112E-02	17.377
TH-232	1.658E+00	5.477E-01	3.693E-01	4.317E-02	4.490

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-234	3.205E+00	1.476E+00	1.169E+00	2.224E-01	2.742
U-235	2.631E-01	9.388E-02	3.744E-01	6.667E-02	0.703
NP-237	1.228E+00	3.815E-01	3.104E-01	7.179E-02	3.954
U-238	3.205E+00	1.476E+00	1.169E+00	2.224E-01	2.742
ANH-511	1.574E-01	9.856E-02	6.273E-02	5.603E-03	2.510

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-5.457E-02		5.097E-01	8.278E-01	7.875E-02	-0.066
NA-22	4.317E-02		6.692E-02	1.167E-01	9.832E-03	0.370
NA-24	-2.286E+03		1.426E+03	Half-Life too short		
SC-46	-9.969E-03		6.153E-02	9.990E-02	8.746E-03	-0.100
V-48	1.035E-02		1.479E-01	2.449E-01	2.136E-02	0.042
CR-51	-1.075E-01		5.696E-01	9.462E-01	9.030E-02	-0.114
MN-54	7.518E-02		6.492E-02	1.180E-01	1.038E-02	0.637
CO-56	-2.552E-02		6.341E-02	1.006E-01	8.845E-03	-0.254
CO-57	-1.278E-02		2.876E-02	4.639E-02	5.435E-03	-0.276
CO-58	-7.009E-02		6.112E-02	8.774E-02	7.727E-03	-0.799
FE-59	-8.875E-02		1.642E-01	2.492E-01	2.287E-02	-0.356
CO-60	-1.240E-02		6.629E-02	1.059E-01	9.027E-03	-0.117
ZN-65	-1.191E-01		1.831E-01	2.299E-01	1.936E-02	-0.518
SE-75	2.370E-02		6.519E-02	9.494E-02	8.724E-03	0.250
SR-85	5.896E-02		6.540E-02	1.027E-01	9.179E-03	0.574
Y-88	-1.849E-02		5.295E-02	7.812E-02	6.514E-03	-0.237
Y-91	-2.552E+01		4.059E+01	6.089E+01	5.025E+00	-0.419
NB-94	-6.218E-03		4.509E-02	7.491E-02	6.426E-03	-0.083
NB-95	4.116E-02		7.002E-02	1.231E-01	1.075E-02	0.334
NB-95M	-5.966E-02		1.877E-01	2.588E-01	2.647E-02	-0.230
ZR-95	4.158E-03		1.184E-01	1.991E-01	1.913E-02	0.021
MO-99	-6.820E-05		5.585E-05	Half-Life too short		
TC-99M	-3.621E+18		1.117E+19	Half-Life too short		
RU-103	1.994E-02		6.732E-02	1.127E-01	1.595E-02	0.177
RH-106	-4.023E-01		4.943E-01	7.219E-01	9.601E-02	-0.557
RU-106	-4.023E-01		4.926E-01	7.219E-01	6.271E-02	-0.557
AG-108M	-3.960E-02		3.694E-02	5.441E-02	4.877E-03	-0.728
AG-110M	1.588E-02		6.398E-02	9.239E-02	8.053E-03	0.172
SN-113	2.859E-03		5.939E-02	9.905E-02	8.606E-03	0.029
CD-115	-1.061E-04		8.166E-05	Half-Life too short		
SN-117M	-1.955E-02		8.997E-02	1.449E-01	1.303E-02	-0.135
TE-123M	-8.352E-03		3.378E-02	5.430E-02	4.887E-03	-0.154
SB-124	-4.702E-02		1.190E-01	1.753E-01	1.564E-02	-0.268
SB-125	-1.582E-01		1.180E-01	1.694E-01	1.494E-02	-0.934
TE-125M	8.186E+00		1.187E+01	2.027E+01	2.521E+00	0.404
I-126	6.135E-01		5.460E-01	8.791E-01	7.422E-02	0.698
SB-126	-8.770E-02		3.410E-01	5.265E-01	4.545E-02	-0.167
SB-127	-1.045E+00		6.552E+00	1.024E+01	1.401E+00	-0.102

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-131	3.776E-02		2.996E-01	5.044E-01	4.687E-02	0.075
TE-132	3.951E-01		4.610E+00	7.406E+00	1.307E+00	0.053
BA-133	3.117E-03		6.322E-02	9.350E-02	1.226E-02	0.033
I-133	-1.674E+00		1.377E+00	Half-Life too short		
CS-134	3.630E-02		7.321E-02	1.271E-01	1.123E-02	0.286
CS-135	1.117E-01		2.280E-01	3.360E-01	3.506E-02	0.333
I-135	-1.450E+17		4.439E+17	Half-Life too short		
CS-136	5.591E-02		2.529E-01	4.236E-01	3.805E-02	0.132
CE-139	6.696E-03		3.647E-02	5.998E-02	5.001E-03	0.112
BA-140	3.807E-01		5.739E-01	9.673E-01	3.289E-01	0.394
LA-140	-1.171E-01		2.060E-01	3.044E-01	2.627E-02	-0.385
CE-141	-9.439E-03		8.185E-02	1.333E-01	1.360E-02	-0.071
CE-143	1.718E-02		4.304E-03	Half-Life too short		
CE-144	1.459E-01		2.464E-01	3.766E-01	6.291E-02	0.388
PM-144	-2.345E-03		5.119E-02	8.593E-02	7.358E-03	-0.027
PR-144	-1.379E-01		3.849E+00	6.467E+00	5.534E-01	-0.021
PM-146	-2.573E-03		6.006E-02	9.846E-02	1.056E-02	-0.026
ND-147	4.286E-01		1.175E+00	1.980E+00	2.997E-01	0.217
PM-149	4.188E-04		5.566E-04	Half-Life too short		
EU-152	-2.114E-02		1.343E-01	2.060E-01	1.948E-02	-0.103
GD-153	-4.953E-02		9.222E-02	1.332E-01	1.362E-02	-0.372
EU-154	1.038E-01		1.902E-01	3.275E-01	3.676E-02	0.317
EU-155	1.152E-01		1.140E-01	1.973E-01	2.119E-02	0.584
TB-160	1.650E-01		2.315E-01	4.118E-01	3.610E-02	0.401
HO-166M	-5.229E-02		8.779E-02	1.390E-01	1.196E-02	-0.376
TA-182	-3.193E-02		3.359E-01	5.360E-01	4.446E-02	-0.060
IR-192	2.432E-02		4.651E-02	8.092E-02	7.404E-03	0.301
BI-207	-6.242E-02		8.726E-02	1.299E-01	1.114E-02	-0.480
PB-211	-1.184E+00		1.147E+00	1.496E+00	7.235E-01	-0.792
BI-212	3.370E+00	+	1.422E+00	1.914E+00	2.389E-01	1.760
RN-219	2.464E-01		5.606E-01	9.579E-01	1.418E-01	0.257
RA-223	-7.137E-01		8.773E-01	1.329E+00	2.336E-01	-0.537
AC-227	-2.720E-01		3.569E-01	5.345E-01	6.634E-02	-0.509
TH-227	-2.720E-01		3.573E-01	5.345E-01	7.444E-02	-0.509
TH-229	-6.044E-01		6.972E-01	1.067E+00	9.224E-02	-0.567
PA-231	6.129E-01		1.793E+00	3.096E+00	4.621E-01	0.198
TH-231	-7.137E-01		8.773E-01	1.329E+00	2.336E-01	-0.537
PA-233	5.423E-02		8.110E-02	1.423E-01	1.335E-02	0.381
PA-234	-3.967E-01		4.251E-01	6.001E-01	1.130E-01	-0.661
PA-234M	4.765E+00		6.929E+00	1.222E+01	1.227E+00	0.390
NP-239	-4.605E-01		4.380E-01	6.804E-01	7.750E-02	-0.677
AM-241	1.080E-01		7.607E-02	1.224E-01	1.300E-02	0.882
CM-247	3.526E-02		5.097E-02	8.868E-02	7.532E-03	0.398
CF-249	1.478E-02		5.315E-02	9.018E-02	7.638E-03	0.164
CF-251	5.185E-02		1.636E-01	2.698E-01	2.285E-02	0.192

# VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G248515003          *
* Acquisition date   : 19-MAR-2010 20:40:59 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 02:00:09.71 Half life ratio : 8.000      *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 25-FEB-2010 12:00:00 Nuclide Library : SOLID      *
* Sample ID          : G248515003 Analyst initials: MXR1          *
* Batch Number       : 961099 Sample Quantity : 1.0189E+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	2.692E+01	3.210E+00	3.324E-01	1.638E+00
CD-109	4.255E+00	9.563E-01	5.418E-01	4.879E-01
SN-126	4.114E-01	9.246E-02	5.231E-02	4.717E-02
BA-137M	5.492E-01	1.258E-01	4.672E-02	6.421E-02
CS-137	5.801E-01	1.330E-01	4.935E-02	6.785E-02
HG-203	1.081E-01	7.375E-02	4.120E-02	3.763E-02
TL-208	5.493E-01	1.397E-01	4.013E-02	7.129E-02
PB-210	2.503E+00	1.102E+00	4.540E-01	5.623E-01
BI-211	5.012E+00	7.820E-01	2.286E-01	3.990E-01
PB-212	1.909E+00	2.388E-01	5.485E-02	1.218E-01
BI-214	1.640E+00	2.987E-01	8.414E-02	1.524E-01
PB-214	1.819E+00	3.004E-01	8.319E-02	1.533E-01
RA-224	6.037E+00	1.896E+00	5.884E-01	9.674E-01
RA-226	1.640E+00	2.987E-01	8.414E-02	1.524E-01
AC-228	1.658E+00	5.367E-01	1.836E-01	2.738E-01
RA-228	1.658E+00	5.367E-01	1.836E-01	2.738E-01
TH-228	1.909E+00	2.388E-01	5.485E-02	1.218E-01
TH-232	1.658E+00	5.367E-01	1.836E-01	2.738E-01
TH-234	3.205E+00	1.446E+00	5.865E-01	7.378E-01
U-235	-1.217E-01	2.407E-01	1.873E-01	1.228E-01
NP-237	1.228E+00	3.738E-01	1.556E-01	1.907E-01
U-238	3.205E+00	1.446E+00	5.865E-01	7.378E-01
ANH-511	1.574E-01	9.659E-02	3.125E-02	4.928E-02

### ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L Act error	DLC (pCi/GRAM )	TPU
BE-7	-5.457E-02	4.995E-01	4.124E-01	2.548E-01 NOT IDENT.
NA-22	4.317E-02	6.558E-02	5.794E-02	3.346E-02 NOT IDENT.
NA-24	-2.286E+09	2.795E+09	0.000E+00	1.426E+09 SHORT HLIF
SC-46	-9.969E-03	6.030E-02	4.966E-02	3.077E-02 FAIL ABUN

V-48	1.035E-02	1.449E-01	1.217E-01	7.394E-02	NOT IDENT.
CR-51	-1.075E-01	5.582E-01	4.721E-01	2.848E-01	NOT IDENT.
MN-54	7.518E-02	6.362E-02	5.869E-02	3.246E-02	NOT IDENT.
CO-56	-2.552E-02	6.215E-02	5.003E-02	3.171E-02	NOT IDENT.
CO-57	-1.278E-02	2.819E-02	2.322E-02	1.438E-02	NOT IDENT.
CO-58	-7.009E-02	5.990E-02	4.363E-02	3.056E-02	NOT IDENT.
FE-59	-8.875E-02	1.609E-01	1.238E-01	8.211E-02	NOT IDENT.
CO-60	-1.240E-02	6.497E-02	5.258E-02	3.315E-02	NOT IDENT.
ZN-65	-1.191E-01	1.794E-01	1.142E-01	9.154E-02	NOT IDENT.
SE-75	2.370E-02	6.388E-02	4.740E-02	3.259E-02	NOT IDENT.
SR-85	5.896E-02	6.410E-02	5.117E-02	3.270E-02	NOT IDENT.
Y-88	-1.849E-02	5.189E-02	3.874E-02	2.647E-02	NOT IDENT.
Y-91	-2.552E+01	3.978E+01	3.024E+01	2.030E+01	NOT IDENT.
NB-94	-6.218E-03	4.418E-02	3.727E-02	2.254E-02	NOT IDENT.
NB-95	4.116E-02	6.862E-02	6.122E-02	3.501E-02	NOT IDENT.
NB-95M	-5.966E-02	1.839E-01	1.293E-01	9.385E-02	NOT IDENT.
ZR-95	4.158E-03	1.161E-01	9.903E-02	5.921E-02	NOT IDENT.
MO-99	-6.820E+01	1.095E+02	0.000E+00	5.585E+01	SHORT HLIF
TC-99M	-3.621E+24	2.189E+25	0.000E+00	0.000E+00	SHORT HLIF
RU-103	1.994E-02	6.597E-02	5.616E-02	3.366E-02	FAIL ABUN
RH-106	-4.023E-01	4.844E-01	3.593E-01	2.471E-01	NOT IDENT.
RU-106	-4.023E-01	4.828E-01	3.593E-01	2.463E-01	NOT IDENT.
AG-108M	-3.960E-02	3.620E-02	2.712E-02	1.847E-02	NOT IDENT.
AG-110M	1.588E-02	6.270E-02	4.598E-02	3.199E-02	NOT IDENT.
SN-113	2.859E-03	5.820E-02	4.938E-02	2.969E-02	NOT IDENT.
CD-115	-1.061E+02	1.601E+02	0.000E+00	8.166E+01	SHORT HLIF
SN-117M	-1.955E-02	8.817E-02	7.247E-02	4.498E-02	NOT IDENT.
TE-123M	-8.352E-03	3.310E-02	2.715E-02	1.689E-02	NOT IDENT.
SB-124	-4.702E-02	1.166E-01	8.697E-02	5.949E-02	NOT IDENT.
SB-125	-1.582E-01	1.156E-01	8.445E-02	5.900E-02	FAIL ABUN
TE-125M	8.186E+00	1.163E+01	1.015E+01	5.936E+00	NOT IDENT.
I-126	6.135E-01	5.351E-01	4.374E-01	2.730E-01	NOT IDENT.
SB-126	-8.770E-02	3.342E-01	2.619E-01	1.705E-01	NOT IDENT.
SB-127	-1.045E+00	6.421E+00	5.096E+00	3.276E+00	NOT IDENT.
I-131	3.776E-02	2.936E-01	2.515E-01	1.498E-01	NOT IDENT.
TE-132	3.951E-01	4.518E+00	3.699E+00	2.305E+00	NOT IDENT.
BA-133	3.117E-03	6.196E-02	4.663E-02	3.161E-02	FAIL ABUN
I-133	-1.674E+06	2.699E+06	0.000E+00	1.377E+06	SHORT HLIF
CS-134	3.630E-02	7.175E-02	6.320E-02	3.661E-02	NOT IDENT.
CS-135	1.117E-01	2.235E-01	1.677E-01	1.140E-01	NOT IDENT.
I-135	-1.450E+23	8.700E+23	0.000E+00	0.000E+00	SHORT HLIF
CS-136	5.591E-02	2.478E-01	2.105E-01	1.264E-01	NOT IDENT.
CE-139	6.696E-03	3.574E-02	2.999E-02	1.824E-02	NOT IDENT.
BA-140	3.807E-01	5.624E-01	4.817E-01	2.869E-01	NOT IDENT.
LA-140	-1.171E-01	2.019E-01	1.510E-01	1.030E-01	NOT IDENT.
CE-141	-9.439E-03	8.021E-02	6.668E-02	4.092E-02	NOT IDENT.
CE-143	1.718E+04	8.436E+03	0.000E+00	4.304E+03	SHORT HLIF
CE-144	1.459E-01	2.415E-01	1.885E-01	1.232E-01	NOT IDENT.
PM-144	-2.345E-03	5.016E-02	4.275E-02	2.559E-02	NOT IDENT.
PR-144	-1.379E-01	3.772E+00	3.218E+00	1.925E+00	NOT IDENT.
PM-146	-2.573E-03	5.886E-02	4.906E-02	3.003E-02	NOT IDENT.
ND-147	4.286E-01	1.151E+00	9.859E-01	5.874E-01	FAIL ABUN
PM-149	4.188E+02	1.091E+03	0.000E+00	5.566E+02	SHORT HLIF
EU-152	-2.114E-02	1.316E-01	1.027E-01	6.716E-02	NOT IDENT.
GD-153	-4.953E-02	9.038E-02	6.675E-02	4.611E-02	NOT IDENT.
EU-154	1.038E-01	1.864E-01	1.626E-01	9.512E-02	NOT IDENT.
EU-155	1.152E-01	1.117E-01	9.882E-02	5.699E-02	FAIL ABUN
TB-160	1.650E-01	2.269E-01	2.047E-01	1.158E-01	FAIL ABUN
HO-166M	-5.229E-02	8.603E-02	6.915E-02	4.389E-02	NOT IDENT.
TA-182	-3.193E-02	3.292E-01	2.661E-01	1.680E-01	FAIL ABUN
IR-192	2.432E-02	4.558E-02	4.037E-02	2.325E-02	FAIL ABUN
BI-207	-6.242E-02	8.551E-02	6.455E-02	4.363E-02	FAIL ABUN
PB-211	-1.184E+00	1.124E+00	7.456E-01	5.737E-01	NOT IDENT.
BI-212	3.370E+00	1.393E+00	9.524E-01	7.108E-01	FAIL ABUN
RN-219	2.464E-01	5.494E-01	4.775E-01	2.803E-01	FAIL ABUN
RA-223	-7.137E-01	8.597E-01	6.631E-01	4.386E-01	FAIL ABUN
AC-227	-2.720E-01	3.497E-01	2.668E-01	1.784E-01	FAIL ABUN
TH-227	-2.720E-01	3.501E-01	2.668E-01	1.786E-01	FAIL ABUN
TH-229	-6.044E-01	6.833E-01	5.331E-01	3.486E-01	FAIL ABUN
PA-231	6.129E-01	1.757E+00	1.545E+00	8.963E-01	FAIL ABUN
TH-231	-7.137E-01	8.597E-01	6.631E-01	4.386E-01	FAIL ABUN
PA-233	5.423E-02	7.948E-02	7.100E-02	4.055E-02	FAIL ABUN
PA-234	-3.967E-01	4.166E-01	2.983E-01	2.126E-01	FAIL ABUN
PA-234M	4.765E+00	6.790E+00	6.075E+00	3.464E+00	NOT IDENT.
NP-239	-4.605E-01	4.293E-01	3.406E-01	2.190E-01	FAIL ABUN
AM-241	1.080E-01	7.454E-02	6.144E-02	3.803E-02	NOT IDENT.
CM-247	3.526E-02	4.995E-02	4.421E-02	2.548E-02	FAIL ABUN
CF-249	1.478E-02	5.209E-02	4.496E-02	2.658E-02	NOT IDENT.

CF-251	5.185E-02	1.603E-01	1.349E-01	8.179E-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
46.54	199.7638
49.72	202.9132
57.36	0.0000
59.54	221.3736
63.29	292.7469
63.29	292.7469
64.28	293.4617
67.75	299.8876
69.67	305.2266
70.83	314.0281
72.81	295.8428
72.87	295.8834
72.87	295.8834
74.82	297.1769
74.82	297.1769
74.82	297.1769
74.97	297.2765
77.11	298.6747
77.11	298.6747
77.11	298.6747
79.69	273.1975
79.80	273.2605
80.12	279.7845
80.19	279.8254
80.57	187.6064
81.00	247.6479
81.07	280.3456
81.07	280.3456
83.79	270.9864
83.79	270.9864
85.43	225.2060
86.48	225.6852
86.55	225.7165
86.79	225.8241
86.94	225.8929
87.57	226.1782
88.03	226.3859
88.47	226.5836
89.96	227.2492
91.11	227.7597
92.59	228.4128
92.59	228.4128
93.35	228.7457
94.67	229.3200
94.87	229.4063
94.87	229.4063
95.86	213.0182
97.43	213.6433
98.44	170.3889
99.53	171.2008
100.11	175.1489
103.18	234.8285
103.37	243.4329
105.31	193.8959
106.12	210.3529
109.28	206.7231
111.00	228.4477
111.76	226.8197
116.30	195.6166
117.23	204.6445
121.12	192.2716
121.78	190.5199
122.06	191.5817
123.07	164.4761
131.20	181.4270
133.52	155.2002
136.00	196.7114



136.47	196.8477
140.51	0.0000
140.51	0.0000
143.76	175.7063
144.24	157.6361
144.24	157.6361
145.44	172.0735
152.43	183.9661
153.25	156.5455
154.21	165.9699
154.21	165.9699
156.02	199.2376
158.56	160.7544
159.00	161.8791
162.66	149.1885
163.33	153.4651
165.86	160.2083
176.60	160.2708
177.52	169.9505
181.07	0.0000
184.41	189.9940
185.72	163.1041
193.51	199.0146
197.04	180.3748
205.31	155.8848
210.85	133.7974
215.65	121.2569
222.11	132.0701
227.38	145.0638
228.16	149.6459
228.18	149.6486
235.69	155.2837
235.96	155.3258
235.96	155.3258
238.63	126.3953
238.63	126.3953
240.99	126.6881
242.00	126.8135
244.70	129.4166
252.40	114.3616
252.80	124.7007
256.23	153.7973
256.23	153.7973
260.90	0.0000
264.66	100.6327
268.22	106.1822
269.46	108.0421
269.46	108.0421
271.23	115.1959
273.65	111.9473
276.40	110.4673
277.37	102.6642
277.60	102.6856
278.00	102.7213
279.20	99.8420
279.54	99.8715
280.46	118.2521
283.69	105.8789
284.31	90.0461
285.41	99.8518
285.90	0.0000
287.50	108.8844
293.27	0.0000
295.22	108.7084
295.96	108.7773
298.57	109.0155
299.98	109.1421
299.98	109.1421
300.09	109.1533
300.09	109.1533
300.13	109.1570
301.36	109.2668
302.85	109.4027
304.50	112.0660
304.50	112.0660
304.85	103.4754
308.46	104.5002
311.90	88.5314

316.51	87.9536
319.41	96.3358
320.08	102.7511
323.87	114.0041
323.87	114.0041
328.76	91.5512
333.37	92.6128
334.37	89.7412
334.37	89.7412
338.28	104.2115
338.28	104.2115
338.32	104.2150
338.32	104.2150
338.32	104.2150
340.48	94.5938
340.55	94.5984
344.28	93.8759
351.06	101.4890
351.93	101.5538
356.01	92.7003
364.49	92.1427
366.42	0.0000
383.85	82.9219
388.16	78.3877
388.63	69.8065
391.69	73.7854
400.66	78.0881
401.81	79.1134
402.40	74.3188
404.85	102.4740
410.95	91.2389
414.70	78.8136
423.72	66.5505
427.09	71.5976
427.87	80.4648
433.94	70.9222
453.88	73.7945
463.37	64.1875
468.07	86.8957
473.00	80.6934
476.78	67.7299
477.60	70.7968
487.02	66.0989
492.35	0.0000
497.08	65.4551
511.00	56.6898
514.00	61.1200
527.90	0.0000
529.87	0.0000
531.02	45.8490
537.26	49.1386
546.56	0.0000
563.25	47.6889
569.33	72.2874
569.50	65.9147
569.70	60.6060
583.19	52.4543
600.60	64.7827
602.73	53.6082
604.72	55.3906
609.32	60.7185
609.32	60.7185
610.33	60.7476
614.28	50.4300
618.01	53.3500
621.93	64.3584
621.93	64.3584
633.25	61.4106
635.95	50.5090
636.99	50.5329
645.85	50.7407
657.76	53.2339
661.66	62.2156
661.66	62.2156
664.57	0.0000
666.33	39.1896
666.50	44.5374
677.62	41.4014

685.70	39.3024
695.00	54.1201
696.49	54.1538
696.51	54.1553
697.00	52.3614
702.65	46.1540
706.68	40.7944
711.68	54.5083
720.70	53.5764
721.93	0.0000
722.78	45.6372
722.91	44.1183
723.31	44.1254
724.19	48.7083
727.33	42.0660
733.00	42.7770
735.93	36.7100
739.50	0.0000
747.24	47.0243
752.31	50.8173
753.82	45.3011
756.73	48.1317
763.94	67.7656
765.81	49.2359
766.42	51.1073
777.92	0.0000
778.90	50.4272
783.70	33.6823
785.37	43.0666
795.86	38.5426
801.95	43.3451
810.29	48.2109
810.76	49.1651
815.77	29.3660
818.51	41.7248
832.01	68.6250
834.85	45.7980
836.80	0.0000
846.77	44.0852
856.80	55.7910
860.56	29.8602
871.09	33.8422
873.19	36.7708
875.33	0.0000
879.36	32.9732
880.51	39.7778
883.24	38.8457
884.68	40.8085
889.28	36.9832
898.04	36.1211
911.20	43.1535
911.20	43.1535
911.20	43.1535
926.50	34.5087
937.49	49.4836
944.13	38.6839
946.00	37.7161
949.00	25.8318
962.29	28.2752
964.08	33.2853
966.15	38.3043
968.97	23.3373
968.97	23.3373
968.97	23.3373
983.53	34.1693
996.26	38.3470
1001.03	30.3208
1004.73	35.4161
1037.84	33.7444
1038.76	0.0000
1048.07	35.9041
1050.41	26.6906
1050.41	26.6906
1063.66	46.3843
1085.87	28.0191
1099.45	42.7217
1112.07	36.6064
1115.54	54.0936

1120.29	40.1901
1120.29	40.1901
1120.55	31.4546
1121.30	31.4619
1131.51	0.0000
1173.23	40.4529
1177.93	39.4408
1189.05	36.3558
1204.77	54.7727
1221.41	46.3909
1231.02	58.4112
1235.36	54.1479
1238.28	41.1858
1260.41	0.0000
1271.85	29.5273
1274.44	25.1697
1274.54	24.0765
1291.59	23.0846
1298.22	0.0000
1312.11	20.2607
1332.49	25.9207
1365.19	13.0675
1368.63	0.0000
1384.29	17.8187
1408.01	17.9223
1457.56	0.0000
1460.82	10.5077
1489.16	12.5007
1505.03	29.9177
1596.21	19.6997
1620.50	14.8523
1678.03	0.0000
1690.97	10.0505
1764.49	6.9958
1764.49	6.9958
1770.23	7.0039
1771.35	12.2593
1791.20	0.0000
1836.06	9.3124

TOTAL URANIUM BY GAMMA SPEC REPORT  
Sample:G248515003

Total Uranium Activity	9.4784E+00	ug/g
Total Uranium Counting Unc.	4.3038E+00	ug/g
Total Uranium Tpu	2.1958E-06	ug/g
Total Uranium Mda	1.7470E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*             2040 SAVAGE ROAD                     *
*             CHARLESTON ,SC 29417                 *
*             GROSS GAMMA REPORT                   *
*
*****
*
*  BATCH ID      : 961099          SAMPLE ID   : G248515003
*  ANALYST       : MXR1            DETECTOR    : GAM17
*  SAMPLE DATE   : 25-FEB-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 19-MAR-2010 20:40:59.98  SAMPLE ALQT: 101.890 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.059E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.486E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 4.120E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.990E+00

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VAX/VMS Nuclide Identification Report Generated 19-MAR-2010 22:45:33.63

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248526001.CNF;1
Sample date        : 25-FEB-2010 12:00:00 Acquisition date : 19-MAR-2010 20:43:36
Sample ID          : G248526001 Sample quantity : 1.33660E+02 GRAM
Detector name      : GAM25 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:02.22 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 961099 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.41*	229	519	0.97	92.37	88	8	3.18E-02	19.2	
2	0	63.48*	198	923	0.89	126.52	122	9	2.75E-02	29.2	
3	2	74.81*	1008	570	0.93	149.19	144	17	1.40E-01	4.9	2.65E+00
4	2	77.14*	1611	435	0.83	153.83	144	17	2.24E-01	3.2	
5	0	84.20*	186	467	1.12	167.95	165	6	2.58E-02	20.2	
6	4	87.26*	544	550	1.16	174.07	171	21	7.56E-02	8.2	4.51E+00
7	4	90.02	352	516	1.13	179.59	171	21	4.88E-02	11.9	
8	4	92.88*	426	477	1.22	185.31	171	21	5.91E-02	10.8	
9	0	154.02*	82	384	0.99	307.59	305	8	1.14E-02	43.1	
10	0	185.90*	240	511	1.15	371.34	366	12	3.33E-02	20.5	
11	0	209.35	180	288	0.86	418.24	415	8	2.50E-02	18.0	
12	5	238.64*	1778	187	0.95	476.82	471	17	2.47E-01	2.7	2.69E+00
13	5	241.41*	368	312	1.77	482.34	471	17	5.11E-02	14.6	
14	0	270.30	189	224	1.63	540.13	536	10	2.62E-02	16.7	
15	0	295.18*	536	218	1.13	589.88	585	10	7.45E-02	6.8	
16	0	299.98	74	223	0.95	599.48	595	9	1.03E-02	38.1	
17	0	327.45	106	165	1.46	654.42	650	10	1.47E-02	24.6	
18	0	338.24	362	287	1.12	675.99	669	14	5.02E-02	11.2	
19	0	351.87*	842	218	1.18	703.26	698	11	1.17E-01	4.9	
20	0	462.61	77	90	1.49	924.71	921	8	1.07E-02	24.3	
21	0	510.92*	153	156	1.31	1021.35	1014	14	2.12E-02	21.4	
22	0	583.22*	492	106	1.31	1165.94	1160	13	6.84E-02	6.4	
23	0	609.35*	629	73	1.47	1218.20	1211	15	8.73E-02	5.1	
24	0	727.41	89	99	1.39	1454.30	1448	11	1.23E-02	24.1	
25	0	860.86	73	45	1.02	1721.21	1717	10	1.01E-02	20.8	
26	0	911.14*	368	56	1.65	1821.76	1816	14	5.11E-02	6.9	
27	0	934.76	39	50	1.15	1869.01	1863	10	5.48E-03	37.1	
28	1	964.63	59	75	1.97	1928.75	1922	22	8.14E-03	32.9	6.56E-01
29	1	968.90*	194	64	1.81	1937.29	1922	22	2.69E-02	10.9	
30	0	1120.10*	122	87	2.06	2239.69	2230	16	1.69E-02	19.7	
31	0	1378.22	52	39	1.82	2755.95	2749	15	7.27E-03	29.1	
32	0	1460.75	1505	16	2.06	2921.03	2910	22	2.09E-01	2.7	
33	0	1764.31*	101	11	1.45	3528.20	3520	15	1.40E-02	12.7	

Flag: "\*" = Peak area was modified by background subtraction

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248526001.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 25-FEB-2010 12:00:00 Acquisition date : 19-MAR-2010 20:43:36
Sample ID        : G248526001 Sample quantity : 133.66 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA25 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.22 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	+	1460.82	*	3.576E+01	3.594E+00	5.565E-01	4.739E-02	64.266
CD-109	+	88.03	*	4.543E+00	8.917E-01	7.293E-01	7.837E-02	6.230
SN-126	+	64.28		5.929E-01	3.589E-01	2.958E-01	4.714E-02	2.004
	+	86.94		1.826E+00	8.211E-01	2.917E-01	1.221E-01	6.260
	+	87.57	*	4.393E-01	8.622E-02	7.037E-02	7.546E-03	6.243
TL-208	+	277.37		3.772E-01	3.868E-01	6.388E-01	9.181E-02	0.591
	+	583.19	*	6.515E-01	1.106E-01	5.432E-02	6.119E-03	11.993
	+	860.56		9.295E-01	3.986E-01	4.766E-01	4.980E-02	1.950
PB-210	+	46.54	*	1.651E+00	6.567E-01	5.796E-01	5.936E-02	2.848
BI-211	+	72.87		5.943E-01	1.739E+00	2.555E+00	2.580E-01	0.233
	+	351.06	*	4.708E+00	6.754E-01	3.352E-01	3.533E-02	14.043
PB-212	+	74.82		2.841E+00	4.870E-01	2.835E-01	3.988E-02	10.021
	+	77.11		2.741E+00	3.315E-01	1.718E-01	1.761E-02	15.951
	+	238.63	*	2.145E+00	2.714E-01	8.367E-02	9.559E-03	25.635
	+	300.09		1.419E+00	1.097E+00	1.091E+00	1.369E-01	1.300
BI-214	+	609.32	*	1.617E+00	2.550E-01	1.030E-01	1.247E-02	15.695
	+	1120.29		1.638E+00	6.690E-01	5.478E-01	5.973E-02	2.990
	+	1764.49		1.969E+00	5.256E-01	3.559E-01	2.932E-02	5.534
PB-214	+	74.82		5.036E+00	8.153E-01	5.025E-01	6.478E-02	10.021
	+	77.11		4.832E+00	7.074E-01	3.029E-01	3.984E-02	15.951
	+	242.00		2.692E+00	8.486E-01	5.098E-01	6.126E-02	5.280
	+	295.22		1.815E+00	3.389E-01	2.038E-01	2.612E-02	8.907
	+	351.93	*	1.709E+00	2.626E-01	1.220E-01	1.449E-02	14.007
RA-224	+	240.99	*	4.759E+00	1.475E+00	8.979E-01	9.436E-02	5.300
RA-226	+	609.32	*	1.617E+00	2.550E-01	1.030E-01	1.247E-02	15.695
	+	1120.29		1.638E+00	6.690E-01	5.478E-01	5.973E-02	2.990
	+	1764.49		1.969E+00	5.256E-01	3.559E-01	2.932E-02	5.534
AC-228	+	338.32		2.243E+00	1.071E+00	3.543E-01	1.493E-01	6.330
	+	911.20	*	2.387E+00	4.411E-01	2.417E-01	2.954E-02	9.876
	+	968.97		2.165E+00	7.126E-01	4.738E-01	1.166E-01	4.569
RA-228	+	338.32		2.243E+00	1.071E+00	3.543E-01	1.493E-01	6.330
	+	911.20	*	2.387E+00	4.411E-01	2.417E-01	2.954E-02	9.876
	+	968.97		2.165E+00	7.126E-01	4.738E-01	1.166E-01	4.569
TH-228	+	74.82		2.841E+00	4.024E-01	2.835E-01	2.900E-02	10.021



---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		2.741E+00	3.315E-01	1.718E-01	1.761E-02	15.951
	+	238.63	*	2.145E+00	2.714E-01	8.367E-02	9.559E-03	25.635
	+	300.09		1.419E+00	1.391E+00	1.091E+00	6.720E-01	1.300
TH-229	+	85.43		3.742E-01	1.563E-01	1.891E-01	2.008E-02	1.978
	+	88.47		6.773E-01	1.329E-01	1.089E-01	1.173E-02	6.217
		193.51	*	-2.339E-02	4.533E-01	7.385E-01	7.043E-02	-0.032
	+	210.85		3.063E+00	1.141E+00	1.312E+00	1.300E-01	2.335
TH-232	+	338.32		2.243E+00	5.558E-01	3.543E-01	3.693E-02	6.330
	+	911.20	*	2.387E+00	4.411E-01	2.417E-01	2.954E-02	9.876
	+	968.97		2.165E+00	7.126E-01	4.738E-01	1.166E-01	4.569
TH-234	+	63.29	*	1.538E+00	9.447E-01	7.664E-01	1.455E-01	2.007
	+	92.59		3.061E+00	9.673E-01	6.187E-01	1.430E-01	4.946
U-235	+	89.96		3.052E+00	1.062E+00	7.585E-01	1.933E-01	4.023
	+	93.35		2.312E+00	7.473E-01	4.691E-01	1.130E-01	4.929
		143.76	*	-2.476E-02	1.670E-01	2.738E-01	5.029E-02	-0.090
		163.33		-3.507E-02	3.605E-01	5.936E-01	1.083E-01	-0.059
	+	185.72		1.835E-01	7.702E-02	5.784E-02	5.416E-03	3.173
		205.31		2.765E-01	4.734E-01	7.073E-01	1.325E-01	0.391
NP-237	+	86.48	*	1.311E+00	3.765E-01	2.253E-01	5.299E-02	5.819
		95.86		-9.406E-02	6.296E-01	9.654E-01	2.415E-01	-0.097
U-238	+	63.29	*	1.538E+00	9.447E-01	7.664E-01	1.455E-01	2.007
	+	92.59		3.061E+00	7.407E-01	6.187E-01	6.798E-02	4.946
ANH-511	+	511.00	*	1.527E-01	6.712E-02	4.340E-02	4.467E-03	3.518

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	-6.946E-02	3.410E-01	5.471E-01	5.791E-02	-0.127
NA-22		1274.54	*	-1.771E-02	5.224E-02	8.327E-02	6.828E-03	-0.213
NA-24		1368.63	*	-3.806E+02	5.224E-02	Half-Life too short		
SC-46		889.28	*	3.852E-05	4.781E-02	7.778E-02	7.448E-03	0.000
	+	1120.55		2.942E-01	1.185E-01	1.523E-01	1.310E-02	1.931
V-48		944.13		9.152E-02	1.387E+00	2.256E+00	2.116E-01	0.041
		983.53	*	-4.263E-02	1.113E-01	1.727E-01	1.600E-02	-0.247
		1312.11		1.500E-02	1.268E-01	2.103E-01	1.714E-02	0.071
CR-51		320.08	*	-2.134E-01	4.230E-01	6.933E-01	7.695E-02	-0.308
MN-54		834.85	*	3.742E-02	4.195E-02	7.308E-02	7.416E-03	0.512
CO-56		846.77	*	-1.965E-04	4.203E-02	6.867E-02	6.890E-03	-0.003
		1037.84		-2.509E-02	3.588E-01	5.982E-01	5.671E-02	-0.042
		1238.28		2.074E-01	1.266E-01	2.269E-01	1.924E-02	0.914
		1771.35		-1.691E+00	4.732E-01	3.613E-01	2.974E-02	-4.682
CO-57		122.06	*	-2.910E-03	1.958E-02	3.285E-02	4.236E-03	-0.089
		136.47		3.409E-02	1.726E-01	2.911E-01	3.567E-02	0.117
CO-58		810.76	*	-1.997E-02	4.552E-02	7.185E-02	7.455E-03	-0.278
FE-59		1099.45	*	-5.837E-02	1.199E-01	1.920E-01	1.808E-02	-0.304
		1291.59		-3.211E-02	1.571E-01	2.528E-01	2.375E-02	-0.127
CO-60		1173.23		1.325E-02	5.159E-02	8.721E-02	7.179E-03	0.152
		1332.49	*	-1.644E-02	4.762E-02	7.515E-02	6.104E-03	-0.219

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZN-65	1115.54	*		-1.361E-02	1.198E-01	1.696E-01	1.465E-02	-0.080
SE-75	121.12			2.658E-02	1.043E-01	1.776E-01	2.593E-02	0.150
	136.00			2.132E-02	3.329E-02	5.698E-02	6.761E-03	0.374
	264.66	*		1.695E-02	4.478E-02	7.273E-02	7.972E-03	0.233
	279.54			3.608E-03	1.144E-01	1.816E-01	2.072E-02	0.020
	400.66			-1.317E-02	2.644E-01	4.361E-01	5.034E-02	-0.030
SR-85	514.00	*		4.462E-02	4.382E-02	6.789E-02	7.004E-03	0.657
Y-88	898.04			6.123E-03	4.902E-02	8.052E-02	7.659E-03	0.076
	1836.06	*		7.491E-03	3.800E-02	6.485E-02	5.299E-03	0.116
Y-91	1204.77	*		2.727E+01	2.845E+01	5.011E+01	4.124E+00	0.544
NB-94	702.65	*		-3.605E-03	3.732E-02	6.167E-02	6.773E-03	-0.058
	871.09			1.500E-03	3.691E-02	6.038E-02	5.907E-03	0.025
NB-95	765.81	*		-1.351E-02	5.230E-02	8.473E-02	9.050E-03	-0.159
NB-95M	235.69	*		-6.003E-02	1.373E-01	1.907E-01	2.189E-02	-0.315
ZR-95	724.19			7.362E-02	1.190E-01	1.819E-01	2.088E-02	0.405
	756.73	*		-2.862E-02	9.019E-02	1.454E-01	1.669E-02	-0.197
MO-99	140.51			9.527E-05	9.019E-02	Half-Life	too short	
	181.07			6.728E-05	9.019E-02	Half-Life	too short	
	366.42			2.761E-04	9.019E-02	Half-Life	too short	
	739.50	*		2.071E-05	9.019E-02	Half-Life	too short	
	777.92			-3.720E-04	9.019E-02	Half-Life	too short	
TC-99M	140.51	*		1.311E+19	9.019E-02	Half-Life	too short	
RU-103	497.08	*		-4.630E-02	4.967E-02	7.456E-02	1.117E-02	-0.621
	610.33		+	1.896E+01	3.858E+00	3.570E+00	6.304E-01	5.311
RH-106	621.93	*		-4.713E-02	3.366E-01	5.605E-01	8.339E-02	-0.084
	1050.41			1.588E+00	2.920E+00	5.095E+00	4.581E-01	0.312
RU-106	621.93	*		-4.713E-02	3.366E-01	5.605E-01	6.138E-02	-0.084
	1050.41			1.588E+00	2.920E+00	5.095E+00	4.581E-01	0.312
AG-108M	433.94	*		1.872E-03	2.818E-02	4.651E-02	4.569E-03	0.040
	614.28			-4.469E-03	3.763E-02	5.450E-02	6.074E-03	-0.082
	722.91			2.674E-02	4.320E-02	6.623E-02	7.369E-03	0.404
AG-110M	657.76	*		-4.345E-02	4.001E-02	6.145E-02	6.925E-03	-0.707
	677.62			7.122E-02	3.397E-01	5.752E-01	6.468E-02	0.124
	706.68			1.421E-01	2.381E-01	4.112E-01	4.590E-02	0.346
	763.94			-2.057E-01	1.916E-01	2.896E-01	3.152E-02	-0.710
	884.68			-1.637E-02	5.685E-02	9.014E-02	8.904E-03	-0.182
	937.49			-1.268E-02	1.451E-01	2.002E-01	1.939E-02	-0.063
	1384.29			4.696E-02	2.045E-01	2.970E-01	2.504E-02	0.158
	1505.03			-1.536E-01	3.238E-01	4.885E-01	4.050E-02	-0.315
SN-113	391.69	*		-4.363E-02	4.729E-02	7.384E-02	6.896E-03	-0.591
CD-115	260.90			-2.714E-04	4.729E-02	Half-Life	too short	
	492.35			1.652E-04	4.729E-02	Half-Life	too short	
	527.90	*		-2.575E-06	4.729E-02	Half-Life	too short	
SN-117M	156.02			1.473E+00	3.196E+00	4.860E+00	4.847E-01	0.303
	158.56	*		-3.190E-03	7.571E-02	1.121E-01	1.089E-02	-0.028
TE-123M	159.00	*		-2.071E-02	2.656E-02	4.030E-02	3.913E-03	-0.514
SB-124	602.73			-1.378E-02	4.890E-02	6.991E-02	7.599E-03	-0.197
	645.85			-5.293E-02	5.487E-01	9.132E-01	1.043E-01	-0.058
	722.78			2.920E-01	4.717E-01	7.232E-01	8.001E-02	0.404

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-125	1690.97	*		4.762E-02	7.524E-02	1.397E-01	1.210E-02	0.341
	427.87	*		5.241E-02	8.841E-02	1.508E-01	1.456E-02	0.348
	463.37		+	6.768E-01	3.358E-01	5.434E-01	5.676E-02	1.246
	600.60			7.743E-02	1.828E-01	3.163E-01	3.597E-02	0.245
	635.95			-1.203E-01	2.830E-01	4.598E-01	5.314E-02	-0.262
TE-125M	109.28	*		2.288E+00	7.754E+00	1.330E+01	1.785E+00	0.172
I-126	388.63			2.838E-01	2.411E-01	4.245E-01	3.898E-02	0.669
	666.33	*		-3.413E-01	3.748E-01	5.854E-01	6.481E-02	-0.583
	753.82			2.053E+00	2.989E+00	5.172E+00	5.561E-01	0.397
	414.70			-5.203E-02	1.099E-01	1.756E-01	1.643E-02	-0.296
	666.50			-6.423E-02	1.282E-01	2.068E-01	2.289E-02	-0.311
SB-126	695.00			-2.579E-02	1.295E-01	2.127E-01	2.341E-02	-0.121
	697.00			-1.748E-01	4.470E-01	7.233E-01	7.955E-02	-0.242
	720.70	*		8.782E-02	2.527E-01	3.778E-01	4.123E-02	0.232
	856.80			-5.173E-01	9.120E-01	1.195E+00	1.187E-01	-0.433
	252.40			-6.053E+00	1.543E+01	2.380E+01	1.017E+01	-0.254
SB-127	473.00			-1.752E+00	6.019E+00	9.602E+00	1.511E+00	-0.182
	685.70	*		-2.638E-01	5.334E+00	8.861E+00	1.362E+00	-0.030
	783.70			8.547E+00	1.523E+01	2.597E+01	4.101E+00	0.329
	80.19			4.604E+00	5.111E+00	7.639E+00	8.001E-01	0.603
	284.31			-2.555E+00	2.679E+00	3.945E+00	4.545E-01	-0.648
I-131	364.49	*		-8.983E-02	2.176E-01	3.543E-01	3.654E-02	-0.254
	636.99			-7.220E-01	3.055E+00	5.038E+00	5.766E-01	-0.143
	49.72			6.232E+00	1.448E+01	2.197E+01	3.053E+00	0.284
	111.76			-5.544E+01	1.178E+02	1.927E+02	3.048E+01	-0.288
	116.30			2.025E+00	9.850E+01	1.668E+02	2.680E+01	0.012
BA-133	228.16	*		-3.411E-01	3.269E+00	5.241E+00	9.617E-01	-0.065
	81.00			5.024E-02	6.174E-02	8.109E-02	1.344E-02	0.620
	276.40			1.546E-01	3.545E-01	5.741E-01	9.049E-02	0.269
	302.85			3.958E-02	1.366E-01	2.082E-01	3.063E-02	0.190
	356.01	*		-1.954E-03	4.627E-02	6.785E-02	9.464E-03	-0.029
I-133	383.85			-8.755E-02	2.818E-01	4.589E-01	5.930E-02	-0.191
	529.87	*		6.484E-01	2.818E-01	Half-Life	too short	
	875.33			-2.791E+01	2.818E-01	Half-Life	too short	
	1298.22			-9.796E-01	2.818E-01	Half-Life	too short	
	563.25			-2.793E-02	3.892E-01	6.212E-01	6.662E-02	-0.045
CS-134	569.33			-4.593E-02	2.141E-01	3.376E-01	3.642E-02	-0.136
	604.72			-3.232E-02	3.786E-02	5.058E-02	5.511E-03	-0.639
	795.86	*		5.237E-02	5.291E-02	9.275E-02	9.764E-03	0.565
	801.95			-2.890E-01	4.432E-01	6.940E-01	7.266E-02	-0.416
	1365.19			-2.342E-01	1.203E+00	1.910E+00	1.640E-01	-0.123
CS-135	268.22	*		6.567E-02	1.847E-01	2.670E-01	3.223E-02	0.246
I-135	546.56			-5.497E+17	1.847E-01	Half-Life	too short	
	836.80			2.700E+18	1.847E-01	Half-Life	too short	
	1038.76			-5.525E+17	1.847E-01	Half-Life	too short	
	1131.51			-4.133E+17	1.847E-01	Half-Life	too short	
	1260.41	*		-2.730E+17	1.847E-01	Half-Life	too short	
	1457.56			7.845E+19	1.847E-01	Half-Life	too short	
	1678.03			1.323E+17	1.847E-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	+	1791.20		9.235E+17	1.847E-01	Half-Life	too short	
		153.25		1.801E+00	1.568E+00	1.868E+00	2.181E-01	0.964
		176.60		1.296E-01	6.193E-01	1.028E+00	1.028E-01	0.126
		273.65		1.388E-01	7.379E-01	1.056E+00	1.231E-01	0.131
		340.55		4.735E-01	2.406E-01	3.924E-01	4.183E-02	1.207
		818.51		-1.202E-01	1.104E-01	1.609E-01	1.658E-02	-0.747
		1048.07	*	-1.570E-01	1.783E-01	2.758E-01	2.582E-02	-0.569
BA-137M	*	1235.36		3.086E-01	1.109E+00	1.861E+00	2.136E-01	0.166
		661.66		-4.158E-02	4.322E-02	7.081E-02	7.844E-03	-0.587
		661.66	*	-4.392E-02	4.566E-02	7.480E-02	8.296E-03	-0.587
CE-139	*	165.86		-3.378E-03	2.559E-02	4.203E-02	3.747E-03	-0.080
BA-140		162.66		1.124E+00	9.758E-01	1.683E+00	1.652E-01	0.668
		304.85		-1.115E+00	1.865E+00	2.768E+00	8.314E-01	-0.403
		423.72		3.063E-01	2.818E+00	4.669E+00	1.547E+00	0.066
LA-140	+	537.26	*	1.380E-01	4.065E-01	6.677E-01	2.299E-01	0.207
		328.76		1.195E+00	6.035E-01	7.792E-01	8.571E-02	1.533
		487.02		9.246E-02	1.921E-01	3.236E-01	3.414E-02	0.286
		815.77		-1.620E-01	4.754E-01	7.540E-01	8.426E-02	-0.215
		1596.21	*	-1.824E-01	1.502E-01	2.092E-01	1.740E-02	-0.872
CE-141	*	145.44		-5.060E-02	6.170E-02	9.797E-02	1.090E-02	-0.516
CE-143	*	57.36		-8.435E-03	6.170E-02	Half-Life	too short	
		293.27		1.860E-02	6.170E-02	Half-Life	too short	
		664.57		1.210E-03	6.170E-02	Half-Life	too short	
CE-144		721.93		3.620E-02	6.170E-02	Half-Life	too short	
		80.12		1.381E+00	1.504E+00	2.249E+00	2.332E-01	0.614
		133.52	*	-1.390E-01	1.629E-01	2.610E-01	4.550E-02	-0.533
PM-144		476.78		4.763E-02	6.268E-02	1.074E-01	1.144E-02	0.443
		618.01		1.506E-02	3.294E-02	5.709E-02	6.354E-03	0.264
PR-144	*	696.49		-6.136E-03	3.851E-02	6.340E-02	6.978E-03	-0.097
		696.51		-4.569E-01	2.894E+00	4.764E+00	5.241E-01	-0.096
		1489.16		-3.795E+00	1.296E+01	1.996E+01	1.653E+00	-0.190
PM-146	*	453.88		2.349E-02	4.361E-02	7.372E-02	8.518E-03	0.319
		633.25		-4.053E-01	1.475E+00	2.414E+00	9.366E-01	-0.168
		735.93		1.126E-02	1.580E-01	2.631E-01	7.575E-02	0.043
ND-147	+	747.24		6.950E-02	1.056E-01	1.824E-01	2.911E-02	0.381
		91.11		1.562E+00	4.111E-01	5.281E-01	6.065E-02	2.957
		319.41		-1.801E+00	5.034E+00	8.323E+00	8.945E-01	-0.216
		531.02	*	5.941E-01	9.071E-01	1.528E+00	2.456E-01	0.389
		285.90	*	1.521E-04	9.071E-01	Half-Life	too short	
EU-152		121.78		1.139E-03	5.483E-02	9.260E-02	1.274E-02	0.012
		244.70		-1.143E-02	3.272E-01	4.655E-01	4.924E-02	-0.025
		344.28	*	-3.557E-03	1.044E-01	1.537E-01	1.650E-02	-0.023
		778.90		-2.129E-01	3.020E-01	4.694E-01	4.974E-02	-0.454
		964.08	+	7.063E-01	4.691E-01	6.577E-01	6.135E-02	1.074
GD-153		1085.87		1.699E-01	4.258E-01	7.342E-01	6.465E-02	0.231
		1112.07		1.341E-01	3.922E-01	5.856E-01	5.065E-02	0.229
		1408.01		1.967E-01	1.931E-01	3.513E-01	2.886E-02	0.560
		69.67		-5.040E-01	8.482E-01	1.309E+00	1.309E-01	-0.385
		97.43	*	-7.134E-02	6.574E-02	9.483E-02	1.068E-02	-0.752

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154		103.18		-7.103E-02	7.851E-02	1.288E-01	1.495E-02	-0.551
		123.07		9.137E-03	3.952E-02	6.719E-02	9.943E-03	0.136
		723.31		1.082E-01	1.951E-01	2.974E-01	3.452E-02	0.364
		873.19		1.457E-01	2.946E-01	5.009E-01	6.384E-02	0.291
		996.26		-3.580E-01	4.407E-01	6.498E-01	1.155E-01	-0.551
EU-155		1004.73		-2.630E-01	2.494E-01	3.572E-01	4.310E-02	-0.736
		1274.44	*	-4.227E-02	1.470E-01	2.354E-01	2.603E-02	-0.180
	+	86.55		5.342E-01	1.051E-01	1.327E-01	1.425E-02	4.026
		105.31	*	8.287E-02	7.845E-02	1.372E-01	1.622E-02	0.604
	+	86.79		1.515E+00	2.973E-01	3.880E-01	4.145E-02	3.905
TB-160		197.04		1.208E-01	5.157E-01	8.499E-01	8.171E-02	0.142
		215.65		-3.218E-01	7.495E-01	1.170E+00	1.171E-01	-0.275
	+	298.57		2.141E-01	1.650E-01	2.005E-01	2.206E-02	1.068
		879.36	*	3.389E-02	1.553E-01	2.581E-01	2.501E-02	0.131
		962.29		8.421E-01	7.839E-01	1.209E+00	1.128E-01	0.697
HO-166M		966.15		1.166E+00	3.317E-01	6.113E-01	5.699E-02	1.907
		1177.93		-1.194E-01	4.426E-01	7.174E-01	5.905E-02	-0.166
		1271.85		-2.251E-02	8.830E-01	1.449E+00	1.187E-01	-0.016
	+	80.57		7.967E-02	1.817E-01	2.347E-01	2.439E-02	0.339
		184.41		1.458E-01	6.119E-02	5.737E-02	5.355E-03	2.542
TA-182		280.46		-6.442E-02	8.580E-02	1.297E-01	1.447E-02	-0.497
		410.95		3.439E-01	2.543E-01	4.479E-01	4.173E-02	0.768
		711.68	*	-4.516E-02	6.555E-02	1.030E-01	1.128E-02	-0.438
		752.31		-8.404E-02	2.999E-01	4.848E-01	5.217E-02	-0.173
		810.29		-5.307E-02	6.549E-02	9.975E-02	1.034E-02	-0.532
IR-192		67.75		4.965E-02	5.246E-02	8.522E-02	8.479E-02	0.583
		100.11		1.200E-01	1.254E-01	2.198E-01	2.511E-02	0.546
		152.43		1.567E-01	3.459E-01	5.210E-01	5.383E-02	0.301
	+	222.11		2.215E-01	3.456E-01	5.738E-01	5.819E-02	0.386
		1121.30		8.020E-01	3.231E-01	4.129E-01	3.547E-02	1.943
HG-203		1189.05		4.632E-01	3.867E-01	6.926E-01	5.701E-02	0.669
		1221.41	*	-4.747E-02	2.414E-01	3.925E-01	3.228E-02	-0.121
		1231.02		-1.032E-01	6.073E-01	9.896E-01	8.135E-02	-0.104
	+	295.96		1.437E+00	2.519E-01	3.285E-01	3.639E-02	4.374
		308.46		-1.410E-02	8.923E-02	1.495E-01	1.634E-02	-0.094
BI-207		316.51	*	-1.676E-03	3.422E-02	5.756E-02	6.218E-03	-0.029
		468.07		-2.135E-02	7.357E-02	1.133E-01	1.186E-02	-0.188
		70.83		4.385E-01	7.764E-01	1.150E+00	1.939E-01	0.381
		72.87		1.648E-01	4.828E-01	7.087E-01	1.162E-01	0.233
		279.20	*	4.834E-02	4.162E-02	6.962E-02	7.889E-03	0.694
PB-211		72.81		1.126E-02	9.940E-02	1.447E-01	1.461E-02	0.078
	+	74.97		8.192E-01	1.156E-01	1.446E-01	1.470E-02	5.667
		569.70		-3.747E-03	3.327E-02	5.288E-02	5.656E-03	-0.071
		1063.66	*	-3.170E-02	6.075E-02	9.724E-02	8.679E-03	-0.326
		1770.23		-9.101E-02	5.168E-01	6.912E-01	5.691E-02	-0.132
BI-212		404.85	*	-2.406E-01	7.152E-01	1.142E+00	5.542E-01	-0.211
		427.09		1.272E-01	1.491E+00	2.464E+00	1.144E+00	0.052
		832.01		-7.709E-01	1.196E+00	1.741E+00	9.078E-01	-0.443
	+	727.33	*	1.825E+00	9.182E-01	1.275E+00	1.801E-01	1.431

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		785.37		4.146E-01	3.766E+00	6.248E+00	6.593E-01	0.066
		1620.50		2.346E+00	2.551E+00	4.758E+00	3.955E-01	0.493
RN-219	+	271.23		1.016E+00	3.614E-01	4.407E-01	5.445E-02	2.304
		401.81	*	-1.216E-01	3.991E-01	6.473E-01	9.854E-02	-0.188
RA-223		81.07		1.097E-01	1.389E-01	1.832E-01	1.907E-02	0.599
	+	83.79		2.227E-01	9.301E-02	1.334E-01	1.406E-02	1.669
		94.87		7.306E-01	3.197E-01	5.253E-01	5.838E-02	1.391
		144.24		1.740E-01	5.565E-01	9.284E-01	1.105E-01	0.187
	+	154.21		5.582E-01	4.853E-01	6.083E-01	6.609E-02	0.918
	+	269.46		7.891E-01	2.777E-01	3.559E-01	3.966E-02	2.217
		323.87	*	2.341E-01	6.537E-01	9.945E-01	1.834E-01	0.235
	+	338.28		8.899E+00	2.330E+00	2.580E+00	3.462E-01	3.449
AC-227		79.69		5.353E-01	7.478E-01	1.104E+00	2.005E-01	0.485
		235.96		-9.120E-03	1.548E-01	2.208E-01	2.623E-02	-0.041
		256.23	*	-6.988E-02	2.423E-01	3.805E-01	5.207E-02	-0.184
	+	299.98		1.560E+00	1.211E+00	1.533E+00	2.210E-01	1.018
		304.50		-4.964E-01	1.581E+00	2.303E+00	4.110E-01	-0.216
		334.37		7.666E-01	1.677E+00	2.564E+00	4.281E-01	0.299
TH-227		79.80		9.437E-01	9.872E-01	1.453E+00	3.271E-01	0.650
		235.96		-9.120E-03	1.548E-01	2.208E-01	2.512E-02	-0.041
		256.23	*	-6.988E-02	2.424E-01	3.805E-01	5.734E-02	-0.184
	+	299.98		1.560E+00	1.211E+00	1.533E+00	2.210E-01	1.018
		304.50		-4.964E-01	1.581E+00	2.303E+00	4.110E-01	-0.216
		334.37		7.666E-01	1.677E+00	2.564E+00	4.281E-01	0.299
PA-231		283.69	*	-4.256E-01	1.343E+00	2.071E+00	3.354E-01	-0.205
	+	301.36		1.002E+00	7.774E-01	9.858E-01	1.372E-01	1.017
TH-231		81.07		1.097E-01	1.389E-01	1.832E-01	1.907E-02	0.599
	+	83.79		2.227E-01	9.301E-02	1.334E-01	1.406E-02	1.669
		94.87		7.306E-01	3.197E-01	5.253E-01	5.838E-02	1.391
		144.24		1.740E-01	5.565E-01	9.284E-01	1.105E-01	0.187
	+	154.21		5.582E-01	4.853E-01	6.083E-01	6.609E-02	0.918
	+	269.46		7.891E-01	2.777E-01	3.559E-01	3.966E-02	2.217
		323.87	*	2.341E-01	6.537E-01	9.945E-01	1.834E-01	0.235
	+	338.28		8.899E+00	2.330E+00	2.580E+00	3.462E-01	3.449
PA-233	+	300.13		7.061E-01	5.508E-01	6.956E-01	1.135E-01	1.015
		311.90	*	8.910E-03	5.627E-02	9.581E-02	1.058E-02	0.093
		340.48		1.637E+00	8.064E-01	1.181E+00	2.923E-01	1.387
PA-234		94.67		2.852E-01	1.254E-01	2.009E-01	2.861E-02	1.419
		98.44		6.371E-02	7.308E-02	1.070E-01	6.023E-02	0.595
		111.00		-9.676E-02	1.336E-01	2.194E-01	3.244E-02	-0.441
		131.20		-2.451E-02	8.555E-02	1.420E-01	1.734E-02	-0.173
		569.50		-4.927E-02	2.941E-01	4.654E-01	4.978E-02	-0.106
		733.00		-1.185E-01	4.481E-01	6.560E-01	1.519E-01	-0.181
		880.51		2.903E-01	2.833E-01	5.032E-01	4.869E-02	0.577
		883.24		-2.571E-01	3.628E-01	4.805E-01	3.236E-01	-0.535
		926.50		-4.820E-03	1.899E-01	2.985E-01	7.630E-02	-0.016
		946.00	*	-3.081E-04	3.454E-01	5.585E-01	1.068E-01	-0.001
		949.00		1.355E-01	5.017E-01	8.303E-01	7.779E-02	0.163
PA-234M		766.42		8.951E+00	1.354E+01	2.203E+01	1.126E+01	0.406

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1001.03	*	7.095E-01	5.451E+00	8.690E+00	9.102E-01	0.082	
NP-239	99.53		1.577E-01	1.137E-01	1.982E-01	2.257E-02	0.796	
	103.37		-3.045E-02	6.950E-02	1.165E-01	1.354E-02	-0.261	
	106.12		5.028E-02	6.245E-02	1.087E-01	1.282E-02	0.463	
	117.23	*	-2.668E-01	2.887E-01	4.669E-01	5.857E-02	-0.572	
	228.18		-2.157E-02	2.015E-01	3.230E-01	3.315E-02	-0.067	
	277.60		1.933E-01	1.775E-01	2.953E-01	3.289E-02	0.655	
AM-241	59.54	*	-6.442E-03	5.261E-02	7.643E-02	7.941E-03	-0.084	
CM-247	278.00		1.195E+00	7.503E-01	1.270E+00	1.415E-01	0.942	
	287.50		2.298E-01	1.213E+00	1.938E+00	2.152E-01	0.119	
	402.40	*	-1.448E-02	3.723E-02	6.010E-02	5.539E-03	-0.241	
CF-249	252.80		-1.284E-01	8.989E-01	1.425E+00	1.529E-01	-0.090	
	333.37		1.406E-01	1.855E-01	2.731E-01	2.872E-02	0.515	
	388.16	*	3.611E-02	3.962E-02	6.890E-02	6.336E-03	0.524	
CF-251	177.52	*	-3.415E-02	1.086E-01	1.759E-01	1.614E-02	-0.194	
	227.38		-1.040E-02	3.277E-01	5.276E-01	5.407E-02	-0.020	
	285.41		-4.839E-01	2.058E+00	3.207E+00	3.566E-01	-0.151	

## 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]G248526001      *
* Acquisition date   : 19-MAR-2010 20:43:36 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 02:00:02.22 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 25-FEB-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G248526001 Analyst initials: MXR1                  *
* Batch Number       : 961099 Sample Quantity : 1.3366E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                             *
* CALIB. DATE/TIME   : 7-OCT-2009 09:38:43 MS Isotope :                   *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                              *
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## Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act error	MDA (pCi/GRAM )	
K-40	3.576E+01	3.522E+00	5.575E-01	0.000E+00
CD-109	4.543E+00	8.738E-01	7.675E-01	0.000E+00
SN-126	4.393E-01	8.449E-02	7.406E-02	0.000E+00
TL-208	6.515E-01	1.084E-01	5.534E-02	0.000E+00
PB-210	1.651E+00	6.436E-01	6.164E-01	0.000E+00
BI-211	4.708E+00	6.619E-01	3.446E-01	0.000E+00
PB-212	2.145E+00	2.660E-01	8.657E-02	0.000E+00
BI-214	1.617E+00	2.499E-01	1.048E-01	0.000E+00
PB-214	1.709E+00	2.574E-01	1.254E-01	0.000E+00
RA-224	4.759E+00	1.445E+00	9.289E-01	0.000E+00
RA-226	1.617E+00	2.499E-01	1.048E-01	0.000E+00
AC-228	2.387E+00	4.322E-01	2.442E-01	0.000E+00
RA-228	2.387E+00	4.322E-01	2.442E-01	0.000E+00
TH-228	2.145E+00	2.660E-01	8.657E-02	0.000E+00
TH-229	-2.339E-02	4.442E-01	7.669E-01	0.000E+00
TH-232	2.387E+00	4.322E-01	2.442E-01	0.000E+00
TH-234	1.538E+00	9.258E-01	8.110E-01	0.000E+00
U-235	-2.476E-02	1.636E-01	2.857E-01	0.000E+00
NP-237	1.311E+00	3.689E-01	2.371E-01	0.000E+00
U-238	1.538E+00	9.258E-01	8.110E-01	0.000E+00
ANH-511	1.527E-01	6.578E-02	4.431E-02	0.000E+00

## ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L. Act error ) Ided	MDA (pCi/GRAM )	
BE-7	-6.946E-02	3.342E-01	5.592E-01	0.000E+00 NOT IDENT.
NA-22	-1.771E-02	5.120E-02	8.363E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	2.098E+09	0.000E+00	0.000E+00 SHORT HLIF
SC-46	3.852E-05	4.685E-02	7.863E-02	0.000E+00 FAIL ABUN
V-48	-4.263E-02	1.091E-01	1.742E-01	0.000E+00 NOT IDENT.
CR-51	-2.134E-01	4.145E-01	7.137E-01	0.000E+00 NOT IDENT.



MN-54	3.742E-02	4.111E-02	7.397E-02	0.000E+00	NOT IDENT.
CO-56	-1.965E-04	4.119E-02	6.948E-02	0.000E+00	NOT IDENT.
CO-57	-2.910E-03	1.919E-02	3.438E-02	0.000E+00	NOT IDENT.
CO-58	-1.997E-02	4.461E-02	7.276E-02	0.000E+00	NOT IDENT.
FE-59	-5.837E-02	1.175E-01	1.933E-01	0.000E+00	NOT IDENT.
CO-60	-1.644E-02	4.667E-02	7.542E-02	0.000E+00	NOT IDENT.
ZN-65	-1.361E-02	1.174E-01	1.707E-01	0.000E+00	NOT IDENT.
SE-75	1.695E-02	4.389E-02	7.512E-02	0.000E+00	NOT IDENT.
SR-85	4.462E-02	4.295E-02	6.931E-02	0.000E+00	NOT IDENT.
Y-88	7.491E-03	3.724E-02	6.469E-02	0.000E+00	NOT IDENT.
Y-91	2.727E+01	2.788E+01	5.038E+01	0.000E+00	NOT IDENT.
NB-94	-3.605E-03	3.658E-02	6.261E-02	0.000E+00	NOT IDENT.
NB-95	-1.351E-02	5.125E-02	8.588E-02	0.000E+00	NOT IDENT.
NB-95M	-6.003E-02	1.345E-01	1.974E-01	0.000E+00	NOT IDENT.
ZR-95	-2.862E-02	8.839E-02	1.475E-01	0.000E+00	NOT IDENT.
MO-99	0.000E+00	8.194E+01	0.000E+00	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	1.604E+25	0.000E+00	0.000E+00	SHORT HLIF
RU-103	-4.630E-02	4.868E-02	7.616E-02	0.000E+00	FAIL ABUN
RH-106	-4.713E-02	3.299E-01	5.703E-01	0.000E+00	NOT IDENT.
RU-106	-4.713E-02	3.298E-01	5.703E-01	0.000E+00	NOT IDENT.
AG-108M	1.872E-03	2.761E-02	4.762E-02	0.000E+00	NOT IDENT.
AG-110M	-4.345E-02	3.921E-02	6.246E-02	0.000E+00	NOT IDENT.
SN-113	-4.363E-02	4.634E-02	7.574E-02	0.000E+00	NOT IDENT.
CD-115	0.000E+00	1.094E+02	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-3.190E-03	7.419E-02	1.169E-01	0.000E+00	NOT IDENT.
TE-123M	-2.071E-02	2.602E-02	4.199E-02	0.000E+00	NOT IDENT.
SB-124	4.762E-02	7.373E-02	1.395E-01	0.000E+00	NOT IDENT.
SB-125	5.241E-02	8.664E-02	1.544E-01	0.000E+00	FAIL ABUN
TE-125M	2.288E+00	7.599E+00	1.395E+01	0.000E+00	NOT IDENT.
I-126	-3.413E-01	3.673E-01	5.949E-01	0.000E+00	NOT IDENT.
SB-126	8.782E-02	2.476E-01	3.834E-01	0.000E+00	NOT IDENT.
SB-127	-2.638E-01	5.228E+00	9.000E+00	0.000E+00	NOT IDENT.
I-131	-8.983E-02	2.133E-01	3.639E-01	0.000E+00	NOT IDENT.
TE-132	-3.411E-01	3.203E+00	5.427E+00	0.000E+00	NOT IDENT.
BA-133	-1.954E-03	4.535E-02	6.972E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.969E+06	0.000E+00	0.000E+00	SHORT HLIF
CS-134	5.237E-02	5.185E-02	9.395E-02	0.000E+00	NOT IDENT.
CS-135	6.567E-02	1.810E-01	2.757E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	6.550E+23	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.570E-01	1.748E-01	2.780E-01	0.000E+00	FAIL ABUN
BA-137M	-4.158E-02	4.236E-02	7.196E-02	0.000E+00	NOT IDENT.
CS-137	-4.392E-02	4.475E-02	7.602E-02	0.000E+00	NOT IDENT.
CE-139	-3.378E-03	2.508E-02	4.376E-02	0.000E+00	NOT IDENT.
BA-140	1.380E-01	3.983E-01	6.812E-01	0.000E+00	NOT IDENT.
LA-140	-1.824E-01	1.472E-01	2.093E-01	0.000E+00	FAIL ABUN
CE-141	-5.060E-02	6.047E-02	1.022E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	7.081E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.390E-01	1.596E-01	2.727E-01	0.000E+00	NOT IDENT.
PM-144	-6.136E-03	3.774E-02	6.438E-02	0.000E+00	NOT IDENT.
PR-144	-4.569E-01	2.836E+00	4.837E+00	0.000E+00	NOT IDENT.
PM-146	2.349E-02	4.274E-02	7.542E-02	0.000E+00	NOT IDENT.
ND-147	5.941E-01	8.890E-01	1.559E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	8.265E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-3.557E-03	1.023E-01	1.580E-01	0.000E+00	FAIL ABUN
GD-153	-7.134E-02	6.443E-02	9.963E-02	0.000E+00	NOT IDENT.
EU-154	-4.227E-02	1.441E-01	2.365E-01	0.000E+00	NOT IDENT.
EU-155	8.287E-02	7.688E-02	1.440E-01	0.000E+00	FAIL ABUN
TB-160	3.389E-02	1.522E-01	2.609E-01	0.000E+00	FAIL ABUN
HO-166M	-4.516E-02	6.424E-02	1.045E-01	0.000E+00	FAIL ABUN
TA-182	-4.747E-02	2.365E-01	3.945E-01	0.000E+00	FAIL ABUN
IR-192	-1.676E-03	3.353E-02	5.927E-02	0.000E+00	FAIL ABUN
HG-203	4.834E-02	4.079E-02	7.184E-02	0.000E+00	NOT IDENT.
BI-207	-3.170E-02	5.953E-02	9.799E-02	0.000E+00	FAIL ABUN
PB-211	-2.406E-01	7.009E-01	1.171E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	8.998E-01	1.294E+00	0.000E+00	FAIL ABUN
RN-219	-1.216E-01	3.912E-01	6.637E-01	0.000E+00	FAIL ABUN
RA-223	2.341E-01	6.407E-01	1.024E+00	0.000E+00	FAIL ABUN
AC-227	-6.988E-02	2.375E-01	3.933E-01	0.000E+00	FAIL ABUN
TH-227	-6.988E-02	2.375E-01	3.933E-01	0.000E+00	FAIL ABUN
PA-231	-4.256E-01	1.317E+00	2.137E+00	0.000E+00	FAIL ABUN
TH-231	2.341E-01	6.407E-01	1.024E+00	0.000E+00	FAIL ABUN
PA-233	8.910E-03	5.515E-02	9.868E-02	0.000E+00	FAIL ABUN
PA-234	-3.081E-04	3.385E-01	5.639E-01	0.000E+00	NOT IDENT.
PA-234M	7.095E-01	5.342E+00	8.766E+00	0.000E+00	NOT IDENT.
NP-239	-2.668E-01	2.829E-01	4.890E-01	0.000E+00	NOT IDENT.
AM-241	-6.442E-03	5.155E-02	8.096E-02	0.000E+00	NOT IDENT.
CM-247	-1.448E-02	3.648E-02	6.162E-02	0.000E+00	NOT IDENT.
CF-249	3.611E-02	3.883E-02	7.069E-02	0.000E+00	NOT IDENT.

CF-251	-3.415E-02	1.064E-01	1.829E-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]G248526001.CNF;1
Sample date        : 25-FEB-2010 12:00:00 Acquisition date : 19-MAR-2010 20:43:36
Sample ID          : G248526001 Sample quantity   : 1.33660E+02 GRAM
Detector name      : GAM25 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:02.22 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity       : 5.00000
Batch ID           : 961099 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	1460.82	1505	10.66*	1.108E+00	3.576E+01	3.576E+01	10.05
CD-109	88.03	544	3.70*	9.403E+00	4.393E+00	4.543E+00	19.63
SN-126	64.28	198	9.60	9.779E+00	5.929E-01	5.929E-01	60.54
	86.94	544	8.90	9.403E+00	1.826E+00	1.826E+00	44.96
	87.57	544	37.00*	9.403E+00	4.393E-01	4.393E-01	19.63
TL-208	277.37	-----	6.60	4.738E+00	-----	Line Not Found	-----
	583.19	492	85.00*	2.496E+00	6.515E-01	6.515E-01	16.98
	860.56	73	12.50	1.765E+00	9.295E-01	9.295E-01	42.89
PB-210	46.54	229	4.25*	9.181E+00	1.648E+00	1.651E+00	39.79
BI-211	72.87	-----	1.23	9.724E+00	-----	Line Not Found	-----
	351.06	842	12.92*	3.886E+00	4.708E+00	4.708E+00	14.35
PB-212	74.82	1008	10.28	9.694E+00	2.841E+00	2.841E+00	17.14
	77.11	1611	17.10	9.651E+00	2.741E+00	2.741E+00	12.10
	238.63	1778	43.60*	5.339E+00	2.145E+00	2.145E+00	12.66
	300.09	74	3.30	4.444E+00	1.419E+00	1.419E+00	77.31
BI-214	609.32	629	45.49*	2.401E+00	1.617E+00	1.617E+00	15.78
	1120.29	122	14.92	1.398E+00	1.638E+00	1.638E+00	40.84
	1764.49	101	15.30	9.413E-01	1.969E+00	1.969E+00	26.69
PB-214	74.82	1008	5.80	9.694E+00	5.036E+00	5.036E+00	16.19
	77.11	1611	9.70	9.651E+00	4.832E+00	4.832E+00	14.64
	242.00	368	7.25	5.291E+00	2.691E+00	2.692E+00	31.53
	295.22	536	18.42	4.503E+00	1.815E+00	1.815E+00	18.67
	351.93	842	35.60*	3.886E+00	1.709E+00	1.709E+00	15.37
RA-224	240.99	368	4.10*	5.291E+00	4.759E+00	4.759E+00	30.99
RA-226	609.32	629	45.49*	2.401E+00	1.617E+00	1.617E+00	15.78
	1120.29	122	14.92	1.398E+00	1.638E+00	1.638E+00	40.84
	1764.49	101	15.30	9.413E-01	1.969E+00	1.969E+00	26.69
AC-228	338.32	362	11.27	4.019E+00	2.243E+00	2.243E+00	47.75
	911.20	368	25.80*	1.678E+00	2.387E+00	2.387E+00	18.48
	968.97	194	15.80	1.589E+00	2.165E+00	2.165E+00	32.92
RA-228	338.32	362	11.27	4.019E+00	2.243E+00	2.243E+00	47.75
	911.20	368	25.80*	1.678E+00	2.387E+00	2.387E+00	18.48

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
TH-228	968.97	194	15.80	1.589E+00	2.165E+00	2.165E+00	32.92
	74.82	1008	10.28	9.694E+00	2.841E+00	2.841E+00	14.16
	77.11	1611	17.10	9.651E+00	2.741E+00	2.741E+00	12.10
	238.63	1778	43.60*	5.339E+00	2.145E+00	2.145E+00	12.66
TH-229	300.09	74	3.30	4.444E+00	1.419E+00	1.419E+00	98.05
	85.43	186	14.70	9.487E+00	3.742E-01	3.742E-01	41.77
	88.47	544	24.00	9.403E+00	6.773E-01	6.773E-01	19.63
	193.51	-----	4.41*	6.239E+00	-----	Line Not Found	-----
TH-232	210.85	180	2.80	5.894E+00	3.063E+00	3.063E+00	37.24
	338.32	362	11.27	4.019E+00	2.243E+00	2.243E+00	24.79
	911.20	368	25.80*	1.678E+00	2.387E+00	2.387E+00	18.48
	968.97	194	15.80	1.589E+00	2.165E+00	2.165E+00	32.92
TH-234	63.29	198	3.70*	9.779E+00	1.538E+00	1.538E+00	61.41
	92.59	426	4.23	9.237E+00	3.061E+00	3.061E+00	31.61
U-235	89.96	352	3.47	9.323E+00	3.052E+00	3.052E+00	34.81
	93.35	426	5.60	9.237E+00	2.312E+00	2.312E+00	32.32
	143.76	-----	10.96*	7.568E+00	-----	Line Not Found	-----
	163.33	-----	5.08	6.998E+00	-----	Line Not Found	-----
NP-237	185.72	240	57.20	6.417E+00	1.835E-01	1.835E-01	41.97
	205.31	-----	5.01	5.979E+00	-----	Line Not Found	-----
	86.48	544	12.40*	9.403E+00	1.311E+00	1.311E+00	28.72
	95.86	-----	2.68	9.143E+00	-----	Line Not Found	-----
U-238	63.29	198	3.70*	9.779E+00	1.538E+00	1.538E+00	61.41
	92.59	426	4.23	9.237E+00	3.061E+00	3.061E+00	24.20
ANH-511	511.00	153	100.00*	2.808E+00	1.527E-01	1.527E-01	43.96

Flag: "\*" = Keyline

Total number of lines in spectrum 33  
Number of unidentified lines 2  
Number of lines tentatively identified by NID 31 93.94%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	3.576E+01	3.576E+01	0.359E+01	10.05	
CD-109	461.40D	1.03	4.393E+00	4.543E+00	0.892E+00	19.63	
SN-126	2.30E+05Y	1.00	4.393E-01	4.393E-01	0.862E-01	19.63	
TL-208	1.41E+10Y	1.00	6.515E-01	6.515E-01	1.106E-01	16.98	
PB-210	22.20Y	1.00	1.648E+00	1.651E+00	0.657E+00	39.79	
BI-211	7.04E+08Y	1.00	4.708E+00	4.708E+00	0.675E+00	14.35	
PB-212	1.41E+10Y	1.00	2.145E+00	2.145E+00	0.271E+00	12.66	
BI-214	1600.00Y	1.00	1.617E+00	1.617E+00	0.255E+00	15.78	
PB-214	1600.00Y	1.00	1.709E+00	1.709E+00	0.263E+00	15.37	
RA-224	1.41E+10Y	1.00	4.759E+00	4.759E+00	1.475E+00	30.99	
RA-226	1600.00Y	1.00	1.617E+00	1.617E+00	0.255E+00	15.78	
AC-228	1.41E+10Y	1.00	2.387E+00	2.387E+00	0.441E+00	18.48	
RA-228	1.41E+10Y	1.00	2.387E+00	2.387E+00	0.441E+00	18.48	
TH-228	1.41E+10Y	1.00	2.145E+00	2.145E+00	0.271E+00	12.66	
TH-229	7340.00Y	1.00	6.773E-01	6.773E-01	1.329E-01	19.63	K
TH-232	1.41E+10Y	1.00	2.387E+00	2.387E+00	0.441E+00	18.48	
TH-234	4.47E+09Y	1.00	1.538E+00	1.538E+00	0.945E+00	61.41	
U-235	7.04E+08Y	1.00	1.835E-01	1.835E-01	0.770E-01	41.97	K
NP-237	2.14E+06Y	1.00	1.311E+00	1.311E+00	0.376E+00	28.72	
U-238	4.47E+09Y	1.00	1.538E+00	1.538E+00	0.945E+00	61.41	
ANH-511	1.00E+09Y	1.00	1.527E-01	1.527E-01	0.671E-01	43.96	
Total Activity :			7.415E+01	7.431E+01			

Grand Total Activity : 7.415E+01 7.431E+01

Flags: "K" = Keyline not found  
"E" = Manually edited

"M" = Manually accepted  
"A" = Nuclide specific abn. limit

Unidentified Energy Lines  
Sample ID : G248526001

Page : 4  
Acquisition date : 19-MAR-2010 20:43:36

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	154.02	82	384	0.99	307.59	305	8	1.14E-02	86.3	7.26E+00	T
0	270.30	189	224	1.63	540.13	536	10	2.62E-02	33.4	4.84E+00	T
0	327.45	106	165	1.46	654.42	650	10	1.47E-02	49.3	4.13E+00	T
0	462.61	77	90	1.49	924.71	921	8	1.07E-02	48.5	3.06E+00	T
0	727.41	89	99	1.39	1454.30	1448	11	1.23E-02	48.3	2.05E+00	T
0	934.76	39	50	1.15	1869.01	1863	10	5.48E-03	74.2	1.64E+00	
1	964.63	59	75	1.97	1928.75	1922	22	8.14E-03	65.8	1.60E+00	T
0	1378.22	52	39	1.82	2755.95	2749	15	7.27E-03	58.2	1.17E+00	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G248526001.CNF;1
* Acquisition date   : 19-MAR-2010 20:43:36  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 02:00:02.22          Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 25-FEB-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G248526001            Analyst initials: MXR1
* Batch Number       : 961099                Sample Quantity : 1.33660E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 7-OCT-2009 09:38:43.34MS Isotope       :
* MSD ID             :                      MSD Isotope        :
* LCS ID             : 1032-A                LCS Isotope       :
*****

```

## Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.576E+01	3.594E+00	5.565E-01	4.739E-02	64.266
CD-109	4.543E+00	8.917E-01	7.293E-01	7.837E-02	6.230
SN-126	4.393E-01	8.622E-02	7.037E-02	7.546E-03	6.243
TL-208	6.515E-01	1.106E-01	5.432E-02	6.119E-03	11.993
PB-210	1.651E+00	6.567E-01	5.796E-01	5.936E-02	2.848
BI-211	4.708E+00	6.754E-01	3.352E-01	3.533E-02	14.043
PB-212	2.145E+00	2.714E-01	8.367E-02	9.559E-03	25.635
BI-214	1.617E+00	2.550E-01	1.030E-01	1.247E-02	15.695
PB-214	1.709E+00	2.626E-01	1.220E-01	1.449E-02	14.007
RA-224	4.759E+00	1.475E+00	8.979E-01	9.436E-02	5.300
RA-226	1.617E+00	2.550E-01	1.030E-01	1.247E-02	15.695
AC-228	2.387E+00	4.411E-01	2.417E-01	2.954E-02	9.876
RA-228	2.387E+00	4.411E-01	2.417E-01	2.954E-02	9.876
TH-228	2.145E+00	2.714E-01	8.367E-02	9.559E-03	25.635
TH-229	6.773E-01	1.329E-01	7.385E-01	7.043E-02	0.917
TH-232	2.387E+00	4.411E-01	2.417E-01	2.954E-02	9.876
TH-234	1.538E+00	9.447E-01	7.664E-01	1.455E-01	2.007
U-235	1.835E-01	7.702E-02	2.738E-01	5.029E-02	0.670

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-237	1.311E+00	3.765E-01	2.253E-01	5.299E-02	5.819
U-238	1.538E+00	9.447E-01	7.664E-01	1.455E-01	2.007
ANH-511	1.527E-01	6.712E-02	4.340E-02	4.467E-03	3.518

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-6.946E-02		3.410E-01	5.471E-01	5.791E-02	-0.127
NA-22	-1.771E-02		5.224E-02	8.327E-02	6.828E-03	-0.213
NA-24	-3.806E+02		1.070E+03	Half-Life too short		
SC-46	3.852E-05		4.781E-02	7.778E-02	7.448E-03	0.000
V-48	-4.263E-02		1.113E-01	1.727E-01	1.600E-02	-0.247
CR-51	-2.134E-01		4.230E-01	6.933E-01	7.695E-02	-0.308
MN-54	3.742E-02		4.195E-02	7.308E-02	7.416E-03	0.512
CO-56	-1.965E-04		4.203E-02	6.867E-02	6.890E-03	-0.003
CO-57	-2.910E-03		1.958E-02	3.285E-02	4.236E-03	-0.089
CO-58	-1.997E-02		4.552E-02	7.185E-02	7.455E-03	-0.278
FE-59	-5.837E-02		1.199E-01	1.920E-01	1.808E-02	-0.304
CO-60	-1.644E-02		4.762E-02	7.515E-02	6.104E-03	-0.219
ZN-65	-1.361E-02		1.198E-01	1.696E-01	1.465E-02	-0.080
SE-75	1.695E-02		4.478E-02	7.273E-02	7.972E-03	0.233
SR-85	4.462E-02		4.382E-02	6.789E-02	7.004E-03	0.657
Y-88	7.491E-03		3.800E-02	6.485E-02	5.299E-03	0.116
Y-91	2.727E+01		2.845E+01	5.011E+01	4.124E+00	0.544
NB-94	-3.605E-03		3.732E-02	6.167E-02	6.773E-03	-0.058
NB-95	-1.351E-02		5.230E-02	8.473E-02	9.050E-03	-0.159
NB-95M	-6.003E-02		1.373E-01	1.907E-01	2.189E-02	-0.315
ZR-95	-2.862E-02		9.019E-02	1.454E-01	1.669E-02	-0.197
MO-99	2.071E-05		4.180E-05	Half-Life too short		
TC-99M	1.311E+19		8.185E+18	Half-Life too short		
RU-103	-4.630E-02		4.967E-02	7.456E-02	1.117E-02	-0.621
RH-106	-4.713E-02		3.366E-01	5.605E-01	8.339E-02	-0.084
RU-106	-4.713E-02		3.366E-01	5.605E-01	6.138E-02	-0.084
AG-108M	1.872E-03		2.818E-02	4.651E-02	4.569E-03	0.040
AG-110M	-4.345E-02		4.001E-02	6.145E-02	6.925E-03	-0.707
SN-113	-4.363E-02		4.729E-02	7.384E-02	6.896E-03	-0.591
CD-115	-2.575E-06		5.580E-05	Half-Life too short		
SN-117M	-3.190E-03		7.571E-02	1.121E-01	1.089E-02	-0.028
TE-123M	-2.071E-02		2.656E-02	4.030E-02	3.913E-03	-0.514
SB-124	4.762E-02		7.524E-02	1.397E-01	1.210E-02	0.341
SB-125	5.241E-02		8.841E-02	1.508E-01	1.456E-02	0.348
TE-125M	2.288E+00		7.754E+00	1.330E+01	1.785E+00	0.172
I-126	-3.413E-01		3.748E-01	5.854E-01	6.481E-02	-0.583
SB-126	8.782E-02		2.527E-01	3.778E-01	4.123E-02	0.232
SB-127	-2.638E-01		5.334E+00	8.861E+00	1.362E+00	-0.030
I-131	-8.983E-02		2.176E-01	3.543E-01	3.654E-02	-0.254
TE-132	-3.411E-01		3.269E+00	5.241E+00	9.617E-01	-0.065



----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BA-133	-1.954E-03		4.627E-02	6.785E-02	9.464E-03	-0.029
I-133	6.484E-01		1.004E+00	Half-Life too short		
CS-134	5.237E-02		5.291E-02	9.275E-02	9.764E-03	0.565
CS-135	6.567E-02		1.847E-01	2.670E-01	3.223E-02	0.246
I-135	-2.730E+17		3.342E+17	Half-Life too short		
CS-136	-1.570E-01		1.783E-01	2.758E-01	2.582E-02	-0.569
BA-137M	-4.158E-02		4.322E-02	7.081E-02	7.844E-03	-0.587
CS-137	-4.392E-02		4.566E-02	7.480E-02	8.296E-03	-0.587
CE-139	-3.378E-03		2.559E-02	4.203E-02	3.747E-03	-0.080
BA-140	1.380E-01		4.065E-01	6.677E-01	2.299E-01	0.207
LA-140	-1.824E-01		1.502E-01	2.092E-01	1.740E-02	-0.872
CE-141	-5.060E-02		6.170E-02	9.797E-02	1.090E-02	-0.516
CE-143	1.860E-02		3.613E-03	Half-Life too short		
CE-144	-1.390E-01		1.629E-01	2.610E-01	4.550E-02	-0.533
PM-144	-6.136E-03		3.851E-02	6.340E-02	6.978E-03	-0.097
PR-144	-4.569E-01		2.894E+00	4.764E+00	5.241E-01	-0.096
PM-146	2.349E-02		4.361E-02	7.372E-02	8.518E-03	0.319
ND-147	5.941E-01		9.071E-01	1.528E+00	2.456E-01	0.389
PM-149	1.521E-04		4.217E-04	Half-Life too short		
EU-152	-3.557E-03		1.044E-01	1.537E-01	1.650E-02	-0.023
GD-153	-7.134E-02		6.574E-02	9.483E-02	1.068E-02	-0.752
EU-154	-4.227E-02		1.470E-01	2.354E-01	2.603E-02	-0.180
EU-155	8.287E-02		7.845E-02	1.372E-01	1.622E-02	0.604
TB-160	3.389E-02		1.553E-01	2.581E-01	2.501E-02	0.131
HO-166M	-4.516E-02		6.555E-02	1.030E-01	1.128E-02	-0.438
TA-182	-4.747E-02		2.414E-01	3.925E-01	3.228E-02	-0.121
IR-192	-1.676E-03		3.422E-02	5.756E-02	6.218E-03	-0.029
HG-203	4.834E-02		4.162E-02	6.962E-02	7.889E-03	0.694
BI-207	-3.170E-02		6.075E-02	9.724E-02	8.679E-03	-0.326
PB-211	-2.406E-01		7.152E-01	1.142E+00	5.542E-01	-0.211
BI-212	1.825E+00	+	9.182E-01	1.275E+00	1.801E-01	1.431
RN-219	-1.216E-01		3.991E-01	6.473E-01	9.854E-02	-0.188
RA-223	2.341E-01		6.537E-01	9.945E-01	1.834E-01	0.235
AC-227	-6.988E-02		2.423E-01	3.805E-01	5.207E-02	-0.184
TH-227	-6.988E-02		2.424E-01	3.805E-01	5.734E-02	-0.184
PA-231	-4.256E-01		1.343E+00	2.071E+00	3.354E-01	-0.205
TH-231	2.341E-01		6.537E-01	9.945E-01	1.834E-01	0.235
PA-233	8.910E-03		5.627E-02	9.581E-02	1.058E-02	0.093
PA-234	-3.081E-04		3.454E-01	5.585E-01	1.068E-01	-0.001
PA-234M	7.095E-01		5.451E+00	8.690E+00	9.102E-01	0.082
NP-239	-2.668E-01		2.887E-01	4.669E-01	5.857E-02	-0.572
AM-241	-6.442E-03		5.261E-02	7.643E-02	7.941E-03	-0.084
CM-247	-1.448E-02		3.723E-02	6.010E-02	5.539E-03	-0.241
CF-249	3.611E-02		3.962E-02	6.890E-02	6.336E-03	0.524
CF-251	-3.415E-02		1.086E-01	1.759E-01	1.614E-02	-0.194

## 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]G248526001           *
* Acquisition date   : 19-MAR-2010 20:43:36 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 02:00:02.22 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                          *
*
* Sample date       : 25-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID        : G248526001 Analyst initials: MXR1                   *
* Batch Number     : 961099 Sample Quantity : 1.3366E+02 GRAM            *
* Recovery         : 1.00000 Carrier Weight : 0.00000                    *
*****
*                                     QC DATA                              *
*
* CALIB. DATE/TIME  : 7-OCT-2009 09:38:43 MS Isotope :                   *
* MSD DPM           : 0.000 MSD Isotope :                               *
* LCS DPM           : 0.000 LCS Isotope :                               *
* LCSD DPM          : 0.000 LCSD Isotope :                               *
*****

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## Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM )	Act Error	DLC (pCi/GRAM )	TPU
K-40	3.576E+01	3.522E+00	2.789E-01	1.797E+00
CD-109	4.543E+00	8.738E-01	3.840E-01	4.458E-01
SN-126	4.393E-01	8.449E-02	3.705E-02	4.311E-02
TL-208	6.515E-01	1.084E-01	2.768E-02	5.532E-02
PB-210	1.651E+00	6.436E-01	3.084E-01	3.284E-01
BI-211	4.708E+00	6.619E-01	1.724E-01	3.377E-01
PB-212	2.145E+00	2.660E-01	4.331E-02	1.357E-01
BI-214	1.617E+00	2.499E-01	5.245E-02	1.275E-01
PB-214	1.709E+00	2.574E-01	6.272E-02	1.313E-01
RA-224	4.759E+00	1.445E+00	4.647E-01	7.375E-01
RA-226	1.617E+00	2.499E-01	5.245E-02	1.275E-01
AC-228	2.387E+00	4.322E-01	1.222E-01	2.205E-01
RA-228	2.387E+00	4.322E-01	1.222E-01	2.205E-01
TH-228	2.145E+00	2.660E-01	4.331E-02	1.357E-01
TH-229	-2.339E-02	4.442E-01	3.837E-01	2.267E-01
TH-232	2.387E+00	4.322E-01	1.222E-01	2.205E-01
TH-234	1.538E+00	9.258E-01	4.057E-01	4.724E-01
U-235	-2.476E-02	1.636E-01	1.430E-01	8.348E-02
NP-237	1.311E+00	3.689E-01	1.186E-01	1.882E-01
U-238	1.538E+00	9.258E-01	4.057E-01	4.724E-01
ANH-511	1.527E-01	6.578E-02	2.217E-02	3.356E-02

## ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L Act error	DLC (pCi/GRAM )	TPU
BE-7	-6.946E-02	3.342E-01	2.798E-01	1.705E-01 NOT IDENT.
NA-22	-1.771E-02	5.120E-02	4.184E-02	2.612E-02 NOT IDENT.
NA-24	-3.806E+08	2.098E+09	0.000E+00	1.070E+09 SHORT HLIF
SC-46	3.852E-05	4.685E-02	3.934E-02	2.390E-02 FAIL ABUN
V-48	-4.263E-02	1.091E-01	8.717E-02	5.564E-02 NOT IDENT.
CR-51	-2.134E-01	4.145E-01	3.571E-01	2.115E-01 NOT IDENT.

MN-54	3.742E-02	4.111E-02	3.701E-02	2.098E-02	NOT IDENT.
CO-56	-1.965E-04	4.119E-02	3.476E-02	2.101E-02	NOT IDENT.
CO-57	-2.910E-03	1.919E-02	1.720E-02	9.792E-03	NOT IDENT.
CO-58	-1.997E-02	4.461E-02	3.640E-02	2.276E-02	NOT IDENT.
FE-59	-5.837E-02	1.175E-01	9.673E-02	5.994E-02	NOT IDENT.
CO-60	-1.644E-02	4.667E-02	3.773E-02	2.381E-02	NOT IDENT.
ZN-65	-1.361E-02	1.174E-01	8.540E-02	5.988E-02	NOT IDENT.
SE-75	1.695E-02	4.389E-02	3.758E-02	2.239E-02	NOT IDENT.
SR-85	4.462E-02	4.295E-02	3.467E-02	2.191E-02	NOT IDENT.
Y-88	7.491E-03	3.724E-02	3.236E-02	1.900E-02	NOT IDENT.
Y-91	2.727E+01	2.788E+01	2.520E+01	1.422E+01	NOT IDENT.
NB-94	-3.605E-03	3.658E-02	3.133E-02	1.866E-02	NOT IDENT.
NB-95	-1.351E-02	5.125E-02	4.297E-02	2.615E-02	NOT IDENT.
NB-95M	-6.003E-02	1.345E-01	9.873E-02	6.863E-02	NOT IDENT.
ZR-95	-2.862E-02	8.839E-02	7.378E-02	4.510E-02	NOT IDENT.
MO-99	2.071E+01	8.194E+01	0.000E+00	4.180E+01	SHORT HLIF
TC-99M	1.311E+25	1.604E+25	0.000E+00	0.000E+00	SHORT HLIF
RU-103	-4.630E-02	4.868E-02	3.810E-02	2.484E-02	FAIL ABUN
RH-106	-4.713E-02	3.299E-01	2.853E-01	1.683E-01	NOT IDENT.
RU-106	-4.713E-02	3.298E-01	2.853E-01	1.683E-01	NOT IDENT.
AG-108M	1.872E-03	2.761E-02	2.383E-02	1.409E-02	NOT IDENT.
AG-110M	-4.345E-02	3.921E-02	3.125E-02	2.001E-02	NOT IDENT.
SN-113	-4.363E-02	4.634E-02	3.789E-02	2.364E-02	NOT IDENT.
CD-115	-2.575E+00	1.094E+02	0.000E+00	5.580E+01	SHORT HLIF
SN-117M	-3.190E-03	7.419E-02	5.846E-02	3.785E-02	NOT IDENT.
TE-123M	-2.071E-02	2.602E-02	2.101E-02	1.328E-02	NOT IDENT.
SB-124	4.762E-02	7.373E-02	6.981E-02	3.762E-02	NOT IDENT.
SB-125	5.241E-02	8.664E-02	7.726E-02	4.420E-02	FAIL ABUN
TE-125M	2.288E+00	7.599E+00	6.977E+00	3.877E+00	NOT IDENT.
I-126	-3.413E-01	3.673E-01	2.976E-01	1.874E-01	NOT IDENT.
SB-126	8.782E-02	2.476E-01	1.918E-01	1.263E-01	NOT IDENT.
SB-127	-2.638E-01	5.228E+00	4.503E+00	2.667E+00	NOT IDENT.
I-131	-8.983E-02	2.133E-01	1.820E-01	1.088E-01	NOT IDENT.
TE-132	-3.411E-01	3.203E+00	2.715E+00	1.634E+00	NOT IDENT.
BA-133	-1.954E-03	4.535E-02	3.488E-02	2.314E-02	NOT IDENT.
I-133	6.484E+05	1.969E+06	0.000E+00	1.004E+06	SHORT HLIF
CS-134	5.237E-02	5.185E-02	4.700E-02	2.646E-02	NOT IDENT.
CS-135	6.567E-02	1.810E-01	1.379E-01	9.237E-02	NOT IDENT.
I-135	-2.730E+23	6.550E+23	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.570E-01	1.748E-01	1.391E-01	8.916E-02	FAIL ABUN
BA-137M	-4.158E-02	4.236E-02	3.600E-02	2.161E-02	NOT IDENT.
CS-137	-4.392E-02	4.475E-02	3.803E-02	2.283E-02	NOT IDENT.
CE-139	-3.378E-03	2.508E-02	2.189E-02	1.279E-02	NOT IDENT.
BA-140	1.380E-01	3.983E-01	3.408E-01	2.032E-01	NOT IDENT.
LA-140	-1.824E-01	1.472E-01	1.047E-01	7.511E-02	FAIL ABUN
CE-141	-5.060E-02	6.047E-02	5.115E-02	3.085E-02	NOT IDENT.
CE-143	1.860E+04	7.081E+03	0.000E+00	3.613E+03	SHORT HLIF
CE-144	-1.390E-01	1.596E-01	1.364E-01	8.145E-02	NOT IDENT.
PM-144	-6.136E-03	3.774E-02	3.221E-02	1.926E-02	NOT IDENT.
PR-144	-4.569E-01	2.836E+00	2.420E+00	1.447E+00	NOT IDENT.
PM-146	2.349E-02	4.274E-02	3.773E-02	2.181E-02	NOT IDENT.
ND-147	5.941E-01	8.890E-01	7.801E-01	4.536E-01	FAIL ABUN
PM-149	1.521E+02	8.265E+02	0.000E+00	4.217E+02	SHORT HLIF
EU-152	-3.557E-03	1.023E-01	7.907E-02	5.221E-02	FAIL ABUN
GD-153	-7.134E-02	6.443E-02	4.984E-02	3.287E-02	NOT IDENT.
EU-154	-4.227E-02	1.441E-01	1.183E-01	7.352E-02	NOT IDENT.
EU-155	8.287E-02	7.688E-02	7.204E-02	3.923E-02	FAIL ABUN
TB-160	3.389E-02	1.522E-01	1.305E-01	7.766E-02	FAIL ABUN
HO-166M	-4.516E-02	6.424E-02	5.230E-02	3.278E-02	FAIL ABUN
TA-182	-4.747E-02	2.365E-01	1.974E-01	1.207E-01	FAIL ABUN
IR-192	-1.676E-03	3.353E-02	2.965E-02	1.711E-02	FAIL ABUN
HG-203	4.834E-02	4.079E-02	3.594E-02	2.081E-02	NOT IDENT.
BI-207	-3.170E-02	5.953E-02	4.902E-02	3.037E-02	FAIL ABUN
PB-211	-2.406E-01	7.009E-01	5.859E-01	3.576E-01	NOT IDENT.
BI-212	1.825E+00	8.998E-01	6.473E-01	4.591E-01	FAIL ABUN
RN-219	-1.216E-01	3.912E-01	3.321E-01	1.996E-01	FAIL ABUN
RA-223	2.341E-01	6.407E-01	5.121E-01	3.269E-01	FAIL ABUN
AC-227	-6.988E-02	2.375E-01	1.967E-01	1.212E-01	FAIL ABUN
TH-227	-6.988E-02	2.375E-01	1.967E-01	1.212E-01	FAIL ABUN
PA-231	-4.256E-01	1.317E+00	1.069E+00	6.717E-01	FAIL ABUN
TH-231	2.341E-01	6.407E-01	5.121E-01	3.269E-01	FAIL ABUN
PA-233	8.910E-03	5.515E-02	4.937E-02	2.814E-02	FAIL ABUN
PA-234	-3.081E-04	3.385E-01	2.821E-01	1.727E-01	NOT IDENT.
PA-234M	7.095E-01	5.342E+00	4.386E+00	2.725E+00	NOT IDENT.
NP-239	-2.668E-01	2.829E-01	2.446E-01	1.443E-01	NOT IDENT.
AM-241	-6.442E-03	5.155E-02	4.050E-02	2.630E-02	NOT IDENT.
CM-247	-1.448E-02	3.648E-02	3.083E-02	1.861E-02	NOT IDENT.
CF-249	3.611E-02	3.883E-02	3.537E-02	1.981E-02	NOT IDENT.

CF-251

-3.415E-02

1.064E-01

9.152E-02

5.431E-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
46.54	299.4243
49.72	318.5103
57.36	0.0000
59.54	418.6689
63.29	450.8852
63.29	450.8852
64.28	452.5238
67.75	450.0518
69.67	532.4720
70.83	475.1825
72.81	522.4109
72.87	522.5156
72.87	522.5156
74.82	468.0644
74.82	468.0644
74.82	468.0644
74.97	468.2928
77.11	471.5333
77.11	471.5333
77.11	471.5333
79.69	410.2246
79.80	391.0534
80.12	391.4415
80.19	391.5255
80.57	391.9853
81.00	348.8928
81.07	348.9675
81.07	348.9675
83.79	379.5494
83.79	379.5494
85.43	405.1408
86.48	406.3921
86.55	406.4752
86.79	350.0576
86.94	350.2137
87.57	350.8550
88.03	351.3209
88.47	351.7672
89.96	353.2666
91.11	354.4171
92.59	343.3529
92.59	343.3529
93.35	344.0762
94.67	345.3263
94.87	305.1624
94.87	305.1624
95.86	336.3295
97.43	375.8445
98.44	294.3553
99.53	287.7129
100.11	300.9391
103.18	346.3035
103.37	331.8562
105.31	322.2619
106.12	329.8442
109.28	318.4727
111.00	328.5713
111.76	311.6181
116.30	272.3976
117.23	293.4396
121.12	279.0186
121.78	280.3331
122.06	289.5000
123.07	282.0452
131.20	326.5253
133.52	315.2221
136.00	274.2360

136.47	297.6884
140.51	0.0000
140.51	0.0000
143.76	296.4532
144.24	279.7789
144.24	279.7789
145.44	312.5449
152.43	278.4961
153.25	294.7407
154.21	303.4344
154.21	303.4344
156.02	300.6060
158.56	287.4982
159.00	301.0970
162.66	225.2781
163.33	265.5807
165.86	259.9132
176.60	248.7822
177.52	252.1692
181.07	0.0000
184.41	277.8229
185.72	264.7197
193.51	244.3989
197.04	240.5775
205.31	233.6787
210.85	271.9624
215.65	253.6871
222.11	233.5233
227.38	233.0750
228.16	236.5638
228.18	236.5705
235.69	256.9888
235.96	257.0798
235.96	257.0798
238.63	222.3885
238.63	222.3885
240.99	223.0782
242.00	223.3735
244.70	202.0718
252.40	212.9884
252.80	199.7089
256.23	207.2904
256.23	207.2904
260.90	0.0000
264.66	185.6711
268.22	235.3640
269.46	222.0490
269.46	222.0490
271.23	199.6948
273.65	166.5086
276.40	203.2122
277.37	191.9488
277.60	191.9997
278.00	175.9849
279.20	168.1679
279.54	205.1063
280.46	219.1695
283.69	162.0943
284.31	184.2222
285.41	174.0143
285.90	0.0000
287.50	179.0776
293.27	0.0000
295.22	167.4948
295.96	172.5647
298.57	173.0612
299.98	149.9812
299.98	149.9812
300.09	149.9993
300.09	149.9993
300.13	150.0071
301.36	151.6260
302.85	153.2909
304.50	157.8281
304.50	157.8281
304.85	161.2067
308.46	148.1502
311.90	142.4221

316.51	159.3151
319.41	175.1465
320.08	177.9781
323.87	146.5684
323.87	146.5684
328.76	157.5097
333.37	124.5428
334.37	133.4674
334.37	133.4674
338.28	150.9197
338.28	150.9197
338.32	150.9247
338.32	150.9247
338.32	150.9247
340.48	154.9365
340.55	154.9468
344.28	154.0322
351.06	166.7855
351.93	166.9248
356.01	154.2812
364.49	159.4767
366.42	0.0000
383.85	137.3399
388.16	124.3664
388.63	115.7391
391.69	160.5364
400.66	138.3967
401.81	138.5332
402.40	144.4590
404.85	140.8491
410.95	123.8813
414.70	130.1873
423.72	118.2446
427.09	116.5769
427.87	105.6830
433.94	107.2041
453.88	111.9537
463.37	101.6976
468.07	112.8767
473.00	110.4907
476.78	84.9141
477.60	100.5078
487.02	82.4235
492.35	0.0000
497.08	130.3158
511.00	87.0280
514.00	86.7847
527.90	0.0000
529.87	0.0000
531.02	83.9271
537.26	88.6039
546.56	0.0000
563.25	102.2154
569.33	104.8195
569.50	104.8311
569.70	104.8427
583.19	77.9105
600.60	94.5000
602.73	105.1367
604.72	106.7658
609.32	74.1904
609.32	74.1904
610.33	74.2344
614.28	83.1826
618.01	82.7598
621.93	96.6241
621.93	96.6241
633.25	90.8427
635.95	92.8233
636.99	91.0408
645.85	85.9592
657.76	118.1788
661.66	106.3128
661.66	106.3128
664.57	0.0000
666.33	123.4181
666.50	113.1451
677.62	85.6147

685.70	92.6071
695.00	102.5684
696.49	101.6996
696.51	101.7022
697.00	105.5313
702.65	102.0340
706.68	86.9610
711.68	97.7292
720.70	73.8029
721.93	0.0000
722.78	72.2772
722.91	72.2827
723.31	72.2974
724.19	80.3670
727.33	85.3271
733.00	88.5737
735.93	81.4980
739.50	0.0000
747.24	72.2078
752.31	87.0640
753.82	78.3203
756.73	97.0616
763.94	116.1015
765.81	106.3600
766.42	91.6150
777.92	0.0000
778.90	99.1138
783.70	88.4155
785.37	98.4296
795.86	75.9406
801.95	78.1657
810.29	85.5146
810.76	77.4831
815.77	61.5257
818.51	72.7137
832.01	90.4428
834.85	70.2095
836.80	0.0000
846.77	59.3353
856.80	82.2109
860.56	64.8488
871.09	64.1161
873.19	54.8594
875.33	0.0000
879.36	57.0840
880.51	44.6513
883.24	76.9322
884.68	72.8198
889.28	71.9227
898.04	69.0551
911.20	64.1811
911.20	64.1811
911.20	64.1811
926.50	58.8284
937.49	67.3690
944.13	68.2641
946.00	69.3831
949.00	64.1250
962.29	80.5884
964.08	82.7957
966.15	82.8652
968.97	82.9583
968.97	82.9583
968.97	82.9583
983.53	70.4352
996.26	86.0340
1001.03	61.0996
1004.73	81.9470
1037.84	64.5455
1038.76	0.0000
1048.07	79.6032
1050.41	62.0710
1050.41	62.0710
1063.66	78.2031
1085.87	59.1292
1099.45	77.3354
1112.07	64.9609
1115.54	78.0502



1120.29	76.5520
1120.29	76.5520
1120.55	76.5586
1121.30	78.2076
1131.51	0.0000
1173.23	72.5677
1177.93	79.4642
1189.05	68.0888
1204.77	75.2893
1221.41	89.4633
1231.02	99.6027
1235.36	117.5183
1238.28	91.9291
1260.41	0.0000
1271.85	61.9420
1274.44	67.9917
1274.54	68.9916
1291.59	57.2969
1298.22	0.0000
1312.11	50.5778
1332.49	53.9446
1365.19	28.7770
1368.63	0.0000
1384.29	33.6622
1408.01	24.9736
1457.56	0.0000
1460.82	25.3477
1489.16	23.4162
1505.03	34.2070
1596.21	40.3515
1620.50	16.9955
1678.03	0.0000
1690.97	8.6469
1764.49	15.3990
1764.49	15.3990
1770.23	13.7061
1771.35	82.2568
1791.20	0.0000
1836.06	12.9197

TOTAL URANIUM BY GAMMA SPEC REPORT  
Sample:G248526001

Total Uranium Activity	4.5652E+00	ug/g
Total Uranium Counting Unc.	2.7554E+00	ug/g
Total Uranium Tpu	1.4058E-06	ug/g
Total Uranium Mda	1.2089E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 961099          SAMPLE ID   : G248526001
*  ANALYST       : MXR1            DETECTOR    : GAM25
*  SAMPLE DATE   : 25-FEB-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 19-MAR-2010 20:43:36.05  SAMPLE ALQT: 133.660 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.148E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.313E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 3.131E+00
GROSS GAMMA DLC       (pCi/GRAM ) : 1.522E+00

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VAX/VMS Nuclide Identification Report Generated 20-MAR-2010 13:12:19.58

```
*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202061469.CNF;1
Sample date        : 6-MAR-2010 00:00:00. Acquisition date : 20-MAR-2010 11:11:16
Sample ID          : G1202061469      Sample quantity   : 1.38240E+02 GRAM
Detector name      : GAM11             Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00     Elapsed real time: 0 02:00:00.56  0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials : MXR1
Abundance limit    : 75.00000           Sensitivity        : 5.00000
Batch ID           : 961099             Detector SN#       :
Matrix Spike ID    :                    LCS ID           : 1032-A
*****
No peaks were found
```

## VMS Nuclide Identification Report V3.1 Generated 20-MAR-2010 13:12:22

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202061469.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 6-MAR-2010 00:00:00   Acquisition date : 20-MAR-2010 11:11:16
Sample ID        : G1202061469           Sample quantity  : 138.24 GRAM
Sample type      : SOLID                  Sample geometry   :
Detector name    : GAMMA11               Detector geometry: CAN
Elapsed live time: 0 02:00:00.00          Elapsed real time: 0 02:00:00.56    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

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	477.60	*		9.426E-02	1.450E-01	2.612E-01	2.956E-02	0.361
NA-22	1274.54	*		9.310E-03	1.870E-02	3.360E-02	2.759E-03	0.277
NA-24	1368.63	*		-1.795E-01	1.870E-02	Half-Life too short		
K-40	1460.82	*		-2.250E-02	2.243E-01	4.088E-01	3.535E-02	-0.055
SC-46	889.28	*		-1.295E-02	1.603E-02	2.236E-02	2.202E-03	-0.579
	1120.55			1.607E-02	2.265E-02	4.160E-02	3.547E-03	0.386
V-48	944.13			-1.366E-01	3.401E-01	5.194E-01	5.024E-02	-0.263
	983.53	*		7.674E-03	2.485E-02	4.414E-02	4.187E-03	0.174
	1312.11			8.131E-03	1.970E-02	3.701E-02	3.052E-03	0.220
CR-51	320.08	*		5.011E-02	1.583E-01	2.632E-01	3.818E-02	0.190
MN-54	834.85	*		6.626E-03	1.473E-02	2.669E-02	2.628E-03	0.248
CO-56	846.77	*		-2.389E-03	1.771E-02	2.918E-02	2.875E-03	-0.082
	1037.84			-7.518E-02	1.112E-01	1.520E-01	1.458E-02	-0.495
	1238.28			-1.627E-02	2.643E-02	3.555E-02	2.991E-03	-0.458
	1771.35			-1.277E-01	1.336E-01	1.507E-01	1.240E-02	-0.847
CO-57	122.06	*		-2.695E-03	9.455E-03	1.567E-02	1.326E-03	-0.172
	136.47			-4.773E-02	8.230E-02	1.321E-01	1.240E-02	-0.361
CO-58	810.76	*		4.226E-04	1.589E-02	2.555E-02	2.515E-03	0.017
FE-59	1099.45	*		-2.503E-02	3.219E-02	4.191E-02	3.939E-03	-0.597
	1291.59			-4.963E-02	5.388E-02	6.337E-02	5.981E-03	-0.783
CO-60	1173.23			-1.909E-03	1.801E-02	2.884E-02	2.317E-03	-0.066
	1332.49	*		1.309E-03	1.534E-02	2.544E-02	2.102E-03	0.051
ZN-65	1115.54	*		-1.702E-02	3.190E-02	4.562E-02	3.915E-03	-0.373
SE-75	121.12			-2.253E-02	4.916E-02	8.020E-02	8.788E-03	-0.281
	136.00			-9.724E-03	1.594E-02	2.554E-02	2.249E-03	-0.381
	264.66	*		-9.117E-04	1.924E-02	3.101E-02	4.558E-03	-0.029
	279.54			-2.662E-02	4.948E-02	7.471E-02	1.170E-02	-0.356
	400.66			7.079E-02	1.113E-01	2.009E-01	2.565E-02	0.352
SR-85	514.00	*		-7.521E-02	2.981E-02	3.709E-02	3.962E-03	-2.028
Y-88	898.04			-8.296E-04	1.754E-02	2.915E-02	2.881E-03	-0.028
	1836.06	*		1.113E-02	1.806E-02	3.503E-02	2.844E-03	0.318
Y-91	1204.77	*		2.309E+00	8.706E+00	1.497E+01	1.212E+00	0.154
NB-94	702.65	*		4.577E-03	1.566E-02	2.651E-02	2.546E-03	0.173
	871.09			1.909E-02	1.724E-02	3.333E-02	3.284E-03	0.573

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95	765.81	*		1.868E-02	1.845E-02	3.444E-02	3.362E-03	0.542
NB-95M	235.69	*		-6.843E-02	5.271E-02	7.313E-02	1.022E-02	-0.936
ZR-95	724.19			-3.074E-02	4.485E-02	6.410E-02	6.615E-03	-0.480
	756.73	*		-1.087E-02	3.097E-02	4.631E-02	4.886E-03	-0.235
MO-99	140.51			-1.749E+00	8.840E+00	1.360E+01	3.242E+00	-0.129
	181.07			2.225E-01	5.949E+00	9.917E+00	1.950E+00	0.022
	366.42			7.230E-01	4.045E+01	6.417E+01	7.775E+00	0.011
	739.50	*		-3.362E+00	5.887E+00	8.618E+00	1.411E+00	-0.390
	777.92			-1.627E+01	1.530E+01	1.946E+01	1.904E+00	-0.836
TC-99M	140.51	*		-5.873E+08	1.530E+01	Half-Life	too short	
RU-103	497.08	*		-5.291E-03	2.026E-02	3.261E-02	5.010E-03	-0.162
	610.33			-2.369E-01	4.209E-01	6.235E-01	1.068E-01	-0.380
RH-106	621.93	*		-4.821E-02	1.530E-01	2.380E-01	3.364E-02	-0.203
	1050.41			-5.931E-01	1.115E+00	1.642E+00	1.490E-01	-0.361
RU-106	621.93	*		-4.821E-02	1.530E-01	2.380E-01	2.361E-02	-0.203
	1050.41			-5.931E-01	1.115E+00	1.642E+00	1.490E-01	-0.361
AG-108M	433.94	*		5.453E-04	1.216E-02	2.056E-02	2.262E-03	0.027
	614.28			2.493E-03	1.765E-02	2.944E-02	3.015E-03	0.085
	722.91			1.101E-02	1.535E-02	2.786E-02	2.761E-03	0.395
CD-109	88.03	*		-8.629E-02	2.711E-01	4.091E-01	3.879E-02	-0.211
AG-110M	657.76	*		1.135E-02	1.593E-02	2.872E-02	2.798E-03	0.395
	677.62			-2.105E-02	1.297E-01	2.042E-01	1.991E-02	-0.103
	706.68			-3.412E-02	9.017E-02	1.355E-01	1.333E-02	-0.252
	763.94			-3.785E-02	7.770E-02	1.143E-01	1.139E-02	-0.331
	884.68			8.445E-03	2.150E-02	3.848E-02	3.884E-03	0.219
	937.49			3.539E-02	5.027E-02	9.342E-02	9.322E-03	0.379
	1384.29			1.112E-02	6.795E-02	1.146E-01	9.819E-03	0.097
	1505.03			3.369E-02	1.318E-01	2.341E-01	1.970E-02	0.144
SN-113	391.69	*		-2.236E-03	2.136E-02	3.576E-02	3.890E-03	-0.063
CD-115	260.90			3.571E+00	4.962E+01	8.116E+01	1.174E+01	0.044
	492.35			-1.049E+01	1.478E+01	2.213E+01	2.379E+00	-0.474
	527.90	*		8.162E-01	4.095E+00	6.980E+00	7.416E-01	0.117
SN-117M	156.02			2.330E-01	8.095E-01	1.391E+00	1.302E-01	0.168
	158.56	*		-1.422E-02	2.212E-02	3.309E-02	3.128E-03	-0.430
TE-123M	159.00	*		-1.063E-02	1.193E-02	1.736E-02	1.652E-03	-0.612
SB-124	602.73			-9.576E-03	2.131E-02	3.166E-02	3.200E-03	-0.302
	645.85			-1.069E-01	2.463E-01	3.744E-01	3.782E-02	-0.285
	722.78			1.028E-01	1.518E-01	2.741E-01	2.697E-02	0.375
	1690.97	*		2.324E-02	4.780E-02	8.823E-02	7.686E-03	0.263
SB-125	427.87	*		1.212E-02	4.215E-02	7.324E-02	7.983E-03	0.165
	463.37			-2.253E-02	1.037E-01	1.678E-01	1.899E-02	-0.134
	600.60			2.049E-02	9.679E-02	1.628E-01	1.738E-02	0.126
	635.95			3.789E-02	1.410E-01	2.388E-01	2.482E-02	0.159
TE-125M	109.28	*		3.669E-01	3.417E+00	5.886E+00	6.129E-01	0.062
I-126	388.63			5.973E-02	7.642E-02	1.393E-01	1.511E-02	0.429
	666.33	*		-6.981E-02	9.763E-02	1.389E-01	1.317E-02	-0.503
	753.82			4.332E-01	7.945E-01	1.397E+00	1.360E-01	0.310
SB-126	414.70			-5.234E-03	3.220E-02	5.322E-02	5.716E-03	-0.098
	666.50			-2.392E-02	3.346E-02	4.760E-02	4.512E-03	-0.503

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	695.00			-2.258E-02	3.987E-02	5.754E-02	5.512E-03	-0.392
	697.00			-1.289E-02	1.378E-01	2.153E-01	2.064E-02	-0.060
	720.70	*		2.423E-02	6.283E-02	1.080E-01	1.043E-02	0.224
	856.80			3.315E-02	2.125E-01	3.660E-01	3.607E-02	0.091
SN-126	64.28			-2.079E-01	1.773E-01	2.713E-01	3.936E-02	-0.766
	86.94			-4.894E-02	1.147E-01	1.685E-01	6.997E-02	-0.290
	87.57	*		-2.048E-03	2.592E-02	4.010E-02	3.783E-03	-0.051
SB-127	252.40			4.487E-01	1.704E+00	2.830E+00	1.215E+00	0.159
	473.00			-1.827E-02	6.950E-01	1.157E+00	1.640E-01	-0.016
	685.70	*		-4.564E-01	5.987E-01	8.469E-01	1.009E-01	-0.539
	783.70			-2.811E-01	1.336E+00	2.053E+00	2.676E-01	-0.137
I-131	80.19			5.625E-01	1.306E+00	2.138E+00	1.851E-01	0.263
	284.31			-6.937E-01	6.154E-01	8.316E-01	1.298E-01	-0.834
	364.49	*		-1.744E-02	5.843E-02	8.905E-02	1.117E-02	-0.196
	636.99			9.231E-02	7.709E-01	1.279E+00	1.304E-01	0.072
TE-132	49.72			-1.347E+00	3.796E+00	5.822E+00	5.992E-01	-0.231
	111.76			4.428E+00	1.100E+01	1.932E+01	2.073E+00	0.229
	116.30			-8.178E+00	8.660E+00	1.340E+01	1.434E+00	-0.610
	228.16	*		1.160E-01	2.652E-01	4.519E-01	8.255E-02	0.257
BA-133	81.00			-8.866E-03	2.871E-02	4.344E-02	6.758E-03	-0.204
	276.40			1.657E-02	1.563E-01	2.555E-01	4.847E-02	0.065
	302.85			-2.839E-02	6.549E-02	9.950E-02	1.770E-02	-0.285
	356.01	*		1.063E-02	1.702E-02	2.933E-02	4.671E-03	0.362
	383.85			1.036E-01	1.298E-01	2.377E-01	3.395E-02	0.436
I-133	529.87	*		-1.519E-04	1.298E-01	Half-Life	too short	
	875.33			-2.568E-02	1.298E-01	Half-Life	too short	
	1298.22			-6.466E-02	1.298E-01	Half-Life	too short	
CS-134	563.25			1.579E-01	1.689E-01	3.118E-01	3.270E-02	0.506
	569.33			-9.350E-02	1.039E-01	1.454E-01	1.523E-02	-0.643
	604.72			-7.403E-04	1.667E-02	2.715E-02	2.744E-03	-0.027
	795.86	*		-1.419E-02	2.359E-02	3.243E-02	3.200E-03	-0.438
	801.95			9.761E-02	1.995E-01	3.448E-01	3.400E-02	0.283
	1365.19			3.724E-02	6.709E-01	1.098E+00	9.571E-02	0.034
CS-135	268.22	*		-2.514E-02	6.699E-02	1.036E-01	1.626E-02	-0.243
I-135	546.56			-2.576E+08	6.699E-02	Half-Life	too short	
	836.80			-1.089E+09	6.699E-02	Half-Life	too short	
	1038.76			-8.709E+08	6.699E-02	Half-Life	too short	
	1131.51			-4.703E+08	6.699E-02	Half-Life	too short	
	1260.41	*		2.112E+08	6.699E-02	Half-Life	too short	
	1457.56			-2.170E+09	6.699E-02	Half-Life	too short	
	1678.03			-4.010E+08	6.699E-02	Half-Life	too short	
	1791.20			-1.102E+09	6.699E-02	Half-Life	too short	
CS-136	153.25			-2.195E-02	2.979E-01	4.964E-01	5.369E-02	-0.044
	176.60			-3.271E-02	2.021E-01	3.315E-01	3.630E-02	-0.099
	273.65			-5.945E-02	2.132E-01	3.336E-01	5.204E-02	-0.178
	340.55			2.723E-03	5.592E-02	8.960E-02	1.218E-02	0.030
	818.51			2.346E-02	3.032E-02	5.577E-02	5.489E-03	0.421
	1048.07	*		5.252E-02	4.357E-02	8.746E-02	8.253E-03	0.601
	1235.36			-1.194E-01	1.622E-01	2.057E-01	2.350E-02	-0.581

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BA-137M	661.66	*		-6.444E-03	1.496E-02	2.241E-02	2.121E-03	-0.288
CS-137	661.66	*		-6.807E-03	1.581E-02	2.368E-02	2.244E-03	-0.288
CE-139	165.86	*		-5.789E-03	1.173E-02	1.870E-02	1.817E-03	-0.310
BA-140	162.66			2.519E-01	3.135E-01	5.576E-01	5.644E-02	0.452
	304.85			-2.879E-01	6.132E-01	9.181E-01	2.904E-01	-0.314
	423.72			-5.365E-02	8.461E-01	1.414E+00	4.738E-01	-0.038
	537.26	*		-1.597E-02	1.100E-01	1.776E-01	6.121E-02	-0.090
LA-140	328.76			1.252E-02	1.371E-01	2.211E-01	3.140E-02	0.057
	487.02			2.439E-02	6.487E-02	1.130E-01	1.265E-02	0.216
	815.77			-3.862E-03	1.458E-01	2.317E-01	2.486E-02	-0.017
	1596.21	*		6.798E-03	4.610E-02	7.935E-02	6.674E-03	0.086
CE-141	145.44	*		-6.737E-03	2.421E-02	3.978E-02	3.646E-03	-0.169
CE-143	57.36			-1.310E-04	2.421E-02	Half-Life	too short	
	293.27	*		-3.063E-05	2.421E-02	Half-Life	too short	
	664.57			-1.382E-04	2.421E-02	Half-Life	too short	
	721.93			3.022E-04	2.421E-02	Half-Life	too short	
CE-144	80.12			3.120E-01	7.450E-01	1.218E+00	1.048E-01	0.256
	133.52	*		5.378E-02	7.630E-02	1.355E-01	2.077E-02	0.397
PM-144	476.78			-1.102E-02	2.927E-02	4.634E-02	5.275E-03	-0.238
	618.01			4.747E-03	1.512E-02	2.587E-02	2.631E-03	0.183
	696.49	*		-1.840E-03	1.826E-02	2.850E-02	2.733E-03	-0.065
PR-144	696.51	*		-1.303E-01	1.367E+00	2.136E+00	2.047E-01	-0.061
	1489.16			2.441E+00	4.782E+00	9.236E+00	7.768E-01	0.264
PM-146	453.88	*		-2.053E-03	1.701E-02	2.801E-02	3.480E-03	-0.073
	633.25			-2.688E-01	7.201E-01	1.097E+00	4.222E-01	-0.245
	735.93			1.685E-02	7.281E-02	1.215E-01	3.448E-02	0.139
	747.24			1.225E-02	4.778E-02	8.012E-02	1.223E-02	0.153
ND-147	91.11			-5.967E-02	9.858E-02	1.449E-01	1.436E-02	-0.412
	319.41			2.777E-02	1.414E+00	2.267E+00	3.231E-01	0.012
	531.02	*		7.839E-02	2.256E-01	3.926E-01	6.352E-02	0.200
PM-149	285.90	*		2.917E+00	3.237E+01	5.274E+01	1.057E+01	0.055
EU-152	121.78			-1.740E-03	2.660E-02	4.493E-02	4.385E-03	-0.039
	244.70			-6.993E-03	1.456E-01	2.361E-01	3.209E-02	-0.030
	344.28	*		-2.917E-02	4.497E-02	6.490E-02	8.797E-03	-0.450
	778.90			-1.314E-01	1.308E-01	1.695E-01	1.659E-02	-0.775
	964.08			-1.272E-01	1.065E-01	1.418E-01	1.359E-02	-0.897
	1085.87			1.077E-01	1.589E-01	2.966E-01	2.615E-02	0.363
	1112.07			3.980E-03	1.158E-01	1.921E-01	1.652E-02	0.021
	1408.01			3.840E-02	6.645E-02	1.259E-01	1.052E-02	0.305
GD-153	69.67			-2.291E-01	5.079E-01	7.630E-01	5.876E-02	-0.300
	97.43	*		-5.991E-03	2.988E-02	4.364E-02	3.877E-03	-0.137
	103.18			-4.690E-02	3.566E-02	5.324E-02	4.619E-03	-0.881
EU-154	123.07			-6.405E-05	1.912E-02	3.246E-02	3.647E-03	-0.002
	723.31			2.440E-02	7.642E-02	1.299E-01	1.357E-02	0.188
	873.19			1.896E-03	1.321E-01	2.225E-01	2.852E-02	0.009
	996.26			1.745E-01	1.543E-01	3.020E-01	5.399E-02	0.578
	1004.73			-5.165E-02	9.278E-02	1.367E-01	1.668E-02	-0.378
	1274.44	*		2.639E-02	5.302E-02	9.522E-02	1.054E-02	0.277
EU-155	86.55			-1.387E-02	3.248E-02	4.847E-02	4.553E-03	-0.286



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TB-160	105.31	*		2.835E-02	3.334E-02	6.108E-02	5.327E-03	0.464
	86.79			-4.084E-02	8.671E-02	1.288E-01	1.203E-02	-0.317
	197.04			-6.145E-02	2.404E-01	3.679E-01	4.100E-02	-0.167
	215.65			3.843E-02	2.992E-01	4.979E-01	6.011E-02	0.077
	298.57			-2.811E-02	4.818E-02	7.159E-02	1.071E-02	-0.393
	879.36	*		-1.266E-03	5.508E-02	9.209E-02	9.074E-03	-0.014
	962.29			4.685E-02	1.542E-01	2.950E-01	2.829E-02	0.159
	966.15			-7.299E-02	8.546E-02	1.115E-01	1.067E-02	-0.655
	1177.93			2.116E-02	1.383E-01	2.340E-01	1.882E-02	0.090
	1271.85			-1.031E-01	3.356E-01	5.106E-01	4.187E-02	-0.202
HO-166M	80.57			5.678E-02	7.920E-02	1.332E-01	1.152E-02	0.426
	184.41			-3.672E-02	1.785E-02	2.553E-02	2.691E-03	-1.439
	280.46			-2.016E-02	3.799E-02	5.732E-02	8.858E-03	-0.352
	410.95			6.947E-03	1.036E-01	1.762E-01	1.891E-02	0.039
	711.68	*		1.054E-02	2.731E-02	4.700E-02	4.526E-03	0.224
	752.31			-9.057E-04	1.289E-01	2.072E-01	2.017E-02	-0.004
	810.29			-2.194E-03	2.564E-02	4.028E-02	3.958E-03	-0.054
	67.75			4.547E-03	3.111E-02	4.997E-02	3.783E-03	0.091
	100.11			3.419E-02	5.812E-02	1.043E-01	9.156E-03	0.328
	152.43			1.584E-02	1.277E-01	2.167E-01	2.003E-02	0.073
TA-182	222.11			6.157E-02	1.431E-01	2.445E-01	3.032E-02	0.252
	1121.30			3.022E-02	6.417E-02	1.137E-01	9.693E-03	0.266
	1189.05			-3.238E-02	1.184E-01	1.818E-01	1.466E-02	-0.178
	1221.41	*		-8.205E-02	7.980E-02	9.508E-02	7.724E-03	-0.863
	1231.02			1.398E-01	1.566E-01	3.051E-01	2.484E-02	0.458
	295.96			1.832E-02	4.713E-02	7.716E-02	1.163E-02	0.237
	308.46			2.769E-02	4.965E-02	8.400E-02	1.232E-02	0.330
	316.51	*		3.065E-04	1.466E-02	2.352E-02	3.381E-03	0.013
	468.07			7.792E-03	2.936E-02	5.074E-02	5.731E-03	0.154
	70.83			-1.488E-02	3.888E-01	6.110E-01	9.549E-02	-0.024
HG-203	72.87			-5.434E-02	2.359E-01	3.630E-01	5.507E-02	-0.150
	279.20	*		-2.358E-03	1.712E-02	2.722E-02	4.248E-03	-0.087
BI-207	72.81			-1.132E-02	5.519E-02	8.518E-02	6.762E-03	-0.133
	74.97			-2.349E-02	3.719E-02	5.277E-02	4.284E-03	-0.445
	569.70			-2.016E-03	1.531E-02	2.417E-02	2.508E-03	-0.083
	1063.66	*		-1.339E-02	2.369E-02	3.468E-02	3.115E-03	-0.386
TL-208	1770.23			-2.882E-01	2.932E-01	3.442E-01	2.833E-02	-0.837
	277.37			3.581E-02	1.696E-01	2.802E-01	5.006E-02	0.128
	583.19	*		-9.926E-03	1.609E-02	2.459E-02	2.653E-03	-0.404
	860.56			-1.454E-02	1.270E-01	2.097E-01	2.184E-02	-0.069
PB-210	46.54	*		-7.069E-02	1.051E+00	1.689E+00	1.558E-01	-0.042
BI-211	72.87			-2.204E-01	9.564E-01	1.472E+00	1.169E-01	-0.150
	351.06	*		2.328E-02	1.081E-01	1.744E-01	2.302E-02	0.133
PB-211	404.85	*		-2.172E-01	2.983E-01	4.205E-01	2.052E-01	-0.517
	427.09			3.094E-01	7.131E-01	1.235E+00	5.770E-01	0.250
BI-212	832.01			1.937E-02	4.202E-01	6.765E-01	3.523E-01	0.029
	727.33	*		6.570E-02	2.242E-01	3.713E-01	4.906E-02	0.177
	785.37			-1.560E+00	1.524E+00	1.648E+00	1.614E-01	-0.946
	1620.50			-4.483E-01	8.327E-01	1.072E+00	8.998E-02	-0.418

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PB-212	74.82			-7.896E-02	1.298E-01	1.843E-01	2.334E-02	-0.428
	77.11			-2.669E-02	7.163E-02	1.070E-01	8.892E-03	-0.249
	238.63	*		-3.344E-04	3.052E-02	4.865E-02	6.830E-03	-0.007
	300.09			1.196E-01	3.287E-01	5.506E-01	8.865E-02	0.217
BI-214	609.32	*		-4.773E-02	4.179E-02	5.657E-02	6.419E-03	-0.844
	1120.29			9.549E-02	1.347E-01	2.472E-01	2.682E-02	0.386
	1764.49			1.670E-01	1.407E-01	2.884E-01	2.376E-02	0.579
	74.82			-1.399E-01	2.299E-01	3.267E-01	3.704E-02	-0.428
PB-214	77.11			-4.705E-02	1.263E-01	1.886E-01	2.208E-02	-0.249
	242.00			-1.009E-01	1.515E-01	2.289E-01	3.351E-02	-0.441
	295.22			-1.364E-03	6.504E-02	1.019E-01	1.672E-02	-0.013
	351.93	*		-2.292E-02	4.102E-02	6.035E-02	8.607E-03	-0.380
RN-219	271.23			-6.067E-03	9.854E-02	1.583E-01	2.538E-02	-0.038
	401.81	*		7.636E-03	1.605E-01	2.729E-01	4.413E-02	0.028
RA-223	81.07			-2.288E-02	6.476E-02	9.754E-02	8.485E-03	-0.235
	83.79			2.187E-02	4.288E-02	6.929E-02	6.231E-03	0.316
	94.87			-5.184E-01	2.014E-01	2.260E-01	2.036E-02	-2.294
	144.24			-3.671E-01	3.067E-01	4.309E-01	4.286E-02	-0.852
RA-224	154.21			-2.630E-02	1.414E-01	2.331E-01	2.347E-02	-0.113
	269.46			1.210E-02	7.404E-02	1.221E-01	1.836E-02	0.099
	323.87	*		-1.828E-01	2.963E-01	4.318E-01	8.896E-02	-0.423
	338.28			-2.991E-01	4.885E-01	6.269E-01	9.978E-02	-0.477
RA-224	240.99	*		-2.243E-01	2.877E-01	4.316E-01	5.781E-02	-0.520
RA-226	609.32	*		-4.773E-02	4.179E-02	5.657E-02	6.419E-03	-0.844
	1120.29			9.549E-02	1.347E-01	2.472E-01	2.682E-02	0.386
	1764.49			1.670E-01	1.407E-01	2.884E-01	2.376E-02	0.579
	79.69			5.741E-02	3.634E-01	5.793E-01	9.967E-02	0.099
AC-227	235.96			-9.492E-02	6.655E-02	9.087E-02	1.301E-02	-1.045
	256.23	*		1.449E-03	1.044E-01	1.699E-01	2.807E-02	0.009
	299.98			3.337E-02	3.710E-01	6.024E-01	1.060E-01	0.055
	304.50			-3.965E-01	7.765E-01	1.165E+00	2.380E-01	-0.340
TH-227	334.37			4.872E-01	7.366E-01	1.264E+00	2.383E-01	0.385
	79.80			1.091E-01	4.825E-01	7.739E-01	1.684E-01	0.141
	235.96			-9.492E-02	6.647E-02	9.087E-02	1.263E-02	-1.045
	256.23	*		1.449E-03	1.044E-01	1.699E-01	3.005E-02	0.009
AC-228	299.98			3.337E-02	3.710E-01	6.024E-01	1.060E-01	0.055
	304.50			-3.965E-01	7.765E-01	1.165E+00	2.380E-01	-0.340
	334.37			4.872E-01	7.366E-01	1.264E+00	2.383E-01	0.385
	338.32			-7.560E-02	1.268E-01	1.579E-01	6.788E-02	-0.479
RA-228	911.20	*		9.420E-03	8.195E-02	1.380E-01	1.725E-02	0.068
	968.97			6.695E-02	1.076E-01	1.959E-01	4.839E-02	0.342
	338.32			-7.560E-02	1.268E-01	1.579E-01	6.788E-02	-0.479
	911.20	*		9.420E-03	8.195E-02	1.380E-01	1.725E-02	0.068
TH-228	968.97			6.695E-02	1.076E-01	1.959E-01	4.839E-02	0.342
	74.82			-7.896E-02	1.295E-01	1.843E-01	1.509E-02	-0.428
	77.11			-2.669E-02	7.163E-02	1.070E-01	8.892E-03	-0.249
	238.63	*		-3.344E-04	3.052E-02	4.865E-02	6.830E-03	-0.007
TH-229	300.09			1.196E-01	3.366E-01	5.506E-01	3.437E-01	0.217
	85.43			-5.287E-03	7.177E-02	1.099E-01	1.009E-02	-0.048

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	88.47			9.680E-03	3.932E-02	6.281E-02	5.933E-03	0.154
	193.51	*		-1.569E-01	2.211E-01	3.405E-01	3.737E-02	-0.461
	210.85			3.266E-02	3.731E-01	6.189E-01	7.321E-02	0.053
PA-231	283.69	*		-2.910E-01	6.195E-01	9.366E-01	1.813E-01	-0.311
	301.36			2.186E-01	2.372E-01	4.173E-01	7.164E-02	0.524
TH-231	81.07			-2.288E-02	6.476E-02	9.754E-02	8.485E-03	-0.235
	83.79			2.187E-02	4.288E-02	6.929E-02	6.231E-03	0.316
	94.87			-5.184E-01	2.014E-01	2.260E-01	2.036E-02	-2.294
	144.24			-3.671E-01	3.067E-01	4.309E-01	4.286E-02	-0.852
	154.21			-2.630E-02	1.414E-01	2.331E-01	2.347E-02	-0.113
	269.46			1.210E-02	7.404E-02	1.221E-01	1.836E-02	0.099
	323.87	*		-1.828E-01	2.963E-01	4.318E-01	8.896E-02	-0.423
	338.28			-2.991E-01	4.885E-01	6.269E-01	9.978E-02	-0.477
TH-232	338.32			-7.560E-02	1.229E-01	1.579E-01	2.129E-02	-0.479
	911.20	*		9.420E-03	8.195E-02	1.380E-01	1.725E-02	0.068
	968.97			6.695E-02	1.076E-01	1.959E-01	4.839E-02	0.342
PA-233	300.13			6.103E-02	1.640E-01	2.746E-01	5.269E-02	0.222
	311.90	*		-1.733E-02	3.000E-02	4.439E-02	6.514E-03	-0.390
	340.48			2.266E-02	2.483E-01	4.000E-01	1.046E-01	0.057
PA-234	94.67			-1.783E-01	7.520E-02	8.502E-02	1.078E-02	-2.097
	98.44			-9.800E-03	3.177E-02	4.981E-02	2.780E-02	-0.197
	111.00			6.710E-02	6.720E-02	1.227E-01	1.474E-02	0.547
	131.20			-5.291E-02	3.968E-02	5.883E-02	5.075E-03	-0.899
	569.50			-3.247E-02	1.340E-01	2.078E-01	2.156E-02	-0.156
	733.00			-4.512E-04	1.724E-01	2.779E-01	6.290E-02	-0.002
	880.51			4.677E-02	1.177E-01	2.114E-01	2.083E-02	0.221
	883.24			2.677E-02	1.298E-01	2.234E-01	1.506E-01	0.120
	926.50			-2.287E-02	6.120E-02	9.274E-02	2.382E-02	-0.247
	946.00	*		6.777E-02	9.775E-02	1.876E-01	3.615E-02	0.361
	949.00			-8.779E-02	1.644E-01	2.404E-01	2.321E-02	-0.365
PA-234M	766.42			2.641E+00	5.282E+00	8.903E+00	4.536E+00	0.297
	1001.03	*		-8.553E-01	2.007E+00	3.060E+00	3.255E-01	-0.280
TH-234	63.29	*		-1.166E-01	4.516E-01	7.597E-01	1.351E-01	-0.154
	92.59			-3.464E-02	2.971E-01	5.222E-01	1.164E-01	-0.066
U-235	89.96			-2.336E-01	2.983E-01	4.199E-01	1.044E-01	-0.556
	93.35			-1.117E-01	2.174E-01	3.731E-01	8.686E-02	-0.299
	143.76	*		-8.138E-02	9.251E-02	1.337E-01	2.290E-02	-0.609
	163.33			6.314E-02	1.743E-01	2.997E-01	5.531E-02	0.211
	185.72			-9.785E-03	2.238E-02	3.716E-02	3.941E-03	-0.263
	205.31			-1.697E-01	2.477E-01	3.547E-01	6.991E-02	-0.478
NP-237	86.48	*		-6.488E-02	8.440E-02	1.197E-01	2.745E-02	-0.542
	95.86			-2.275E-01	3.154E-01	4.402E-01	1.061E-01	-0.517
U-238	63.29	*		-1.166E-01	4.516E-01	7.597E-01	1.351E-01	-0.154
	92.59			-3.464E-02	2.970E-01	5.222E-01	4.775E-02	-0.066
NP-239	99.53			3.856E-02	5.667E-02	9.783E-02	8.607E-03	0.394
	103.37			-4.338E-02	3.244E-02	4.829E-02	4.187E-03	-0.898
	106.12			8.328E-03	2.687E-02	4.719E-02	4.059E-03	0.176
	117.23	*		-5.864E-03	1.402E-01	2.378E-01	2.011E-02	-0.025
	228.18			4.438E-02	8.990E-02	1.542E-01	1.961E-02	0.288

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	277.60			2.832E-02	7.610E-02	1.278E-01	1.968E-02	0.222
AM-241	59.54	*		4.797E-02	4.240E-02	7.516E-02	5.906E-03	0.638
CM-247	278.00			1.543E-01	3.195E-01	5.426E-01	8.364E-02	0.284
	287.50			4.242E-01	5.575E-01	9.686E-01	1.480E-01	0.438
	402.40	*		-7.848E-03	1.533E-02	2.416E-02	2.586E-03	-0.325
CF-249	252.80			-1.698E-02	4.241E-01	6.866E-01	9.632E-02	-0.025
	333.37			1.300E-02	8.130E-02	1.322E-01	1.810E-02	0.098
	388.16	*		1.085E-02	1.864E-02	3.343E-02	3.636E-03	0.325
CF-251	177.52	*		3.438E-02	5.362E-02	9.391E-02	9.605E-03	0.366
	227.38			-1.562E-02	1.422E-01	2.301E-01	2.917E-02	-0.068
	285.41			-5.015E-01	9.689E-01	1.459E+00	2.237E-01	-0.344
ANH-511	511.00	*		-3.779E-02	2.985E-02	5.531E-02	5.914E-03	-0.683

# VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202061469
* Acquisition date   : 20-MAR-2010 11:11:16 Detector SN#      :
* Detector ID        : GAM11 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time: 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time: 0 02:00:00.56 Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 6-MAR-2010 00:00:00 Nuclide Library : SOLID
* Sample ID          : G1202061469 Analyst initials: MXR1
* Batch Number       : 961099 Sample Quantity : 1.3824E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 18-NOV-2009 15:33:22 MS Isotope      :
* MSD DPM             : 0.000 MSD Isotope                   :
* LCS DPM             : 0.000 LCS Isotope                   :
* LCSD DPM            : 0.000 LCSD Isotope                  :
*****

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## Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L. Act error Ided	MDA (pCi/GRAM )
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---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L. Act error ) Ided	MDA (pCi/GRAM )	
BE-7	9.426E-02	1.421E-01	2.680E-01	0.000E+00 NOT IDENT.
NA-22	9.310E-03	1.832E-02	3.380E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	2.081E+05	0.000E+00	0.000E+00 SHORT HLIF
K-40	-2.250E-02	2.198E-01	4.101E-01	0.000E+00 NOT IDENT.
SC-46	-1.295E-02	1.571E-02	2.265E-02	0.000E+00 NOT IDENT.
V-48	7.674E-03	2.435E-02	4.464E-02	0.000E+00 NOT IDENT.
CR-51	5.011E-02	1.551E-01	2.721E-01	0.000E+00 NOT IDENT.
MN-54	6.626E-03	1.444E-02	2.709E-02	0.000E+00 NOT IDENT.
CO-56	-2.389E-03	1.736E-02	2.960E-02	0.000E+00 NOT IDENT.
CO-57	-2.695E-03	9.266E-03	1.650E-02	0.000E+00 NOT IDENT.
CO-58	4.226E-04	1.557E-02	2.594E-02	0.000E+00 NOT IDENT.
FE-59	-2.503E-02	3.155E-02	4.229E-02	0.000E+00 NOT IDENT.
CO-60	1.309E-03	1.503E-02	2.557E-02	0.000E+00 NOT IDENT.
ZN-65	-1.702E-02	3.126E-02	4.602E-02	0.000E+00 NOT IDENT.
SE-75	-9.117E-04	1.885E-02	3.218E-02	0.000E+00 NOT IDENT.
SR-85	-7.521E-02	2.922E-02	3.800E-02	0.000E+00 NOT IDENT.
Y-88	1.113E-02	1.770E-02	3.498E-02	0.000E+00 NOT IDENT.
Y-91	2.309E+00	8.532E+00	1.508E+01	0.000E+00 NOT IDENT.
NB-94	4.577E-03	1.535E-02	2.700E-02	0.000E+00 NOT IDENT.
NB-95	1.868E-02	1.808E-02	3.500E-02	0.000E+00 NOT IDENT.
NB-95M	-6.843E-02	5.166E-02	7.606E-02	0.000E+00 NOT IDENT.
ZR-95	-1.087E-02	3.035E-02	4.708E-02	0.000E+00 NOT IDENT.
MO-99	-3.362E+00	5.770E+00	8.765E+00	0.000E+00 NOT IDENT.
TC-99M	0.000E+00	2.910E+15	0.000E+00	0.000E+00 SHORT HLIF
RU-103	-5.291E-03	1.985E-02	3.343E-02	0.000E+00 NOT IDENT.
RH-106	-4.821E-02	1.500E-01	2.429E-01	0.000E+00 NOT IDENT.

RU-106	-4.821E-02	1.499E-01	2.429E-01	0.000E+00	NOT IDENT.
AG-108M	5.453E-04	1.192E-02	2.113E-02	0.000E+00	NOT IDENT.
CD-109	-8.629E-02	2.657E-01	4.334E-01	0.000E+00	NOT IDENT.
AG-110M	1.135E-02	1.561E-02	2.928E-02	0.000E+00	NOT IDENT.
SN-113	-2.236E-03	2.093E-02	3.683E-02	0.000E+00	NOT IDENT.
CD-115	8.162E-01	4.013E+00	7.148E+00	0.000E+00	NOT IDENT.
SN-117M	-1.422E-02	2.168E-02	3.468E-02	0.000E+00	NOT IDENT.
TE-123M	-1.063E-02	1.169E-02	1.819E-02	0.000E+00	NOT IDENT.
SB-124	2.324E-02	4.684E-02	8.825E-02	0.000E+00	NOT IDENT.
SB-125	1.212E-02	4.131E-02	7.530E-02	0.000E+00	NOT IDENT.
TE-125M	3.669E-01	3.348E+00	6.211E+00	0.000E+00	NOT IDENT.
I-126	-6.981E-02	9.568E-02	1.416E-01	0.000E+00	NOT IDENT.
SB-126	2.423E-02	6.157E-02	1.099E-01	0.000E+00	NOT IDENT.
SN-126	-2.048E-03	2.540E-02	4.249E-02	0.000E+00	NOT IDENT.
SB-127	-4.564E-01	5.867E-01	8.627E-01	0.000E+00	NOT IDENT.
I-131	-1.744E-02	5.726E-02	9.185E-02	0.000E+00	NOT IDENT.
TE-132	1.160E-01	2.599E-01	4.703E-01	0.000E+00	NOT IDENT.
BA-133	1.063E-02	1.668E-02	3.027E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.524E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	-1.419E-02	2.312E-02	3.294E-02	0.000E+00	NOT IDENT.
CS-135	-2.514E-02	6.565E-02	1.075E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	5.430E+14	0.000E+00	0.000E+00	SHORT HLIF
CS-136	5.252E-02	4.270E-02	8.833E-02	0.000E+00	NOT IDENT.
BA-137M	-6.444E-03	1.466E-02	2.285E-02	0.000E+00	NOT IDENT.
CS-137	-6.807E-03	1.549E-02	2.413E-02	0.000E+00	NOT IDENT.
CE-139	-5.789E-03	1.150E-02	1.958E-02	0.000E+00	NOT IDENT.
BA-140	-1.597E-02	1.078E-01	1.818E-01	0.000E+00	NOT IDENT.
LA-140	6.798E-03	4.518E-02	7.947E-02	0.000E+00	NOT IDENT.
CE-141	-6.737E-03	2.373E-02	4.176E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	3.881E+01	0.000E+00	0.000E+00	SHORT HLIF
CE-144	5.378E-02	7.478E-02	1.425E-01	0.000E+00	NOT IDENT.
PM-144	-1.840E-03	1.789E-02	2.903E-02	0.000E+00	NOT IDENT.
PR-144	-1.303E-01	1.340E+00	2.175E+00	0.000E+00	NOT IDENT.
PM-146	-2.053E-03	1.667E-02	2.877E-02	0.000E+00	NOT IDENT.
ND-147	7.839E-02	2.210E-01	4.020E-01	0.000E+00	NOT IDENT.
PM-149	2.917E+00	3.172E+01	5.465E+01	0.000E+00	NOT IDENT.
EU-152	-2.917E-02	4.407E-02	6.701E-02	0.000E+00	NOT IDENT.
GD-153	-5.991E-03	2.928E-02	4.614E-02	0.000E+00	NOT IDENT.
EU-154	2.639E-02	5.196E-02	9.580E-02	0.000E+00	NOT IDENT.
EU-155	2.835E-02	3.268E-02	6.450E-02	0.000E+00	NOT IDENT.
TB-160	-1.266E-03	5.398E-02	9.334E-02	0.000E+00	NOT IDENT.
HO-166M	1.054E-02	2.676E-02	4.784E-02	0.000E+00	NOT IDENT.
TA-182	-8.205E-02	7.821E-02	9.573E-02	0.000E+00	NOT IDENT.
IR-192	3.065E-04	1.437E-02	2.433E-02	0.000E+00	NOT IDENT.
HG-203	-2.358E-03	1.678E-02	2.822E-02	0.000E+00	NOT IDENT.
BI-207	-1.339E-02	2.321E-02	3.502E-02	0.000E+00	NOT IDENT.
TL-208	-9.926E-03	1.577E-02	2.513E-02	0.000E+00	NOT IDENT.
PB-210	-7.069E-02	1.030E+00	1.810E+00	0.000E+00	NOT IDENT.
BI-211	2.328E-02	1.059E-01	1.801E-01	0.000E+00	NOT IDENT.
PB-211	-2.172E-01	2.924E-01	4.328E-01	0.000E+00	NOT IDENT.
BI-212	6.570E-02	2.198E-01	3.778E-01	0.000E+00	NOT IDENT.
PB-212	-3.344E-04	2.991E-02	5.059E-02	0.000E+00	NOT IDENT.
BI-214	-4.773E-02	4.096E-02	5.776E-02	0.000E+00	NOT IDENT.
PB-214	-2.292E-02	4.020E-02	6.229E-02	0.000E+00	NOT IDENT.
RN-219	7.636E-03	1.573E-01	2.810E-01	0.000E+00	NOT IDENT.
RA-223	-1.828E-01	2.904E-01	4.463E-01	0.000E+00	NOT IDENT.
RA-224	-2.243E-01	2.819E-01	4.487E-01	0.000E+00	NOT IDENT.
RA-226	-4.773E-02	4.096E-02	5.776E-02	0.000E+00	NOT IDENT.
AC-227	1.449E-03	1.023E-01	1.764E-01	0.000E+00	NOT IDENT.
TH-227	1.449E-03	1.023E-01	1.764E-01	0.000E+00	NOT IDENT.
AC-228	9.420E-03	8.031E-02	1.398E-01	0.000E+00	NOT IDENT.
RA-228	9.420E-03	8.031E-02	1.398E-01	0.000E+00	NOT IDENT.
TH-228	-3.344E-04	2.991E-02	5.059E-02	0.000E+00	NOT IDENT.
TH-229	-1.569E-01	2.167E-01	3.555E-01	0.000E+00	NOT IDENT.
PA-231	-2.910E-01	6.072E-01	9.707E-01	0.000E+00	NOT IDENT.
TH-231	-1.828E-01	2.904E-01	4.463E-01	0.000E+00	NOT IDENT.
TH-232	9.420E-03	8.031E-02	1.398E-01	0.000E+00	NOT IDENT.
PA-233	-1.733E-02	2.940E-02	4.592E-02	0.000E+00	NOT IDENT.
PA-234	6.777E-02	9.579E-02	1.899E-01	0.000E+00	NOT IDENT.
PA-234M	-8.553E-01	1.967E+00	3.093E+00	0.000E+00	NOT IDENT.
TH-234	-1.166E-01	4.426E-01	8.097E-01	0.000E+00	NOT IDENT.
U-235	-8.138E-02	9.066E-02	1.403E-01	0.000E+00	NOT IDENT.
NP-237	-6.488E-02	8.271E-02	1.268E-01	0.000E+00	NOT IDENT.
U-238	-1.166E-01	4.426E-01	8.097E-01	0.000E+00	NOT IDENT.
NP-239	-5.864E-03	1.374E-01	2.506E-01	0.000E+00	NOT IDENT.
AM-241	4.797E-02	4.155E-02	8.020E-02	0.000E+00	NOT IDENT.
CM-247	-7.848E-03	1.502E-02	2.487E-02	0.000E+00	NOT IDENT.
CF-249	1.085E-02	1.827E-02	3.444E-02	0.000E+00	NOT IDENT.

CF-251	3.438E-02	5.254E-02	9.821E-02	0.000E+00 NOT IDENT.
ANH-511	-3.779E-02	2.925E-02	5.667E-02	0.000E+00 NOT IDENT.

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202061469.CNF;1
Sample date        : 6-MAR-2010 00:00:00. Acquisition date : 20-MAR-2010 11:11:16
Sample ID          : G1202061469      Sample quantity   : 1.38240E+02 GRAM
Detector name      : GAM11            Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00    Elapsed real time: 0 02:00:00.56  0.0%
Energy tolerance   : 1.50000 keV      Analyst Initials : MXR1
Abundance limit    : 75.00000         Sensitivity       : 5.00000
Batch ID           : 961099           Detector SN#      :
Matrix Spike ID    :                  LCS ID            : 1032-A
*****

```

Nuclide Line Activity Report

Flag: "\*" = Keyline



Summary of Nuclide Activity  
Sample ID : G1202061469

Page : 2  
Acquisition date : 20-MAR-2010 11:11:16

\*\*\*\* There are no nuclides meeting summary criteria \*\*\*\*

Flags: "K" = Keyline not found  
"E" = Manually edited

"M" = Manually accepted  
"A" = Nuclide specific abn. limit

Unidentified Energy Lines  
Sample ID : G1202061469

Page : 3  
Acquisition date : 20-MAR-2010 11:11:16

None

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202061469.CNF;1
* Acquisition date   : 20-MAR-2010 11:11:16  Detector SN#      :
* Detector ID        : GAM11                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:00.56          Half life ratio  : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 6-MAR-2010 00:00:00.  Nuclide Library : SOLID
* Sample ID          : G1202061469          Analyst initials: MXR1
* Batch Number       : 961099              Sample Quantity : 1.38240E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 18-NOV-2009 15:33:22.2MS Isotope       :
* MSD ID             :                      MSD Isotope       :
* LCS ID             : 1032-A              LCS Isotope       :
*****

```

## Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	9.426E-02		1.450E-01	2.612E-01	2.956E-02	0.361
NA-22	9.310E-03		1.870E-02	3.360E-02	2.759E-03	0.277
NA-24	-1.795E-01		1.062E-01	Half-Life too short		
K-40	-2.250E-02		2.243E-01	4.088E-01	3.535E-02	-0.055
SC-46	-1.295E-02		1.603E-02	2.236E-02	2.202E-03	-0.579
V-48	7.674E-03		2.485E-02	4.414E-02	4.187E-03	0.174
CR-51	5.011E-02		1.583E-01	2.632E-01	3.818E-02	0.190
MN-54	6.626E-03		1.473E-02	2.669E-02	2.628E-03	0.248
CO-56	-2.389E-03		1.771E-02	2.918E-02	2.875E-03	-0.082
CO-57	-2.695E-03		9.455E-03	1.567E-02	1.326E-03	-0.172
CO-58	4.226E-04		1.589E-02	2.555E-02	2.515E-03	0.017
FE-59	-2.503E-02		3.219E-02	4.191E-02	3.939E-03	-0.597
CO-60	1.309E-03		1.534E-02	2.544E-02	2.102E-03	0.051
ZN-65	-1.702E-02		3.190E-02	4.562E-02	3.915E-03	-0.373
SE-75	-9.117E-04		1.924E-02	3.101E-02	4.558E-03	-0.029
SR-85	-7.521E-02		2.981E-02	3.709E-02	3.962E-03	-2.028
Y-88	1.113E-02		1.806E-02	3.503E-02	2.844E-03	0.318

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
Y-91	2.309E+00		8.706E+00	1.497E+01	1.212E+00	0.154
NB-94	4.577E-03		1.566E-02	2.651E-02	2.546E-03	0.173
NB-95	1.868E-02		1.845E-02	3.444E-02	3.362E-03	0.542
NB-95M	-6.843E-02		5.271E-02	7.313E-02	1.022E-02	-0.936
ZR-95	-1.087E-02		3.097E-02	4.631E-02	4.886E-03	-0.235
MO-99	-3.362E+00		5.887E+00	8.618E+00	1.411E+00	-0.390
TC-99M	-5.873E+08		1.485E+09	Half-Life	too short	
RU-103	-5.291E-03		2.026E-02	3.261E-02	5.010E-03	-0.162
RH-106	-4.821E-02		1.530E-01	2.380E-01	3.364E-02	-0.203
RU-106	-4.821E-02		1.530E-01	2.380E-01	2.361E-02	-0.203
AG-108M	5.453E-04		1.216E-02	2.056E-02	2.262E-03	0.027
CD-109	-8.629E-02		2.711E-01	4.091E-01	3.879E-02	-0.211
AG-110M	1.135E-02		1.593E-02	2.872E-02	2.798E-03	0.395
SN-113	-2.236E-03		2.136E-02	3.576E-02	3.890E-03	-0.063
CD-115	8.162E-01		4.095E+00	6.980E+00	7.416E-01	0.117
SN-117M	-1.422E-02		2.212E-02	3.309E-02	3.128E-03	-0.430
TE-123M	-1.063E-02		1.193E-02	1.736E-02	1.652E-03	-0.612
SB-124	2.324E-02		4.780E-02	8.823E-02	7.686E-03	0.263
SB-125	1.212E-02		4.215E-02	7.324E-02	7.983E-03	0.165
TE-125M	3.669E-01		3.417E+00	5.886E+00	6.129E-01	0.062
I-126	-6.981E-02		9.763E-02	1.389E-01	1.317E-02	-0.503
SB-126	2.423E-02		6.283E-02	1.080E-01	1.043E-02	0.224
SN-126	-2.048E-03		2.592E-02	4.010E-02	3.783E-03	-0.051
SB-127	-4.564E-01		5.987E-01	8.469E-01	1.009E-01	-0.539
I-131	-1.744E-02		5.843E-02	8.905E-02	1.117E-02	-0.196
TE-132	1.160E-01		2.652E-01	4.519E-01	8.255E-02	0.257
BA-133	1.063E-02		1.702E-02	2.933E-02	4.671E-03	0.362
I-133	-1.519E-04		7.778E-04	Half-Life	too short	
CS-134	-1.419E-02		2.359E-02	3.243E-02	3.200E-03	-0.438
CS-135	-2.514E-02		6.699E-02	1.036E-01	1.626E-02	-0.243
I-135	2.112E+08		2.770E+08	Half-Life	too short	
CS-136	5.252E-02		4.357E-02	8.746E-02	8.253E-03	0.601
BA-137M	-6.444E-03		1.496E-02	2.241E-02	2.121E-03	-0.288
CS-137	-6.807E-03		1.581E-02	2.368E-02	2.244E-03	-0.288
CE-139	-5.789E-03		1.173E-02	1.870E-02	1.817E-03	-0.310
BA-140	-1.597E-02		1.100E-01	1.776E-01	6.121E-02	-0.090
LA-140	6.798E-03		4.610E-02	7.935E-02	6.674E-03	0.086
CE-141	-6.737E-03		2.421E-02	3.978E-02	3.646E-03	-0.169
CE-143	-3.063E-05		1.980E-05	Half-Life	too short	
CE-144	5.378E-02		7.630E-02	1.355E-01	2.077E-02	0.397
PM-144	-1.840E-03		1.826E-02	2.850E-02	2.733E-03	-0.065
PR-144	-1.303E-01		1.367E+00	2.136E+00	2.047E-01	-0.061
PM-146	-2.053E-03		1.701E-02	2.801E-02	3.480E-03	-0.073
ND-147	7.839E-02		2.256E-01	3.926E-01	6.352E-02	0.200
PM-149	2.917E+00		3.237E+01	5.274E+01	1.057E+01	0.055
EU-152	-2.917E-02		4.497E-02	6.490E-02	8.797E-03	-0.450
GD-153	-5.991E-03		2.988E-02	4.364E-02	3.877E-03	-0.137
EU-154	2.639E-02		5.302E-02	9.522E-02	1.054E-02	0.277

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	2.835E-02		3.334E-02	6.108E-02	5.327E-03	0.464
TB-160	-1.266E-03		5.508E-02	9.209E-02	9.074E-03	-0.014
HO-166M	1.054E-02		2.731E-02	4.700E-02	4.526E-03	0.224
TA-182	-8.205E-02		7.980E-02	9.508E-02	7.724E-03	-0.863
IR-192	3.065E-04		1.466E-02	2.352E-02	3.381E-03	0.013
HG-203	-2.358E-03		1.712E-02	2.722E-02	4.248E-03	-0.087
BI-207	-1.339E-02		2.369E-02	3.468E-02	3.115E-03	-0.386
TL-208	-9.926E-03		1.609E-02	2.459E-02	2.653E-03	-0.404
PB-210	-7.069E-02		1.051E+00	1.689E+00	1.558E-01	-0.042
BI-211	2.328E-02		1.081E-01	1.744E-01	2.302E-02	0.133
PB-211	-2.172E-01		2.983E-01	4.205E-01	2.052E-01	-0.517
BI-212	6.570E-02		2.242E-01	3.713E-01	4.906E-02	0.177
PB-212	-3.344E-04		3.052E-02	4.865E-02	6.830E-03	-0.007
BI-214	-4.773E-02		4.179E-02	5.657E-02	6.419E-03	-0.844
PB-214	-2.292E-02		4.102E-02	6.035E-02	8.607E-03	-0.380
RN-219	7.636E-03		1.605E-01	2.729E-01	4.413E-02	0.028
RA-223	-1.828E-01		2.963E-01	4.318E-01	8.896E-02	-0.423
RA-224	-2.243E-01		2.877E-01	4.316E-01	5.781E-02	-0.520
RA-226	-4.773E-02		4.179E-02	5.657E-02	6.419E-03	-0.844
AC-227	1.449E-03		1.044E-01	1.699E-01	2.807E-02	0.009
TH-227	1.449E-03		1.044E-01	1.699E-01	3.005E-02	0.009
AC-228	9.420E-03		8.195E-02	1.380E-01	1.725E-02	0.068
RA-228	9.420E-03		8.195E-02	1.380E-01	1.725E-02	0.068
TH-228	-3.344E-04		3.052E-02	4.865E-02	6.830E-03	-0.007
TH-229	-1.569E-01		2.211E-01	3.405E-01	3.737E-02	-0.461
PA-231	-2.910E-01		6.195E-01	9.366E-01	1.813E-01	-0.311
TH-231	-1.828E-01		2.963E-01	4.318E-01	8.896E-02	-0.423
TH-232	9.420E-03		8.195E-02	1.380E-01	1.725E-02	0.068
PA-233	-1.733E-02		3.000E-02	4.439E-02	6.514E-03	-0.390
PA-234	6.777E-02		9.775E-02	1.876E-01	3.615E-02	0.361
PA-234M	-8.553E-01		2.007E+00	3.060E+00	3.255E-01	-0.280
TH-234	-1.166E-01		4.516E-01	7.597E-01	1.351E-01	-0.154
U-235	-8.138E-02		9.251E-02	1.337E-01	2.290E-02	-0.609
NP-237	-6.488E-02		8.440E-02	1.197E-01	2.745E-02	-0.542
U-238	-1.166E-01		4.516E-01	7.597E-01	1.351E-01	-0.154
NP-239	-5.864E-03		1.402E-01	2.378E-01	2.011E-02	-0.025
AM-241	4.797E-02		4.240E-02	7.516E-02	5.906E-03	0.638
CM-247	-7.848E-03		1.533E-02	2.416E-02	2.586E-03	-0.325
CF-249	1.085E-02		1.864E-02	3.343E-02	3.636E-03	0.325
CF-251	3.438E-02		5.362E-02	9.391E-02	9.605E-03	0.366
ANH-511	-3.779E-02		2.985E-02	5.531E-02	5.914E-03	-0.683

# 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]G1202061469          *
* Acquisition date   : 20-MAR-2010 11:11:16 Detector SN#                   *
* Detector ID        : GAM11 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:00.56 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*                                     *                                       *
* Sample date       : 6-MAR-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID         : G1202061469 Analyst initials: MXR1                 *
* Batch Number      : 961099 Sample Quantity : 1.3824E+02 GRAM           *
* Recovery          : 1.00000 Carrier Weight : 0.00000                   *
*****
*                                     QC DATA                                *
*                                     *                                       *
* CALIB. DATE/TIME  : 18-NOV-2009 15:33:22 MS Isotope                    :
* MSD DPM           : 0.000 MSD Isotope                                     :
* LCS DPM           : 0.000 LCS Isotope                                     :
* LCSD DPM          : 0.000 LCSD Isotope                                   :
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## Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L Act Error	DLC (pCi/GRAM )	TPU	
---- Non-Identified Nuclides ----					
Nuclide	Key-Line Activity (pCi/GRAM )	K.L Act error	DLC (pCi/GRAM )	TPU	
BE-7	9.426E-02	1.421E-01	1.341E-01	7.250E-02	NOT IDENT.
NA-22	9.310E-03	1.832E-02	1.691E-02	9.348E-03	NOT IDENT.
NA-24	-1.795E+05	2.081E+05	0.000E+00	1.062E+05	SHORT HLIF
K-40	-2.250E-02	2.198E-01	2.052E-01	1.122E-01	NOT IDENT.
SC-46	-1.295E-02	1.571E-02	1.133E-02	8.017E-03	NOT IDENT.
V-48	7.674E-03	2.435E-02	2.233E-02	1.242E-02	NOT IDENT.
CR-51	5.011E-02	1.551E-01	1.361E-01	7.914E-02	NOT IDENT.
MN-54	6.626E-03	1.444E-02	1.355E-02	7.367E-03	NOT IDENT.
CO-56	-2.389E-03	1.736E-02	1.481E-02	8.856E-03	NOT IDENT.
CO-57	-2.695E-03	9.266E-03	8.257E-03	4.727E-03	NOT IDENT.
CO-58	4.226E-04	1.557E-02	1.298E-02	7.944E-03	NOT IDENT.
FE-59	-2.503E-02	3.155E-02	2.116E-02	1.610E-02	NOT IDENT.
CO-60	1.309E-03	1.503E-02	1.279E-02	7.671E-03	NOT IDENT.
ZN-65	-1.702E-02	3.126E-02	2.303E-02	1.595E-02	NOT IDENT.
SE-75	-9.117E-04	1.885E-02	1.610E-02	9.618E-03	NOT IDENT.
SR-85	-7.521E-02	2.922E-02	1.901E-02	1.491E-02	NOT IDENT.
Y-88	1.113E-02	1.770E-02	1.750E-02	9.032E-03	NOT IDENT.
Y-91	2.309E+00	8.532E+00	7.545E+00	4.353E+00	NOT IDENT.
NB-94	4.577E-03	1.535E-02	1.351E-02	7.831E-03	NOT IDENT.
NB-95	1.868E-02	1.808E-02	1.751E-02	9.226E-03	NOT IDENT.
NB-95M	-6.843E-02	5.166E-02	3.805E-02	2.636E-02	NOT IDENT.
ZR-95	-1.087E-02	3.035E-02	2.355E-02	1.548E-02	NOT IDENT.
MO-99	-3.362E+00	5.770E+00	4.385E+00	2.944E+00	NOT IDENT.
TC-99M	-5.873E+14	2.910E+15	0.000E+00	1.485E+15	SHORT HLIF
RU-103	-5.291E-03	1.985E-02	1.672E-02	1.013E-02	NOT IDENT.
RH-106	-4.821E-02	1.500E-01	1.215E-01	7.652E-02	NOT IDENT.

RU-106	-4.821E-02	1.499E-01	1.215E-01	7.648E-02	NOT IDENT.
AG-108M	5.453E-04	1.192E-02	1.057E-02	6.079E-03	NOT IDENT.
CD-109	-8.629E-02	2.657E-01	2.168E-01	1.356E-01	NOT IDENT.
AG-110M	1.135E-02	1.561E-02	1.465E-02	7.966E-03	NOT IDENT.
SN-113	-2.236E-03	2.093E-02	1.843E-02	1.068E-02	NOT IDENT.
CD-115	8.162E-01	4.013E+00	3.576E+00	2.048E+00	NOT IDENT.
SN-117M	-1.422E-02	2.168E-02	1.735E-02	1.106E-02	NOT IDENT.
TE-123M	-1.063E-02	1.169E-02	9.102E-03	5.963E-03	NOT IDENT.
SB-124	2.324E-02	4.684E-02	4.415E-02	2.390E-02	NOT IDENT.
SB-125	1.212E-02	4.131E-02	3.767E-02	2.107E-02	NOT IDENT.
TE-125M	3.669E-01	3.348E+00	3.107E+00	1.708E+00	NOT IDENT.
I-126	-6.981E-02	9.568E-02	7.082E-02	4.882E-02	NOT IDENT.
SB-126	2.423E-02	6.157E-02	5.499E-02	3.141E-02	NOT IDENT.
SN-126	-2.048E-03	2.540E-02	2.126E-02	1.296E-02	NOT IDENT.
SB-127	-4.564E-01	5.867E-01	4.316E-01	2.994E-01	NOT IDENT.
I-131	-1.744E-02	5.726E-02	4.595E-02	2.922E-02	NOT IDENT.
TE-132	1.160E-01	2.599E-01	2.353E-01	1.326E-01	NOT IDENT.
BA-133	1.063E-02	1.668E-02	1.514E-02	8.511E-03	NOT IDENT.
I-133	-1.519E+02	1.524E+03	0.000E+00	7.778E+02	SHORT HLIF
CS-134	-1.419E-02	2.312E-02	1.648E-02	1.180E-02	NOT IDENT.
CS-135	-2.514E-02	6.565E-02	5.379E-02	3.350E-02	NOT IDENT.
I-135	2.112E+14	5.430E+14	0.000E+00	2.770E+14	SHORT HLIF
CS-136	5.252E-02	4.270E-02	4.419E-02	2.179E-02	NOT IDENT.
BA-137M	-6.444E-03	1.466E-02	1.143E-02	7.482E-03	NOT IDENT.
CS-137	-6.807E-03	1.549E-02	1.207E-02	7.904E-03	NOT IDENT.
CE-139	-5.789E-03	1.150E-02	9.793E-03	5.867E-03	NOT IDENT.
BA-140	-1.597E-02	1.078E-01	9.095E-02	5.499E-02	NOT IDENT.
LA-140	6.798E-03	4.518E-02	3.976E-02	2.305E-02	NOT IDENT.
CE-141	-6.737E-03	2.373E-02	2.089E-02	1.211E-02	NOT IDENT.
CE-143	-3.063E+01	3.881E+01	0.000E+00	1.980E+01	SHORT HLIF
CE-144	5.378E-02	7.478E-02	7.129E-02	3.815E-02	NOT IDENT.
PM-144	-1.840E-03	1.789E-02	1.452E-02	9.129E-03	NOT IDENT.
PR-144	-1.303E-01	1.340E+00	1.088E+00	6.834E-01	NOT IDENT.
PM-146	-2.053E-03	1.667E-02	1.439E-02	8.507E-03	NOT IDENT.
ND-147	7.839E-02	2.210E-01	2.011E-01	1.128E-01	NOT IDENT.
PM-149	2.917E+00	3.172E+01	2.734E+01	1.618E+01	NOT IDENT.
EU-152	-2.917E-02	4.407E-02	3.353E-02	2.248E-02	NOT IDENT.
GD-153	-5.991E-03	2.928E-02	2.309E-02	1.494E-02	NOT IDENT.
EU-154	2.639E-02	5.196E-02	4.793E-02	2.651E-02	NOT IDENT.
EU-155	2.835E-02	3.268E-02	3.227E-02	1.667E-02	NOT IDENT.
TB-160	-1.266E-03	5.398E-02	4.670E-02	2.754E-02	NOT IDENT.
HO-166M	1.054E-02	2.676E-02	2.393E-02	1.366E-02	NOT IDENT.
TA-182	-8.205E-02	7.821E-02	4.790E-02	3.990E-02	NOT IDENT.
IR-192	3.065E-04	1.437E-02	1.217E-02	7.329E-03	NOT IDENT.
HG-203	-2.358E-03	1.678E-02	1.412E-02	8.561E-03	NOT IDENT.
BI-207	-1.339E-02	2.321E-02	1.752E-02	1.184E-02	NOT IDENT.
TL-208	-9.926E-03	1.577E-02	1.257E-02	8.044E-03	NOT IDENT.
PB-210	-7.069E-02	1.030E+00	9.057E-01	5.253E-01	NOT IDENT.
BI-211	2.328E-02	1.059E-01	9.008E-02	5.404E-02	NOT IDENT.
PB-211	-2.172E-01	2.924E-01	2.165E-01	1.492E-01	NOT IDENT.
BI-212	6.570E-02	2.198E-01	1.890E-01	1.121E-01	NOT IDENT.
PB-212	-3.344E-04	2.991E-02	2.531E-02	1.526E-02	NOT IDENT.
BI-214	-4.773E-02	4.096E-02	2.890E-02	2.090E-02	NOT IDENT.
PB-214	-2.292E-02	4.020E-02	3.116E-02	2.051E-02	NOT IDENT.
RN-219	7.636E-03	1.573E-01	1.406E-01	8.026E-02	NOT IDENT.
RA-223	-1.828E-01	2.904E-01	2.233E-01	1.482E-01	NOT IDENT.
RA-224	-2.243E-01	2.819E-01	2.245E-01	1.438E-01	NOT IDENT.
RA-226	-4.773E-02	4.096E-02	2.890E-02	2.090E-02	NOT IDENT.
AC-227	1.449E-03	1.023E-01	8.827E-02	5.221E-02	NOT IDENT.
TH-227	1.449E-03	1.023E-01	8.827E-02	5.221E-02	NOT IDENT.
AC-228	9.420E-03	8.031E-02	6.995E-02	4.097E-02	NOT IDENT.
RA-228	9.420E-03	8.031E-02	6.995E-02	4.097E-02	NOT IDENT.
TH-228	-3.344E-04	2.991E-02	2.531E-02	1.526E-02	NOT IDENT.
TH-229	-1.569E-01	2.167E-01	1.778E-01	1.106E-01	NOT IDENT.
PA-231	-2.910E-01	6.072E-01	4.856E-01	3.098E-01	NOT IDENT.
TH-231	-1.828E-01	2.904E-01	2.233E-01	1.482E-01	NOT IDENT.
TH-232	9.420E-03	8.031E-02	6.995E-02	4.097E-02	NOT IDENT.
PA-233	-1.733E-02	2.940E-02	2.297E-02	1.500E-02	NOT IDENT.
PA-234	6.777E-02	9.579E-02	9.500E-02	4.887E-02	NOT IDENT.
PA-234M	-8.553E-01	1.967E+00	1.548E+00	1.004E+00	NOT IDENT.
TH-234	-1.166E-01	4.426E-01	4.051E-01	2.258E-01	NOT IDENT.
U-235	-8.138E-02	9.066E-02	7.021E-02	4.625E-02	NOT IDENT.
NP-237	-6.488E-02	8.271E-02	6.344E-02	4.220E-02	NOT IDENT.
U-238	-1.166E-01	4.426E-01	4.051E-01	2.258E-01	NOT IDENT.
NP-239	-5.864E-03	1.374E-01	1.254E-01	7.010E-02	NOT IDENT.
AM-241	4.797E-02	4.155E-02	4.012E-02	2.120E-02	NOT IDENT.
CM-247	-7.848E-03	1.502E-02	1.244E-02	7.664E-03	NOT IDENT.
CF-249	1.085E-02	1.827E-02	1.723E-02	9.320E-03	NOT IDENT.

CF-251	3.438E-02	5.254E-02	4.913E-02	2.681E-02 NOT IDENT.
ANH-511	-3.779E-02	2.925E-02	2.835E-02	1.492E-02 NOT IDENT.



```

*****
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON , SC 29417                          *
*                               GAMMA SPECTROSCOPY BACKGROUND REPORT            *
*****

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ENERGY	MDA COUNTS
46.54	42.4178
49.72	42.8892
57.36	0.0000
59.54	38.5829
63.29	43.6016
63.29	43.6016
64.28	62.1369
67.75	51.1254
69.67	63.0753
70.83	59.7567
72.81	69.4940
72.87	69.5048
72.87	69.5048
74.82	80.5139
74.82	80.5139
74.82	80.5139
74.97	80.5451
77.11	76.2212
77.11	76.2212
77.11	76.2212
79.69	53.9391
79.80	53.9535
80.12	53.9961
80.19	54.0054
80.57	48.0493
81.00	62.5300
81.07	62.5407
81.07	62.5407
83.79	50.8453
83.79	50.8453
85.43	59.5498
86.48	82.8439
86.55	73.1094
86.79	75.5880
86.94	75.6145
87.57	65.9538
88.03	72.1372
88.47	61.1950
89.96	84.7360
91.11	97.2685
92.59	53.1188
92.59	53.1188
93.35	50.7332
94.67	130.3039
94.87	130.3608
94.87	130.3608
95.86	60.9659
97.43	47.4397
98.44	54.2146
99.53	42.6357
100.11	48.5469
103.18	64.8622
103.37	64.8877
105.31	39.7638
106.12	46.6082
109.28	58.8413
111.00	50.4838
111.76	63.4123
116.30	63.1008
117.23	54.5522
121.12	64.5407
121.78	57.6328
122.06	62.9044
123.07	58.6434
131.20	76.3637
133.52	53.4900
136.00	74.3060

136.47	72.5724
140.51	67.6498
140.51	0.0000
143.76	76.1703
144.24	78.9517
144.24	78.9517
145.44	67.2838
152.43	53.3201
153.25	53.3879
154.21	55.3101
154.21	55.3101
156.02	50.8419
158.56	55.6775
159.00	59.4284
162.66	51.3505
163.33	56.0736
165.86	62.8479
176.60	63.8151
177.52	52.4521
181.07	56.5417
184.41	70.2754
185.72	49.1832
193.51	66.2534
197.04	47.9592
205.31	68.2419
210.85	58.7497
215.65	48.0737
222.11	44.4055
227.38	46.7080
228.16	44.7175
228.18	43.7021
235.69	69.6996
235.96	75.8729
235.96	75.8729
238.63	53.4742
238.63	53.4742
240.99	70.1105
242.00	59.8662
244.70	53.8313
252.40	43.8397
252.80	46.9908
256.23	39.8249
256.23	39.8249
260.90	43.1780
264.66	42.2884
268.22	46.6855
269.46	38.2456
269.46	38.2456
271.23	42.5708
273.65	46.9407
276.40	43.8603
277.37	42.8312
277.60	39.6279
278.00	37.5008
279.20	46.1267
279.54	50.4338
280.46	48.3316
283.69	42.0191
284.31	48.5129
285.41	45.3265
285.90	37.7899
287.50	34.6042
293.27	0.0000
295.22	34.8587
295.96	29.4324
298.57	45.8956
299.98	38.2962
299.98	38.2962
300.09	33.9233
300.09	33.9233
300.13	33.9245
301.36	29.5807
302.85	48.2718
304.50	49.4440
304.50	49.4440
304.85	47.2613
308.46	44.1089
311.90	44.2464

316.51	32.2114
319.41	34.5212
320.08	31.1986
323.87	43.6005
323.87	43.6005
328.76	42.6634
333.37	36.0697
334.37	28.2033
334.37	28.2033
338.28	31.6925
338.28	31.6925
338.32	31.6937
338.32	31.6937
338.32	31.6937
340.48	30.6178
340.55	30.6194
344.28	40.9534
351.06	34.3195
351.93	45.7918
356.01	21.8238
364.49	45.1025
366.42	34.7473
383.85	25.5361
388.16	30.9203
388.63	30.0478
391.69	38.9753
400.66	25.8604
401.81	24.9901
402.40	31.2509
404.85	30.4125
410.95	28.7510
414.70	31.5318
423.72	30.8281
427.09	27.2662
427.87	29.0996
433.94	23.7438
453.88	23.1426
463.37	22.3572
468.07	24.2949
473.00	29.9971
476.78	29.1306
477.60	21.6243
487.02	26.4837
492.35	32.2667
497.08	34.2658
511.00	36.4800
514.00	117.3340
527.90	20.3655
529.87	0.0000
531.02	17.4880
537.26	21.4528
546.56	0.0000
563.25	17.8154
569.33	28.8000
569.50	19.8639
569.70	19.8663
583.19	14.0098
600.60	31.3150
602.73	33.3726
604.72	29.3584
609.32	35.5191
609.32	35.5191
610.33	29.4452
614.28	26.4539
618.01	20.3888
621.93	25.5379
621.93	25.5379
633.25	26.7149
635.95	23.6647
636.99	24.7068
645.85	26.8855
657.76	15.6029
661.66	19.8019
661.66	19.8019
664.57	0.0000
666.33	25.0701
666.50	25.0723
677.62	16.8052

685.70	28.4691
695.00	24.3589
696.49	21.1963
696.51	21.1969
697.00	21.2018
702.65	19.1321
706.68	19.1684
711.68	16.0107
720.70	16.0771
721.93	0.0000
722.78	11.8013
722.91	11.8020
723.31	17.1694
724.19	27.9114
727.33	12.9009
733.00	18.3229
735.93	19.4266
739.50	30.2678
747.24	18.4407
752.31	18.4822
753.82	14.1426
756.73	17.4287
763.94	24.0403
765.81	12.0299
766.42	16.4090
777.92	26.3855
778.90	26.3965
783.70	16.5317
785.37	19.8523
795.86	21.0486
801.95	16.6599
810.29	14.4889
810.76	12.2622
815.77	15.6389
818.51	8.9465
832.01	13.4941
834.85	11.7086
836.80	0.0000
846.77	17.1946
856.80	17.2637
860.56	17.2893
871.09	11.8787
873.19	16.4610
875.33	0.0000
879.36	11.9171
880.51	11.0052
883.24	13.7710
884.68	11.9415
889.28	16.5639
898.04	13.8494
911.20	16.7025
911.20	16.7025
911.20	16.7025
926.50	10.2658
937.49	11.2444
944.13	13.1506
946.00	4.6998
949.00	12.2329
962.29	2.8366
964.08	15.1383
966.15	16.0960
968.97	11.3736
968.97	11.3736
968.97	11.3736
983.53	7.6217
996.26	6.6989
1001.03	16.2957
1004.73	16.3164
1037.84	11.6490
1038.76	0.0000
1048.07	5.8444
1050.41	15.5977
1050.41	15.5977
1063.66	16.6456
1085.87	7.8902
1099.45	11.8875
1112.07	9.9463
1115.54	11.9484

1120.29	11.9666
1120.29	11.9666
1120.55	11.9672
1121.30	13.9651
1131.51	0.0000
1173.23	12.1646
1177.93	10.1514
1189.05	12.2227
1204.77	11.2567
1221.41	14.3972
1231.02	5.1565
1235.36	10.3257
1238.28	10.3345
1260.41	0.0000
1271.85	14.6084
1274.44	8.3539
1274.54	8.3539
1291.59	12.5912
1298.22	0.0000
1312.11	2.1105
1332.49	6.3671
1365.19	10.7056
1368.63	0.0000
1384.29	6.4562
1408.01	3.2481
1457.56	0.0000
1460.82	5.4871
1489.16	2.7629
1505.03	6.4722
1596.21	8.5045
1620.50	4.7514
1678.03	0.0000
1690.97	5.7930
1764.49	3.9242
1764.49	3.9242
1770.23	11.7871
1771.35	9.8246
1791.20	0.0000
1836.06	2.9877

TOTAL URANIUM BY GAMMA SPEC REPORT  
Sample:G1202061469

Total Uranium Activity	-3.8465E-01	ug/g
Total Uranium Counting Unc.	1.3173E+00	ug/g
Total Uranium Tpu	6.7208E-07	ug/g
Total Uranium Mda	1.2056E+00	ug/g

THERE ARE NO PEAKS !

VAX/VMS Nuclide Identification Report Generated 20-MAR-2010 13:13:06.61

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202061470.CNF;1
Sample date        : 25-FEB-2010 12:00:00 Acquisition date : 20-MAR-2010 11:11:45
Sample ID          : G1202061470 Sample quantity : 1.33660E+02 GRAM
Detector name      : GAM12 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.69 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 961099 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.42*	79	553	0.99	126.05	122	8	1.10E-02	53.8	
2	3	74.75*	627	557	1.33	148.71	142	19	8.71E-02	7.8	5.22E+00
3	3	77.09	749	413	1.03	153.41	142	19	1.04E-01	5.8	
4	1	87.29*	276	474	1.13	173.80	162	29	3.83E-02	14.3	1.64E+00
5	1	89.98	163	381	1.01	179.19	162	29	2.26E-02	20.8	
6	1	92.84*	301	409	1.10	184.91	162	29	4.18E-02	13.7	
7	0	185.87*	199	470	1.01	371.00	365	12	2.77E-02	23.7	
8	0	209.80	197	366	1.10	418.88	414	12	2.73E-02	20.8	
9	4	238.66*	1434	187	1.08	476.61	472	15	1.99E-01	3.1	1.39E+00
10	4	241.56	327	251	1.73	482.41	472	15	4.55E-02	14.0	
11	0	270.07*	131	207	1.35	539.43	535	10	1.82E-02	22.5	
12	0	277.41	89	252	1.32	554.12	549	11	1.24E-02	36.2	
13	0	295.29*	425	263	1.19	589.88	585	11	5.91E-02	8.9	
14	0	300.12	69	143	0.88	599.54	596	7	9.62E-03	31.1	
15	0	328.29	50	188	1.08	655.89	650	9	6.93E-03	51.6	
16	0	338.29*	298	177	0.86	675.89	671	9	4.13E-02	10.1	
17	0	351.90*	778	178	1.29	703.11	697	11	1.08E-01	4.9	
18	0	409.11	52	151	1.55	817.53	812	11	7.21E-03	48.5	
19	0	463.47	97	142	1.86	926.27	920	14	1.34E-02	28.2	
20	0	510.85*	142	172	1.93	1021.02	1013	17	1.97E-02	25.2	
21	0	583.16*	543	69	1.61	1165.63	1160	11	7.54E-02	5.3	
22	0	609.41*	557	108	1.33	1218.14	1212	14	7.74E-02	5.9	
23	0	727.28	109	69	1.51	1453.84	1448	11	1.52E-02	17.5	
24	0	768.10	80	71	1.31	1535.47	1530	11	1.10E-02	23.4	
25	0	794.33	71	67	0.81	1587.94	1581	14	9.88E-03	27.1	
26	0	861.35	64	85	2.01	1721.95	1713	13	8.92E-03	32.1	
27	0	911.39*	361	57	1.84	1822.01	1815	16	5.01E-02	7.2	
28	1	964.34	59	46	2.00	1927.87	1921	24	8.25E-03	27.1	2.06E+00
29	1	969.05*	206	40	2.01	1937.30	1921	24	2.86E-02	9.8	
30	0	1120.65*	96	74	1.14	2240.41	2234	14	1.34E-02	22.2	
31	0	1238.30*	59	100	1.55	2475.61	2468	18	8.15E-03	42.3	
32	0	1460.75*	1490	21	2.03	2920.29	2909	19	2.07E-01	2.7	
33	0	1630.80	18	14	1.81	3260.19	3254	11	2.52E-03	46.1	
34	0	1729.50	33	0	2.36	3457.45	3452	11	4.58E-03	17.4	
35	0	1764.31*	109	0	2.04	3527.02	3519	16	1.51E-02	10.0	

Flag: "\*" = Peak area was modified by background subtraction



## VMS Nuclide Identification Report V3.1 Generated 20-MAR-2010 13:13:10

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202061470.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 25-FEB-2010 12:00:00 Acquisition date : 20-MAR-2010 11:11:45
Sample ID         : G1202061470 Sample quantity : 133.66 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA12 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.69 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

```

## 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	+	1460.82	*	3.653E+01	3.855E+00	4.196E-01	3.806E-02	87.039
CD-109	+	88.03	*	3.907E+00	1.178E+00	1.229E+00	1.157E-01	3.179
SN-126	+	64.28		7.208E-01	7.830E-01	8.337E-01	1.213E-01	0.865
	+	86.94		1.569E+00	7.916E-01	4.989E-01	2.071E-01	3.145
	+	87.57	*	3.774E-01	1.138E-01	1.193E-01	1.117E-02	3.165
TL-208	+	277.37		9.019E-01	6.619E-01	6.415E-01	8.057E-02	1.406
	+	583.19	*	7.590E-01	1.079E-01	5.782E-02	5.498E-03	13.128
	+	860.56		8.521E-01	5.538E-01	4.699E-01	5.006E-02	1.813
BI-211		72.87		7.364E+00	3.832E+00	6.002E+00	4.806E-01	1.227
	+	351.06	*	4.802E+00	6.374E-01	3.452E-01	3.076E-02	13.910
PB-212	+	74.82		3.768E+00	7.576E-01	6.030E-01	7.655E-02	6.248
	+	77.11		2.575E+00	3.688E-01	3.466E-01	2.892E-02	7.428
	+	238.63	*	1.976E+00	2.265E-01	9.774E-02	9.463E-03	20.214
	+	300.09		1.485E+00	9.367E-01	1.281E+00	1.355E-01	1.160
BI-214	+	609.32	*	1.510E+00	2.370E-01	1.120E-01	1.163E-02	13.474
	+	1120.29		1.350E+00	6.160E-01	4.859E-01	5.324E-02	2.778
	+	1764.49		2.111E+00	4.586E-01	3.179E-01	2.690E-02	6.642
PB-214	+	74.82		6.678E+00	1.289E+00	1.069E+00	1.216E-01	6.248
	+	77.11		4.539E+00	7.502E-01	6.111E-01	7.170E-02	7.428
	+	242.00		2.736E+00	8.183E-01	5.589E-01	5.769E-02	4.895
	+	295.22		1.616E+00	3.377E-01	2.440E-01	2.647E-02	6.622
	+	351.93	*	1.743E+00	2.505E-01	1.256E-01	1.315E-02	13.880
RA-224	+	240.99	*	4.837E+00	1.419E+00	1.048E+00	8.946E-02	4.617
RA-226	+	609.32	*	1.510E+00	2.370E-01	1.120E-01	1.163E-02	13.474
	+	1120.29		1.350E+00	6.160E-01	4.859E-01	5.324E-02	2.778
	+	1764.49		2.111E+00	4.586E-01	3.179E-01	2.690E-02	6.642
AC-228	+	338.32		2.044E+00	9.478E-01	4.433E-01	1.848E-01	4.612
	+	911.20	*	2.440E+00	4.713E-01	2.438E-01	3.129E-02	10.010
	+	968.97		2.401E+00	7.612E-01	3.971E-01	9.868E-02	6.048
RA-228	+	338.32		2.044E+00	9.478E-01	4.433E-01	1.848E-01	4.612
	+	911.20	*	2.440E+00	4.713E-01	2.438E-01	3.129E-02	10.010
	+	968.97		2.401E+00	7.612E-01	3.971E-01	9.868E-02	6.048
TH-228	+	74.82		3.768E+00	6.645E-01	6.030E-01	4.968E-02	6.248
	+	77.11		2.575E+00	3.688E-01	3.466E-01	2.892E-02	7.428

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	238.63	*	1.976E+00	2.265E-01	9.774E-02	9.463E-03	20.214
	+	300.09		1.485E+00	1.296E+00	1.281E+00	7.840E-01	1.160
TH-232	+	338.32		2.044E+00	4.494E-01	4.433E-01	3.787E-02	4.612
	+	911.20	*	2.440E+00	4.713E-01	2.438E-01	3.129E-02	10.010
	+	968.97		2.401E+00	7.612E-01	3.971E-01	9.868E-02	6.048
TH-234	+	63.29	*	1.870E+00	2.041E+00	2.256E+00	4.019E-01	0.829
	+	92.59		3.423E+00	1.210E+00	1.001E+00	2.227E-01	3.420
U-235	+	89.96		2.310E+00	1.118E+00	1.245E+00	3.091E-01	1.856
	+	93.35		2.585E+00	9.304E-01	7.521E-01	1.748E-01	3.437
		143.76	*	-2.305E-02	2.241E-01	3.550E-01	5.914E-02	-0.065
		163.33		-4.212E-01	5.094E-01	7.624E-01	1.345E-01	-0.552
	+	185.72		1.784E-01	8.576E-02	6.669E-02	5.418E-03	2.675
		205.31		2.742E-01	5.673E-01	8.463E-01	1.523E-01	0.324
NP-237	+	86.48	*	1.126E+00	4.136E-01	3.597E-01	8.244E-02	3.131
		95.86		3.349E-01	1.034E+00	1.522E+00	3.662E-01	0.220
U-238	+	63.29	*	1.870E+00	2.041E+00	2.256E+00	4.019E-01	0.829
	+	92.59		3.423E+00	9.896E-01	1.001E+00	9.042E-02	3.420
ANH-511	+	511.00	*	1.513E-01	7.732E-02	4.845E-02	4.239E-03	3.122

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	8.917E-02	4.206E-01	6.822E-01	6.330E-02	0.131
NA-22		1274.54	*	1.471E-02	5.546E-02	9.328E-02	7.954E-03	0.158
NA-24		1368.63	*	-4.548E+02	5.546E-02	Half-Life too short		
SC-46		889.28	*	3.950E-02	5.096E-02	8.753E-02	8.967E-03	0.451
	+	1120.55		2.436E-01	1.100E-01	1.507E-01	1.305E-02	1.617
V-48		944.13		-1.144E-01	1.426E+00	2.277E+00	2.292E-01	-0.050
		983.53	*	1.305E-02	1.062E-01	1.802E-01	1.772E-02	0.072
		1312.11		3.993E-02	1.291E-01	2.186E-01	1.896E-02	0.183
CR-51		320.08	*	4.916E-01	4.903E-01	8.447E-01	7.667E-02	0.582
MN-54		834.85	*	2.827E-02	4.421E-02	7.532E-02	7.517E-03	0.375
CO-56		846.77	*	-1.096E-02	4.514E-02	7.158E-02	7.187E-03	-0.153
		1037.84		-7.782E-02	3.546E-01	5.812E-01	5.724E-02	-0.134
	+	1238.28		2.462E-01	2.092E-01	2.209E-01	1.904E-02	1.115
		1771.35		7.421E-02	2.234E-01	3.812E-01	3.220E-02	0.195
CO-57		122.06	*	-1.904E-03	2.850E-02	4.569E-02	3.789E-03	-0.042
		136.47		-9.810E-02	2.323E-01	3.644E-01	3.191E-02	-0.269
CO-58		810.76	*	-2.883E-03	4.617E-02	7.480E-02	7.383E-03	-0.039
FE-59		1099.45	*	-1.056E-01	1.176E-01	1.796E-01	1.717E-02	-0.588
		1291.59		-9.149E-02	1.543E-01	2.373E-01	2.316E-02	-0.386
CO-60		1173.23		-1.060E-02	5.393E-02	8.793E-02	7.096E-03	-0.121
		1332.49	*	1.448E-02	4.070E-02	6.952E-02	6.085E-03	0.208
ZN-65		1115.54	*	-4.124E-02	1.183E-01	1.620E-01	1.413E-02	-0.255
SE-75		121.12		-1.343E-01	1.529E-01	2.355E-01	2.550E-02	-0.570
		136.00		-2.716E-02	4.551E-02	7.080E-02	5.771E-03	-0.384
		264.66	*	1.698E-02	4.938E-02	7.766E-02	6.739E-03	0.219
		279.54		1.580E-01	1.328E-01	2.080E-01	1.871E-02	0.760

## ----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	400.66			4.850E-03	3.135E-01	5.078E-01	5.449E-02	0.010
SR-85	514.00	*		7.766E-02	4.692E-02	7.794E-02	6.827E-03	0.996
Y-88	898.04			-6.352E-03	5.026E-02	8.028E-02	8.284E-03	-0.079
	1836.06	*		5.351E-03	4.248E-02	7.186E-02	5.950E-03	0.074
Y-91	1204.77	*		-1.781E+01	2.892E+01	4.543E+01	3.732E+00	-0.392
NB-94	702.65	*		2.068E-02	3.629E-02	6.221E-02	5.724E-03	0.332
	871.09			-7.244E-03	3.967E-02	6.319E-02	6.420E-03	-0.115
NB-95	765.81	*		6.259E-02	5.744E-02	9.041E-02	8.677E-03	0.692
NB-95M	235.69	*		-3.498E-02	1.577E-01	2.289E-01	2.240E-02	-0.153
ZR-95	724.19			-2.533E-03	1.269E-01	1.802E-01	1.805E-02	-0.014
	756.73	*		3.813E-02	9.066E-02	1.515E-01	1.570E-02	0.252
MO-99	140.51			-2.441E-04	9.066E-02	Half-Life	too short	
	181.07			1.195E-04	9.066E-02	Half-Life	too short	
	366.42			-1.711E-04	9.066E-02	Half-Life	too short	
	739.50	*		-6.280E-05	9.066E-02	Half-Life	too short	
	777.92			-3.416E-04	9.066E-02	Half-Life	too short	
TC-99M	140.51	*		-1.527E+20	9.066E-02	Half-Life	too short	
RU-103	497.08	*		-2.450E-02	4.943E-02	8.050E-02	1.128E-02	-0.304
	610.33	+		1.790E+01	3.631E+00	3.771E+00	6.230E-01	4.746
RH-106	621.93	*		-3.394E-02	3.362E-01	5.542E-01	7.465E-02	-0.061
	1050.41			5.037E+00	2.890E+00	5.447E+00	5.082E-01	0.925
RU-106	621.93	*		-3.394E-02	3.362E-01	5.542E-01	4.957E-02	-0.061
	1050.41			5.037E+00	2.890E+00	5.447E+00	5.082E-01	0.925
AG-108M	433.94	*		-7.539E-04	3.051E-02	4.902E-02	4.248E-03	-0.015
	614.28			2.275E-02	4.015E-02	6.139E-02	5.659E-03	0.371
	722.91			3.217E-02	4.231E-02	6.548E-02	6.278E-03	0.491
AG-110M	657.76	*		-2.608E-02	3.870E-02	6.058E-02	5.558E-03	-0.430
	677.62			-2.589E-04	3.481E-01	5.746E-01	5.326E-02	0.000
	706.68			-1.423E-01	2.360E-01	3.694E-01	3.494E-02	-0.385
	763.94			3.276E-02	1.833E-01	2.654E-01	2.600E-02	0.123
	884.68			-1.645E-02	6.093E-02	9.620E-02	1.006E-02	-0.171
	937.49			-2.429E-02	1.433E-01	2.274E-01	2.357E-02	-0.107
	1384.29			-2.144E-02	1.929E-01	3.113E-01	2.810E-02	-0.069
	1505.03			-3.322E-01	3.134E-01	4.234E-01	3.737E-02	-0.785
SN-113	391.69	*		-5.189E-02	5.258E-02	7.955E-02	6.659E-03	-0.652
CD-115	260.90			1.639E-04	5.258E-02	Half-Life	too short	
	492.35			3.479E-04	5.258E-02	Half-Life	too short	
	527.90	*		5.096E-05	5.258E-02	Half-Life	too short	
SN-117M	156.02			1.408E+00	3.671E+00	5.927E+00	4.729E-01	0.237
	158.56	*		-1.184E-02	8.931E-02	1.408E-01	1.123E-02	-0.084
TE-123M	159.00	*		8.438E-03	3.257E-02	5.226E-02	4.196E-03	0.161
SB-124	602.73			-1.319E-02	5.061E-02	7.120E-02	6.366E-03	-0.185
	645.85			3.277E-01	5.680E-01	9.808E-01	9.235E-02	0.334
	722.78			3.358E-01	4.638E-01	7.153E-01	6.806E-02	0.469
	1690.97	*		9.716E-03	8.745E-02	1.487E-01	1.336E-02	0.065
SB-125	427.87	*		2.364E-02	1.024E-01	1.674E-01	1.425E-02	0.141
	463.37	+		9.170E-01	5.239E-01	5.847E-01	5.379E-02	1.568
	600.60			2.893E-02	1.868E-01	3.144E-01	3.004E-02	0.092
	635.95			-2.465E-02	3.083E-01	5.083E-01	4.890E-02	-0.048

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TE-125M	109.28	*		2.358E+00	1.177E+01	1.917E+01	1.974E+00	0.123
I-126	388.63			3.384E-01	2.789E-01	4.834E-01	3.927E-02	0.700
	666.33	*		1.209E-01	3.770E-01	6.371E-01	5.705E-02	0.190
	753.82			3.211E-02	3.106E+00	5.092E+00	4.850E-01	0.006
SB-126	414.70			1.125E-02	1.404E-01	1.995E-01	1.647E-02	0.056
	666.50			3.742E-02	1.316E-01	2.219E-01	1.987E-02	0.169
	695.00			-3.737E-02	1.327E-01	2.139E-01	1.957E-02	-0.175
	697.00			-6.270E-02	4.489E-01	7.316E-01	6.704E-02	-0.086
	720.70	*		-2.386E-02	2.640E-01	3.716E-01	3.462E-02	-0.064
	856.80			1.749E-01	9.630E-01	1.378E+00	1.391E-01	0.127
SB-127	252.40			2.697E+00	1.817E+01	3.041E+01	1.286E+01	0.089
	473.00			-1.764E+00	7.157E+00	1.123E+01	1.695E+00	-0.157
	685.70	*		1.660E+00	5.598E+00	9.448E+00	1.346E+00	0.176
	783.70			1.623E+01	1.694E+01	2.936E+01	4.528E+00	0.553
I-131	80.19			-9.924E+00	1.354E+01	1.480E+01	1.294E+00	-0.670
	284.31			2.663E+00	3.024E+00	5.210E+00	4.782E-01	0.511
	364.49	*		7.050E-02	2.293E-01	3.807E-01	3.392E-02	0.185
	636.99			1.341E+00	3.413E+00	5.816E+00	5.517E-01	0.231
TE-132	49.72			-1.408E+00	1.008E+02	1.679E+02	2.207E+01	-0.008
	111.76			5.774E+01	2.003E+02	3.226E+02	4.294E+01	0.179
	116.30			9.969E+01	1.712E+02	2.817E+02	3.742E+01	0.354
	228.16	*		-3.294E+00	4.469E+00	7.190E+00	1.263E+00	-0.458
BA-133	81.00			-1.248E-01	1.423E-01	1.525E-01	2.372E-02	-0.819
+	276.40			8.349E-01	6.151E-01	6.995E-01	9.890E-02	1.193
	302.85			-7.004E-02	1.668E-01	2.330E-01	3.052E-02	-0.301
	356.01	*		-3.942E-02	5.285E-02	7.035E-02	9.024E-03	-0.560
	383.85			-1.040E-01	3.199E-01	5.079E-01	6.157E-02	-0.205
I-133	529.87	*		8.586E-01	3.199E-01	Half-Life	too short	
	875.33			3.316E+01	3.199E-01	Half-Life	too short	
	1298.22			2.322E+01	3.199E-01	Half-Life	too short	
CS-134	563.25			2.341E-01	3.955E-01	6.861E-01	6.155E-02	0.341
	569.33			2.292E-01	1.913E-01	3.458E-01	3.117E-02	0.663
	604.72			5.565E-03	3.708E-02	5.447E-02	4.882E-03	0.102
	795.86	*		8.606E-02	6.211E-02	9.972E-02	9.798E-03	0.863
	801.95			-2.562E-01	4.692E-01	6.786E-01	6.682E-02	-0.378
	1365.19			1.107E+00	1.351E+00	2.423E+00	2.224E-01	0.457
CS-135	268.22	*		1.739E-01	1.802E-01	2.768E-01	2.764E-02	0.628
I-135	546.56			4.570E+18	1.802E-01	Half-Life	too short	
	836.80			3.089E+18	1.802E-01	Half-Life	too short	
	1038.76			1.119E+18	1.802E-01	Half-Life	too short	
	1131.51			2.340E+18	1.802E-01	Half-Life	too short	
	1260.41	*		-1.273E+18	1.802E-01	Half-Life	too short	
	1457.56			3.829E+20	1.802E-01	Half-Life	too short	
	1678.03			-9.926E+17	1.802E-01	Half-Life	too short	
	1791.20			-4.358E+18	1.802E-01	Half-Life	too short	
CS-136	153.25			-7.899E-01	1.417E+00	2.194E+00	2.139E-01	-0.360
	176.60			-2.188E-01	7.441E-01	1.247E+00	1.122E-01	-0.175
	273.65			2.480E-01	1.240E+00	1.337E+00	1.256E-01	0.185
	340.55			5.902E-01	2.920E-01	4.614E-01	4.093E-02	1.279

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		818.51		-1.005E-01	1.221E-01	1.826E-01	1.810E-02	-0.550
		1048.07	*	8.955E-02	1.855E-01	3.220E-01	3.122E-02	0.278
		1235.36		1.608E+00	1.138E+00	1.835E+00	2.125E-01	0.876
BA-137M		661.66	*	-8.205E-03	3.986E-02	6.492E-02	5.792E-03	-0.126
CS-137		661.66	*	-8.667E-03	4.211E-02	6.858E-02	6.129E-03	-0.126
CE-139		165.86	*	-1.147E-02	3.473E-02	5.413E-02	4.309E-03	-0.212
BA-140		162.66		-8.540E-01	1.414E+00	2.158E+00	1.854E-01	-0.396
		304.85		-9.494E-01	2.331E+00	3.430E+00	1.005E+00	-0.277
		423.72		-1.661E+00	3.445E+00	5.308E+00	1.742E+00	-0.313
		537.26	*	-4.801E-02	4.427E-01	7.369E-01	2.503E-01	-0.065
LA-140	+	328.76		6.501E-01	6.735E-01	9.107E-01	8.274E-02	0.714
		487.02		-9.901E-02	2.354E-01	3.635E-01	3.339E-02	-0.272
		815.77		-9.141E-02	5.224E-01	8.363E-01	9.009E-02	-0.109
		1596.21	*	-8.394E-02	1.473E-01	2.164E-01	1.896E-02	-0.388
CE-141		145.44	*	5.190E-02	8.156E-02	1.333E-01	1.092E-02	0.389
CE-143		57.36		-3.216E-02	8.156E-02	Half-Life	too short	
		293.27	*	3.756E-02	8.156E-02	Half-Life	too short	
		664.57		9.842E-03	8.156E-02	Half-Life	too short	
		721.93		3.600E-02	8.156E-02	Half-Life	too short	
CE-144		80.12		-2.731E+00	3.790E+00	4.148E+00	3.572E-01	-0.658
		133.52	*	-8.688E-02	2.279E-01	3.584E-01	5.377E-02	-0.242
PM-144		476.78		-1.851E-02	7.710E-02	1.212E-01	1.134E-02	-0.153
		618.01		-9.478E-03	3.361E-02	5.462E-02	5.015E-03	-0.174
		696.49	*	-1.008E-02	3.807E-02	6.144E-02	5.632E-03	-0.164
PR-144		696.51	*	-7.404E-01	2.862E+00	4.622E+00	4.233E-01	-0.160
		1489.16		8.248E+00	1.207E+01	2.178E+01	1.923E+00	0.379
PM-146		453.88	*	3.378E-02	4.762E-02	7.988E-02	8.379E-03	0.423
		633.25		2.287E-01	1.543E+00	2.583E+00	9.886E-01	0.089
		735.93		-1.463E-02	1.605E-01	2.613E-01	7.391E-02	-0.056
		747.24		1.820E-03	1.151E-01	1.888E-01	2.854E-02	0.010
ND-147	+	91.11		1.228E+00	5.241E-01	8.843E-01	8.689E-02	1.388
		319.41		4.305E-02	6.020E+00	9.887E+00	8.534E-01	0.004
		531.02	*	-2.701E-01	1.017E+00	1.676E+00	2.525E-01	-0.161
PM-149		285.90	*	2.598E-04	1.017E+00	Half-Life	too short	
EU-152		121.78		-2.790E-03	7.947E-02	1.276E-01	1.227E-02	-0.022
		244.70		-1.131E-01	3.732E-01	5.364E-01	4.591E-02	-0.211
		344.28	*	-9.983E-02	1.094E-01	1.689E-01	1.524E-02	-0.591
		778.90		-1.807E-01	2.830E-01	4.357E-01	4.214E-02	-0.415
	+	964.08		7.463E-01	4.109E-01	6.526E-01	6.496E-02	1.144
		1085.87		-6.237E-02	4.310E-01	7.092E-01	6.390E-02	-0.088
		1112.07		1.971E-01	3.555E-01	5.937E-01	5.196E-02	0.332
		1408.01		2.515E-01	1.862E-01	3.526E-01	3.109E-02	0.713
GD-153		69.67		5.014E-02	2.050E+00	3.021E+00	2.351E-01	0.017
		97.43	*	-1.226E-01	1.052E-01	1.423E-01	1.245E-02	-0.861
		103.18		-1.331E-01	1.278E-01	1.979E-01	1.685E-02	-0.673
EU-154		123.07		1.017E-02	5.748E-02	9.305E-02	1.031E-02	0.109
		723.31		1.513E-01	1.949E-01	3.017E-01	3.061E-02	0.501
		873.19		2.322E-01	3.328E-01	5.692E-01	7.435E-02	0.408
		996.26		-4.084E-01	3.968E-01	5.928E-01	1.070E-01	-0.689

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	+	1004.73		1.028E-02	2.456E-01	4.131E-01	5.142E-02	0.025
		1274.44	*	3.881E-02	1.563E-01	2.625E-01	2.967E-02	0.148
		86.55		4.591E-01	1.385E-01	2.046E-01	1.911E-02	2.244
		105.31	*	3.799E-02	1.182E-01	1.936E-01	1.657E-02	0.196
TB-160	+	86.79		1.309E+00	3.947E-01	5.827E-01	5.410E-02	2.247
		197.04		2.199E-01	6.620E-01	1.122E+00	9.226E-02	0.196
		215.65		6.383E-01	9.304E-01	1.430E+00	1.197E-01	0.446
		298.57		2.152E-01	1.966E-01	2.320E-01	2.012E-02	0.928
HO-166M	+	879.36	*	-6.715E-02	1.831E-01	2.867E-01	2.924E-02	-0.234
		962.29		1.891E+00	6.916E-01	1.232E+00	1.227E-01	1.535
		966.15		1.527E+00	3.479E-01	6.452E-01	6.414E-02	2.367
		1177.93		8.431E-03	4.666E-01	7.738E-01	6.262E-02	0.011
		1271.85		7.555E-01	9.777E-01	1.708E+00	1.453E-01	0.442
		80.57		-3.352E-01	4.038E-01	4.377E-01	3.787E-02	-0.766
		184.41		1.417E-01	6.813E-02	7.245E-02	5.877E-03	1.956
		280.46		1.438E-02	9.553E-02	1.404E-01	1.217E-02	0.102
		410.95		3.606E-01	2.862E-01	4.482E-01	3.688E-02	0.805
		711.68	*	-3.069E-02	6.524E-02	1.031E-01	9.550E-03	-0.298
		752.31		-1.499E-01	3.097E-01	4.867E-01	4.632E-02	-0.308
		810.29		-4.194E-02	6.577E-02	1.008E-01	9.927E-03	-0.416
TA-182	+	67.75		-6.236E-02	1.288E-01	1.980E-01	1.516E-02	-0.315
		100.11		1.775E-01	2.003E-01	3.353E-01	2.892E-02	0.529
		152.43		-1.843E-01	4.002E-01	6.229E-01	4.977E-02	-0.296
		222.11		3.990E-02	4.052E-01	6.819E-01	5.742E-02	0.059
		1121.30		6.634E-01	2.994E-01	3.998E-01	3.460E-02	1.659
		1189.05		3.151E-01	3.903E-01	6.840E-01	5.570E-02	0.461
		1221.41	*	-5.680E-02	2.212E-01	3.571E-01	2.960E-02	-0.159
		1231.02		1.062E-01	6.081E-01	8.810E-01	7.340E-02	0.121
IR-192	+	295.96		1.286E+00	2.557E-01	3.494E-01	3.053E-02	3.681
		308.46		1.818E-02	1.089E-01	1.808E-01	1.573E-02	0.101
		316.51	*	-2.292E-02	3.964E-02	6.290E-02	5.445E-03	-0.364
		468.07		6.448E-02	7.966E-02	1.208E-01	1.111E-02	0.534
HG-203	+	70.83		1.216E+00	1.750E+00	2.637E+00	4.131E-01	0.461
		72.87		2.061E+00	1.105E+00	1.679E+00	2.553E-01	1.227
		279.20	*	8.010E-02	5.126E-02	8.167E-02	7.258E-03	0.981
BI-207	+	72.81		3.717E-01	2.188E-01	3.409E-01	2.728E-02	1.090
		74.97		1.086E+00	1.912E-01	2.596E-01	2.120E-02	4.185
		569.70		2.399E-02	2.972E-02	5.247E-02	4.671E-03	0.457
		1063.66	*	3.062E-02	6.255E-02	1.084E-01	9.986E-03	0.283
PB-210		1770.23		3.538E-01	3.730E-01	7.462E-01	6.305E-02	0.474
PB-211	+	46.54	*	9.560E-04	3.352E+00	5.528E+00	5.107E-01	0.000
		404.85	*	-5.048E-01	1.041E+00	1.372E+00	6.631E-01	-0.368
BI-212	+	427.09		5.674E-01	1.719E+00	2.798E+00	1.293E+00	0.203
		832.01		1.228E-01	1.169E+00	1.914E+00	9.971E-01	0.064
		727.33	*	2.345E+00	8.766E-01	1.308E+00	1.698E-01	1.793
		785.37		4.777E-02	3.704E+00	6.054E+00	5.878E-01	0.008
RN-219	+	1620.50		2.067E+00	2.361E+00	4.342E+00	3.792E-01	0.476
		271.23		7.967E-01	3.678E-01	4.841E-01	4.978E-02	1.646
		401.81	*	1.652E-01	4.728E-01	7.799E-01	1.140E-01	0.212

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-223		81.07		-2.843E-01	3.197E-01	3.446E-01	2.998E-02	-0.825
		83.79		2.724E-01	1.424E-01	2.217E-01	1.988E-02	1.229
		94.87		1.186E+00	5.292E-01	8.351E-01	7.420E-02	1.420
		144.24		4.512E-01	7.469E-01	1.216E+00	1.106E-01	0.371
		154.21		2.601E-01	4.215E-01	6.869E-01	6.092E-02	0.379
+		269.46		6.190E-01	2.839E-01	3.671E-01	3.238E-02	1.686
		323.87	*	1.083E-01	7.959E-01	1.156E+00	2.003E-01	0.094
		338.28		8.113E+00	1.911E+00	2.710E+00	3.256E-01	2.994
AC-227		79.69		-1.375E+00	1.868E+00	2.030E+00	3.494E-01	-0.677
		235.96		1.747E-01	1.833E-01	2.824E-01	2.895E-02	0.619
		256.23	*	-8.000E-02	2.467E-01	4.031E-01	4.855E-02	-0.198
		299.98		1.634E+00	1.037E+00	1.682E+00	2.142E-01	0.972
		304.50		-8.296E-03	1.880E+00	2.715E+00	4.494E-01	-0.003
+		334.37		-1.884E+00	2.230E+00	2.967E+00	4.616E-01	-0.635
		79.80		-1.799E+00	2.474E+00	2.676E+00	5.825E-01	-0.672
		235.96		1.747E-01	1.832E-01	2.824E-01	2.728E-02	0.619
+		256.23	*	-8.000E-02	2.468E-01	4.031E-01	5.482E-02	-0.198
		299.98		1.634E+00	1.037E+00	1.682E+00	2.142E-01	0.972
		304.50		-8.296E-03	1.880E+00	2.715E+00	4.494E-01	-0.003
TH-227		334.37		-1.884E+00	2.230E+00	2.967E+00	4.616E-01	-0.635
		85.43		7.028E-01	2.475E-01	3.908E-01	3.571E-02	1.798
		88.47		5.819E-01	1.754E-01	2.584E-01	2.422E-02	2.252
+		193.51	*	2.917E-02	5.472E-01	9.257E-01	7.583E-02	0.032
		210.85		3.874E+00	1.641E+00	1.750E+00	1.459E-01	2.214
		283.69	*	1.068E+00	1.529E+00	2.529E+00	3.697E-01	0.422
PA-231		301.36		1.050E+00	6.650E-01	1.099E+00	1.339E-01	0.955
TH-231		81.07		-2.843E-01	3.197E-01	3.446E-01	2.998E-02	-0.825
		83.79		2.724E-01	1.424E-01	2.217E-01	1.988E-02	1.229
		94.87		1.186E+00	5.292E-01	8.351E-01	7.420E-02	1.420
		144.24		4.512E-01	7.469E-01	1.216E+00	1.106E-01	0.371
		154.21		2.601E-01	4.215E-01	6.869E-01	6.092E-02	0.379
+		269.46		6.190E-01	2.839E-01	3.671E-01	3.238E-02	1.686
		323.87	*	1.083E-01	7.959E-01	1.156E+00	2.003E-01	0.094
		338.28		8.113E+00	1.911E+00	2.710E+00	3.256E-01	2.994
PA-233		300.13		7.394E-01	4.726E-01	7.635E-01	1.134E-01	0.968
		311.90	*	-2.652E-02	6.644E-02	1.067E-01	9.487E-03	-0.249
		340.48		2.059E+00	9.641E-01	1.358E+00	3.264E-01	1.516
PA-234		94.67		5.649E-01	2.052E-01	3.172E-01	3.996E-02	1.781
		98.44		9.107E-03	1.019E-01	1.581E-01	8.822E-02	0.058
		111.00		3.747E-02	2.017E-01	3.282E-01	3.902E-02	0.114
		131.20		-6.786E-02	1.228E-01	1.922E-01	1.564E-02	-0.353
		569.50		2.298E-01	2.652E-01	4.697E-01	4.181E-02	0.489
+		733.00		2.541E-01	4.609E-01	6.919E-01	1.557E-01	0.367
		880.51		2.015E-01	3.195E-01	5.453E-01	5.564E-02	0.370
		883.24		-1.258E-02	3.522E-01	5.680E-01	3.831E-01	-0.022
		926.50		-1.822E-02	2.036E-01	3.254E-01	8.409E-02	-0.056
		946.00	*	-2.195E-01	3.430E-01	5.127E-01	9.981E-02	-0.428
PA-234M		949.00		-1.266E-01	5.110E-01	8.024E-01	8.056E-02	-0.158
		766.42		2.751E+01	2.021E+01	2.450E+01	1.247E+01	1.123

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	1001.03	*		-3.737E-01	5.231E+00	8.721E+00	9.527E-01	-0.043
	99.53			1.049E-01	1.753E-01	2.908E-01	2.515E-02	0.361
	103.37			-7.543E-02	1.115E-01	1.756E-01	1.494E-02	-0.429
	106.12			5.772E-02	9.271E-02	1.535E-01	1.294E-02	0.376
	117.23	*		2.081E-01	4.238E-01	6.965E-01	5.772E-02	0.299
AM-241	228.18			-1.797E-01	2.402E-01	3.888E-01	3.290E-02	-0.462
	277.60	+		4.122E-01	3.002E-01	3.463E-01	3.001E-02	1.190
CM-247	59.54	*		8.004E-02	1.777E-01	2.693E-01	2.121E-02	0.297
CF-249	278.00	+		1.751E+00	1.275E+00	1.467E+00	1.272E-01	1.193
	287.50			-8.883E-01	1.280E+00	2.032E+00	1.763E-01	-0.437
CF-251	402.40	*		1.096E-02	4.553E-02	7.219E-02	5.896E-03	0.152
	252.80			5.947E-02	9.718E-01	1.622E+00	1.394E-01	0.037
	333.37			-1.316E-01	2.513E-01	3.199E-01	2.741E-02	-0.411
CF-251	388.16	*		2.968E-02	4.491E-02	7.561E-02	6.146E-03	0.393
	177.52	*		-7.539E-02	1.293E-01	2.138E-01	1.722E-02	-0.353
	227.38			4.979E-02	3.905E-01	6.570E-01	5.556E-02	0.076
	285.41			8.188E-01	2.231E+00	3.756E+00	3.258E-01	0.218



# 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]G1202061470      *
* Acquisition date   : 20-MAR-2010 11:11:45 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 02:00:01.69             Half life ratio : 8.000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 25-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202061470             Analyst initials: MXR1         *
* Batch Number       : 961099                  Sample Quantity : 1.3366E+02 GRAM *
* Recovery           : 1.00000                 Carrier Weight  : 0.00000      *
*****
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 25-FEB-2010 20:55:17 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	3.653E+01	3.778E+00	4.204E-01	0.000E+00
CD-109	3.907E+00	1.154E+00	1.293E+00	0.000E+00
SN-126	3.774E-01	1.115E-01	1.255E-01	0.000E+00
TL-208	7.590E-01	1.058E-01	5.889E-02	0.000E+00
BI-211	4.802E+00	6.247E-01	3.548E-01	0.000E+00
PB-212	1.976E+00	2.220E-01	1.011E-01	0.000E+00
BI-214	1.510E+00	2.323E-01	1.140E-01	0.000E+00
PB-214	1.743E+00	2.455E-01	1.290E-01	0.000E+00
RA-224	4.837E+00	1.391E+00	1.084E+00	0.000E+00
RA-226	1.510E+00	2.323E-01	1.140E-01	0.000E+00
AC-228	2.440E+00	4.619E-01	2.463E-01	0.000E+00
RA-228	2.440E+00	4.619E-01	2.463E-01	0.000E+00
TH-228	1.976E+00	2.220E-01	1.011E-01	0.000E+00
TH-232	2.440E+00	4.619E-01	2.463E-01	0.000E+00
TH-234	1.870E+00	2.000E+00	2.387E+00	0.000E+00
U-235	-2.305E-02	2.196E-01	3.705E-01	0.000E+00
NP-237	1.126E+00	4.053E-01	3.787E-01	0.000E+00
U-238	1.870E+00	2.000E+00	2.387E+00	0.000E+00
ANH-511	1.513E-01	7.578E-02	4.946E-02	0.000E+00

### ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L. Act error ) Ided	MDA (pCi/GRAM )	
BE-7	8.917E-02	4.122E-01	6.974E-01	0.000E+00 NOT IDENT.
NA-22	1.471E-02	5.435E-02	9.368E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	4.935E+09	0.000E+00	0.000E+00 SHORT HLIF
SC-46	3.950E-02	4.994E-02	8.848E-02	0.000E+00 FAIL ABUN
V-48	1.305E-02	1.041E-01	1.819E-01	0.000E+00 NOT IDENT.
CR-51	4.916E-01	4.805E-01	8.696E-01	0.000E+00 NOT IDENT.
MN-54	2.827E-02	4.333E-02	7.623E-02	0.000E+00 NOT IDENT.
CO-56	-1.096E-02	4.424E-02	7.242E-02	0.000E+00 FAIL ABUN

CO-57	-1.904E-03	2.793E-02	4.782E-02	0.000E+00	NOT IDENT.
CO-58	-2.883E-03	4.525E-02	7.574E-02	0.000E+00	NOT IDENT.
FE-59	-1.056E-01	1.153E-01	1.809E-01	0.000E+00	NOT IDENT.
CO-60	1.448E-02	3.988E-02	6.977E-02	0.000E+00	NOT IDENT.
ZN-65	-4.124E-02	1.159E-01	1.631E-01	0.000E+00	NOT IDENT.
SE-75	1.698E-02	4.839E-02	8.021E-02	0.000E+00	NOT IDENT.
SR-85	7.766E-02	4.598E-02	7.957E-02	0.000E+00	NOT IDENT.
Y-88	5.351E-03	4.163E-02	7.169E-02	0.000E+00	NOT IDENT.
Y-91	-1.781E+01	2.834E+01	4.568E+01	0.000E+00	NOT IDENT.
NB-94	2.068E-02	3.556E-02	6.316E-02	0.000E+00	NOT IDENT.
NB-95	6.259E-02	5.629E-02	9.165E-02	0.000E+00	NOT IDENT.
NB-95M	-3.498E-02	1.545E-01	2.369E-01	0.000E+00	NOT IDENT.
ZR-95	3.813E-02	8.885E-02	1.536E-01	0.000E+00	NOT IDENT.
MO-99	0.000E+00	9.787E+01	0.000E+00	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	1.281E+26	0.000E+00	0.000E+00	SHORT HLIF
RU-103	-2.450E-02	4.844E-02	8.223E-02	0.000E+00	FAIL ABUN
RH-106	-3.394E-02	3.295E-01	5.638E-01	0.000E+00	NOT IDENT.
RU-106	-3.394E-02	3.295E-01	5.638E-01	0.000E+00	NOT IDENT.
AG-108M	-7.539E-04	2.990E-02	5.020E-02	0.000E+00	NOT IDENT.
AG-110M	-2.608E-02	3.793E-02	6.158E-02	0.000E+00	NOT IDENT.
SN-113	-5.189E-02	5.153E-02	8.160E-02	0.000E+00	NOT IDENT.
CD-115	0.000E+00	1.342E+02	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-1.184E-02	8.753E-02	1.468E-01	0.000E+00	NOT IDENT.
TE-123M	8.438E-03	3.192E-02	5.445E-02	0.000E+00	NOT IDENT.
SB-124	9.716E-03	8.570E-02	1.486E-01	0.000E+00	NOT IDENT.
SB-125	2.364E-02	1.003E-01	1.715E-01	0.000E+00	FAIL ABUN
TE-125M	2.358E+00	1.153E+01	2.010E+01	0.000E+00	NOT IDENT.
I-126	1.209E-01	3.695E-01	6.474E-01	0.000E+00	NOT IDENT.
SB-126	-2.386E-02	2.587E-01	3.770E-01	0.000E+00	NOT IDENT.
SB-127	1.660E+00	5.486E+00	9.596E+00	0.000E+00	NOT IDENT.
I-131	7.050E-02	2.247E-01	3.910E-01	0.000E+00	NOT IDENT.
TE-132	-3.294E+00	4.379E+00	7.445E+00	0.000E+00	NOT IDENT.
BA-133	-3.942E-02	5.179E-02	7.229E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	3.334E+06	0.000E+00	0.000E+00	SHORT HLIF
CS-134	8.606E-02	6.086E-02	1.010E-01	0.000E+00	NOT IDENT.
CS-135	1.739E-01	1.766E-01	2.858E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	3.204E+24	0.000E+00	0.000E+00	SHORT HLIF
CS-136	8.955E-02	1.818E-01	3.246E-01	0.000E+00	NOT IDENT.
BA-137M	-8.205E-03	3.906E-02	6.597E-02	0.000E+00	NOT IDENT.
CS-137	-8.667E-03	4.126E-02	6.970E-02	0.000E+00	NOT IDENT.
CE-139	-1.147E-02	3.403E-02	5.635E-02	0.000E+00	NOT IDENT.
BA-140	-4.801E-02	4.339E-01	7.517E-01	0.000E+00	NOT IDENT.
LA-140	-8.394E-02	1.444E-01	2.164E-01	0.000E+00	FAIL ABUN
CE-141	5.190E-02	7.993E-02	1.391E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.287E+04	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-8.688E-02	2.233E-01	3.745E-01	0.000E+00	NOT IDENT.
PM-144	-1.008E-02	3.731E-02	6.239E-02	0.000E+00	NOT IDENT.
PR-144	-7.404E-01	2.805E+00	4.693E+00	0.000E+00	NOT IDENT.
PM-146	3.378E-02	4.667E-02	8.173E-02	0.000E+00	NOT IDENT.
ND-147	-2.701E-01	9.964E-01	1.710E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	1.091E+03	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-9.983E-02	1.072E-01	1.736E-01	0.000E+00	FAIL ABUN
GD-153	-1.226E-01	1.031E-01	1.495E-01	0.000E+00	NOT IDENT.
EU-154	3.881E-02	1.532E-01	2.636E-01	0.000E+00	NOT IDENT.
EU-155	3.799E-02	1.158E-01	2.032E-01	0.000E+00	FAIL ABUN
TB-160	-6.715E-02	1.794E-01	2.899E-01	0.000E+00	FAIL ABUN
HO-166M	-3.069E-02	6.394E-02	1.047E-01	0.000E+00	FAIL ABUN
TA-182	-5.680E-02	2.168E-01	3.590E-01	0.000E+00	FAIL ABUN
IR-192	-2.292E-02	3.885E-02	6.476E-02	0.000E+00	FAIL ABUN
HG-203	8.010E-02	5.024E-02	8.428E-02	0.000E+00	NOT IDENT.
BI-207	3.062E-02	6.130E-02	1.092E-01	0.000E+00	FAIL ABUN
PB-210	9.560E-04	3.285E+00	5.879E+00	0.000E+00	NOT IDENT.
PB-211	-5.048E-01	1.020E+00	1.407E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	8.591E-01	1.327E+00	0.000E+00	FAIL ABUN
RN-219	1.652E-01	4.633E-01	7.997E-01	0.000E+00	FAIL ABUN
RA-223	1.083E-01	7.800E-01	1.190E+00	0.000E+00	FAIL ABUN
AC-227	-8.000E-02	2.418E-01	4.166E-01	0.000E+00	FAIL ABUN
TH-227	-8.000E-02	2.418E-01	4.166E-01	0.000E+00	FAIL ABUN
TH-229	2.917E-02	5.363E-01	9.613E-01	0.000E+00	FAIL ABUN
PA-231	1.068E+00	1.499E+00	2.609E+00	0.000E+00	FAIL ABUN
TH-231	1.083E-01	7.800E-01	1.190E+00	0.000E+00	FAIL ABUN
PA-233	-2.652E-02	6.511E-02	1.098E-01	0.000E+00	FAIL ABUN
PA-234	-2.195E-01	3.362E-01	5.178E-01	0.000E+00	NOT IDENT.
PA-234M	-3.737E-01	5.126E+00	8.797E+00	0.000E+00	NOT IDENT.
NP-239	2.081E-01	4.154E-01	7.295E-01	0.000E+00	FAIL ABUN
AM-241	8.004E-02	1.742E-01	2.852E-01	0.000E+00	NOT IDENT.
CM-247	1.096E-02	4.462E-02	7.402E-02	0.000E+00	FAIL ABUN
CF-249	2.968E-02	4.401E-02	7.757E-02	0.000E+00	NOT IDENT.

CF-251

-7.539E-02

1.267E-01

2.224E-01

0.000E+00 NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202061470.CNF;1
Sample date        : 25-FEB-2010 12:00:00 Acquisition date : 20-MAR-2010 11:11:45
Sample ID          : G1202061470 Sample quantity : 1.33660E+02 GRAM
Detector name      : GAM12 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.69 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 961099 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	1460.82	1490	10.66*	1.075E+00	3.653E+01	3.653E+01	10.56
CD-109	88.03	276	3.70*	5.547E+00	3.774E+00	3.907E+00	30.15
SN-126	64.28	79	9.60	3.221E+00	7.208E-01	7.208E-01	108.62
	86.94	276	8.90	5.547E+00	1.569E+00	1.569E+00	50.45
	87.57	276	37.00*	5.547E+00	3.774E-01	3.774E-01	30.15
TL-208	277.37	89	6.60	4.202E+00	9.019E-01	9.019E-01	73.39
	583.19	543	85.00*	2.364E+00	7.590E-01	7.590E-01	14.22
	860.56	64	12.50	1.693E+00	8.521E-01	8.521E-01	64.99
BI-211	72.87	----	1.23	4.356E+00	-----	Line Not Found	-----
	351.06	778	12.92*	3.521E+00	4.802E+00	4.802E+00	13.27
PB-212	74.82	627	10.28	4.550E+00	3.768E+00	3.768E+00	20.11
	77.11	749	17.10	4.775E+00	2.575E+00	2.575E+00	14.32
	238.63	1434	43.60*	4.675E+00	1.976E+00	1.976E+00	11.47
	300.09	69	3.30	3.967E+00	1.485E+00	1.485E+00	63.06
BI-214	609.32	557	45.49*	2.279E+00	1.510E+00	1.510E+00	15.70
	1120.29	96	14.92	1.341E+00	1.350E+00	1.350E+00	45.64
	1764.49	109	15.30	9.452E-01	2.111E+00	2.111E+00	21.72
PB-214	74.82	627	5.80	4.550E+00	6.678E+00	6.678E+00	19.30
	77.11	749	9.70	4.775E+00	4.539E+00	4.539E+00	16.53
	242.00	327	7.25	4.636E+00	2.736E+00	2.736E+00	29.91
	295.22	425	18.42	4.014E+00	1.616E+00	1.616E+00	20.90
	351.93	778	35.60*	3.521E+00	1.743E+00	1.743E+00	14.37
RA-224	240.99	327	4.10*	4.636E+00	4.837E+00	4.837E+00	29.34
RA-226	609.32	557	45.49*	2.279E+00	1.510E+00	1.510E+00	15.70
	1120.29	96	14.92	1.341E+00	1.350E+00	1.350E+00	45.64
	1764.49	109	15.30	9.452E-01	2.111E+00	2.111E+00	21.72
AC-228	338.32	298	11.27	3.627E+00	2.044E+00	2.044E+00	46.36
	911.20	361	25.80*	1.610E+00	2.440E+00	2.440E+00	19.31
	968.97	206	15.80	1.525E+00	2.401E+00	2.401E+00	31.70
RA-228	338.32	298	11.27	3.627E+00	2.044E+00	2.044E+00	46.36
	911.20	361	25.80*	1.610E+00	2.440E+00	2.440E+00	19.31
	968.97	206	15.80	1.525E+00	2.401E+00	2.401E+00	31.70

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
TH-228	74.82	627	10.28	4.550E+00	3.768E+00	3.768E+00	17.64
	77.11	749	17.10	4.775E+00	2.575E+00	2.575E+00	14.32
	238.63	1434	43.60*	4.675E+00	1.976E+00	1.976E+00	11.47
	300.09	69	3.30	3.967E+00	1.485E+00	1.485E+00	87.25
TH-232	338.32	298	11.27	3.627E+00	2.044E+00	2.044E+00	21.98
	911.20	361	25.80*	1.610E+00	2.440E+00	2.440E+00	19.31
	968.97	206	15.80	1.525E+00	2.401E+00	2.401E+00	31.70
	63.29	79	3.70*	3.221E+00	1.870E+00	1.870E+00	109.11
TH-234	92.59	301	4.23	5.838E+00	3.423E+00	3.423E+00	35.34
	89.96	163	3.47	5.699E+00	2.310E+00	2.310E+00	48.38
U-235	93.35	301	5.60	5.838E+00	2.585E+00	2.585E+00	35.99
	143.76	-----	10.96*	6.165E+00	-----	Line Not Found	-----
	163.33	-----	5.08	5.865E+00	-----	Line Not Found	-----
	185.72	199	57.20	5.484E+00	1.784E-01	1.784E-01	48.08
NP-237	205.31	-----	5.01	5.165E+00	-----	Line Not Found	-----
	86.48	276	12.40*	5.547E+00	1.126E+00	1.126E+00	36.72
	95.86	-----	2.68	5.962E+00	-----	Line Not Found	-----
	63.29	79	3.70*	3.221E+00	1.870E+00	1.870E+00	109.11
U-238	92.59	301	4.23	5.838E+00	3.423E+00	3.423E+00	28.91
	511.00	142	100.00*	2.633E+00	1.513E-01	1.513E-01	51.12

Flag: "\*" = Keyline

Total number of lines in spectrum 35  
Number of unidentified lines 5  
Number of lines tentatively identified by NID 30 85.71%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	3.653E+01	3.653E+01	0.386E+01	10.56	
CD-109	461.40D	1.04	3.774E+00	3.907E+00	1.178E+00	30.15	
SN-126	2.30E+05Y	1.00	3.774E-01	3.774E-01	1.138E-01	30.15	
TL-208	1.41E+10Y	1.00	7.590E-01	7.590E-01	1.079E-01	14.22	
BI-211	7.04E+08Y	1.00	4.802E+00	4.802E+00	0.637E+00	13.27	
PB-212	1.41E+10Y	1.00	1.976E+00	1.976E+00	0.227E+00	11.47	
BI-214	1600.00Y	1.00	1.510E+00	1.510E+00	0.237E+00	15.70	
PB-214	1600.00Y	1.00	1.743E+00	1.743E+00	0.251E+00	14.37	
RA-224	1.41E+10Y	1.00	4.837E+00	4.837E+00	1.419E+00	29.34	
RA-226	1600.00Y	1.00	1.510E+00	1.510E+00	0.237E+00	15.70	
AC-228	1.41E+10Y	1.00	2.440E+00	2.440E+00	0.471E+00	19.31	
RA-228	1.41E+10Y	1.00	2.440E+00	2.440E+00	0.471E+00	19.31	
TH-228	1.41E+10Y	1.00	1.976E+00	1.976E+00	0.227E+00	11.47	
TH-232	1.41E+10Y	1.00	2.440E+00	2.440E+00	0.471E+00	19.31	
TH-234	4.47E+09Y	1.00	1.870E+00	1.870E+00	2.041E+00	109.11	
U-235	7.04E+08Y	1.00	1.784E-01	1.784E-01	0.858E-01	48.08	K
NP-237	2.14E+06Y	1.00	1.126E+00	1.126E+00	0.414E+00	36.72	
U-238	4.47E+09Y	1.00	1.870E+00	1.870E+00	2.041E+00	109.11	
ANH-511	1.00E+09Y	1.00	1.513E-01	1.513E-01	0.773E-01	51.12	
Total Activity :			7.231E+01	7.244E+01			

Grand Total Activity : 7.231E+01 7.244E+01

Flags: "K" = Keyline not found  
"E" = Manually edited

"M" = Manually accepted  
"A" = Nuclide specific abn. limit

Unidentified Energy Lines  
Sample ID : G1202061470

Page : 4  
Acquisition date : 20-MAR-2010 11:11:45

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	209.80	197	366	1.10	418.88	414	12	2.73E-02	41.5	5.09E+00	T
0	270.07	131	207	1.35	539.43	535	10	1.82E-02	45.0	4.28E+00	T
0	328.29	50	188	1.08	655.89	650	9	6.93E-03	****	3.71E+00	T
0	409.11	52	151	1.55	817.53	812	11	7.21E-03	97.0	3.14E+00	
0	463.47	97	142	1.86	926.27	920	14	1.34E-02	56.4	2.85E+00	T
0	727.28	109	69	1.51	1453.84	1448	11	1.52E-02	35.1	1.96E+00	T
0	768.10	80	71	1.31	1535.47	1530	11	1.10E-02	46.9	1.87E+00	
0	794.33	71	67	0.81	1587.94	1581	14	9.88E-03	54.1	1.82E+00	
1	964.34	59	46	2.00	1927.87	1921	24	8.25E-03	54.2	1.53E+00	T
0	1238.30	59	100	1.55	2475.61	2468	18	8.15E-03	84.5	1.23E+00	T
0	1630.80	18	14	1.81	3260.19	3254	11	2.52E-03	92.2	9.93E-01	
0	1729.50	33	0	2.36	3457.45	3452	11	4.58E-03	34.8	9.56E-01	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202061470.CNF;1
* Acquisition date   : 20-MAR-2010 11:11:45   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 02:00:01.69           Half life ratio      : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 25-FEB-2010 12:00:00   Nuclide Library   : SOLID
* Sample ID          : G1202061470           Analyst initials    : MXR1
* Batch Number       : 961099                Sample Quantity    : 1.33660E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 25-FEB-2010 20:55:17.3MS 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	3.653E+01	3.855E+00	4.196E-01	3.806E-02	87.039
CD-109	3.907E+00	1.178E+00	1.229E+00	1.157E-01	3.179
SN-126	3.774E-01	1.138E-01	1.193E-01	1.117E-02	3.165
TL-208	7.590E-01	1.079E-01	5.782E-02	5.498E-03	13.128
BI-211	4.802E+00	6.374E-01	3.452E-01	3.076E-02	13.910
PB-212	1.976E+00	2.265E-01	9.774E-02	9.463E-03	20.214
BI-214	1.510E+00	2.370E-01	1.120E-01	1.163E-02	13.474
PB-214	1.743E+00	2.505E-01	1.256E-01	1.315E-02	13.880
RA-224	4.837E+00	1.419E+00	1.048E+00	8.946E-02	4.617
RA-226	1.510E+00	2.370E-01	1.120E-01	1.163E-02	13.474
AC-228	2.440E+00	4.713E-01	2.438E-01	3.129E-02	10.010
RA-228	2.440E+00	4.713E-01	2.438E-01	3.129E-02	10.010
TH-228	1.976E+00	2.265E-01	9.774E-02	9.463E-03	20.214
TH-232	2.440E+00	4.713E-01	2.438E-01	3.129E-02	10.010
TH-234	1.870E+00	2.041E+00	2.256E+00	4.019E-01	0.829
U-235	1.784E-01	8.576E-02	3.550E-01	5.914E-02	0.502
NP-237	1.126E+00	4.136E-01	3.597E-01	8.244E-02	3.131
U-238	1.870E+00	2.041E+00	2.256E+00	4.019E-01	0.829



---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	1.513E-01	7.732E-02	4.845E-02	4.239E-03	3.122

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	8.917E-02		4.206E-01	6.822E-01	6.330E-02	0.131
NA-22	1.471E-02		5.546E-02	9.328E-02	7.954E-03	0.158
NA-24	-4.548E+02		2.518E+03	Half-Life	too short	
SC-46	3.950E-02		5.096E-02	8.753E-02	8.967E-03	0.451
V-48	1.305E-02		1.062E-01	1.802E-01	1.772E-02	0.072
CR-51	4.916E-01		4.903E-01	8.447E-01	7.667E-02	0.582
MN-54	2.827E-02		4.421E-02	7.532E-02	7.517E-03	0.375
CO-56	-1.096E-02		4.514E-02	7.158E-02	7.187E-03	-0.153
CO-57	-1.904E-03		2.850E-02	4.569E-02	3.789E-03	-0.042
CO-58	-2.883E-03		4.617E-02	7.480E-02	7.383E-03	-0.039
FE-59	-1.056E-01		1.176E-01	1.796E-01	1.717E-02	-0.588
CO-60	1.448E-02		4.070E-02	6.952E-02	6.085E-03	0.208
ZN-65	-4.124E-02		1.183E-01	1.620E-01	1.413E-02	-0.255
SE-75	1.698E-02		4.938E-02	7.766E-02	6.739E-03	0.219
SR-85	7.766E-02		4.692E-02	7.794E-02	6.827E-03	0.996
Y-88	5.351E-03		4.248E-02	7.186E-02	5.950E-03	0.074
Y-91	-1.781E+01		2.892E+01	4.543E+01	3.732E+00	-0.392
NB-94	2.068E-02		3.629E-02	6.221E-02	5.724E-03	0.332
NB-95	6.259E-02		5.744E-02	9.041E-02	8.677E-03	0.692
NB-95M	-3.498E-02		1.577E-01	2.289E-01	2.240E-02	-0.153
ZR-95	3.813E-02		9.066E-02	1.515E-01	1.570E-02	0.252
MO-99	-6.280E-05		4.993E-05	Half-Life	too short	
TC-99M	-1.527E+20		6.533E+19	Half-Life	too short	
RU-103	-2.450E-02		4.943E-02	8.050E-02	1.128E-02	-0.304
RH-106	-3.394E-02		3.362E-01	5.542E-01	7.465E-02	-0.061
RU-106	-3.394E-02		3.362E-01	5.542E-01	4.957E-02	-0.061
AG-108M	-7.539E-04		3.051E-02	4.902E-02	4.248E-03	-0.015
AG-110M	-2.608E-02		3.870E-02	6.058E-02	5.558E-03	-0.430
SN-113	-5.189E-02		5.258E-02	7.955E-02	6.659E-03	-0.652
CD-115	5.096E-05		6.849E-05	Half-Life	too short	
SN-117M	-1.184E-02		8.931E-02	1.408E-01	1.123E-02	-0.084
TE-123M	8.438E-03		3.257E-02	5.226E-02	4.196E-03	0.161
SB-124	9.716E-03		8.745E-02	1.487E-01	1.336E-02	0.065
SB-125	2.364E-02		1.024E-01	1.674E-01	1.425E-02	0.141
TE-125M	2.358E+00		1.177E+01	1.917E+01	1.974E+00	0.123
I-126	1.209E-01		3.770E-01	6.371E-01	5.705E-02	0.190
SB-126	-2.386E-02		2.640E-01	3.716E-01	3.462E-02	-0.064
SB-127	1.660E+00		5.598E+00	9.448E+00	1.346E+00	0.176
I-131	7.050E-02		2.293E-01	3.807E-01	3.392E-02	0.185
TE-132	-3.294E+00		4.469E+00	7.190E+00	1.263E+00	-0.458
BA-133	-3.942E-02		5.285E-02	7.035E-02	9.024E-03	-0.560
I-133	8.586E-01		1.701E+00	Half-Life	too short	

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-134	8.606E-02		6.211E-02	9.972E-02	9.798E-03	0.863
CS-135	1.739E-01		1.802E-01	2.768E-01	2.764E-02	0.628
I-135	-1.273E+18		1.635E+18	Half-Life	too short	
CS-136	8.955E-02		1.855E-01	3.220E-01	3.122E-02	0.278
BA-137M	-8.205E-03		3.986E-02	6.492E-02	5.792E-03	-0.126
CS-137	-8.667E-03		4.211E-02	6.858E-02	6.129E-03	-0.126
CE-139	-1.147E-02		3.473E-02	5.413E-02	4.309E-03	-0.212
BA-140	-4.801E-02		4.427E-01	7.369E-01	2.503E-01	-0.065
LA-140	-8.394E-02		1.473E-01	2.164E-01	1.896E-02	-0.388
CE-141	5.190E-02		8.156E-02	1.333E-01	1.092E-02	0.389
CE-143	3.756E-02		6.564E-03	Half-Life	too short	
CE-144	-8.688E-02		2.279E-01	3.584E-01	5.377E-02	-0.242
PM-144	-1.008E-02		3.807E-02	6.144E-02	5.632E-03	-0.164
PR-144	-7.404E-01		2.862E+00	4.622E+00	4.233E-01	-0.160
PM-146	3.378E-02		4.762E-02	7.988E-02	8.379E-03	0.423
ND-147	-2.701E-01		1.017E+00	1.676E+00	2.525E-01	-0.161
PM-149	2.598E-04		5.568E-04	Half-Life	too short	
EU-152	-9.983E-02		1.094E-01	1.689E-01	1.524E-02	-0.591
GD-153	-1.226E-01		1.052E-01	1.423E-01	1.245E-02	-0.861
EU-154	3.881E-02		1.563E-01	2.625E-01	2.967E-02	0.148
EU-155	3.799E-02		1.182E-01	1.936E-01	1.657E-02	0.196
TB-160	-6.715E-02		1.831E-01	2.867E-01	2.924E-02	-0.234
HO-166M	-3.069E-02		6.524E-02	1.031E-01	9.550E-03	-0.298
TA-182	-5.680E-02		2.212E-01	3.571E-01	2.960E-02	-0.159
IR-192	-2.292E-02		3.964E-02	6.290E-02	5.445E-03	-0.364
HG-203	8.010E-02		5.126E-02	8.167E-02	7.258E-03	0.981
BI-207	3.062E-02		6.255E-02	1.084E-01	9.986E-03	0.283
PB-210	9.560E-04		3.352E+00	5.528E+00	5.107E-01	0.000
PB-211	-5.048E-01		1.041E+00	1.372E+00	6.631E-01	-0.368
BI-212	2.345E+00	+	8.766E-01	1.308E+00	1.698E-01	1.793
RN-219	1.652E-01		4.728E-01	7.799E-01	1.140E-01	0.212
RA-223	1.083E-01		7.959E-01	1.156E+00	2.003E-01	0.094
AC-227	-8.000E-02		2.467E-01	4.031E-01	4.855E-02	-0.198
TH-227	-8.000E-02		2.468E-01	4.031E-01	5.482E-02	-0.198
TH-229	2.917E-02		5.472E-01	9.257E-01	7.583E-02	0.032
PA-231	1.068E+00		1.529E+00	2.529E+00	3.697E-01	0.422
TH-231	1.083E-01		7.959E-01	1.156E+00	2.003E-01	0.094
PA-233	-2.652E-02		6.644E-02	1.067E-01	9.487E-03	-0.249
PA-234	-2.195E-01		3.430E-01	5.127E-01	9.981E-02	-0.428
PA-234M	-3.737E-01		5.231E+00	8.721E+00	9.527E-01	-0.043
NP-239	2.081E-01		4.238E-01	6.965E-01	5.772E-02	0.299
AM-241	8.004E-02		1.777E-01	2.693E-01	2.121E-02	0.297
CM-247	1.096E-02		4.553E-02	7.219E-02	5.896E-03	0.152
CF-249	2.968E-02		4.491E-02	7.561E-02	6.146E-03	0.393
CF-251	-7.539E-02		1.293E-01	2.138E-01	1.722E-02	-0.353

## VAX/VMS Nuclide Identification Report Generated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202061470
* Acquisition date   : 20-MAR-2010 11:11:45 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 02:00:01.69                        Half life ratio  : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 25-FEB-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G1202061470                      Analyst initials: MXR1
* Batch Number       : 961099                            Sample Quantity : 1.3366E+02 GRAM
* Recovery           : 1.00000                           Carrier Weight  : 0.00000
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 25-FEB-2010 20:55:17 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	3.653E+01	3.778E+00	2.103E-01	1.928E+00
CD-109	3.907E+00	1.154E+00	6.471E-01	5.889E-01
SN-126	3.774E-01	1.115E-01	6.279E-02	5.689E-02
TL-208	7.590E-01	1.058E-01	2.946E-02	5.396E-02
BI-211	4.802E+00	6.247E-01	1.775E-01	3.187E-01
PB-212	1.976E+00	2.220E-01	5.060E-02	1.133E-01
BI-214	1.510E+00	2.323E-01	5.706E-02	1.185E-01
PB-214	1.743E+00	2.455E-01	6.456E-02	1.253E-01
RA-224	4.837E+00	1.391E+00	5.422E-01	7.097E-01
RA-226	1.510E+00	2.323E-01	5.706E-02	1.185E-01
AC-228	2.440E+00	4.619E-01	1.232E-01	2.357E-01
RA-228	2.440E+00	4.619E-01	1.232E-01	2.357E-01
TH-228	1.976E+00	2.220E-01	5.060E-02	1.133E-01
TH-232	2.440E+00	4.619E-01	1.232E-01	2.357E-01
TH-234	1.870E+00	2.000E+00	1.194E+00	1.020E+00
U-235	-2.305E-02	2.196E-01	1.854E-01	1.121E-01
NP-237	1.126E+00	4.053E-01	1.895E-01	2.068E-01
U-238	1.870E+00	2.000E+00	1.194E+00	1.020E+00
ANH-511	1.513E-01	7.578E-02	2.475E-02	3.866E-02

## ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L Act error	DLC (pCi/GRAM )	TPU
BE-7	8.917E-02	4.122E-01	3.489E-01	2.103E-01 NOT IDENT.
NA-22	1.471E-02	5.435E-02	4.687E-02	2.773E-02 NOT IDENT.
NA-24	-4.548E+08	4.935E+09	0.000E+00	2.518E+09 SHORT HLIF
SC-46	3.950E-02	4.994E-02	4.427E-02	2.548E-02 FAIL ABUN
V-48	1.305E-02	1.041E-01	9.098E-02	5.310E-02 NOT IDENT.
CR-51	4.916E-01	4.805E-01	4.350E-01	2.452E-01 NOT IDENT.
MN-54	2.827E-02	4.333E-02	3.814E-02	2.211E-02 NOT IDENT.
CO-56	-1.096E-02	4.424E-02	3.623E-02	2.257E-02 FAIL ABUN

CO-57	-1.904E-03	2.793E-02	2.393E-02	1.425E-02	NOT IDENT.
CO-58	-2.883E-03	4.525E-02	3.789E-02	2.309E-02	NOT IDENT.
FE-59	-1.056E-01	1.153E-01	9.049E-02	5.880E-02	NOT IDENT.
CO-60	1.448E-02	3.988E-02	3.490E-02	2.035E-02	NOT IDENT.
ZN-65	-4.124E-02	1.159E-01	8.158E-02	5.914E-02	NOT IDENT.
SE-75	1.698E-02	4.839E-02	4.013E-02	2.469E-02	NOT IDENT.
SR-85	7.766E-02	4.598E-02	3.981E-02	2.346E-02	NOT IDENT.
Y-88	5.351E-03	4.163E-02	3.586E-02	2.124E-02	NOT IDENT.
Y-91	-1.781E+01	2.834E+01	2.285E+01	1.446E+01	NOT IDENT.
NB-94	2.068E-02	3.556E-02	3.160E-02	1.814E-02	NOT IDENT.
NB-95	6.259E-02	5.629E-02	4.585E-02	2.872E-02	NOT IDENT.
NB-95M	-3.498E-02	1.545E-01	1.185E-01	7.884E-02	NOT IDENT.
ZR-95	3.813E-02	8.885E-02	7.685E-02	4.533E-02	NOT IDENT.
MO-99	-6.280E+01	9.787E+01	0.000E+00	4.993E+01	SHORT HLIF
TC-99M	-1.527E+26	1.281E+26	0.000E+00	0.000E+00	SHORT HLIF
RU-103	-2.450E-02	4.844E-02	4.114E-02	2.472E-02	FAIL ABUN
RH-106	-3.394E-02	3.295E-01	2.821E-01	1.681E-01	NOT IDENT.
RU-106	-3.394E-02	3.295E-01	2.821E-01	1.681E-01	NOT IDENT.
AG-108M	-7.539E-04	2.990E-02	2.511E-02	1.526E-02	NOT IDENT.
AG-110M	-2.608E-02	3.793E-02	3.081E-02	1.935E-02	NOT IDENT.
SN-113	-5.189E-02	5.153E-02	4.083E-02	2.629E-02	NOT IDENT.
CD-115	5.096E+01	1.342E+02	0.000E+00	6.849E+01	SHORT HLIF
SN-117M	-1.184E-02	8.753E-02	7.342E-02	4.466E-02	NOT IDENT.
TE-123M	8.438E-03	3.192E-02	2.724E-02	1.628E-02	NOT IDENT.
SB-124	9.716E-03	8.570E-02	7.435E-02	4.372E-02	NOT IDENT.
SB-125	2.364E-02	1.003E-01	8.580E-02	5.119E-02	FAIL ABUN
TE-125M	2.358E+00	1.153E+01	1.005E+01	5.884E+00	NOT IDENT.
I-126	1.209E-01	3.695E-01	3.239E-01	1.885E-01	NOT IDENT.
SB-126	-2.386E-02	2.587E-01	1.886E-01	1.320E-01	NOT IDENT.
SB-127	1.660E+00	5.486E+00	4.801E+00	2.799E+00	NOT IDENT.
I-131	7.050E-02	2.247E-01	1.956E-01	1.146E-01	NOT IDENT.
TE-132	-3.294E+00	4.379E+00	3.725E+00	2.234E+00	NOT IDENT.
BA-133	-3.942E-02	5.179E-02	3.617E-02	2.643E-02	FAIL ABUN
I-133	8.586E+05	3.334E+06	0.000E+00	1.701E+06	SHORT HLIF
CS-134	8.606E-02	6.086E-02	5.054E-02	3.105E-02	NOT IDENT.
CS-135	1.739E-01	1.766E-01	1.430E-01	9.010E-02	NOT IDENT.
I-135	-1.273E+24	3.204E+24	0.000E+00	0.000E+00	SHORT HLIF
CS-136	8.955E-02	1.818E-01	1.624E-01	9.277E-02	NOT IDENT.
BA-137M	-8.205E-03	3.906E-02	3.301E-02	1.993E-02	NOT IDENT.
CS-137	-8.667E-03	4.126E-02	3.487E-02	2.105E-02	NOT IDENT.
CE-139	-1.147E-02	3.403E-02	2.819E-02	1.736E-02	NOT IDENT.
BA-140	-4.801E-02	4.339E-01	3.761E-01	2.214E-01	NOT IDENT.
LA-140	-8.394E-02	1.444E-01	1.083E-01	7.366E-02	FAIL ABUN
CE-141	5.190E-02	7.993E-02	6.960E-02	4.078E-02	NOT IDENT.
CE-143	3.756E+04	1.287E+04	0.000E+00	6.564E+03	SHORT HLIF
CE-144	-8.688E-02	2.233E-01	1.874E-01	1.139E-01	NOT IDENT.
PM-144	-1.008E-02	3.731E-02	3.121E-02	1.904E-02	NOT IDENT.
PR-144	-7.404E-01	2.805E+00	2.348E+00	1.431E+00	NOT IDENT.
PM-146	3.378E-02	4.667E-02	4.089E-02	2.381E-02	NOT IDENT.
ND-147	-2.701E-01	9.964E-01	8.555E-01	5.084E-01	FAIL ABUN
PM-149	2.598E+02	1.091E+03	0.000E+00	5.568E+02	SHORT HLIF
EU-152	-9.983E-02	1.072E-01	8.685E-02	5.470E-02	FAIL ABUN
GD-153	-1.226E-01	1.031E-01	7.481E-02	5.262E-02	NOT IDENT.
EU-154	3.881E-02	1.532E-01	1.319E-01	7.814E-02	NOT IDENT.
EU-155	3.799E-02	1.158E-01	1.016E-01	5.908E-02	FAIL ABUN
TB-160	-6.715E-02	1.794E-01	1.450E-01	9.154E-02	FAIL ABUN
HO-166M	-3.069E-02	6.394E-02	5.237E-02	3.262E-02	FAIL ABUN
TA-182	-5.680E-02	2.168E-01	1.796E-01	1.106E-01	FAIL ABUN
IR-192	-2.292E-02	3.885E-02	3.240E-02	1.982E-02	FAIL ABUN
HG-203	8.010E-02	5.024E-02	4.216E-02	2.563E-02	NOT IDENT.
BI-207	3.062E-02	6.130E-02	5.463E-02	3.128E-02	FAIL ABUN
PB-210	9.560E-04	3.285E+00	2.941E+00	1.676E+00	NOT IDENT.
PB-211	-5.048E-01	1.020E+00	7.039E-01	5.205E-01	NOT IDENT.
BI-212	2.345E+00	8.591E-01	6.639E-01	4.383E-01	FAIL ABUN
RN-219	1.652E-01	4.633E-01	4.001E-01	2.364E-01	FAIL ABUN
RA-223	1.083E-01	7.800E-01	5.952E-01	3.979E-01	FAIL ABUN
AC-227	-8.000E-02	2.418E-01	2.084E-01	1.234E-01	FAIL ABUN
TH-227	-8.000E-02	2.418E-01	2.084E-01	1.234E-01	FAIL ABUN
TH-229	2.917E-02	5.363E-01	4.809E-01	2.736E-01	FAIL ABUN
PA-231	1.068E+00	1.499E+00	1.305E+00	7.647E-01	FAIL ABUN
TH-231	1.083E-01	7.800E-01	5.952E-01	3.979E-01	FAIL ABUN
PA-233	-2.652E-02	6.511E-02	5.495E-02	3.322E-02	FAIL ABUN
PA-234	-2.195E-01	3.362E-01	2.590E-01	1.715E-01	NOT IDENT.
PA-234M	-3.737E-01	5.126E+00	4.401E+00	2.615E+00	NOT IDENT.
NP-239	2.081E-01	4.154E-01	3.650E-01	2.119E-01	FAIL ABUN
AM-241	8.004E-02	1.742E-01	1.427E-01	8.887E-02	NOT IDENT.
CM-247	1.096E-02	4.462E-02	3.703E-02	2.277E-02	FAIL ABUN
CF-249	2.968E-02	4.401E-02	3.881E-02	2.245E-02	NOT IDENT.

CF-251

-7.539E-02

1.267E-01

1.112E-01

6.463E-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
46.54	309.8411
49.72	328.6732
57.36	0.0000
59.54	370.5654
63.29	419.3703
63.29	419.3703
64.28	417.4040
67.75	437.3249
69.67	429.9810
70.83	423.6166
72.81	465.8855
72.87	465.9448
72.87	465.9448
74.82	467.8810
74.82	467.8810
74.82	467.8810
74.97	468.0304
77.11	470.1255
77.11	470.1255
77.11	470.1255
79.69	486.2891
79.80	486.3965
80.12	486.7114
80.19	486.7798
80.57	487.1509
81.00	487.5732
81.07	487.6416
81.07	487.6416
83.79	350.8502
83.79	350.8502
85.43	351.9718
86.48	352.6829
86.55	352.7301
86.79	352.8908
86.94	352.9939
87.57	353.4167
88.03	353.7260
88.47	354.0195
89.96	355.0118
91.11	355.7719
92.59	356.7415
92.59	356.7415
93.35	357.2377
94.67	322.1281
94.87	322.2428
94.87	322.2428
95.86	327.5176
97.43	388.1499
98.44	341.2989
99.53	328.0707
100.11	322.0869
103.18	399.9773
103.37	377.8780
105.31	354.6949
106.12	338.1613
109.28	345.2772
111.00	339.8147
111.76	319.8398
116.30	307.0224
117.23	292.3132
121.12	343.0861
121.78	316.1742
122.06	325.0349
123.07	324.4404
131.20	389.1644
133.52	347.2025
136.00	330.6143

136.47	330.8349
140.51	0.0000
140.51	0.0000
143.76	325.1809
144.24	301.7481
144.24	301.7481
145.44	310.1303
152.43	325.5322
153.25	329.2967
154.21	293.2007
154.21	293.2007
156.02	295.0266
158.56	300.5735
159.00	291.5558
162.66	320.5721
163.33	336.9983
165.86	312.5803
176.60	270.0210
177.52	279.9968
181.07	0.0000
184.41	256.4932
185.72	256.8769
193.51	277.9480
197.04	284.4246
205.31	254.2606
210.85	260.3034
215.65	232.0336
222.11	274.3838
227.38	267.4578
228.16	289.9673
228.18	289.9720
235.69	266.6198
235.96	266.6893
235.96	266.6893
238.63	232.8198
238.63	232.8198
240.99	233.3382
242.00	206.4365
244.70	219.0417
252.40	193.9721
252.80	192.1413
256.23	182.2407
256.23	182.2407
260.90	0.0000
264.66	164.0651
268.22	165.0898
269.46	151.3665
269.46	151.3665
271.23	211.4096
273.65	193.7653
276.40	209.7576
277.37	185.6345
277.60	185.6695
278.00	185.7336
279.20	160.4195
279.54	160.4648
280.46	166.8244
283.69	158.5663
284.31	158.3687
285.41	165.3640
285.90	0.0000
287.50	188.1943
293.27	0.0000
295.22	190.9650
295.96	191.0772
298.57	170.1182
299.98	166.3491
299.98	166.3491
300.09	164.7801
300.09	164.7801
300.13	156.8628
301.36	161.7731
302.85	182.6102
304.50	162.1790
304.50	162.1790
304.85	176.2726
308.46	159.4946
311.90	160.9238

316.51	170.5266
319.41	170.9053
320.08	148.8627
323.87	169.4689
323.87	169.4689
328.76	197.6305
333.37	197.0905
334.37	201.7089
334.37	201.7089
338.28	192.5019
338.28	192.5019
338.32	192.5077
338.32	192.5077
338.32	192.5077
340.48	155.2285
340.55	155.2378
344.28	184.3314
351.06	145.0964
351.93	145.1868
356.01	165.2271
364.49	115.3055
366.42	0.0000
383.85	141.0398
388.16	132.9983
388.63	116.1465
391.69	158.6998
400.66	154.3059
401.81	144.8362
402.40	150.9780
404.85	179.2639
410.95	99.4057
414.70	115.1023
423.72	141.4503
427.09	120.1021
427.87	122.3247
433.94	104.3071
453.88	107.7542
463.37	111.6662
468.07	76.2715
473.00	104.5007
476.78	124.7781
477.60	119.2631
487.02	110.9294
492.35	0.0000
497.08	115.3766
511.00	95.3594
514.00	83.3834
527.90	0.0000
529.87	0.0000
531.02	108.3030
537.26	102.2062
546.56	0.0000
563.25	92.3605
569.33	62.6947
569.50	69.2503
569.70	69.2576
583.19	79.1355
600.60	90.2454
602.73	96.6752
604.72	79.3152
609.32	79.1681
609.32	79.1681
610.33	79.2046
614.28	74.8890
618.01	85.2344
621.93	84.4271
621.93	84.4271
633.25	82.9367
635.95	92.6930
636.99	82.1093
645.85	71.7688
657.76	94.5703
661.66	95.7103
661.66	95.7103
664.57	0.0000
666.33	89.0538
666.50	89.0605
677.62	82.6055



685.70	69.0754
695.00	91.1420
696.49	90.2091
696.51	90.2091
697.00	86.2608
702.65	77.5201
706.68	91.5890
711.68	84.7946
720.70	71.7594
721.93	0.0000
722.78	60.1289
722.91	60.1318
723.31	61.8112
724.19	88.5727
727.33	76.9736
733.00	67.0866
735.93	77.5771
739.50	0.0000
747.24	87.0351
752.31	86.1974
753.82	80.1592
756.73	74.1567
763.94	61.1221
765.81	69.6630
766.42	67.9801
777.92	0.0000
778.90	78.8968
783.70	72.8825
785.37	87.3097
795.86	67.0313
801.95	77.5214
810.29	76.7262
810.76	67.4073
815.77	61.2989
818.51	72.8010
832.01	78.3875
834.85	74.2831
836.80	0.0000
846.77	64.0962
856.80	70.3027
860.56	58.0776
871.09	69.9510
873.19	61.5174
875.33	0.0000
879.36	78.6575
880.51	57.4225
883.24	75.5710
884.68	75.6091
889.28	63.9961
898.04	68.4688
911.20	60.1795
911.20	60.1795
911.20	60.1795
926.50	65.8907
937.49	81.3098
944.13	64.1034
946.00	68.4910
949.00	66.3822
962.29	34.6099
964.08	53.5854
966.15	53.6213
968.97	53.6703
968.97	53.6703
968.97	53.6703
983.53	55.9390
996.26	72.7365
1001.03	60.8585
1004.73	68.3151
1037.84	58.7574
1038.76	0.0000
1048.07	58.9395
1050.41	40.2565
1050.41	40.2565
1063.66	63.9160
1085.87	61.4982
1099.45	75.0429
1112.07	57.2021
1115.54	71.9819

1120.29	55.4252
1120.29	55.4252
1120.55	55.4299
1121.30	55.4417
1131.51	0.0000
1173.23	78.5643
1177.93	76.7241
1189.05	68.1885
1204.77	90.9792
1221.41	69.7693
1231.02	64.1780
1235.36	64.2496
1238.28	68.1072
1260.41	0.0000
1271.85	59.7437
1274.44	64.7646
1274.54	64.7673
1291.59	54.0417
1298.22	0.0000
1312.11	44.2632
1332.49	31.3444
1365.19	25.4812
1368.63	0.0000
1384.29	40.9587
1408.01	18.5361
1457.56	0.0000
1460.82	13.5528
1489.16	13.6406
1505.03	34.7496
1596.21	29.0039
1620.50	12.9570
1678.03	0.0000
1690.97	15.0251
1764.49	12.3884
1764.49	12.3884
1770.23	1.6696
1771.35	5.0098
1791.20	0.0000
1836.06	17.3910

TOTAL URANIUM BY GAMMA SPEC REPORT  
Sample:G1202061470

Total Uranium Activity	5.5535E+00	ug/g
Total Uranium Counting Unc.	5.9506E+00	ug/g
Total Uranium Tpu	3.0360E-06	ug/g
Total Uranium Mda	3.5542E+00	ug/g

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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON , SC 29417                          *
*                               GROSS GAMMA REPORT                            *
*
*****
*
*  BATCH ID      : 961099                SAMPLE ID   : G1202061470            *
*  ANALYST       : MXR1                  DETECTOR    : GAM12                *
*  SAMPLE DATE   : 25-FEB-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00      *
*  ANALYSIS DATE: 20-MAR-2010 11:11:45.98  SAMPLE ALQT: 133.660 GRAM        *
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.185E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.665E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 4.182E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 2.033E+00

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VAX/VMS Nuclide Identification Report Generated 20-MAR-2010 12:13:11.93

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202061471.CNF;1
Sample date        : 6-MAR-2010 00:00:00. Acquisition date : 20-MAR-2010 11:12:22
Sample ID          : G1202061471      Sample quantity   : 1.55440E+02 GRAM
Detector name      : GAM20             Detector geometry: CAN
Elapsed live time  : 0 01:00:00.00     Elapsed real time: 0 01:00:17.31  0.5%
Energy tolerance   : 1.50000 keV       Analyst Initials  : MXR1
Abundance limit    : 75.00000          Sensitivity       : 5.00000
Batch ID           : 961099            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	59.65	4173	1029	1.11	119.30	113	11	1.16E+00	2.1	
2	2	75.02*	204	398	1.24	149.98	146	14	5.65E-02	18.0	2.25E+00
3	2	77.31	304	402	1.25	154.57	146	14	8.43E-02	12.6	
4	0	88.19*	1679	576	1.13	176.28	171	12	4.66E-01	3.8	
5	0	93.02*	78	299	1.05	185.93	183	8	2.16E-02	41.9	
6	0	122.22	189	294	1.10	244.25	240	8	5.26E-02	17.3	
7	0	185.79*	103	306	1.96	371.20	365	12	2.87E-02	35.9	
8	0	238.63*	461	335	1.05	476.74	472	9	1.28E-01	8.5	
9	0	294.72	120	267	1.58	588.79	584	11	3.34E-02	27.7	
10	0	338.03	107	195	1.03	675.31	671	9	2.97E-02	25.4	
11	0	352.13	257	220	1.20	703.50	698	12	7.15E-02	13.2	
12	0	583.75*	135	160	1.43	1166.37	1160	13	3.76E-02	21.4	
13	0	609.61*	216	139	1.30	1218.05	1211	15	6.01E-02	13.7	
14	0	662.08	2642	130	1.53	1322.95	1317	15	7.34E-01	2.2	
15	0	727.49	62	58	1.39	1453.72	1449	10	1.72E-02	26.2	
16	0	911.50*	110	140	2.11	1821.66	1817	13	3.06E-02	24.0	
17	0	970.00*	107	79	1.86	1938.68	1933	14	2.97E-02	20.4	
18	0	1174.06	1963	75	1.74	2346.93	2338	19	5.45E-01	2.5	
19	0	1333.36	1693	20	1.74	2665.74	2658	16	4.70E-01	2.5	
20	0	1378.13	15	12	1.06	2755.36	2749	10	4.05E-03	52.4	
21	0	1461.55	32	25	1.23	2922.37	2915	14	8.89E-03	37.3	
22	0	1765.58	28	8	1.91	3531.25	3525	11	7.69E-03	27.7	

Flag: "\*" = Peak area was modified by background subtraction

## VMS Nuclide Identification Report V3.1 Generated 20-MAR-2010 12:13:15

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202061471.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 6-MAR-2010 00:00:00   Acquisition date : 20-MAR-2010 11:12:22
Sample ID         : G1202061471           Sample quantity  : 155.44 GRAM
Sample type       : SOLID                  Sample geometry   :
Detector name     : GAMMA20               Detector geometry: CAN
Elapsed live time : 0 01:00:00.00         Elapsed real time: 0 01:00:17.31   0.5%
Peak Width (FWHM): 3.00                   Confidence level  : 5.00 %
Energy tolerance  : 1.50 keV              Half life ratio   : 8.00
Errors propagated: Yes                     Systematic Error  : 0.00 %
Efficiency type   : Empirical              Efficiencies at   : Peak Energy
Abundance limit   : 75.00                 WTM error limit   : 3.00

```

## Full Combined Activity-MDA Report

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.82	*	1.158E+00	8.702E-01	6.906E-01	6.023E-02	1.677
CO-57	+	122.06	*	1.504E-01	5.354E-02	5.633E-02	4.702E-03	2.670
		136.47		1.422E-01	3.013E-01	4.925E-01	4.454E-02	0.289
CO-60	+	1173.23		6.377E+00	6.036E-01	1.064E-01	8.555E-03	59.934
	+	1332.49	*	6.106E+00	5.958E-01	7.442E-02	6.234E-03	82.038
CD-109	+	88.03	*	3.207E+01	3.884E+00	1.779E+00	1.682E-01	18.028
SN-126		64.28		3.962E-01	5.796E-01	9.385E-01	1.359E-01	0.422
	+	86.94		1.305E+01	5.509E+00	7.287E-01	3.025E-01	17.904
	+	87.57	*	3.138E+00	3.800E-01	1.746E-01	1.642E-02	17.977
BA-137M	+	661.66	*	5.837E+00	6.381E-01	8.649E-02	8.680E-03	67.486
CS-137	+	661.66	*	6.166E+00	6.749E-01	9.137E-02	9.182E-03	67.486
TL-208		277.37		7.615E-01	6.242E-01	1.086E+00	1.463E-01	0.701
	+	583.19	*	2.851E-01	1.253E-01	1.003E-01	1.030E-02	2.843
		860.56		5.995E-01	5.635E-01	9.965E-01	1.056E-01	0.602
BI-211		72.87		1.570E+00	4.154E+00	6.179E+00	4.879E-01	0.254
	+	351.06	*	2.426E+00	6.804E-01	5.464E-01	5.235E-02	4.440
PB-212	+	74.82		1.578E+00	6.007E-01	6.908E-01	8.728E-02	2.284
	+	77.11		1.367E+00	3.636E-01	4.021E-01	3.325E-02	3.401
	+	238.63	*	9.728E-01	1.957E-01	1.724E-01	1.841E-02	5.644
		300.09		-4.150E-02	1.423E+00	2.077E+00	2.396E-01	-0.020
BI-214	+	609.32	*	8.831E-01	2.617E-01	1.889E-01	2.110E-02	4.676
		1120.29		7.009E-01	6.141E-01	1.069E+00	1.162E-01	0.655
	+	1764.49		7.946E-01	4.447E-01	3.759E-01	3.088E-02	2.114
PB-214	+	74.82		2.796E+00	1.053E+00	1.224E+00	1.385E-01	2.284
	+	77.11		2.411E+00	6.711E-01	7.088E-01	8.279E-02	3.401
		242.00		1.444E+00	6.730E-01	1.083E+00	1.221E-01	1.334
	+	295.22		6.980E-01	3.958E-01	3.557E-01	4.202E-02	1.963
	+	351.93	*	8.804E-01	2.517E-01	1.901E-01	2.100E-02	4.631
RA-226	+	609.32	*	8.831E-01	2.617E-01	1.889E-01	2.110E-02	4.676
		1120.29		7.009E-01	6.141E-01	1.069E+00	1.162E-01	0.655
	+	1764.49		7.946E-01	4.447E-01	3.759E-01	3.088E-02	2.114
AC-228	+	338.32		1.122E+00	7.380E-01	6.430E-01	2.693E-01	1.745
	+	911.20	*	1.111E+00	5.503E-01	5.055E-01	6.354E-02	2.197
	+	968.97		1.852E+00	8.848E-01	9.544E-01	2.361E-01	1.941

## ---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	+	338.32		1.122E+00	7.380E-01	6.430E-01	2.693E-01	1.745
	+	911.20	*	1.111E+00	5.503E-01	5.055E-01	6.354E-02	2.197
	+	968.97		1.852E+00	8.848E-01	9.544E-01	2.361E-01	1.941
TH-228	+	74.82		1.578E+00	5.811E-01	6.908E-01	5.627E-02	2.284
	+	77.11		1.367E+00	3.636E-01	4.021E-01	3.325E-02	3.401
	+	238.63	*	9.728E-01	1.957E-01	1.724E-01	1.841E-02	5.644
		300.09		-4.150E-02	1.424E+00	2.077E+00	1.275E+00	-0.020
TH-232	+	338.32		1.122E+00	5.788E-01	6.430E-01	6.024E-02	1.745
	+	911.20	*	1.111E+00	5.503E-01	5.055E-01	6.354E-02	2.197
	+	968.97		1.852E+00	8.848E-01	9.544E-01	2.361E-01	1.941
AM-241	+	59.54	*	1.377E+01	1.229E+00	3.710E-01	2.903E-02	37.123

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	-2.600E-01	6.021E-01	9.495E-01	9.227E-02	-0.274
NA-22		1274.54	*	-3.988E-02	4.695E-02	6.427E-02	5.324E-03	-0.621
NA-24		1368.63	*	-2.668E-01	4.695E-02	Half-Life too short		
SC-46		889.28	*	4.896E-02	7.913E-02	1.361E-01	1.357E-02	0.360
		1120.55		1.002E-01	1.027E-01	1.777E-01	1.520E-02	0.564
V-48		944.13		1.992E+00	1.927E+00	3.366E+00	3.285E-01	0.592
		983.53	*	-3.443E-02	1.353E-01	2.176E-01	2.080E-02	-0.158
		1312.11		-8.780E-02	9.670E-02	1.317E-01	1.099E-02	-0.667
CR-51		320.08	*	2.410E-02	6.022E-01	1.000E+00	1.002E-01	0.024
MN-54		834.85	*	-2.221E-02	6.895E-02	1.117E-01	1.129E-02	-0.199
CO-56		846.77	*	4.591E-02	7.435E-02	1.284E-01	1.294E-02	0.358
		1037.84		9.858E-02	5.694E-01	9.445E-01	9.105E-02	0.104
		1238.28		5.989E-02	8.355E-02	1.483E-01	1.255E-02	0.404
		1771.35		-3.631E-01	3.464E-01	4.431E-01	3.634E-02	-0.819
CO-58		810.76	*	-2.889E-02	6.642E-02	1.065E-01	1.081E-02	-0.271
FE-59		1099.45	*	-8.838E-02	1.659E-01	2.573E-01	2.426E-02	-0.343
		1291.59		2.493E-02	1.145E-01	1.919E-01	1.825E-02	0.130
ZN-65		1115.54	*	-1.010E-01	1.788E-01	2.781E-01	2.393E-02	-0.363
SE-75	+	121.12		7.844E-01	2.845E-01	3.998E-01	4.348E-02	1.962
		136.00		6.292E-02	5.694E-02	9.553E-02	8.073E-03	0.659
		264.66	*	1.864E-02	6.935E-02	1.174E-01	1.163E-02	0.159
		279.54		7.768E-02	1.743E-01	2.966E-01	3.038E-02	0.262
		400.66		-7.337E-04	4.477E-01	7.334E-01	8.029E-02	-0.001
SR-85		514.00	*	-1.237E-01	7.489E-02	1.075E-01	1.004E-02	-1.151
Y-88		898.04		5.550E-02	8.718E-02	1.498E-01	1.494E-02	0.371
		1836.06	*	4.803E-03	4.346E-02	7.317E-02	5.904E-03	0.066
Y-91		1204.77	*	8.553E+00	2.346E+01	3.980E+01	3.232E+00	0.215
NB-94		702.65	*	-6.958E-02	5.502E-02	8.285E-02	8.382E-03	-0.840
		871.09		4.085E-02	7.371E-02	1.260E-01	1.262E-02	0.324
NB-95		765.81	*	-7.260E-02	6.997E-02	1.071E-01	1.088E-02	-0.678
NB-95M		235.69	*	-2.382E-02	2.002E-01	2.945E-01	3.170E-02	-0.081
ZR-95		724.19		7.597E-03	1.512E-01	2.214E-01	2.384E-02	0.034
		756.73	*	3.718E-02	1.271E-01	2.164E-01	2.367E-02	0.172

## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
MO-99	140.51			5.246E+00	2.586E+01	4.152E+01	9.830E+00	0.126
	181.07			-1.813E+00	2.316E+01	3.230E+01	6.117E+00	-0.056
	366.42			-3.972E+00	1.385E+02	2.276E+02	2.023E+01	-0.017
	739.50	*		-3.493E+00	1.618E+01	2.656E+01	4.421E+00	-0.132
	777.92			-6.408E+01	5.260E+01	7.860E+01	7.986E+00	-0.815
TC-99M	140.51	*		1.678E+09	5.260E+01	Half-Life too short		
RU-103	497.08	*		4.960E-02	7.128E-02	1.201E-01	1.723E-02	0.413
	610.33	+		9.007E+00	2.910E+00	3.287E+00	5.597E-01	2.740
RH-106	621.93	*		-2.140E-01	5.850E-01	9.070E-01	1.281E-01	-0.236
	1050.41			1.450E+00	5.213E+00	8.693E+00	7.935E-01	0.167
RU-106	621.93	*		-2.140E-01	5.846E-01	9.070E-01	8.977E-02	-0.236
	1050.41			1.450E+00	5.213E+00	8.693E+00	7.935E-01	0.167
AG-108M	433.94	*		7.854E-03	5.857E-02	9.624E-02	8.674E-03	0.082
	614.28			3.831E-02	6.874E-02	1.012E-01	1.024E-02	0.379
	722.91			-2.196E-02	6.382E-02	8.916E-02	9.254E-03	-0.246
AG-110M	657.76	*		-4.288E-02	6.805E-02	9.329E-02	9.558E-03	-0.460
	677.62			2.474E-01	4.903E-01	8.532E-01	8.775E-02	0.290
	706.68			4.559E-01	3.469E-01	6.286E-01	6.496E-02	0.725
	763.94			-1.696E-01	2.689E-01	4.268E-01	4.423E-02	-0.397
	884.68			2.096E-03	1.000E-01	1.656E-01	1.693E-02	0.013
	937.49			1.305E-01	2.460E-01	4.184E-01	4.210E-02	0.312
	1384.29			-1.455E-01	1.958E-01	2.564E-01	2.222E-02	-0.567
	1505.03			-2.184E-01	2.604E-01	3.437E-01	2.914E-02	-0.635
SN-113	391.69	*		6.344E-03	7.784E-02	1.283E-01	1.106E-02	0.049
CD-115	260.90			1.069E+02	1.783E+02	3.063E+02	3.013E+01	0.349
	492.35			-4.190E+01	5.686E+01	8.728E+01	8.022E+00	-0.480
	527.90	*		6.502E+00	1.655E+01	2.742E+01	2.584E+00	0.237
SN-117M	156.02			-1.938E+00	3.054E+00	4.687E+00	4.030E-01	-0.413
	158.56	*		2.481E-03	7.558E-02	1.204E-01	1.039E-02	0.021
TE-123M	159.00	*		1.691E-03	4.029E-02	6.419E-02	5.577E-03	0.026
SB-124	602.73			-5.296E-02	7.880E-02	1.026E-01	1.008E-02	-0.516
	645.85			4.514E-01	8.554E-01	1.488E+00	1.550E-01	0.303
	722.78			-1.580E-01	6.405E-01	9.059E-01	9.341E-02	-0.174
	1690.97	*		-7.412E-02	9.086E-02	1.184E-01	1.031E-02	-0.626
SB-125	427.87	*		-1.492E-01	1.733E-01	2.678E-01	2.369E-02	-0.557
	463.37			7.715E-01	5.656E-01	9.761E-01	9.373E-02	0.790
	600.60			1.878E-01	3.062E-01	5.113E-01	5.305E-02	0.367
	635.95			8.397E-02	4.494E-01	7.673E-01	8.105E-02	0.109
TE-125M	109.28	*		5.363E+00	1.276E+01	2.098E+01	2.177E+00	0.256
I-126	388.63			1.611E-01	2.836E-01	4.796E-01	4.040E-02	0.336
	666.33	*		3.420E-01	3.506E-01	5.657E-01	5.684E-02	0.605
	753.82			1.902E-01	2.979E+00	4.997E+00	5.078E-01	0.038
SB-126	414.70			8.365E-03	1.391E-01	2.283E-01	1.956E-02	0.037
	666.50			1.080E-01	1.193E-01	1.915E-01	1.924E-02	0.564
	695.00			-1.724E-01	1.206E-01	1.781E-01	1.800E-02	-0.968
	697.00			-2.344E-01	4.132E-01	6.631E-01	6.703E-02	-0.353
	720.70	*		9.943E-03	2.286E-01	3.630E-01	3.681E-02	0.027
	856.80			-6.087E-01	8.832E-01	1.387E+00	1.395E-01	-0.439
SB-127	252.40			1.486E+00	5.906E+00	9.962E+00	4.157E+00	0.149



## ---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-131	473.00			1.210E+00	2.892E+00	4.801E+00	6.190E-01	0.252
	685.70	*		-2.506E-01	1.887E+00	3.137E+00	3.873E-01	-0.080
	783.70			5.279E-01	5.219E+00	8.757E+00	1.165E+00	0.060
	80.19			1.166E+00	6.142E+00	9.024E+00	7.784E-01	0.129
	284.31			-8.822E-01	2.158E+00	3.517E+00	3.626E-01	-0.251
TE-132	364.49	*		-7.026E-02	1.818E-01	2.923E-01	2.739E-02	-0.240
	636.99			6.009E-01	2.428E+00	4.163E+00	4.322E-01	0.144
	49.72			1.829E+01	2.214E+01	3.728E+01	3.808E+00	0.491
	111.76			7.318E+00	3.886E+01	6.319E+01	6.751E+00	0.116
BA-133	116.30			8.397E+00	3.395E+01	5.529E+01	5.879E+00	0.152
	228.16	*		2.995E-01	9.734E-01	1.658E+00	2.688E-01	0.181
	81.00			-8.384E-02	1.375E-01	1.931E-01	3.001E-02	-0.434
	276.40			6.312E-01	5.781E-01	1.000E+00	1.496E-01	0.631
	302.85			-1.736E-01	2.248E-01	3.563E-01	4.942E-02	-0.487
I-133	356.01	*		-1.421E-02	7.786E-02	1.109E-01	1.472E-02	-0.128
	383.85			-2.215E-01	5.224E-01	8.360E-01	1.034E-01	-0.265
	529.87	*		4.981E-04	5.224E-01	Half-Life	too short	
	875.33			-6.144E-02	5.224E-01	Half-Life	too short	
	1298.22			9.999E-02	5.224E-01	Half-Life	too short	
CS-134	563.25			-2.881E-01	6.221E-01	9.634E-01	9.347E-02	-0.299
	569.33			-2.430E-01	3.227E-01	4.849E-01	4.735E-02	-0.501
	604.72			2.155E-02	5.981E-02	8.672E-02	8.538E-03	0.249
	795.86	*		1.997E-02	8.540E-02	1.443E-01	1.472E-02	0.138
	801.95			-9.299E-02	7.157E-01	1.179E+00	1.201E-01	-0.079
CS-135	1365.19			-4.447E-01	1.260E+00	1.976E+00	1.743E-01	-0.225
	268.22	*		-2.272E-01	2.492E-01	3.961E-01	4.390E-02	-0.573
I-135	546.56			-8.222E+07	2.492E-01	Half-Life	too short	
	836.80			2.492E+09	2.492E-01	Half-Life	too short	
CS-136	1038.76			5.848E+09	2.492E-01	Half-Life	too short	
	1131.51			9.767E+07	2.492E-01	Half-Life	too short	
	1260.41	*		-1.173E+09	2.492E-01	Half-Life	too short	
	1457.56			3.055E+09	2.492E-01	Half-Life	too short	
	1678.03			2.046E+09	2.492E-01	Half-Life	too short	
	1791.20			3.207E+09	2.492E-01	Half-Life	too short	
	153.25			-2.318E-03	1.153E+00	1.836E+00	1.876E-01	-0.001
	176.60			2.388E-01	6.813E-01	1.098E+00	1.070E-01	0.217
	273.65			-1.170E+00	8.161E-01	1.255E+00	1.326E-01	-0.933
	340.55			1.631E-01	2.644E-01	3.996E-01	3.851E-02	0.408
CE-139	818.51			-1.197E-01	1.371E-01	2.121E-01	2.149E-02	-0.564
	1048.07	*		-4.048E-02	2.128E-01	3.426E-01	3.250E-02	-0.118
	1235.36			-2.080E-01	5.325E-01	8.089E-01	9.266E-02	-0.257
	165.86	*		8.870E-03	4.373E-02	7.011E-02	6.121E-03	0.127
	162.66			3.206E-01	1.139E+00	1.835E+00	1.699E-01	0.175
BA-140	304.85			3.793E-01	2.035E+00	3.409E+00	1.010E+00	0.111
	423.72			4.007E+00	3.622E+00	5.885E+00	1.936E+00	0.681
	537.26	*		-2.858E-01	4.735E-01	7.156E-01	2.443E-01	-0.399
	328.76			7.628E-02	4.491E-01	7.501E-01	7.465E-02	0.102
	487.02			1.496E-01	2.484E-01	4.172E-01	4.029E-02	0.359
LA-140	815.77			7.540E-01	5.695E-01	1.027E+00	1.130E-01	0.734

---- Non-Identified Nuclides ----

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CE-141	1596.21	*		-1.583E-02	1.035E-01	1.664E-01	1.405E-02	-0.095
	145.44	*		-1.501E-02	8.637E-02	1.366E-01	1.179E-02	-0.110
CE-143	57.36			3.384E-03	8.637E-02	Half-Life	too short	
	293.27	*		4.423E-04	8.637E-02	Half-Life	too short	
	664.57			4.955E-02	8.637E-02	Half-Life	too short	
	721.93			-9.649E-04	8.637E-02	Half-Life	too short	
CE-144	80.12			6.112E-01	3.510E+00	5.154E+00	4.415E-01	0.119
	133.52	*		-2.676E-01	2.917E-01	4.415E-01	6.688E-02	-0.606
PM-144	476.78			-2.173E-02	1.223E-01	1.963E-01	1.921E-02	-0.111
	618.01			-2.463E-02	5.516E-02	8.483E-02	8.562E-03	-0.290
	696.49	*		-4.547E-02	5.503E-02	8.634E-02	8.729E-03	-0.527
PR-144	696.51	*		-3.376E+00	4.119E+00	6.466E+00	6.536E-01	-0.522
	1489.16			-1.815E+00	1.374E+01	2.231E+01	1.892E+00	-0.081
PM-146	453.88	*		8.247E-02	8.528E-02	1.453E-01	1.573E-02	0.567
	633.25			1.420E+00	2.528E+00	4.118E+00	1.586E+00	0.345
	735.93			-1.511E-02	2.223E-01	3.696E-01	1.055E-01	-0.041
	747.24			-1.835E-02	1.596E-01	2.643E-01	4.108E-02	-0.069
ND-147	91.11			4.430E-01	4.021E-01	5.022E-01	4.970E-02	0.882
	319.41			3.074E+00	5.319E+00	9.068E+00	8.725E-01	0.339
	531.02	*		2.916E-01	9.629E-01	1.587E+00	2.450E-01	0.184
PM-149	285.90	*		1.120E+02	1.144E+02	1.979E+02	3.225E+01	0.566
EU-152	121.78			4.336E-01	1.558E-01	2.224E-01	2.149E-02	1.949
	244.70			-1.294E+00	5.503E-01	8.021E-01	7.781E-02	-1.613
	344.28	*		-1.901E-02	1.640E-01	2.692E-01	2.625E-02	-0.071
	778.90			-1.766E-01	4.466E-01	7.213E-01	7.329E-02	-0.245
	964.08			6.148E-01	6.342E-01	9.811E-01	9.478E-02	0.627
	1085.87			8.828E-02	7.541E-01	1.241E+00	1.099E-01	0.071
	1112.07			-1.452E-01	6.168E-01	9.855E-01	8.504E-02	-0.147
	1408.01			7.071E-02	2.089E-01	3.680E-01	3.109E-02	0.192
GD-153	69.67			-2.140E-01	2.012E+00	3.281E+00	2.510E-01	-0.065
	97.43	*		3.228E-03	1.145E-01	1.659E-01	1.472E-02	0.019
	103.18			-8.158E-03	1.410E-01	2.272E-01	1.966E-02	-0.036
EU-154	123.07			3.066E-01	1.115E-01	1.548E-01	1.725E-02	1.980
	723.31			-1.879E-01	2.956E-01	3.976E-01	4.332E-02	-0.473
	873.19			2.435E-01	6.032E-01	1.021E+00	1.322E-01	0.238
	996.26			-1.921E-01	7.208E-01	1.157E+00	2.072E-01	-0.166
	1004.73			1.959E-02	4.507E-01	7.410E-01	9.078E-02	0.026
	1274.44	*		-1.014E-01	1.316E-01	1.827E-01	2.031E-02	-0.555
EU-155	86.55			1.582E+00	2.454E-01	3.585E-01	3.357E-02	4.413
	105.31	*		1.152E-01	1.368E-01	2.293E-01	1.993E-02	0.502
TB-160	86.79			1.003E+01	1.215E+00	1.057E+00	9.842E-02	9.490
	197.04			1.107E-01	8.046E-01	1.370E+00	1.254E-01	0.081
	215.65			-1.331E-01	1.093E+00	1.834E+00	1.722E-01	-0.073
	298.57			3.916E-02	2.020E-01	2.993E-01	2.941E-02	0.131
	879.36	*		-6.478E-02	2.805E-01	4.560E-01	4.559E-02	-0.142
	962.29			-1.317E+00	1.153E+00	1.685E+00	1.630E-01	-0.781
	966.15			4.052E-01	4.431E-01	6.823E-01	6.584E-02	0.594
	1177.93			2.186E+00	7.711E-01	1.372E+00	1.105E-01	1.594
	1271.85			-3.841E-01	7.602E-01	1.120E+00	9.261E-02	-0.343

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		80.57		-7.211E-02	3.875E-01	5.586E-01	4.812E-02	-0.129
	+	184.41		1.123E-01	8.117E-02	8.223E-02	7.386E-03	1.366
		280.46		-8.873E-02	1.369E-01	2.205E-01	2.194E-02	-0.402
		410.95		-1.045E-01	4.501E-01	7.265E-01	6.200E-02	-0.144
		711.68	*	-4.240E-02	9.976E-02	1.618E-01	1.639E-02	-0.262
		752.31		-2.023E-01	4.695E-01	7.581E-01	7.703E-02	-0.267
TA-182		810.29		-7.026E-02	1.055E-01	1.660E-01	1.683E-02	-0.423
		67.75		-5.942E-02	1.289E-01	2.074E-01	1.559E-02	-0.286
		100.11		6.377E-02	2.163E-01	3.551E-01	3.109E-02	0.180
		152.43		-2.131E-01	4.992E-01	7.773E-01	6.648E-02	-0.274
		222.11		2.448E-01	5.378E-01	9.229E-01	8.736E-02	0.265
		1121.30		2.735E-01	2.862E-01	4.945E-01	4.226E-02	0.553
		1189.05		1.422E-01	3.733E-01	6.325E-01	5.111E-02	0.225
		1221.41	*	1.409E-01	1.957E-01	3.479E-01	2.839E-02	0.405
IR-192		1231.02		-4.007E-02	4.522E-01	7.207E-01	5.896E-02	-0.056
	+	295.96		5.129E-01	2.889E-01	3.497E-01	3.463E-02	1.467
		308.46		-6.119E-02	1.538E-01	2.497E-01	2.442E-02	-0.245
		316.51	*	-2.822E-02	5.616E-02	9.047E-02	8.750E-03	-0.312
HG-203		468.07		-2.809E-02	1.403E-01	2.254E-01	2.168E-02	-0.125
		70.83		9.942E-01	1.713E+00	2.569E+00	4.009E-01	0.387
		72.87		3.870E-01	1.025E+00	1.523E+00	2.307E-01	0.254
BI-207		279.20	*	5.997E-02	6.102E-02	1.060E-01	1.076E-02	0.566
		72.81		6.672E-02	2.384E-01	3.530E-01	2.786E-02	0.189
	+	74.97		4.547E-01	1.674E-01	2.551E-01	2.060E-02	1.782
		569.70		-3.734E-02	4.926E-02	7.390E-02	7.140E-03	-0.505
PB-210		1063.66	*	4.117E-02	1.009E-01	1.700E-01	1.535E-02	0.242
		1770.23		1.239E-01	5.084E-01	7.906E-01	6.486E-02	0.157
PB-211		46.54	*	-4.060E+00	4.008E+00	6.428E+00	5.906E-01	-0.632
PB-211		404.85	*	6.223E-01	1.330E+00	2.178E+00	1.054E+00	0.286
		427.09		-1.654E+00	2.919E+00	4.439E+00	2.054E+00	-0.373
		832.01		3.597E-02	1.841E+00	3.060E+00	1.595E+00	0.012
BI-212		727.33	*	1.997E+00	1.079E+00	1.609E+00	2.182E-01	1.241
	+	785.37		-4.136E+00	5.449E+00	8.532E+00	8.666E-01	-0.485
		1620.50		-1.363E+00	2.863E+00	4.290E+00	3.612E-01	-0.318
RN-219		271.23		6.829E-01	3.875E-01	6.846E-01	7.778E-02	0.997
RA-223		401.81	*	4.036E-02	7.313E-01	1.202E+00	1.776E-01	0.034
		81.07		-1.941E-01	3.105E-01	4.371E-01	3.788E-02	-0.444
		83.79		5.510E-02	1.875E-01	2.766E-01	2.479E-02	0.199
RA-224		94.87		6.634E-01	5.845E-01	9.001E-01	8.097E-02	0.737
		144.24		-4.434E-01	9.388E-01	1.467E+00	1.391E-01	-0.302
		154.21		2.247E-01	5.317E-01	8.644E-01	8.129E-02	0.260
		269.46		3.581E-01	2.949E-01	5.160E-01	5.184E-02	0.694
		323.87	*	-8.963E-01	1.063E+00	1.661E+00	2.960E-01	-0.540
	+	338.28		4.452E+00	2.328E+00	3.250E+00	4.101E-01	1.370
AC-227		240.99	*	4.190E+00	1.316E+00	2.158E+00	2.086E-01	1.942
AC-227		79.69		7.114E-01	1.738E+00	2.576E+00	4.428E-01	0.276
		235.96		-2.463E-02	2.486E-01	3.661E-01	4.095E-02	-0.067
		256.23	*	1.334E-02	3.960E-01	6.643E-01	8.584E-02	0.020
		299.98		4.405E-01	1.531E+00	2.282E+00	3.091E-01	0.193

---- Non-Identified Nuclides ----

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TH-227		304.50		-3.239E-01	2.540E+00	4.190E+00	7.190E-01	-0.077
		334.37		7.338E-01	3.158E+00	4.663E+00	7.483E-01	0.157
		79.80		2.896E-01	2.309E+00	3.382E+00	7.353E-01	0.086
		235.96		-2.463E-02	2.486E-01	3.661E-01	3.898E-02	-0.067
		256.23	*	1.334E-02	3.960E-01	6.643E-01	9.554E-02	0.020
TH-229		299.98		4.405E-01	1.531E+00	2.282E+00	3.091E-01	0.193
		304.50		-3.239E-01	2.540E+00	4.190E+00	7.190E-01	-0.077
		334.37		7.338E-01	3.158E+00	4.663E+00	7.483E-01	0.157
		85.43		1.084E-01	3.194E-01	4.716E-01	4.315E-02	0.230
	+	88.47		4.838E+00	5.859E-01	5.867E-01	5.527E-02	8.246
PA-231		193.51	*	-7.694E-01	7.593E-01	1.225E+00	1.115E-01	-0.628
		210.85		-2.077E-01	1.241E+00	2.080E+00	1.940E-01	-0.100
		283.69	*	-1.020E+00	2.231E+00	3.620E+00	5.573E-01	-0.282
TH-231		301.36		1.343E-02	9.153E-01	1.472E+00	1.917E-01	0.009
		81.07		-1.941E-01	3.105E-01	4.371E-01	3.788E-02	-0.444
		83.79		5.510E-02	1.875E-01	2.766E-01	2.479E-02	0.199
PA-233		94.87		6.634E-01	5.845E-01	9.001E-01	8.097E-02	0.737
		144.24		-4.434E-01	9.388E-01	1.467E+00	1.391E-01	-0.302
		154.21		2.247E-01	5.317E-01	8.644E-01	8.129E-02	0.260
		269.46		3.581E-01	2.949E-01	5.160E-01	5.184E-02	0.694
	+	323.87	*	-8.963E-01	1.063E+00	1.661E+00	2.960E-01	-0.540
		338.28		4.452E+00	2.328E+00	3.250E+00	4.101E-01	1.370
		300.13		-1.679E-02	7.088E-01	1.034E+00	1.609E-01	-0.016
		311.90	*	8.059E-02	1.024E-01	1.765E-01	1.752E-02	0.456
		340.48		9.184E-01	1.197E+00	1.798E+00	4.376E-01	0.511
		94.67		2.065E-01	2.247E-01	3.404E-01	4.314E-02	0.607
PA-234		98.44		-1.395E-02	1.132E-01	1.816E-01	1.013E-01	-0.077
		111.00		1.549E-01	2.466E-01	4.084E-01	4.891E-02	0.379
		131.20		-1.469E-01	1.543E-01	2.351E-01	1.965E-02	-0.625
		569.50		-3.515E-01	4.439E-01	6.646E-01	6.420E-02	-0.529
		733.00		5.228E-01	6.548E-01	1.023E+00	2.335E-01	0.511
		880.51		-1.670E-01	5.637E-01	9.117E-01	9.113E-02	-0.183
		883.24		-3.159E-02	5.812E-01	9.564E-01	6.447E-01	-0.033
		926.50		-1.474E-01	3.686E-01	5.869E-01	1.509E-01	-0.251
		946.00	*	6.973E-01	6.939E-01	1.193E+00	2.303E-01	0.585
		949.00		-5.567E-02	9.978E-01	1.636E+00	1.592E-01	-0.034
PA-234M		766.42		1.469E-01	1.839E+01	3.069E+01	1.566E+01	0.005
		1001.03	*	-5.084E-01	9.663E+00	1.590E+01	1.701E+00	-0.032
TH-234		63.29	*	-3.045E-01	1.656E+00	2.439E+00	4.332E-01	-0.125
	+	92.59		1.237E+00	1.072E+00	1.435E+00	3.197E-01	0.862
U-235		89.96		1.182E+01	3.336E+00	2.660E+00	6.613E-01	4.444
	+	93.35		9.341E-01	8.121E-01	1.084E+00	2.523E-01	0.862
		143.76	*	-6.730E-02	2.758E-01	4.362E-01	7.359E-02	-0.154
NP-237		163.33		1.065E-02	6.412E-01	1.019E+00	1.833E-01	0.010
	+	185.72		1.414E-01	1.022E-01	1.100E-01	9.900E-03	1.285
		205.31		-7.026E-01	7.204E-01	1.146E+00	2.116E-01	-0.613
		86.48	*	3.390E+00	9.080E-01	8.471E-01	1.942E-01	4.001
U-238		95.86		2.986E-01	1.217E+00	1.784E+00	4.302E-01	0.167
		63.29	*	-3.045E-01	1.656E+00	2.439E+00	4.332E-01	-0.125

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	+	92.59		1.237E+00	1.042E+00	1.435E+00	1.310E-01	0.862
		99.53		-1.402E-01	2.053E-01	3.201E-01	2.810E-02	-0.438
		103.37		2.425E-02	1.273E-01	2.076E-01	1.795E-02	0.117
		106.12		6.928E-02	1.092E-01	1.815E-01	1.555E-02	0.382
		117.23	*	-6.707E-02	6.171E-01	8.781E-01	7.354E-02	-0.076
		228.18		9.495E-02	3.334E-01	5.680E-01	5.415E-02	0.167
CM-247		277.60		3.175E-01	2.844E-01	4.961E-01	4.935E-02	0.640
		278.00		1.467E+00	1.208E+00	2.114E+00	2.104E-01	0.694
		287.50		-5.309E-01	1.885E+00	3.092E+00	3.064E-01	-0.172
		402.40	*	-5.881E-03	6.787E-02	1.106E-01	9.352E-03	-0.053
CF-249		252.80		-1.472E-01	1.467E+00	2.447E+00	2.391E-01	-0.060
		333.37		3.350E-01	3.162E-01	4.942E-01	4.666E-02	0.678
CF-251		388.16	*	3.807E-02	7.084E-02	1.196E-01	1.009E-02	0.318
		177.52	*	-4.752E-02	1.847E-01	2.879E-01	2.558E-02	-0.165
		227.38		5.534E-02	5.452E-01	9.218E-01	8.781E-02	0.060
ANH-511		285.41		2.086E+00	3.327E+00	5.714E+00	5.670E-01	0.365
		511.00	*	4.201E-04	6.195E-02	1.104E-01	1.029E-02	0.004

# VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202061471      *
* Acquisition date   : 20-MAR-2010 11:12:22 Detector SN#      :              *
* Detector ID        : GAM20                      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 01:00:17.31             Half life ratio : 8.000        *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 6-MAR-2010 00:00:00 Nuclide Library : SOLID            *
* Sample ID          : G1202061471             Analyst initials: MXR1         *
* Batch Number       : 961099                  Sample Quantity : 1.5544E+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	1.158E+00	8.528E-01	6.965E-01	0.000E+00
CO-57	1.504E-01	5.247E-02	6.066E-02	0.000E+00
CO-60	6.106E+00	5.838E-01	7.525E-02	0.000E+00
CD-109	3.207E+01	3.806E+00	1.932E+00	0.000E+00
SN-126	3.138E+00	3.724E-01	1.896E-01	0.000E+00
BA-137M	5.837E+00	6.254E-01	8.916E-02	0.000E+00
CS-137	6.166E+00	6.614E-01	9.419E-02	0.000E+00
TL-208	2.851E-01	1.228E-01	1.038E-01	0.000E+00
BI-211	2.426E+00	6.668E-01	5.728E-01	0.000E+00
PB-212	9.728E-01	1.918E-01	1.825E-01	0.000E+00
BI-214	8.831E-01	2.565E-01	1.951E-01	0.000E+00
PB-214	8.804E-01	2.466E-01	1.993E-01	0.000E+00
RA-226	8.831E-01	2.565E-01	1.951E-01	0.000E+00
AC-228	1.111E+00	5.393E-01	5.166E-01	0.000E+00
RA-228	1.111E+00	5.393E-01	5.166E-01	0.000E+00
TH-228	9.728E-01	1.918E-01	1.825E-01	0.000E+00
TH-232	1.111E+00	5.393E-01	5.166E-01	0.000E+00
AM-241	1.377E+01	1.204E+00	4.066E-01	0.000E+00

### ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L. Act error ) Ided	MDA (pCi/GRAM )	
BE-7	-2.600E-01	5.901E-01	9.875E-01	0.000E+00 NOT IDENT.
NA-22	-3.988E-02	4.601E-02	6.506E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	3.603E+05	0.000E+00	0.000E+00 SHORT HLIF
SC-46	4.896E-02	7.755E-02	1.392E-01	0.000E+00 NOT IDENT.
V-48	-3.443E-02	1.326E-01	2.219E-01	0.000E+00 NOT IDENT.
CR-51	2.410E-02	5.901E-01	1.051E+00	0.000E+00 NOT IDENT.
MN-54	-2.221E-02	6.757E-02	1.145E-01	0.000E+00 NOT IDENT.
CO-56	4.591E-02	7.287E-02	1.315E-01	0.000E+00 NOT IDENT.
CO-58	-2.889E-02	6.509E-02	1.091E-01	0.000E+00 NOT IDENT.

FE-59	-8.838E-02	1.625E-01	2.616E-01	0.000E+00	NOT IDENT.
ZN-65	-1.010E-01	1.752E-01	2.826E-01	0.000E+00	NOT IDENT.
SE-75	1.864E-02	6.796E-02	1.240E-01	0.000E+00	FAIL ABUN
SR-85	-1.237E-01	7.340E-02	1.116E-01	0.000E+00	NOT IDENT.
Y-88	4.803E-03	4.259E-02	7.331E-02	0.000E+00	NOT IDENT.
Y-91	8.553E+00	2.299E+01	4.036E+01	0.000E+00	NOT IDENT.
NB-94	-6.958E-02	5.392E-02	8.527E-02	0.000E+00	NOT IDENT.
NB-95	-7.260E-02	6.857E-02	1.100E-01	0.000E+00	NOT IDENT.
NB-95M	-2.382E-02	1.962E-01	3.120E-01	0.000E+00	NOT IDENT.
ZR-95	3.718E-02	1.246E-01	2.223E-01	0.000E+00	NOT IDENT.
MO-99	-3.493E+00	1.586E+01	2.729E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	8.110E+15	0.000E+00	0.000E+00	SHORT HLIF
RU-103	4.960E-02	6.985E-02	1.247E-01	0.000E+00	FAIL ABUN
RH-106	-2.140E-01	5.733E-01	9.365E-01	0.000E+00	NOT IDENT.
RU-106	-2.140E-01	5.729E-01	9.365E-01	0.000E+00	NOT IDENT.
AG-108M	7.854E-03	5.740E-02	1.003E-01	0.000E+00	NOT IDENT.
AG-110M	-4.288E-02	6.669E-02	9.618E-02	0.000E+00	NOT IDENT.
SN-113	6.344E-03	7.628E-02	1.341E-01	0.000E+00	NOT IDENT.
CD-115	6.502E+00	1.622E+01	2.844E+01	0.000E+00	NOT IDENT.
SN-117M	2.481E-03	7.406E-02	1.288E-01	0.000E+00	NOT IDENT.
TE-123M	1.691E-03	3.948E-02	6.868E-02	0.000E+00	NOT IDENT.
SB-124	-7.412E-02	8.905E-02	1.189E-01	0.000E+00	NOT IDENT.
SB-125	-1.492E-01	1.698E-01	2.793E-01	0.000E+00	NOT IDENT.
TE-125M	5.363E+00	1.251E+01	2.266E+01	0.000E+00	NOT IDENT.
I-126	3.420E-01	3.435E-01	5.831E-01	0.000E+00	NOT IDENT.
SB-126	9.943E-03	2.240E-01	3.733E-01	0.000E+00	NOT IDENT.
SB-127	-2.506E-01	1.849E+00	3.231E+00	0.000E+00	NOT IDENT.
I-131	-7.026E-02	1.781E-01	3.061E-01	0.000E+00	NOT IDENT.
TE-132	2.995E-01	9.539E-01	1.758E+00	0.000E+00	NOT IDENT.
BA-133	-1.421E-02	7.630E-02	1.163E-01	0.000E+00	NOT IDENT.
I-133	0.000E+00	6.065E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	1.997E-02	8.369E-02	1.480E-01	0.000E+00	NOT IDENT.
CS-135	-2.272E-01	2.442E-01	4.182E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.261E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-4.048E-02	2.085E-01	3.488E-01	0.000E+00	NOT IDENT.
CE-139	8.870E-03	4.286E-02	7.493E-02	0.000E+00	NOT IDENT.
BA-140	-2.858E-01	4.640E-01	7.418E-01	0.000E+00	NOT IDENT.
LA-140	-1.583E-02	1.014E-01	1.674E-01	0.000E+00	NOT IDENT.
CE-141	-1.501E-02	8.464E-02	1.465E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.601E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-2.676E-01	2.859E-01	4.744E-01	0.000E+00	NOT IDENT.
PM-144	-4.547E-02	5.393E-02	8.888E-02	0.000E+00	NOT IDENT.
PR-144	-3.376E+00	4.036E+00	6.656E+00	0.000E+00	NOT IDENT.
PM-146	8.247E-02	8.358E-02	1.513E-01	0.000E+00	NOT IDENT.
ND-147	2.916E-01	9.436E-01	1.645E+00	0.000E+00	NOT IDENT.
PM-149	1.120E+02	1.122E+02	2.086E+02	0.000E+00	NOT IDENT.
EU-152	-1.901E-02	1.608E-01	2.823E-01	0.000E+00	FAIL ABUN
GD-153	3.228E-03	1.122E-01	1.797E-01	0.000E+00	NOT IDENT.
EU-154	-1.014E-01	1.290E-01	1.849E-01	0.000E+00	FAIL ABUN
EU-155	1.152E-01	1.341E-01	2.479E-01	0.000E+00	NOT IDENT.
TB-160	-6.478E-02	2.749E-01	4.664E-01	0.000E+00	FAIL ABUN
HO-166M	-4.240E-02	9.777E-02	1.664E-01	0.000E+00	FAIL ABUN
TA-182	1.409E-01	1.918E-01	3.526E-01	0.000E+00	NOT IDENT.
IR-192	-2.822E-02	5.504E-02	9.511E-02	0.000E+00	FAIL ABUN
HG-203	5.997E-02	5.980E-02	1.118E-01	0.000E+00	NOT IDENT.
BI-207	4.117E-02	9.888E-02	1.730E-01	0.000E+00	FAIL ABUN
PB-210	-4.060E+00	3.928E+00	7.086E+00	0.000E+00	NOT IDENT.
PB-211	6.223E-01	1.304E+00	2.275E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	1.058E+00	1.655E+00	0.000E+00	FAIL ABUN
RN-219	4.036E-02	7.167E-01	1.255E+00	0.000E+00	NOT IDENT.
RA-223	-8.963E-01	1.042E+00	1.745E+00	0.000E+00	FAIL ABUN
RA-224	0.000E+00	1.290E+00	2.284E+00	0.000E+00	NOT IDENT.
AC-227	1.334E-02	3.881E-01	7.022E-01	0.000E+00	NOT IDENT.
TH-227	1.334E-02	3.881E-01	7.022E-01	0.000E+00	NOT IDENT.
TH-229	-7.694E-01	7.441E-01	1.304E+00	0.000E+00	FAIL ABUN
PA-231	-1.020E+00	2.186E+00	3.816E+00	0.000E+00	NOT IDENT.
TH-231	-8.963E-01	1.042E+00	1.745E+00	0.000E+00	FAIL ABUN
PA-233	8.059E-02	1.003E-01	1.857E-01	0.000E+00	NOT IDENT.
PA-234	6.973E-01	6.801E-01	1.218E+00	0.000E+00	NOT IDENT.
PA-234M	-5.084E-01	9.469E+00	1.621E+01	0.000E+00	NOT IDENT.
TH-234	-3.045E-01	1.623E+00	2.669E+00	0.000E+00	FAIL ABUN
U-235	-6.730E-02	2.703E-01	4.679E-01	0.000E+00	FAIL ABUN
NP-237	0.000E+00	8.899E-01	9.202E-01	0.000E+00	NOT IDENT.
U-238	-3.045E-01	1.623E+00	2.669E+00	0.000E+00	FAIL ABUN
NP-239	-6.707E-02	6.047E-01	9.466E-01	0.000E+00	NOT IDENT.
CM-247	-5.881E-03	6.651E-02	1.156E-01	0.000E+00	NOT IDENT.
CF-249	3.807E-02	6.942E-02	1.251E-01	0.000E+00	NOT IDENT.
CF-251	-4.752E-02	1.810E-01	3.072E-01	0.000E+00	NOT IDENT.

ANH-511

4.201E-04

6.071E-02

1.146E-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]G1202061471.CNF;1
Sample date        : 6-MAR-2010 00:00:00. Acquisition date : 20-MAR-2010 11:12:22
Sample ID          : G1202061471      Sample quantity   : 1.55440E+02 GRAM
Detector name      : GAM20             Detector geometry: CAN
Elapsed live time  : 0 01:00:00.00    Elapsed real time: 0 01:00:17.31  0.5%
Energy tolerance   : 1.50000 keV      Analyst Initials  : MXR1
Abundance limit    : 75.00000          Sensitivity       : 5.00000
Batch ID           : 961099            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	1460.82	32	10.66*	1.253E+00	1.158E+00	1.158E+00	75.14
CO-57	122.06	189	85.60*	7.377E+00	1.449E-01	1.504E-01	35.60
	136.47	-----	10.68	7.171E+00	-----	Line Not Found	-----
CO-60	1173.23	1963	99.85	1.496E+00	6.344E+00	6.377E+00	9.46
	1332.49	1693	99.98*	1.346E+00	6.074E+00	6.106E+00	9.76
CD-109	88.03	1679	3.70*	6.982E+00	3.138E+01	3.207E+01	12.11
SN-126	64.28	-----	9.60	4.779E+00	-----	Line Not Found	-----
	86.94	1679	8.90	6.982E+00	1.305E+01	1.305E+01	42.22
	87.57	1679	37.00*	6.982E+00	3.138E+00	3.138E+00	12.11
BA-137M	661.66	2642	89.90*	2.434E+00	5.831E+00	5.837E+00	10.93
CS-137	661.66	2642	85.10*	2.434E+00	6.160E+00	6.166E+00	10.95
TL-208	277.37	-----	6.60	4.721E+00	-----	Line Not Found	-----
	583.19	135	85.00*	2.694E+00	2.851E-01	2.851E-01	43.94
	860.56	-----	12.50	1.954E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.23	5.845E+00	-----	Line Not Found	-----
	351.06	257	12.92*	3.968E+00	2.426E+00	2.426E+00	28.05
PB-212	74.82	204	10.28	6.061E+00	1.578E+00	1.578E+00	38.07
	77.11	304	17.10	6.269E+00	1.367E+00	1.367E+00	26.59
	238.63	461	43.60*	5.249E+00	9.728E-01	9.728E-01	20.12
	300.09	-----	3.30	4.461E+00	-----	Line Not Found	-----
BI-214	609.32	216	45.49*	2.602E+00	8.831E-01	8.831E-01	29.64
	1120.29	-----	14.92	1.557E+00	-----	Line Not Found	-----
	1764.49	28	15.30	1.100E+00	7.946E-01	7.946E-01	55.96
PB-214	74.82	204	5.80	6.061E+00	2.796E+00	2.796E+00	37.65
	77.11	304	9.70	6.269E+00	2.411E+00	2.411E+00	27.84
	242.00	-----	7.25	5.198E+00	-----	Line Not Found	-----
	295.22	120	18.42	4.520E+00	6.980E-01	6.980E-01	56.70
	351.93	257	35.60*	3.968E+00	8.804E-01	8.804E-01	28.58
RA-226	609.32	216	45.49*	2.602E+00	8.831E-01	8.831E-01	29.64
	1120.29	-----	14.92	1.557E+00	-----	Line Not Found	-----
	1764.49	28	15.30	1.100E+00	7.946E-01	7.946E-01	55.96
AC-228	338.32	107	11.27	4.089E+00	1.122E+00	1.122E+00	65.79

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
RA-228	911.20	110	25.80*	1.860E+00	1.111E+00	1.111E+00	49.56
	968.97	107	15.80	1.763E+00	1.852E+00	1.852E+00	47.77
	338.32	107	11.27	4.089E+00	1.122E+00	1.122E+00	65.79
	911.20	110	25.80*	1.860E+00	1.111E+00	1.111E+00	49.56
TH-228	968.97	107	15.80	1.763E+00	1.852E+00	1.852E+00	47.77
	74.82	204	10.28	6.061E+00	1.578E+00	1.578E+00	36.83
	77.11	304	17.10	6.269E+00	1.367E+00	1.367E+00	26.59
	238.63	461	43.60*	5.249E+00	9.728E-01	9.728E-01	20.12
TH-232	300.09	-----	3.30	4.461E+00	-----	Line Not Found	-----
	338.32	107	11.27	4.089E+00	1.122E+00	1.122E+00	51.60
	911.20	110	25.80*	1.860E+00	1.111E+00	1.111E+00	49.56
	968.97	107	15.80	1.763E+00	1.852E+00	1.852E+00	47.77
AM-241	59.54	4173	35.90*	4.076E+00	1.377E+01	1.377E+01	8.92

Flag: "\*" = Keyline

Total number of lines in spectrum 22  
Number of unidentified lines 1  
Number of lines tentatively identified by NID 21 95.45%

Nuclide Type :

Nuclide	Hlfe	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	1.158E+00	1.158E+00	0.870E+00	75.14	
CO-57	271.74D	1.04	1.449E-01	1.504E-01	0.535E-01	35.60	
CO-60	5.27Y	1.01	6.074E+00	6.106E+00	0.596E+00	9.76	
CD-109	461.40D	1.02	3.138E+01	3.207E+01	0.388E+01	12.11	
SN-126	2.30E+05Y	1.00	3.138E+00	3.138E+00	0.380E+00	12.11	
BA-137M	30.08Y	1.00	5.831E+00	5.837E+00	0.638E+00	10.93	
CS-137	30.08Y	1.00	6.160E+00	6.166E+00	0.675E+00	10.95	
TL-208	1.41E+10Y	1.00	2.851E-01	2.851E-01	1.253E-01	43.94	
BI-211	7.04E+08Y	1.00	2.426E+00	2.426E+00	0.680E+00	28.05	
PB-212	1.41E+10Y	1.00	9.728E-01	9.728E-01	1.957E-01	20.12	
BI-214	1600.00Y	1.00	8.831E-01	8.831E-01	2.617E-01	29.64	
PB-214	1600.00Y	1.00	8.804E-01	8.804E-01	2.517E-01	28.58	
RA-226	1600.00Y	1.00	8.831E-01	8.831E-01	2.617E-01	29.64	
AC-228	1.41E+10Y	1.00	1.111E+00	1.111E+00	0.550E+00	49.56	
RA-228	1.41E+10Y	1.00	1.111E+00	1.111E+00	0.550E+00	49.56	
TH-228	1.41E+10Y	1.00	9.728E-01	9.728E-01	1.957E-01	20.12	
TH-232	1.41E+10Y	1.00	1.111E+00	1.111E+00	0.550E+00	49.56	
AM-241	432.60Y	1.00	1.377E+01	1.377E+01	0.123E+01	8.92	

Total Activity : 7.830E+01 7.904E+01

Grand Total Activity : 7.830E+01 7.904E+01

Flags: "K" = Keyline not found "M" = Manually accepted  
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines  
Sample ID : G1202061471

Page : 4  
Acquisition date : 20-MAR-2010 11:12:22

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	93.02	78	299	1.05	185.93	183	8	2.16E-02	83.8	7.18E+00	T
0	185.79	103	306	1.96	371.20	365	12	2.87E-02	71.7	6.18E+00	T
0	727.49	62	58	1.39	1453.72	1449	10	1.72E-02	52.3	2.25E+00	T
0	1378.13	15	12	1.06	2755.36	2749	10	4.05E-03	****	1.31E+00	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202061471.CNF;1
* Acquisition date   : 20-MAR-2010 11:12:22  Detector SN#      :
* Detector ID        : GAM20                      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 01:00:17.31             Half life ratio : 8.00000
*****
*
*                               SAMPLE DATA                               *
*
* Sample date        : 6-MAR-2010 00:00:00.  Nuclide Library : SOLID
* Sample ID          : G1202061471           Analyst initials: MXR1
* Batch Number       : 961099                Sample Quantity : 1.55440E+02 GRAM
*****
*
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 26-AUG-2009 06:32:11.7MS Isotope      :
* MSD ID             :                      MSD Isotope       :
* LCS ID             : 1032-A                LCS Isotope      :
*****

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## Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.158E+00	8.702E-01	6.906E-01	6.023E-02	1.677
CO-57	1.504E-01	5.354E-02	5.633E-02	4.702E-03	2.670
CO-60	6.106E+00	5.958E-01	7.442E-02	6.234E-03	82.038
CD-109	3.207E+01	3.884E+00	1.779E+00	1.682E-01	18.028
SN-126	3.138E+00	3.800E-01	1.746E-01	1.642E-02	17.977
BA-137M	5.837E+00	6.381E-01	8.649E-02	8.680E-03	67.486
CS-137	6.166E+00	6.749E-01	9.137E-02	9.182E-03	67.486
TL-208	2.851E-01	1.253E-01	1.003E-01	1.030E-02	2.843
BI-211	2.426E+00	6.804E-01	5.464E-01	5.235E-02	4.440
PB-212	9.728E-01	1.957E-01	1.724E-01	1.841E-02	5.644
BI-214	8.831E-01	2.617E-01	1.889E-01	2.110E-02	4.676
PB-214	8.804E-01	2.517E-01	1.901E-01	2.100E-02	4.631
RA-226	8.831E-01	2.617E-01	1.889E-01	2.110E-02	4.676
AC-228	1.111E+00	5.503E-01	5.055E-01	6.354E-02	2.197
RA-228	1.111E+00	5.503E-01	5.055E-01	6.354E-02	2.197
TH-228	9.728E-01	1.957E-01	1.724E-01	1.841E-02	5.644
TH-232	1.111E+00	5.503E-01	5.055E-01	6.354E-02	2.197
AM-241	1.377E+01	1.229E+00	3.710E-01	2.903E-02	37.123

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-2.600E-01		6.021E-01	9.495E-01	9.227E-02	-0.274
NA-22	-3.988E-02		4.695E-02	6.427E-02	5.324E-03	-0.621
NA-24	-2.668E-01		1.838E-01	Half-Life too short		
SC-46	4.896E-02		7.913E-02	1.361E-01	1.357E-02	0.360
V-48	-3.443E-02		1.353E-01	2.176E-01	2.080E-02	-0.158
CR-51	2.410E-02		6.022E-01	1.000E+00	1.002E-01	0.024
MN-54	-2.221E-02		6.895E-02	1.117E-01	1.129E-02	-0.199
CO-56	4.591E-02		7.435E-02	1.284E-01	1.294E-02	0.358
CO-58	-2.889E-02		6.642E-02	1.065E-01	1.081E-02	-0.271
FE-59	-8.838E-02		1.659E-01	2.573E-01	2.426E-02	-0.343
ZN-65	-1.010E-01		1.788E-01	2.781E-01	2.393E-02	-0.363
SE-75	1.864E-02		6.935E-02	1.174E-01	1.163E-02	0.159
SR-85	-1.237E-01		7.489E-02	1.075E-01	1.004E-02	-1.151
Y-88	4.803E-03		4.346E-02	7.317E-02	5.904E-03	0.066
Y-91	8.553E+00		2.346E+01	3.980E+01	3.232E+00	0.215
NB-94	-6.958E-02		5.502E-02	8.285E-02	8.382E-03	-0.840
NB-95	-7.260E-02		6.997E-02	1.071E-01	1.088E-02	-0.678
NB-95M	-2.382E-02		2.002E-01	2.945E-01	3.170E-02	-0.081
ZR-95	3.718E-02		1.271E-01	2.164E-01	2.367E-02	0.172
MO-99	-3.493E+00		1.618E+01	2.656E+01	4.421E+00	-0.132
TC-99M	1.678E+09		4.138E+09	Half-Life too short		
RU-103	4.960E-02		7.128E-02	1.201E-01	1.723E-02	0.413
RH-106	-2.140E-01		5.850E-01	9.070E-01	1.281E-01	-0.236
RU-106	-2.140E-01		5.846E-01	9.070E-01	8.977E-02	-0.236
AG-108M	7.854E-03		5.857E-02	9.624E-02	8.674E-03	0.082
AG-110M	-4.288E-02		6.805E-02	9.329E-02	9.558E-03	-0.460
SN-113	6.344E-03		7.784E-02	1.283E-01	1.106E-02	0.049
CD-115	6.502E+00		1.655E+01	2.742E+01	2.584E+00	0.237
SN-117M	2.481E-03		7.558E-02	1.204E-01	1.039E-02	0.021
TE-123M	1.691E-03		4.029E-02	6.419E-02	5.577E-03	0.026
SB-124	-7.412E-02		9.086E-02	1.184E-01	1.031E-02	-0.626
SB-125	-1.492E-01		1.733E-01	2.678E-01	2.369E-02	-0.557
TE-125M	5.363E+00		1.276E+01	2.098E+01	2.177E+00	0.256
I-126	3.420E-01		3.506E-01	5.657E-01	5.684E-02	0.605
SB-126	9.943E-03		2.286E-01	3.630E-01	3.681E-02	0.027
SB-127	-2.506E-01		1.887E+00	3.137E+00	3.873E-01	-0.080
I-131	-7.026E-02		1.818E-01	2.923E-01	2.739E-02	-0.240
TE-132	2.995E-01		9.734E-01	1.658E+00	2.688E-01	0.181
BA-133	-1.421E-02		7.786E-02	1.109E-01	1.472E-02	-0.128
I-133	4.981E-04		3.094E-03	Half-Life too short		
CS-134	1.997E-02		8.540E-02	1.443E-01	1.472E-02	0.138
CS-135	-2.272E-01		2.492E-01	3.961E-01	4.390E-02	-0.573
I-135	-1.173E+09		6.435E+08	Half-Life too short		
CS-136	-4.048E-02		2.128E-01	3.426E-01	3.250E-02	-0.118
CE-139	8.870E-03		4.373E-02	7.011E-02	6.121E-03	0.127
BA-140	-2.858E-01		4.735E-01	7.156E-01	2.443E-01	-0.399
LA-140	-1.583E-02		1.035E-01	1.664E-01	1.405E-02	-0.095
CE-141	-1.501E-02		8.637E-02	1.366E-01	1.179E-02	-0.110

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CE-143	4.423E-04	+	1.327E-04	Half-Life too short		
CE-144	-2.676E-01		2.917E-01	4.415E-01	6.688E-02	-0.606
PM-144	-4.547E-02		5.503E-02	8.634E-02	8.729E-03	-0.527
PR-144	-3.376E+00		4.119E+00	6.466E+00	6.536E-01	-0.522
PM-146	8.247E-02		8.528E-02	1.453E-01	1.573E-02	0.567
ND-147	2.916E-01		9.629E-01	1.587E+00	2.450E-01	0.184
PM-149	1.120E+02		1.144E+02	1.979E+02	3.225E+01	0.566
EU-152	-1.901E-02		1.640E-01	2.692E-01	2.625E-02	-0.071
GD-153	3.228E-03		1.145E-01	1.659E-01	1.472E-02	0.019
EU-154	-1.014E-01		1.316E-01	1.827E-01	2.031E-02	-0.555
EU-155	1.152E-01		1.368E-01	2.293E-01	1.993E-02	0.502
TB-160	-6.478E-02		2.805E-01	4.560E-01	4.559E-02	-0.142
HO-166M	-4.240E-02		9.976E-02	1.618E-01	1.639E-02	-0.262
TA-182	1.409E-01		1.957E-01	3.479E-01	2.839E-02	0.405
IR-192	-2.822E-02		5.616E-02	9.047E-02	8.750E-03	-0.312
HG-203	5.997E-02		6.102E-02	1.060E-01	1.076E-02	0.566
BI-207	4.117E-02		1.009E-01	1.700E-01	1.535E-02	0.242
PB-210	-4.060E+00		4.008E+00	6.428E+00	5.906E-01	-0.632
PB-211	6.223E-01		1.330E+00	2.178E+00	1.054E+00	0.286
BI-212	1.997E+00	+	1.079E+00	1.609E+00	2.182E-01	1.241
RN-219	4.036E-02		7.313E-01	1.202E+00	1.776E-01	0.034
RA-223	-8.963E-01		1.063E+00	1.661E+00	2.960E-01	-0.540
RA-224	4.190E+00		1.316E+00	2.158E+00	2.086E-01	1.942
AC-227	1.334E-02		3.960E-01	6.643E-01	8.584E-02	0.020
TH-227	1.334E-02		3.960E-01	6.643E-01	9.554E-02	0.020
TH-229	-7.694E-01		7.593E-01	1.225E+00	1.115E-01	-0.628
PA-231	-1.020E+00		2.231E+00	3.620E+00	5.573E-01	-0.282
TH-231	-8.963E-01		1.063E+00	1.661E+00	2.960E-01	-0.540
PA-233	8.059E-02		1.024E-01	1.765E-01	1.752E-02	0.456
PA-234	6.973E-01		6.939E-01	1.193E+00	2.303E-01	0.585
PA-234M	-5.084E-01		9.663E+00	1.590E+01	1.701E+00	-0.032
TH-234	-3.045E-01		1.656E+00	2.439E+00	4.332E-01	-0.125
U-235	-6.730E-02		2.758E-01	4.362E-01	7.359E-02	-0.154
NP-237	3.390E+00		9.080E-01	8.471E-01	1.942E-01	4.001
U-238	-3.045E-01		1.656E+00	2.439E+00	4.332E-01	-0.125
NP-239	-6.707E-02		6.171E-01	8.781E-01	7.354E-02	-0.076
CM-247	-5.881E-03		6.787E-02	1.106E-01	9.352E-03	-0.053
CF-249	3.807E-02		7.084E-02	1.196E-01	1.009E-02	0.318
CF-251	-4.752E-02		1.847E-01	2.879E-01	2.558E-02	-0.165
ANH-511	4.201E-04		6.195E-02	1.104E-01	1.029E-02	0.004

# VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*                                     *                                       *
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202061471          *
* Acquisition date   : 20-MAR-2010 11:12:22 Detector SN# :                   *
* Detector ID        : GAM20 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 01:00:17.31 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*                                     *                                       *
* Sample date       : 6-MAR-2010 00:00:00 Nuclide Library : SOLID           *
* Sample ID         : G1202061471 Analyst initials: MXR1                  *
* Batch Number      : 961099 Sample Quantity : 1.5544E+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	1.158E+00	8.528E-01	3.485E-01	4.351E-01
CO-57	1.504E-01	5.247E-02	3.035E-02	2.677E-02
CO-60	6.106E+00	5.838E-01	3.765E-02	2.979E-01
CD-109	3.207E+01	3.806E+00	9.664E-01	1.942E+00
SN-126	3.138E+00	3.724E-01	9.484E-02	1.900E-01
BA-137M	5.837E+00	6.254E-01	4.461E-02	3.191E-01
CS-137	6.166E+00	6.614E-01	4.712E-02	3.375E-01
TL-208	2.851E-01	1.228E-01	5.191E-02	6.265E-02
BI-211	2.426E+00	6.668E-01	2.866E-01	3.402E-01
PB-212	9.728E-01	1.918E-01	9.132E-02	9.787E-02
BI-214	8.831E-01	2.565E-01	9.762E-02	1.309E-01
PB-214	8.804E-01	2.466E-01	9.971E-02	1.258E-01
RA-226	8.831E-01	2.565E-01	9.762E-02	1.309E-01
AC-228	1.111E+00	5.393E-01	2.585E-01	2.752E-01
RA-228	1.111E+00	5.393E-01	2.585E-01	2.752E-01
TH-228	9.728E-01	1.918E-01	9.132E-02	9.787E-02
TH-232	1.111E+00	5.393E-01	2.585E-01	2.752E-01
AM-241	1.377E+01	1.204E+00	2.034E-01	6.143E-01

### ---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM )	K.L Act error	DLC (pCi/GRAM )	TPU
BE-7	-2.600E-01	5.901E-01	4.940E-01	3.011E-01 NOT IDENT.
NA-22	-3.988E-02	4.601E-02	3.255E-02	2.347E-02 NOT IDENT.
NA-24	-2.668E+05	3.603E+05	0.000E+00	1.838E+05 SHORT HLIF
SC-46	4.896E-02	7.755E-02	6.965E-02	3.957E-02 NOT IDENT.
V-48	-3.443E-02	1.326E-01	1.110E-01	6.765E-02 NOT IDENT.
CR-51	2.410E-02	5.901E-01	5.259E-01	3.011E-01 NOT IDENT.
MN-54	-2.221E-02	6.757E-02	5.726E-02	3.448E-02 NOT IDENT.
CO-56	4.591E-02	7.287E-02	6.578E-02	3.718E-02 NOT IDENT.
CO-58	-2.889E-02	6.509E-02	5.460E-02	3.321E-02 NOT IDENT.



FE-59	-8.838E-02	1.625E-01	1.309E-01	8.293E-02	NOT IDENT.
ZN-65	-1.010E-01	1.752E-01	1.414E-01	8.938E-02	NOT IDENT.
SE-75	1.864E-02	6.796E-02	6.206E-02	3.467E-02	FAIL ABUN
SR-85	-1.237E-01	7.340E-02	5.584E-02	3.745E-02	NOT IDENT.
Y-88	4.803E-03	4.259E-02	3.668E-02	2.173E-02	NOT IDENT.
Y-91	8.553E+00	2.299E+01	2.019E+01	1.173E+01	NOT IDENT.
NB-94	-6.958E-02	5.392E-02	4.266E-02	2.751E-02	NOT IDENT.
NB-95	-7.260E-02	6.857E-02	5.501E-02	3.498E-02	NOT IDENT.
NB-95M	-2.382E-02	1.962E-01	1.561E-01	1.001E-01	NOT IDENT.
ZR-95	3.718E-02	1.246E-01	1.112E-01	6.356E-02	NOT IDENT.
MO-99	-3.493E+00	1.586E+01	1.365E+01	8.090E+00	NOT IDENT.
TC-99M	1.678E+15	8.110E+15	0.000E+00	4.138E+15	SHORT HLIF
RU-103	4.960E-02	6.985E-02	6.241E-02	3.564E-02	FAIL ABUN
RH-106	-2.140E-01	5.733E-01	4.685E-01	2.925E-01	NOT IDENT.
RU-106	-2.140E-01	5.729E-01	4.685E-01	2.923E-01	NOT IDENT.
AG-108M	7.854E-03	5.740E-02	5.020E-02	2.928E-02	NOT IDENT.
AG-110M	-4.288E-02	6.669E-02	4.812E-02	3.403E-02	NOT IDENT.
SN-113	6.344E-03	7.628E-02	6.709E-02	3.892E-02	NOT IDENT.
CD-115	6.502E+00	1.622E+01	1.423E+01	8.276E+00	NOT IDENT.
SN-117M	2.481E-03	7.406E-02	6.444E-02	3.779E-02	NOT IDENT.
TE-123M	1.691E-03	3.948E-02	3.436E-02	2.014E-02	NOT IDENT.
SB-124	-7.412E-02	8.905E-02	5.949E-02	4.543E-02	NOT IDENT.
SB-125	-1.492E-01	1.698E-01	1.398E-01	8.663E-02	NOT IDENT.
TE-125M	5.363E+00	1.251E+01	1.134E+01	6.381E+00	NOT IDENT.
I-126	3.420E-01	3.435E-01	2.917E-01	1.753E-01	NOT IDENT.
SB-126	9.943E-03	2.240E-01	1.868E-01	1.143E-01	NOT IDENT.
SB-127	-2.506E-01	1.849E+00	1.616E+00	9.435E-01	NOT IDENT.
I-131	-7.026E-02	1.781E-01	1.532E-01	9.089E-02	NOT IDENT.
TE-132	2.995E-01	9.539E-01	8.795E-01	4.867E-01	NOT IDENT.
BA-133	-1.421E-02	7.630E-02	5.817E-02	3.893E-02	NOT IDENT.
I-133	4.981E+02	6.065E+03	0.000E+00	3.094E+03	SHORT HLIF
CS-134	1.997E-02	8.369E-02	7.405E-02	4.270E-02	NOT IDENT.
CS-135	-2.272E-01	2.442E-01	2.092E-01	1.246E-01	NOT IDENT.
I-135	-1.173E+15	1.261E+15	0.000E+00	6.435E+14	SHORT HLIF
CS-136	-4.048E-02	2.085E-01	1.745E-01	1.064E-01	NOT IDENT.
CE-139	8.870E-03	4.286E-02	3.749E-02	2.187E-02	NOT IDENT.
BA-140	-2.858E-01	4.640E-01	3.711E-01	2.367E-01	NOT IDENT.
LA-140	-1.583E-02	1.014E-01	8.377E-02	5.173E-02	NOT IDENT.
CE-141	-1.501E-02	8.464E-02	7.328E-02	4.319E-02	NOT IDENT.
CE-143	4.423E+02	2.601E+02	0.000E+00	1.327E+02	SHORT HLIF
CE-144	-2.676E-01	2.859E-01	2.374E-01	1.459E-01	NOT IDENT.
PM-144	-4.547E-02	5.393E-02	4.447E-02	2.751E-02	NOT IDENT.
PR-144	-3.376E+00	4.036E+00	3.330E+00	2.059E+00	NOT IDENT.
PM-146	8.247E-02	8.358E-02	7.571E-02	4.264E-02	NOT IDENT.
ND-147	2.916E-01	9.436E-01	8.232E-01	4.814E-01	NOT IDENT.
PM-149	1.120E+02	1.122E+02	1.044E+02	5.722E+01	NOT IDENT.
EU-152	-1.901E-02	1.608E-01	1.413E-01	8.202E-02	FAIL ABUN
GD-153	3.228E-03	1.122E-01	8.991E-02	5.727E-02	NOT IDENT.
EU-154	-1.014E-01	1.290E-01	9.252E-02	6.581E-02	FAIL ABUN
EU-155	1.152E-01	1.341E-01	1.240E-01	6.842E-02	NOT IDENT.
TB-160	-6.478E-02	2.749E-01	2.333E-01	1.402E-01	FAIL ABUN
HO-166M	-4.240E-02	9.777E-02	8.327E-02	4.988E-02	FAIL ABUN
TA-182	1.409E-01	1.918E-01	1.764E-01	9.787E-02	NOT IDENT.
IR-192	-2.822E-02	5.504E-02	4.758E-02	2.808E-02	FAIL ABUN
HG-203	5.997E-02	5.980E-02	5.594E-02	3.051E-02	NOT IDENT.
BI-207	4.117E-02	9.888E-02	8.653E-02	5.045E-02	FAIL ABUN
PB-210	-4.060E+00	3.928E+00	3.545E+00	2.004E+00	NOT IDENT.
PB-211	6.223E-01	1.304E+00	1.138E+00	6.652E-01	NOT IDENT.
BI-212	1.997E+00	1.058E+00	8.279E-01	5.395E-01	FAIL ABUN
RN-219	4.036E-02	7.167E-01	6.281E-01	3.657E-01	NOT IDENT.
RA-223	-8.963E-01	1.042E+00	8.731E-01	5.317E-01	FAIL ABUN
RA-224	4.190E+00	1.290E+00	1.143E+00	6.582E-01	NOT IDENT.
AC-227	1.334E-02	3.881E-01	3.513E-01	1.980E-01	NOT IDENT.
TH-227	1.334E-02	3.881E-01	3.513E-01	1.980E-01	NOT IDENT.
TH-229	-7.694E-01	7.441E-01	6.523E-01	3.797E-01	FAIL ABUN
PA-231	-1.020E+00	2.186E+00	1.909E+00	1.115E+00	NOT IDENT.
TH-231	-8.963E-01	1.042E+00	8.731E-01	5.317E-01	FAIL ABUN
PA-233	8.059E-02	1.003E-01	9.289E-02	5.120E-02	NOT IDENT.
PA-234	6.973E-01	6.801E-01	6.093E-01	3.470E-01	NOT IDENT.
PA-234M	-5.084E-01	9.469E+00	8.108E+00	4.831E+00	NOT IDENT.
TH-234	-3.045E-01	1.623E+00	1.335E+00	8.279E-01	FAIL ABUN
U-235	-6.730E-02	2.703E-01	2.341E-01	1.379E-01	FAIL ABUN
NP-237	3.390E+00	8.899E-01	4.604E-01	4.540E-01	NOT IDENT.
U-238	-3.045E-01	1.623E+00	1.335E+00	8.279E-01	FAIL ABUN
NP-239	-6.707E-02	6.047E-01	4.736E-01	3.085E-01	NOT IDENT.
CM-247	-5.881E-03	6.651E-02	5.782E-02	3.393E-02	NOT IDENT.
CF-249	3.807E-02	6.942E-02	6.258E-02	3.542E-02	NOT IDENT.
CF-251	-4.752E-02	1.810E-01	1.537E-01	9.233E-02	NOT IDENT.

ANH-511

4.201E-04

6.071E-02

5.732E-02

3.098E-02 NOT IDENT.

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*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                          *
*                               GAMMA SPECTROSCOPY BACKGROUND REPORT            *
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ENERGY	MDA COUNTS
46.54	552.4398
49.72	604.1600
57.36	0.0000
59.54	579.0117
63.29	334.7217
63.29	334.7217
64.28	306.9193
67.75	353.5674
69.67	351.6808
70.83	331.4899
72.81	367.8333
72.87	367.8699
72.87	367.8699
74.82	364.9431
74.82	364.9431
74.82	364.9431
74.97	365.0318
77.11	366.2866
77.11	366.2866
77.11	366.2866
79.69	357.9626
79.80	371.9733
80.12	372.1582
80.19	372.1985
80.57	389.4874
81.00	406.8264
81.07	406.8704
81.07	406.8704
83.79	396.0863
83.79	396.0863
85.43	417.3851
86.48	435.2573
86.55	435.3040
86.79	435.4567
86.94	399.5192
87.57	399.8889
88.03	400.1593
88.47	400.4161
89.96	242.3439
91.11	242.7446
92.59	243.2568
92.59	243.2568
93.35	230.8685
94.67	247.1396
94.87	215.5153
94.87	215.5153
95.86	226.9200
97.43	219.4606
98.44	227.1954
99.53	240.2917
100.11	212.8143
103.18	231.8528
103.37	222.2928
105.31	215.3598
106.12	220.9506
109.28	229.3904
111.00	226.6535
111.76	240.9153
116.30	230.3266
117.23	238.2024
121.12	229.4878
121.78	232.9492
122.06	233.0273
123.07	244.8078
131.20	285.2687
133.52	273.8222
136.00	217.8861

136.47	240.2446
140.51	222.3163
140.51	0.0000
143.76	227.5800
144.24	238.9143
144.24	238.9143
145.44	235.8505
152.43	246.6293
153.25	225.3224
154.21	206.2774
154.21	206.2774
156.02	231.6375
158.56	220.8471
159.00	218.6660
162.66	224.0350
163.33	233.3329
165.86	224.7369
176.60	195.7724
177.52	208.6926
181.07	198.9103
184.41	223.1445
185.72	223.4090
193.51	252.3120
197.04	234.5054
205.31	258.4516
210.85	225.6276
215.65	224.7219
222.11	222.2844
227.38	225.0300
228.16	219.7205
228.18	220.6322
235.69	222.1070
235.96	232.3822
235.96	232.3822
238.63	308.4633
238.63	308.4633
240.99	236.2093
242.00	217.3027
244.70	300.6872
252.40	186.8075
252.80	192.4133
256.23	195.6779
256.23	195.6779
260.90	183.3108
264.66	181.0047
268.22	222.6166
269.46	187.2345
269.46	187.2345
271.23	176.2184
273.65	249.7525
276.40	182.4966
277.37	177.9114
277.60	181.7061
278.00	178.9310
279.20	174.3634
279.54	185.7186
280.46	207.5307
283.69	178.6785
284.31	176.8619
285.41	154.2775
285.90	145.8084
287.50	170.6067
293.27	0.0000
295.22	173.3910
295.96	196.7313
298.57	189.4300
299.98	172.7857
299.98	172.7857
300.09	186.5593
300.09	186.5593
300.13	186.5653
301.36	184.7465
302.85	194.3610
304.50	169.6484
304.50	169.6484
304.85	163.9341
308.46	172.9633
311.90	144.4519

316.51	173.8477
319.41	159.6474
320.08	169.3951
323.87	186.2871
323.87	186.2871
328.76	159.5982
333.37	134.2826
334.37	164.0497
334.37	164.0497
338.28	173.8304
338.28	173.8304
338.32	173.8359
338.32	173.8359
338.32	173.8359
340.48	175.6289
340.55	175.6344
344.28	168.9529
351.06	156.2126
351.93	143.0707
356.01	151.9149
364.49	151.0653
366.42	145.2604
383.85	167.7721
388.16	149.0343
388.63	146.0509
391.69	152.3479
400.66	154.0944
401.81	159.2591
402.40	165.3976
404.85	154.4353
410.95	170.2184
414.70	171.5735
423.72	127.2260
427.09	163.4156
427.87	176.8475
433.94	168.1062
453.88	152.0640
463.37	161.1318
468.07	187.7075
473.00	151.3586
476.78	144.2560
477.60	147.4725
487.02	122.7278
492.35	135.7559
497.08	110.5397
511.00	126.2077
514.00	200.2740
527.90	104.5219
529.87	0.0000
531.02	104.6640
537.26	119.0100
546.56	0.0000
563.25	109.3872
569.33	101.9855
569.50	101.9912
569.70	98.7094
583.19	104.7702
600.60	93.2849
602.73	119.1507
604.72	83.6499
609.32	99.1771
609.32	99.1771
610.33	99.2178
614.28	91.1077
618.01	98.3958
621.93	110.8644
621.93	110.8644
633.25	82.1027
635.95	87.3663
636.99	84.6987
645.85	92.2134
657.76	104.4293
661.66	70.9332
661.66	70.9332
664.57	0.0000
666.33	59.2125
666.50	59.2157
677.62	72.2611

685.70	83.4818
695.00	104.0091
696.49	96.6969
696.51	96.6969
697.00	93.0280
702.65	106.1364
706.68	68.3922
711.68	90.7337
720.70	75.4617
721.93	0.0000
722.78	75.9025
722.91	75.9065
723.31	82.1138
724.19	69.7394
727.33	80.0560
733.00	59.0704
735.93	69.0877
739.50	72.9098
747.24	79.6626
752.31	91.0630
753.82	84.5332
756.73	87.4373
763.94	96.1280
765.81	104.6750
766.42	88.6620
777.92	98.4648
778.90	88.0775
783.70	81.5761
785.37	97.7544
795.86	97.1341
801.95	90.6443
810.29	91.8398
810.76	81.3290
815.77	64.2078
818.51	103.5888
832.01	92.4680
834.85	102.1906
836.80	0.0000
846.77	82.2462
856.80	108.7023
860.56	84.5340
871.09	100.3999
873.19	101.4381
875.33	0.0000
879.36	99.6716
880.51	98.7265
883.24	96.8513
884.68	95.9137
889.28	87.2226
898.04	96.2917
911.20	116.7155
911.20	116.7155
911.20	116.7155
926.50	105.0114
937.49	107.3276
944.13	97.5741
946.00	100.6129
949.00	115.6545
962.29	146.7741
964.08	95.1160
966.15	96.8390
968.97	140.3589
968.97	140.3589
968.97	140.3589
983.53	87.5735
996.26	93.9377
1001.03	101.1377
1004.73	100.2254
1037.84	71.4937
1038.76	0.0000
1048.07	93.1906
1050.41	86.0713
1050.41	86.0713
1063.66	74.0285
1085.87	78.5865
1099.45	79.8913
1112.07	94.7147
1115.54	104.1748

1120.29	88.6523
1120.29	88.6523
1120.55	90.7425
1121.30	91.8027
1131.51	0.0000
1173.23	49.6529
1177.93	45.8301
1189.05	31.8120
1204.77	26.6077
1221.41	20.3007
1231.02	24.6284
1235.36	28.9406
1238.28	20.3786
1260.41	0.0000
1271.85	24.8575
1274.44	25.9535
1274.54	27.0349
1291.59	14.1115
1298.22	0.0000
1312.11	30.5307
1332.49	19.7139
1365.19	15.6248
1368.63	0.0000
1384.29	22.1465
1408.01	15.7653
1457.56	0.0000
1460.82	16.8728
1489.16	12.2547
1505.03	13.2384
1596.21	15.3958
1620.50	15.4655
1678.03	0.0000
1690.97	12.7276
1764.49	7.9339
1764.49	7.9339
1770.23	5.1054
1771.35	19.8584
1791.20	0.0000
1836.06	9.0348

TOTAL URANIUM BY GAMMA SPEC REPORT  
Sample:G1202061471

Total Uranium Activity	-9.3706E-01	ug/g
Total Uranium Counting Unc.	4.8294E+00	ug/g
Total Uranium Tpu	2.4640E-06	ug/g
Total Uranium Mda	3.9740E+00	ug/g



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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GROSS GAMMA REPORT                             *
*
*****
*
*  BATCH ID      : 961099                SAMPLE ID   : G1202061471                *
*  ANALYST       : MXR1                  DETECTOR    : GAM20                    *
*  SAMPLE DATE   : 6-MAR-2010 00:00:00.00  COUNT TIME : 0 01:00:00.00          *
*  ANALYSIS DATE: 20-MAR-2010 11:12:22.31  SAMPLE ALQT: 155.440 GRAM          *
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 2.706E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 2.360E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.804E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.846E+00

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# Radiochemistry Batch Checklist, Rev10

Batch# 964063 Product: Hs Date: 3-30-10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			NA
Samples have been blank corrected (if required)			NA
If activity less 10* MDA/ MDC, error is 150% or less of sample activity. If greater 10* MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits.	✓		
Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5* MDA/ MDC, then RPD is 100% or less. If greater 5* MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%.	✓		
Or meets the client's required RER acceptance criteria.			
Tracer yield is 15-125% . Carrier yield 25-125%.			NA
Or meets the client's contract acceptance criteria.			
Method blank is less than the RDL/ LLD.	✓		
(If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.	✓		
Smears Taken for Radioactive batches.			NA
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.	✓		
All line outs initialed and dated.	✓		
No transcription errors are apparent.			NA
Aux data is correct.			NA
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly stasured.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			NA
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.			NA
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			NA
Aliquot Correction completed if required.			NA
Review sample historical results if available (If REMF, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: [Signature]

Secondary Review Performed By: [Signature] 3/30/10

LANL 3-31-10

# Tritium Que Sheet

29-MAR-10

Batch #: 964063 Analyst: KKK2 First Client Due Date 31-MAR-10 Internal Due Date: 20-MAR-10  
Spike Isotope: Hydrogen-3 Spike Code: \_\_\_\_\_ Expiration Date: \_\_\_\_\_ Vol: \_\_\_\_\_  
LCS Isotope: Hydrogen-3 LCS Code: 0134-K Expiration Date: 3/11/11 Vol: 0.1

Prep Date: 3/26/10 Initials: YKJ Pipet ID: 2970968 Witness: YKJ 3/29/10

Sample ID	Client Samp ID	Type	Hazard Code	Min CRDL	Matrix	Client	Sample Date	Aliquot In vial (g/mL)	LSC Rack #	Dist Rig #	Vol added for Dist (mL)	Initial Sample Aliquot (g/mL)	Final Wt (g)	Total Moisture Dig (mL)
248515001-1	RE36-10-7501	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	25-FEB-10	10	5	1		290.91	221.09	69.82
248515002-1	RE36-10-7524	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	25-FEB-10	10	6	2		227.84	191.39	36.45
248515003-1	RE36-10-7525	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	25-FEB-10	10	7	3		385.82	308.27	77.55
248517001-1	RE36-10-8292	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	25-FEB-10	10	8	4		171.72	133.17	37.95
248521001-1	RE36-10-8288	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	25-FEB-10	10	9	5		305.80	255.65	50.15
248521002-1	RE36-10-8279	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	25-FEB-10	10	10	6		309.69	287.70	21.99
248521003-1	RE36-10-8277	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	25-FEB-10	10	11	7		406.14	302.98	103.16
248521004-1	RE36-10-8280	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	25-FEB-10	10	12	8		384.86	348.30	36.56
248521005-1	RE36-10-8278	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	25-FEB-10	10	13	9		447.75	419.09	28.66
248521006-1	RE36-10-8274	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	25-FEB-10	10	14	10		500.95	449.85	51.10
248521007-1	RE36-10-8291	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	25-FEB-10	10	15	11		252.51	179.53	72.98
248521008-1	RE36-10-8287	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	25-FEB-10	10	16	12		405.46	272.06	133.40
248521009-1	RE36-10-8273	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	25-FEB-10	10	17	13		242.34	168.62	70.28
248521010-1	RE36-10-8275	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	25-FEB-10	10	18	14		167.25	168.39	67.23
248521011-1	RE36-10-8276	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	25-FEB-10	10	19	15		431.37	368.39	62.98
248526001-1	RE36-10-8466	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	25-FEB-10	10	20	16		606.80	531.56	75.24
1202068228-1	MB for batch 964063	MB		.25 pCi/mL SOIL	QC ACCOUNT	QC ACCOUNT	25-FEB-10	10	21	17		20.00	0.00	20.00
1202068229-1	RE36-10-8466(248526001DUP)	DUP		.25 pCi/mL SOIL	QC ACCOUNT	QC ACCOUNT	25-FEB-10	10	22	16		606.80	531.56	75.24
1202068230-1	LCS for batch 964063	LCS		.25 pCi/mL SOIL	QC ACCOUNT	QC ACCOUNT	25-FEB-10	10	23	18		20.00	0.00	20.00

Bkg Rack #: 4

Comments:

Bkg prepared with dead water? ☒ Yes ☐ No

Instrument Used (circle as appropriate): LS6000 (Red) 7065155, LS6500 (Blue) 7067083, LS6500 (Gold) 7020506, LS6500 (Green) 7067404, Wallace (Yellow) 4140127, LS6000 (Brown) 7060655, Wallace (Pink) 2200082, Wallace (White) 4140299, Purple 7069123, Silver 7060656, Orange DG06095168

Calibration Used: Ecoscint Ultra 10 mL sample/13 mL Ecoscint Ultra  
Data Reviewed By: YKJ 3-30-10

DATE	3/29/2010	INITIALS	KXK2	BATCH NUMBER	964063
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Sample #	Flask (g)	Sample Wet (g)	Flask and Sample Wet (g)	% Moisture of Sample (Balance Interface using % Moisture Batch)	Total Moisture in Sample (mL)	Sample Dry (g)	Flask and Sample Dry (g)	mLs aliquoted into LSC vial
248515001	200	290.91	490.91	0.240	69.82	221.09	421.09	10
248515002	200	227.84	427.84	0.160	36.45	191.39	391.39	10
248515003	200	385.82	585.82	0.201	77.55	308.27	508.27	10
248517001	200	171.72	371.72	0.221	37.95	133.77	333.77	10
248521001	200	305.80	505.80	0.164	50.15	255.65	455.65	10
248521002	200	309.69	509.69	0.071	21.99	287.70	487.70	10
248521003	200	406.14	606.14	0.254	103.16	302.98	502.98	10
248521004	200	384.86	584.86	0.095	36.56	348.30	548.30	10
248521005	200	447.75	647.75	0.064	28.66	419.09	619.09	10
248521006	200	500.95	700.95	0.102	51.10	449.85	649.85	10
248521007	200	252.51	452.51	0.289	72.98	179.53	379.53	10
248521008	200	405.46	605.46	0.329	133.40	272.06	472.06	10
248521009	200	242.34	442.34	0.290	70.28	172.06	372.06	10
248521010	200	167.25	367.25	0.402	67.23	100.02	300.02	10
248521011	200	431.37	631.37	0.146	62.98	368.39	568.39	10
248526001	200	606.80	806.80	0.124	75.24	531.56	731.56	10
MB	200	20.00	220.00	1.000	20.00	0.00	200.00	10
DUP	200	606.80	806.80	0.124	75.24	531.56	731.56	10
LCS	200	20.00	220.00	1.000	20.00	0.00	200.00	10

T964063

## Tritium Solid

Filename : H3VAC.XLS  
File type : Excel  
Version # : 1.2.7

Batch : 964063  
Analyst : KKK2  
Prep Date : 3/26/2010

Spike SN :  
Spike Exp Date :  
Spike Activity (dpm/ml):  
Spike Volume Added:

LCS S/N : 0134-K  
LCS Exp Date : 3/11/2011  
LCS Activity (dpm/ml): 2451.91  
LCS Volume Added: 0.10

Procedure Code : LSC\_VHSS  
Paramname : Tritium  
Required MDC : 250 pCi/L  
Half-life of Tritium : 12.32 years

H-3 Abundance : 1  
Method Uncertainty : 0.0691  
Geometry: 10mL DW/13mL  
Eosclint Ultra

Sample Characteristics		Wet Sample Weight (g)	Total Moisture L	Sample Aliquot in Vial L	Sample Aliquot Sidev. L	Dry Sample Weight (g)	% Moisture of Sample	Rig number	Sample Date/Time
Pos.	Sample ID								
1	248515001.1	290.91	0.0698	0.0100	2.5729E-05	221.09	24.00%	1	2/25/2010 12:00
2	248515002.1	227.84	0.0365	0.0100	2.5729E-05	191.39	18.00%	2	2/25/2010 12:00
3	248515003.1	385.82	0.0778	0.0100	2.5729E-05	308.27	20.10%	3	2/25/2010 12:00
4	248517001.1	171.72	0.0380	0.0100	2.5729E-05	133.77	22.10%	4	2/25/2010 12:00
5	248521001.1	305.80	0.0502	0.0100	2.5729E-05	255.65	16.40%	5	2/25/2010 12:00
6	248521002.1	309.69	0.0220	0.0100	2.5729E-05	287.70	7.10%	6	2/25/2010 12:00
7	248521003.1	406.14	0.1032	0.0100	2.5729E-05	302.98	25.40%	7	2/25/2010 12:00
8	248521004.1	384.86	0.0366	0.0100	2.5729E-05	348.30	9.50%	8	2/25/2010 12:00
9	248521005.1	447.75	0.0287	0.0100	2.5729E-05	419.09	6.40%	9	2/25/2010 12:00
10	248521006.1	500.95	0.0511	0.0100	2.5729E-05	449.85	10.20%	10	2/25/2010 12:00
11	248521007.1	252.51	0.0730	0.0100	2.5729E-05	179.53	28.90%	11	2/25/2010 12:00
12	248521008.1	405.46	0.1334	0.0100	2.5729E-05	272.06	32.90%	12	2/25/2010 12:00
13	248521009.1	242.34	0.0703	0.0100	2.5729E-05	172.06	29.00%	13	2/25/2010 12:00
14	248521010.1	167.25	0.0672	0.0100	2.5729E-05	100.02	40.20%	14	2/25/2010 12:00
15	248521011.1	431.37	0.0630	0.0100	2.5729E-05	368.39	14.60%	15	2/25/2010 12:00
16	248526001.1	606.80	0.0752	0.0100	2.5729E-05	531.56	12.40%	16	2/25/2010 12:00
17	1202068228.1	20.00	0.0200	0.0100	2.5729E-05	0.00	100.00%	17	3/26/2010 0:00
18	1202068229.1	606.80	0.0752	0.0100	2.5729E-05	531.56	12.40%	18	2/25/2010 12:00
19	1202068230.1	20.00	0.0200	0.0100	2.5729E-05	0.00	100.00%	18	3/26/2010 0:00

Analytical SOP: GL-RAD-A-002  
Instrument SOP: GL-RAD-I-017

Count raw Data			Background			Calibration Data			Detector Efficiency Error (cpm/dpm)			Backgrounds		
Pos.	Rack Position #	Counting Time (min.)	Quench#	Gross cpm	Count Time (min.)	Count Start Date/Time	Sample Decay	Counted on	Calibration Date	Calibration Due Date	Detector Efficiency (cpm/dpm)	Detector Efficiency Error (cpm/dpm)	Rack Position #	Count Start Date/Time
1	5	50.0298	805.32	1.11	120	3/29/2010 14:07	0.995	LSCPINK	8/21/2009	8/31/2010	0.1690	0.00792	4	3/29/2010 12:05
2	6	50.0298	806.43	1.21	120	3/29/2010 15:00	0.995	LSCPINK	8/21/2009	8/31/2010	0.1702	0.00792	4	3/29/2010 12:05
3	7	50.0298	806.56	1.03	120	3/29/2010 15:53	0.995	LSCPINK	8/21/2009	8/31/2010	0.1703	0.00792	4	3/29/2010 12:05
4	8	50.0298	808.02	1.31	120	3/29/2010 16:45	0.995	LSCPINK	8/21/2009	8/31/2010	0.1717	0.00792	4	3/29/2010 12:05
5	9	50.0298	807.39	1.01	120	3/29/2010 17:38	0.995	LSCPINK	8/21/2009	8/31/2010	0.1711	0.00792	4	3/29/2010 12:05
6	10	50.0298	804.89	1.61	120	3/29/2010 18:30	0.995	LSCPINK	8/21/2009	8/31/2010	0.1686	0.00792	4	3/29/2010 12:05
7	11	50.0297	804.82	0.99	120	3/29/2010 19:23	0.995	LSCPINK	8/21/2009	8/31/2010	0.1685	0.00792	4	3/29/2010 12:05
8	12	50.0297	805.23	1.09	120	3/29/2010 20:15	0.995	LSCPINK	8/21/2009	8/31/2010	0.1690	0.00792	4	3/29/2010 12:05
9	13	50.0297	806.27	1.05	120	3/29/2010 21:08	0.995	LSCPINK	8/21/2009	8/31/2010	0.1700	0.00792	4	3/29/2010 12:05
10	14	50.0297	806.41	1.03	120	3/29/2010 22:00	0.995	LSCPINK	8/21/2009	8/31/2010	0.1701	0.00792	4	3/29/2010 12:05
11	15	50.0297	805.72	0.76	120	3/29/2010 22:53	0.995	LSCPINK	8/21/2009	8/31/2010	0.1695	0.00792	4	3/29/2010 12:05
12	16	50.0297	804.12	0.78	120	3/29/2010 23:45	0.995	LSCPINK	8/21/2009	8/31/2010	0.1678	0.00792	4	3/29/2010 12:05
13	17	50.0298	804.4	0.99	120	3/30/2010 1:53	0.995	LSCPINK	8/21/2009	8/31/2010	0.1681	0.00792	4	3/29/2010 12:05
14	18	50.0298	807.57	0.97	120	3/30/2010 2:46	0.995	LSCPINK	8/21/2009	8/31/2010	0.1713	0.00792	4	3/29/2010 12:05
15	19	50.0298	806.26	0.89	120	3/30/2010 3:38	0.995	LSCPINK	8/21/2009	8/31/2010	0.1700	0.00792	4	3/29/2010 12:05
16	20	50.0296	804.58	0.78	120	3/30/2010 4:31	0.995	LSCPINK	8/21/2009	8/31/2010	0.1683	0.00792	4	3/29/2010 12:05
17	21	50.0298	806.03	0.85	120	3/30/2010 5:24	0.999	LSCPINK	8/21/2009	8/31/2010	0.1698	0.00792	4	3/29/2010 12:05
18	22	50.0298	805.34	0.95	120	3/30/2010 6:17	0.995	LSCPINK	8/21/2009	8/31/2010	0.1691	0.00792	4	3/29/2010 12:05
19	23	15.0296	806.36	24.93	120	3/30/2010 7:09	0.999	LSCPINK	8/21/2009	8/31/2010	0.1701	0.00792	4	3/29/2010 12:05

## Notes:

- 1 - Results are decay corrected to Sample Date/Time  
 2 - Reference date for Spike Activity (dpm/ml) is the batch Prep Date  
 3 - Spike Nominals are decay corrected to Sample Date/Time

\* - RPD changed to 0% due to activity below MDC for 1202068229.1

Results		Critical Level		Required MDC		Sample Act. Conc.		Sample Act. Error		Net Count Rate		Net Count Rate Error		1 SIGMA Counting Uncertainty		1 SIGMA Total Prop. Uncertainty		Sample QC		Sample Type		RPD		RER		Nominal pCi/L		Recovery	
Pos.	Decision Level	pCi/L	pCi/L	MDC	pCi/L	MDC	pCi/L	Sample Act. Error	pCi/L	Rate	CPM	Rate Error	CPM	pCi/L	pCi/L	Sample	Sample	Type	Sample	QC	Type	RPD	RER	pCi/L	pCi/L	Recovery			
1	112.1098	79.1505	79.1505	250	174.3588	-8.0337	5.933	-0.030	0.178	47.6689	47.6683	47.6689	47.6683	47.6689	47.6683	SAMPLE		SAMPLE											
2	111.3728	78.6302	78.6302	250	173.2126	18.8220	2.822	0.070	0.184	48.8243	48.8415	48.8243	48.8415	48.8243	48.8415	SAMPLE		SAMPLE											
3	111.2885	78.5706	78.5706	250	173.0815	-29.2410	1.577	-0.110	0.173	46.1082	46.1097	46.1082	46.1097	46.1082	46.1097	SAMPLE		SAMPLE											
4	110.3560	77.9123	77.9123	250	171.6312	44.8121	1.111	0.170	0.189	49.7933	49.8910	49.7933	49.8910	49.7933	49.8910	SAMPLE		SAMPLE											
5	110.7546	78.1937	78.1937	250	172.2511	-34.3918	1.325	-0.130	0.172	45.5811	45.5826	45.5811	45.5826	45.5811	45.5826	SAMPLE		SAMPLE											
6	112.4047	79.3587	79.3587	250	174.8174	126.1921	0.434	0.470	0.204	54.8139	55.5140	54.8139	55.5140	54.8139	55.5140	SAMPLE		SAMPLE											
7	112.4532	79.3929	79.3929	250	174.8928	-40.2914	1.141	-0.150	0.171	45.9675	45.9690	45.9675	45.9690	45.9675	45.9690	SAMPLE		SAMPLE											
8	112.1750	79.1965	79.1965	250	174.4602	-13.3973	3.538	-0.050	0.177	47.3928	47.3942	47.3928	47.3942	47.3928	47.3942	SAMPLE		SAMPLE											
9	111.4822	78.7074	78.7074	250	173.3827	-23.9681	1.940	-0.090	0.175	46.4943	46.4958	46.4943	46.4958	46.4943	46.4958	SAMPLE		SAMPLE											
10	111.3909	78.6430	78.6430	250	173.2407	-29.2679	1.577	-0.110	0.173	46.1506	46.1521	46.1506	46.1521	46.1506	46.1521	SAMPLE		SAMPLE											
11	111.8478	78.9855	78.9855	250	173.9512	-101.5221	0.414	-0.360	0.157	41.9784	41.9800	41.9784	41.9800	41.9784	41.9800	SAMPLE		SAMPLE											
12	112.8393	79.7361	79.7361	250	175.6489	-97.1175	0.440	-0.360	0.158	42.7288	42.7315	42.7288	42.7315	42.7288	42.7315	SAMPLE		SAMPLE											
13	112.7466	79.6001	79.6001	250	175.3492	-40.3966	1.141	-0.150	0.171	46.0874	46.0889	46.0874	46.0889	46.0874	46.0889	SAMPLE		SAMPLE											
14	110.6467	78.1175	78.1175	250	172.0832	-44.9301	1.000	-0.170	0.170	44.9183	44.9208	44.9183	44.9208	44.9183	44.9208	SAMPLE		SAMPLE											
15	111.4934	78.7153	78.7153	250	173.4001	-66.5793	0.661	-0.250	0.165	43.9824	43.9924	43.9824	43.9924	43.9824	43.9924	SAMPLE		SAMPLE											
16	112.6245	78.5138	78.5138	250	175.1592	-96.8467	0.440	-0.360	0.158	42.6107	42.6124	42.6107	42.6124	42.6107	42.6124	SAMPLE		SAMPLE											
17	111.1573	78.4780	78.4780	250	172.8774	-76.9991	0.561	-0.290	0.163	43.2124	43.2140	43.2124	43.2140	43.2124	43.2140	SAMPLE		SAMPLE											
18	112.1080	79.1492	79.1492	250	174.3559	-50.8792	0.888	-0.190	0.169	45.1965	45.1980	45.1965	45.1980	45.1965	45.1980	MB		MB											
19	180.3638	127.3525	127.3525	250	307.6005	6304.3427	0.055	23.790	1.292	342.2726	556.7256	342.2726	556.7256	342.2726	556.7256	248526001.1		DUP	0.0%	0.2617				5522.3133	114.2%				

# REGISTRY

MON 29 MAR 2010 12:03

\*\*\* DIRECTORY PATH :S:\LSC\Q\DA\964063A0 \*\*\*

PARAMETER GROUP: 8  
ID: H-3(3)

00A PROGRAM MODE 6 ->

ORDER	POS	ID	CTIME	COUNTS	CUCNTS	MCW	REP	STD	STMS	STIME
1	4	BKG	120:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
2	5	248515001	50:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
3	6	248515002	50:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
4	7	248515003	50:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
5	8	248517001	50:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
6	9	248521001	50:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
7	10	248521002	50:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
8	11	248521003	50:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
9	12	248521004	50:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
10	13	248521005	50:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
11	14	248521006	50:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
12	15	248521007	50:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
13	16	248521008	50:00	1.0E04	NO LIM	1	1	Y	1/10	1:00

NUMBER OF CYCLES 1  
COINCIDENCE BIAS (L/H) L

MCA INPUT TRIGG. INHIBIT  
1 LRSUM DCOS G  
2 GSUM G

MEMORY SPLIT  
L\*R  
L\*R

WINDOW	CHANNELS	MCA	HALF
1	1- 174	1	2
2	1- 174	1	2
3	60- 220	1	2
4	50- 320	1	1
5	50- 270	1	1
6	60- 220	1	1
7	1- 1024	2	1
8	1- 1024	2	2

SELECTED PRINTOUT FOR TERMINAL 1 (A)

SELECTED PRINTOUT FOR TERMINAL 2 (B)

1. POS	2. ID	3. CTIME	4. SQP	5. CPM1	6. CPM2	7. CPM3
SEND SPECTRA	12					
RESOLUTION OF SPECTRA	1024					
LISTING	Y					
INSTRUMENT NUMBER	1					

POS	ID	CTIME	SQP	CPM1	CPM2	CPM3
Q010401N.001	29 MAR 2010 14:06					
4	BKG	120:01.785	810.26	1.14	1.14	1.30

Page 1



REGISTRY

Q020501N.001	29 MAR 2010	14:58				
5	248515001	50:01.785	805.32	1.11	1.11	1.43
Q030601N.001	29 MAR 2010	15:51				
6	248515002	50:01.785	806.43	1.21	1.21	1.35
Q040701N.001	29 MAR 2010	16:44				
7	248515003	50:01.785	806.56	1.03	1.03	1.41
Q050801N.001	29 MAR 2010	17:36				
8	248517001	50:01.785	808.02	1.31	1.31	1.72
Q060901N.001	29 MAR 2010	18:29				
9	248521001	50:01.785	807.39	1.01	1.01	1.35
Q071001N.001	29 MAR 2010	19:21				
10	248521002	50:01.785	804.89	1.61	1.61	1.72
Q081101N.001	29 MAR 2010	20:14				
11	248521003	50:01.784	804.82	.99	.99	1.25
Q091201N.001	29 MAR 2010	21:06				
12	248521004	50:01.784	805.23	1.09	1.09	1.43
Q101301N.001	29 MAR 2010	21:59				
13	248521005	50:01.784	806.27	1.05	1.05	1.37
Q111401N.001	29 MAR 2010	22:51				
14	248521006	50:01.784	806.41	1.03	1.03	1.23
Q121501N.001	29 MAR 2010	23:44				
15	248521007	50:01.784	805.72	.76	.76	1.15
Q131601N.001	30 MAR 2010	0:36				
16	248521008	50:01.784	804.12	.78	.78	1.11

# REGISTRY

TUE 30 MAR 2010 1:52

\*\*\* DIRECTORY PATH :S:\LSC\Q\DA\964063A1 \*\*\*

PARAMETER GROUP: 8  
ID: H-3(4)

00A PROGRAM MODE 6 ->

ORDER	POS	ID	CTIME	COUNTS	CUCNTS	MCW	REP	STD	STMS	STIME
1	17	248521009	50:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
2	18	248521010	50:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
3	19	248521011	50:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
4	20	248526001	50:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
5	21	1202068228	50:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
6	22	1202068229	50:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
7	23	1202068230	15:00	1.0E04	NO LIM	1	1	Y	1/10	1:00

NUMBER OF CYCLES 1  
COINCIDENCE BIAS (L/H) L

MCA INPUT	TRIGG.	INHIBIT	MEMORY SPLIT
1 LRSUM	DCOS	G	L*R
2 GSUM	G		L*R

WINDOW	CHANNELS	MCA	HALF
1	1- 174	1	2
2	1- 174	1	2
3	60- 220	1	2
4	50- 320	1	1
5	50- 270	1	1
6	60- 220	1	1
7	1- 1024	2	1
8	1- 1024	2	2

SELECTED PRINTOUT FOR TERMINAL 1 (A)

SELECTED PRINTOUT FOR TERMINAL 2 (B)

1. POS	2. ID	3. CTIME	4. SQP	5. CPM1	6. CPM2	7. CPM3
SEND SPECTRA 12						
RESOLUTION OF SPECTRA 1024						
LISTING Y						
INSTRUMENT NUMBER 1						

POS	ID	CTIME	SQP	CPM1	CPM2	CPM3
Q011701N.001	30 MAR 2010	2:44				
17	248521009	50:01.785	804.40	.99	.99	1.31
Q021801N.001	30 MAR 2010	3:37				
18	248521010	50:01.785	807.57	.97	.97	1.21
Q031901N.001	30 MAR 2010	4:29				
19	248521011	50:01.785	806.26	.89	.89	1.17
Q042001N.001	30 MAR 2010	5:22				
20	248526001	50:01.778	804.58	.78	.78	1.07

Page 1

REGISTRY							
Q052101N.001	30 MAR 2010	6:15					
21	1202068228	50:01.785	806.03	.85	.85	1.27	
Q062201N.001	30 MAR 2010	7:08					
22	1202068229	50:01.785	805.34	.95	.95	1.35	
Q072301N.001	30 MAR 2010	7:25					
23	1202068230	15:01.778	806.36	24.93	24.93	27.62	

Instrument Type:  
Data Capture Date:  
FileName:  
File Info:

Quantulus  
MON 29 MAR 2010 12:03  
s:\sc\files\pink\964063A0\SQ010401N.001.xls  
s:\sc\files\pink\964063A0\U964063A0.xls

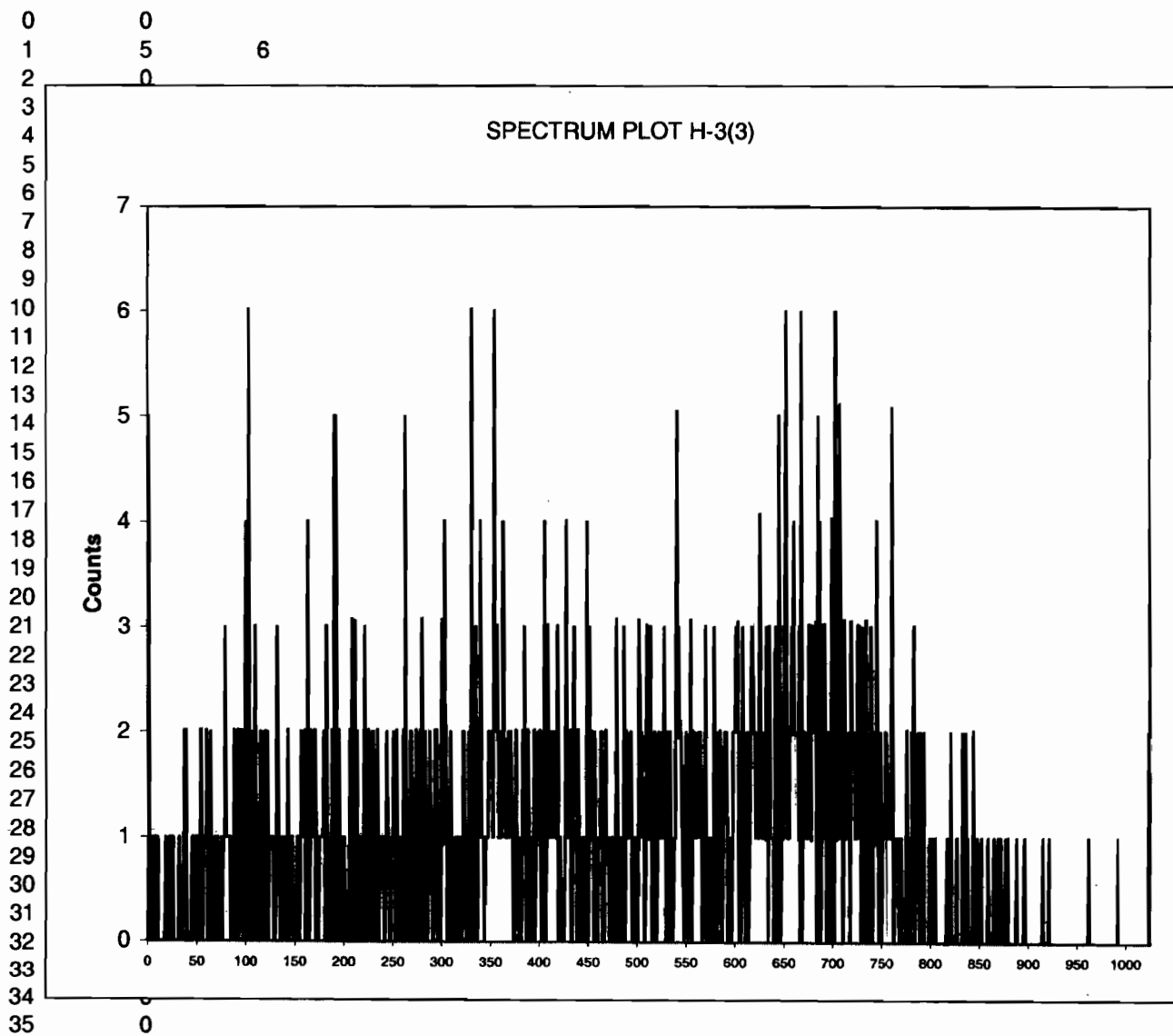
ID:  
Comments:

H-3(3)  
PINK

Sample, Rack-Pos, Time:  
Quench:  
Start, End, X-Axis

1, BKG, 120.0297:  
810.26  
1-174

Channel Counts



Instrument Type:  
Data Capture Date:  
FileName:  
File Info:

Quantulus  
MON 29 MAR 2010 12:03  
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s:\sc\files\pink\964063A0\U964063A0.xls

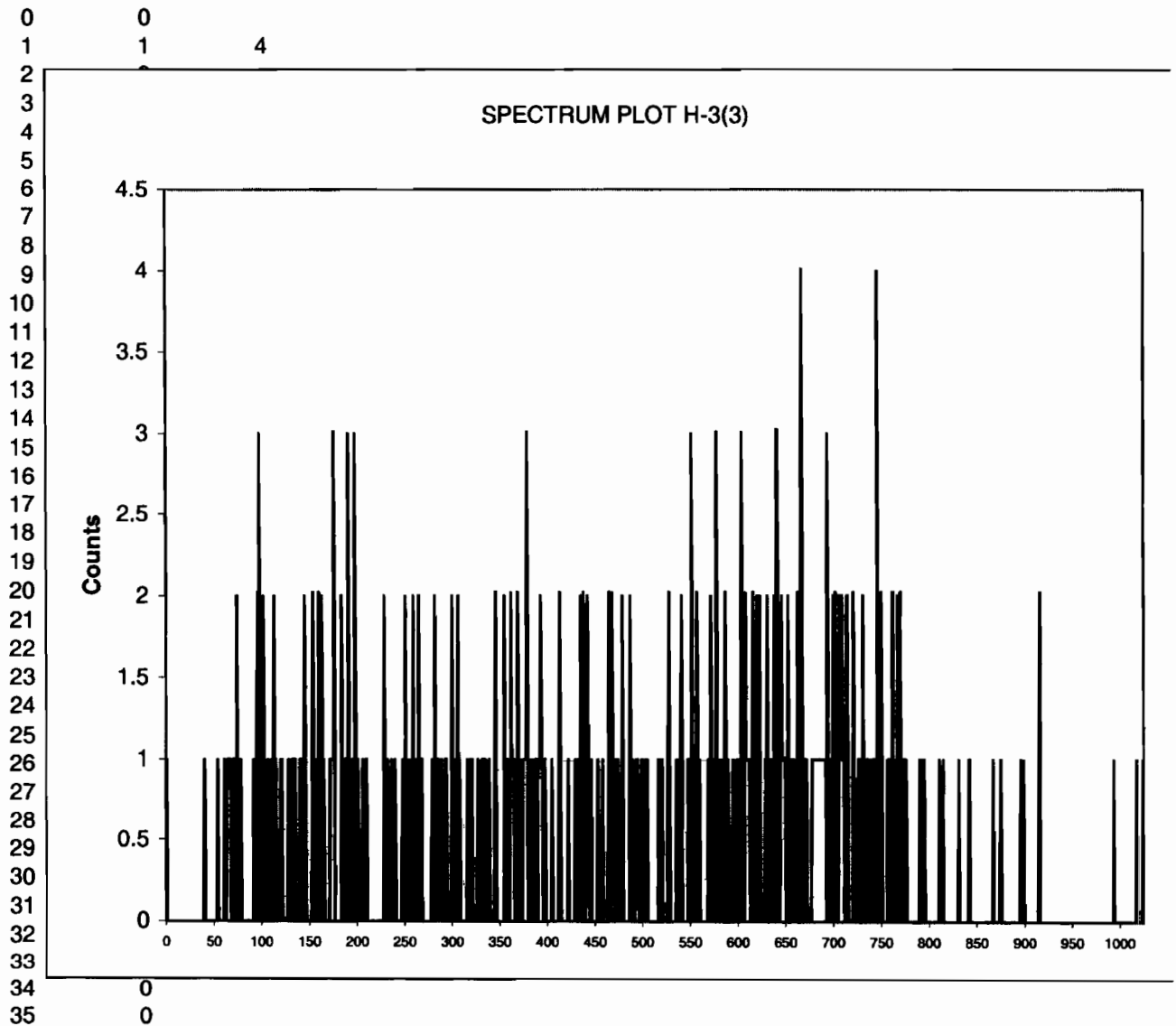
ID:  
Comments:

H-3(3)  
PINK

Sample, Rack-Pos, Time:  
Quench:  
Start, End, X-Axis

2, 248515001, 50.02975:  
805.32  
1-174

Channel Counts



Instrument Type:  
Data Capture Date:  
FileName:  
File Info:

Quantulus  
MON 29 MAR 2010 12:03  
s:\sc\files\pink\964063A0\SQ030601N.001.xls  
s:\sc\files\pink\964063A0\U964063A0.xls

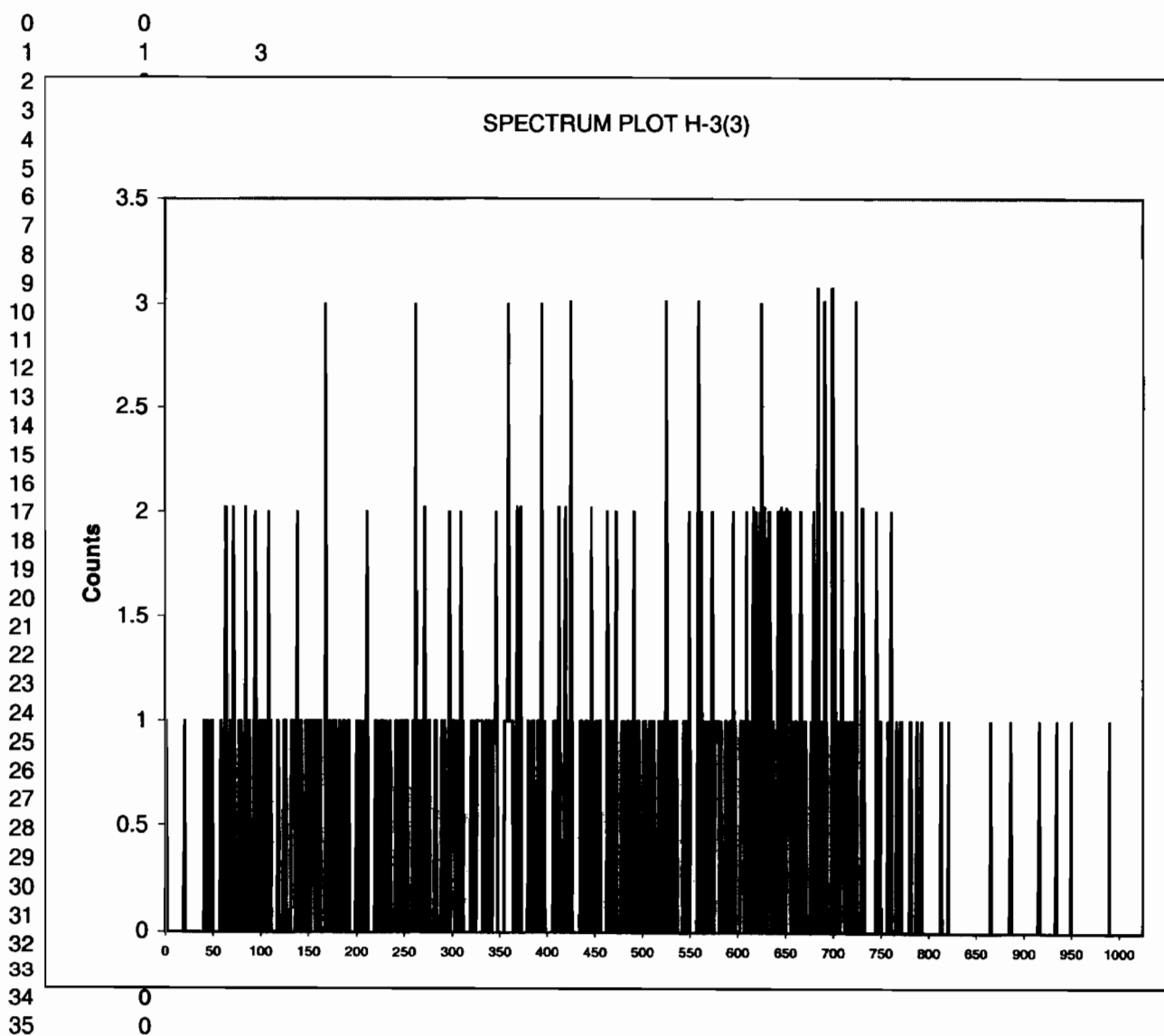
ID:  
Comments:

H-3(3)  
PINK

Sample, Rack-Pos, Time:  
Quench:  
Start, End, X-Axis

3, 248515002, 50.02975:  
806.43  
1-174

Channel Counts



Instrument Type:  
Data Capture Date:  
FileName:  
File Info:

Quantulus  
MON 29 MAR 2010 12:03  
s:\isc\files\pink\964063A0\SQ040701N.001.xls  
s:\isc\files\pink\964063A0\U964063A0.xls

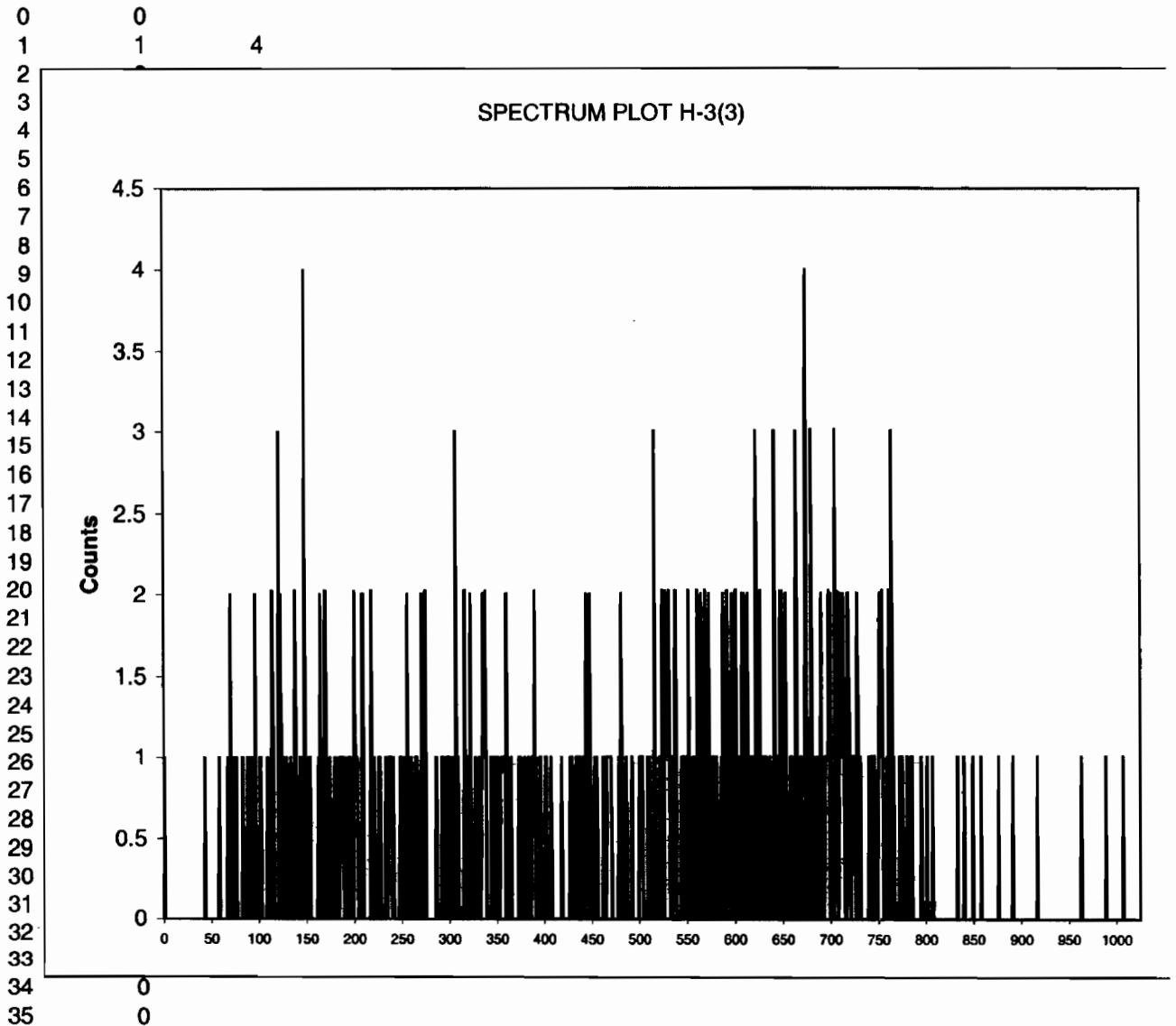
ID:  
Comments:

H-3(3)  
PINK

Sample, Rack-Pos, Time:  
Quench:  
Start, End, X-Axis

4, 248515003, 50.02975:  
806.56  
1-174

Channel Counts



Instrument Type:  
Data Capture Date:  
FileName:  
File Info:

Quantulus  
MON 29 MAR 2010 12:03  
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s:\scfiles\pink\964063A0\U964063A0.xls

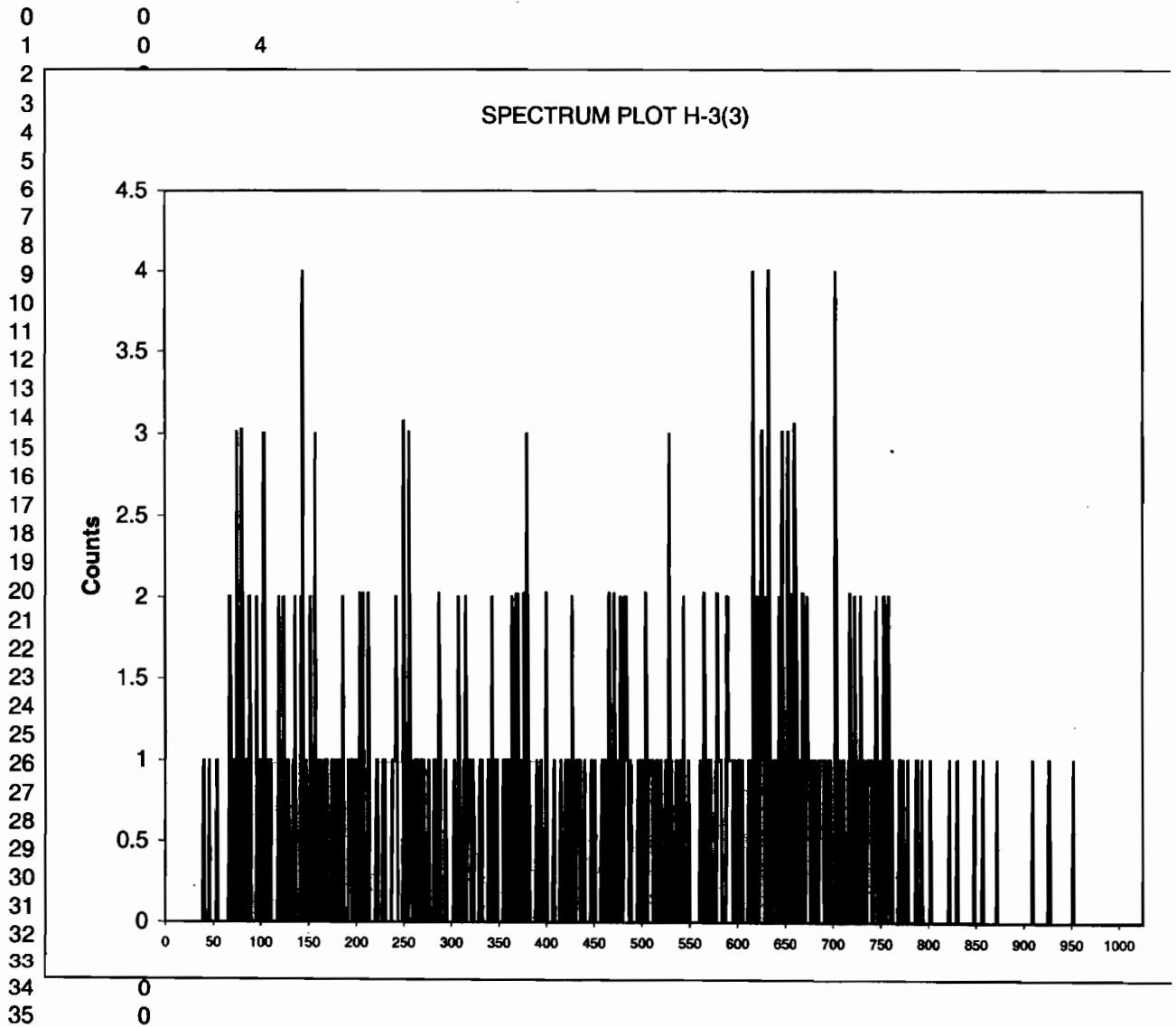
ID:  
Comments:

H-3(3)  
PINK

Sample, Rack-Pos, Time:  
Quench:  
Start, End, X-Axis

5, 248517001, 50.02975:  
808.02  
1-174

Channel Counts



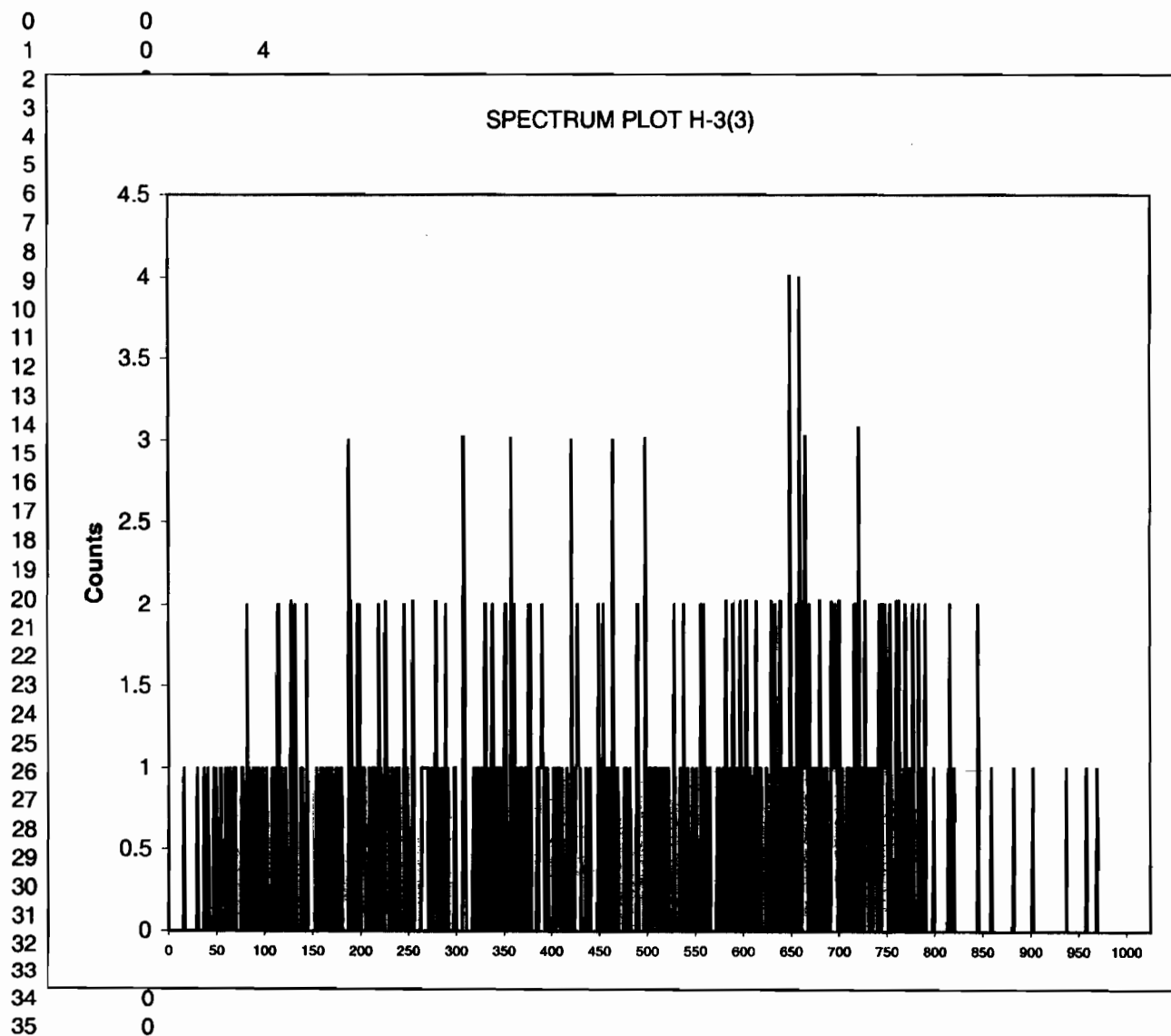


Instrument Type: Quantulus  
 Data Capture Date: MON 29 MAR 2010 12:03  
 FileName: s:\scfiles\pink\964063A0\SQ060901N.001.xls  
 File Info: s:\scfiles\pink\964063A0\U964063A0.xls

ID: H-3(3)  
 Comments: PINK

Sample, Rack-Pos, Time: 6, 248521001, 50.02975:  
 Quench: 807.39  
 Start, End, X-Axis 1-174

Channel Counts

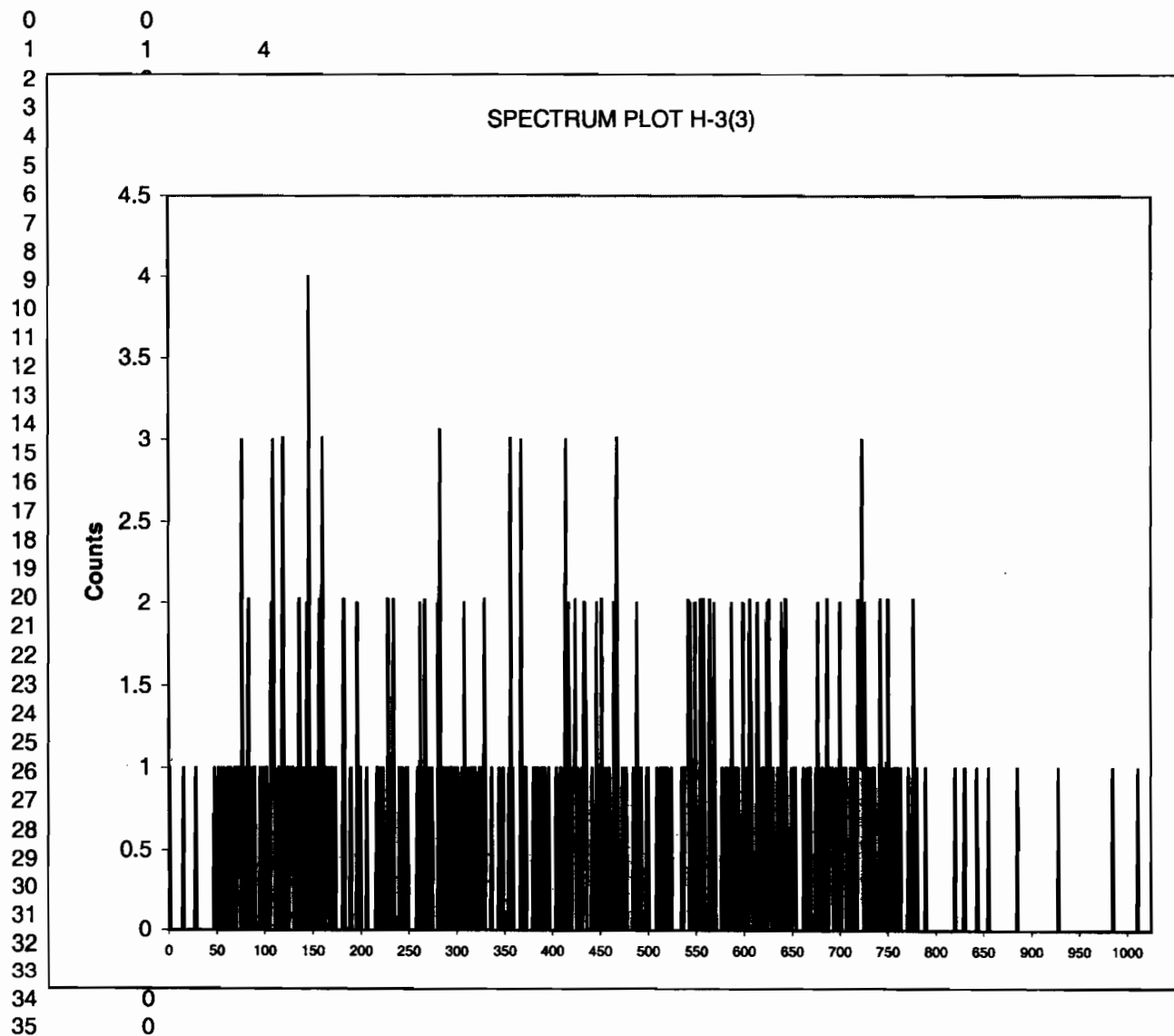


Instrument Type: Quantulus  
 Data Capture Date: MON 29 MAR 2010 12:03  
 FileName: s:\sc\files\pink\964063A0\SQ071001N.001.xls  
 File Info: s:\sc\files\pink\964063A0\U964063A0.xls

ID: H-3(3)  
 Comments: PINK

Sample, Rack-Pos, Time: 7, 248521002, 50.02975:  
 Quench: 804.89  
 Start, End, X-Axis: 1-174

Channel Counts



Instrument Type:  
Data Capture Date:  
FileName:  
File Info:

Quantulus  
MON 29 MAR 2010 12:03  
s:\sc\files\pink\964063A0\SQ081101N.001.xls  
s:\sc\files\pink\964063A0\U964063A0.xls

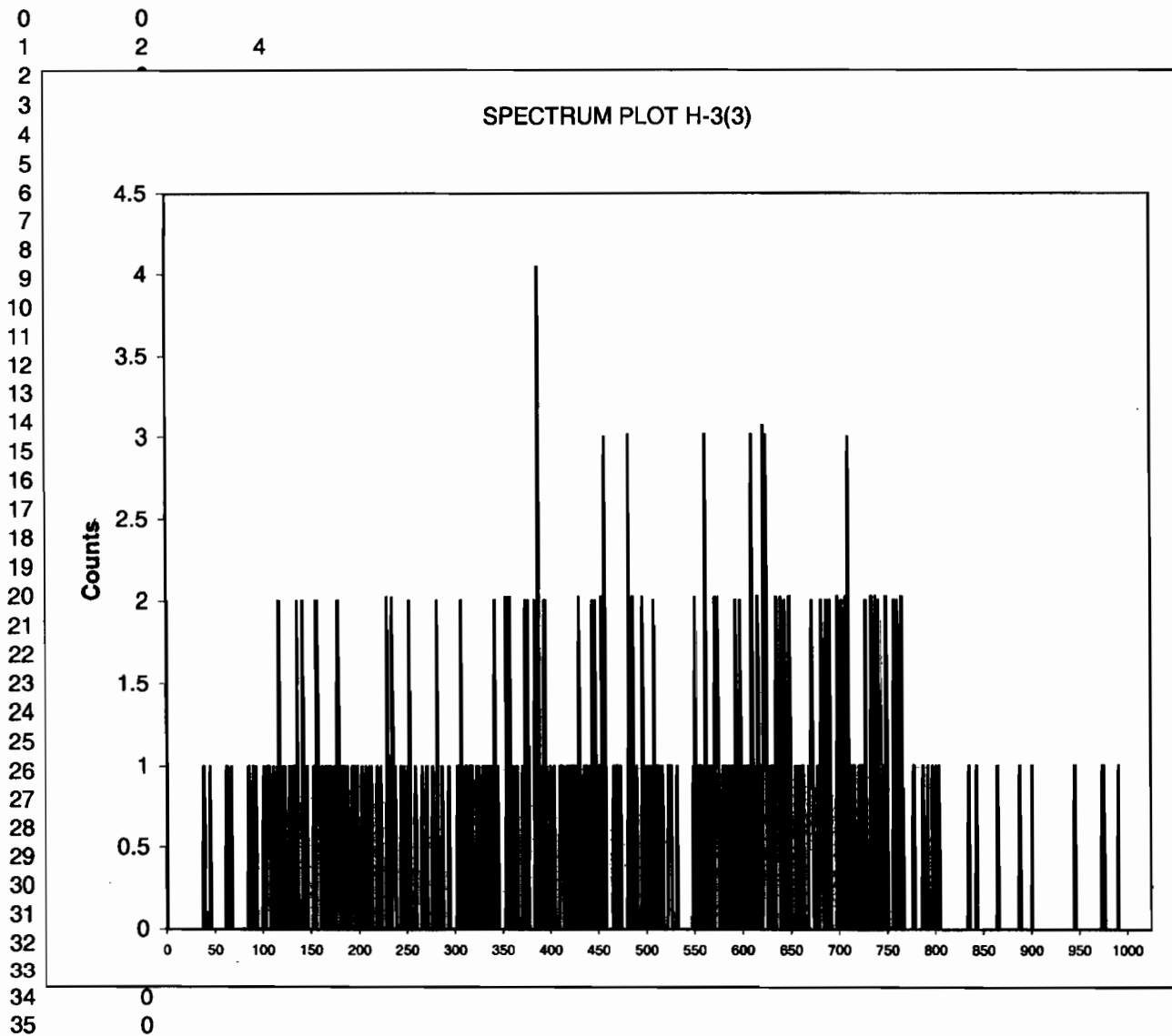
ID:  
Comments:

H-3(3)  
PINK

Sample, Rack-Pos, Time:  
Quench:  
Start, End, X-Axis

8, 248521003, 50.02973:  
804.82  
1-174

Channel Counts



Instrument Type:  
Data Capture Date:  
FileName:  
File Info:

Quantulus  
MON 29 MAR 2010 12:03  
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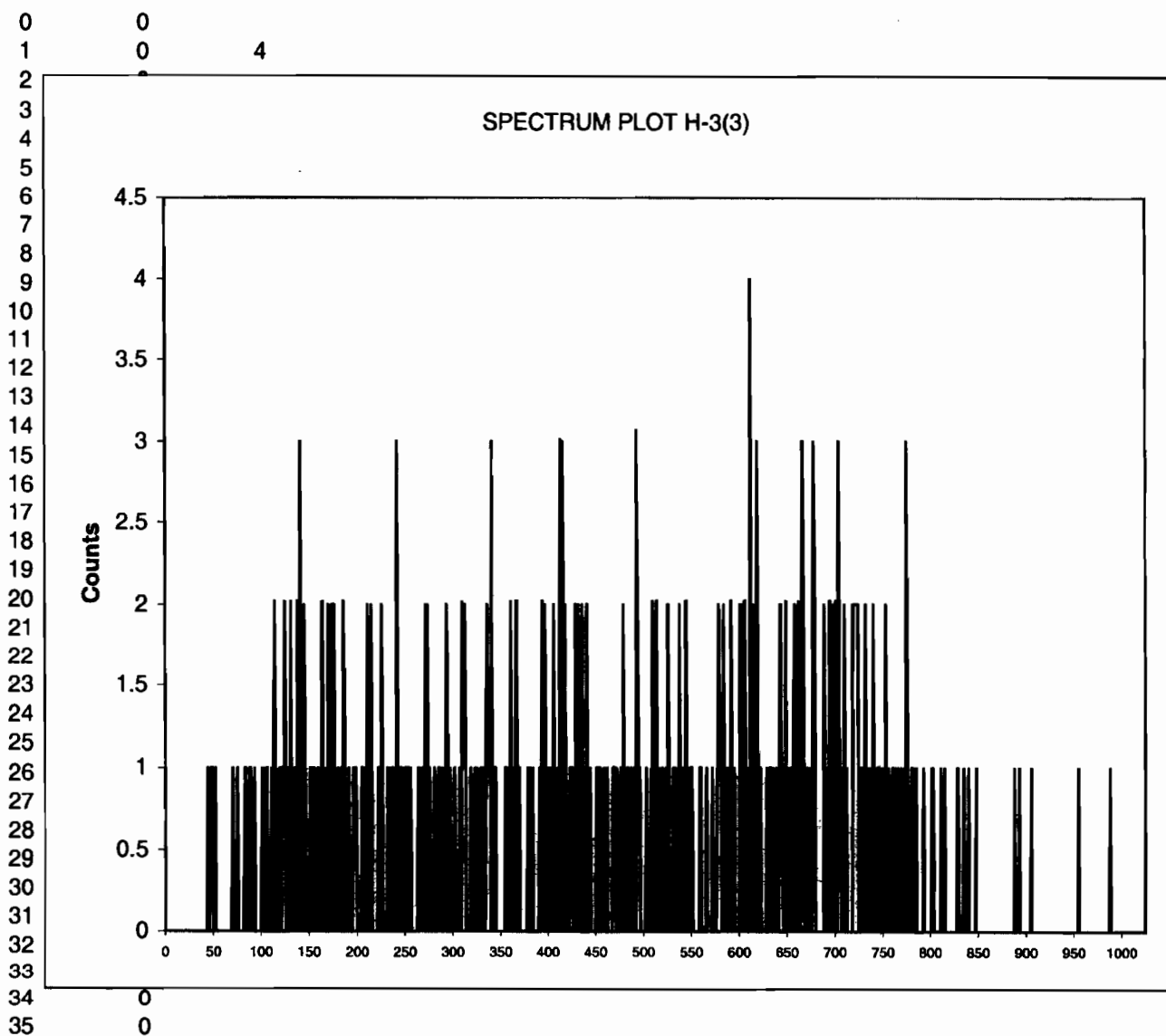
ID:  
Comments:

H-3(3)  
PINK

Sample, Rack-Pos, Time:  
Quench:  
Start, End, X-Axis

9, 248521004, 50.02973:  
805.23  
1-174

Channel Counts

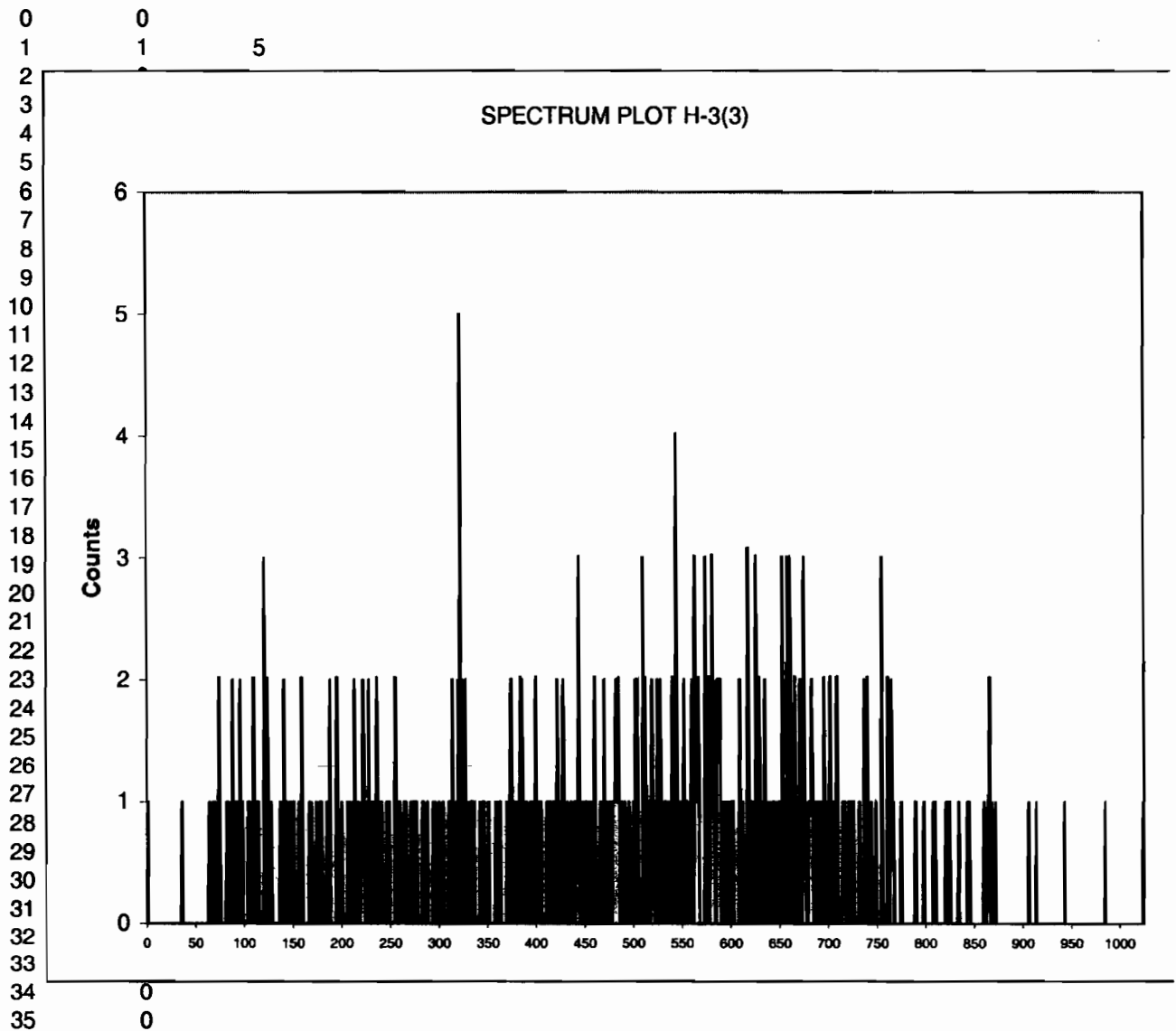


Instrument Type: Quantulus  
Data Capture Date: MON 29 MAR 2010 12:03  
FileName: s:\sc\files\pink\964063A0\SQ101301N.001.xls  
File Info: s:\sc\files\pink\964063A0\U964063A0.xls

ID: H-3(3)  
Comments: PINK

Sample, Rack-Pos, Time: 10, 248521005, 50.02973:  
Quench: 806.27  
Start, End, X-Axis 1-174

Channel Counts



Instrument Type:  
Data Capture Date:  
FileName:  
File Info:

Quantulus  
MON 29 MAR 2010 12:03  
s:\sc\files\pink\964063A0\SQ111401N.001.xls  
s:\sc\files\pink\964063A0\U964063A0.xls

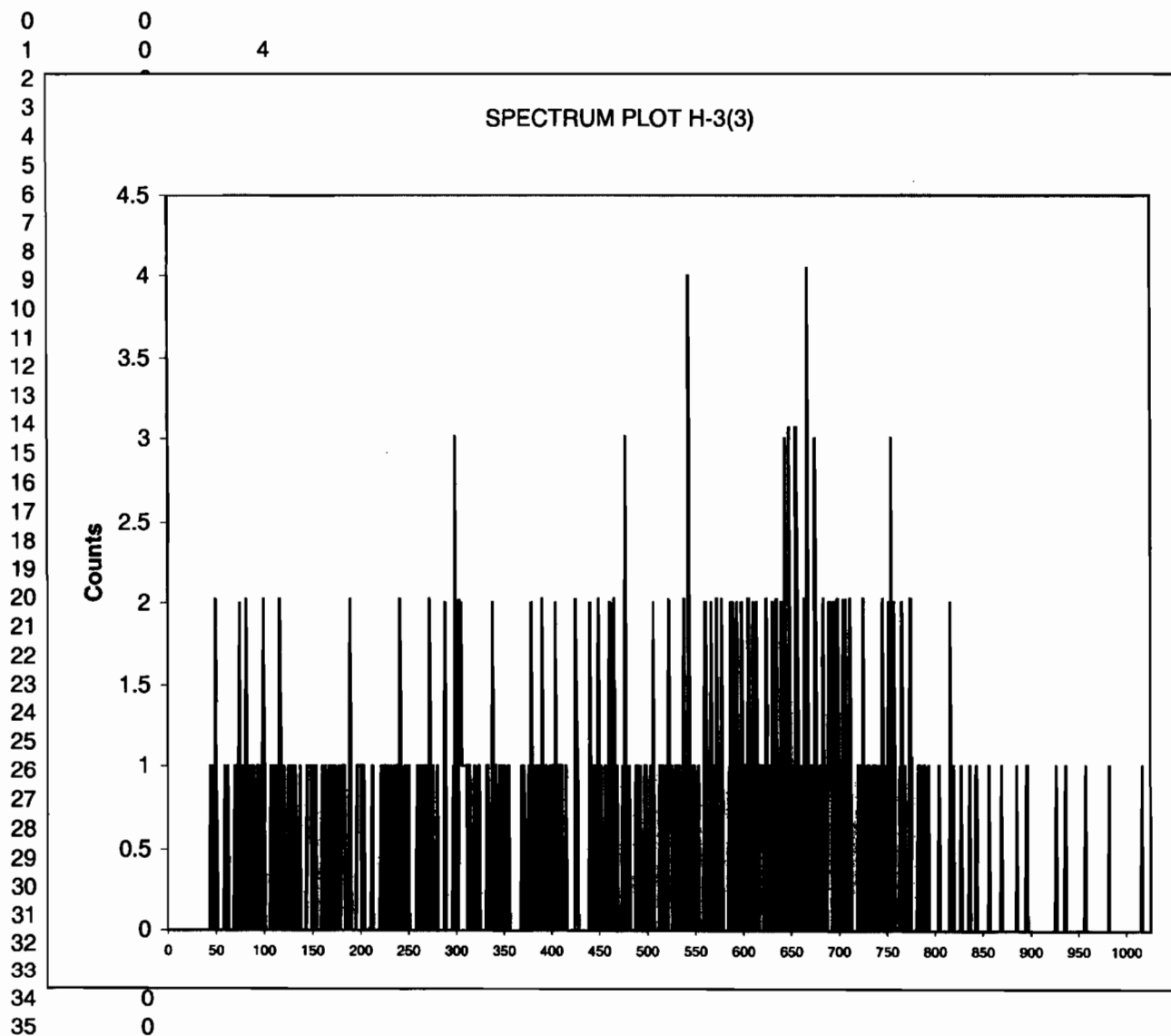
ID:  
Comments:

H-3(3)  
PINK

Sample, Rack-Pos, Time:  
Quench:  
Start, End, X-Axis

11, 248521006, 50.02973:  
806.41  
1-174

Channel Counts



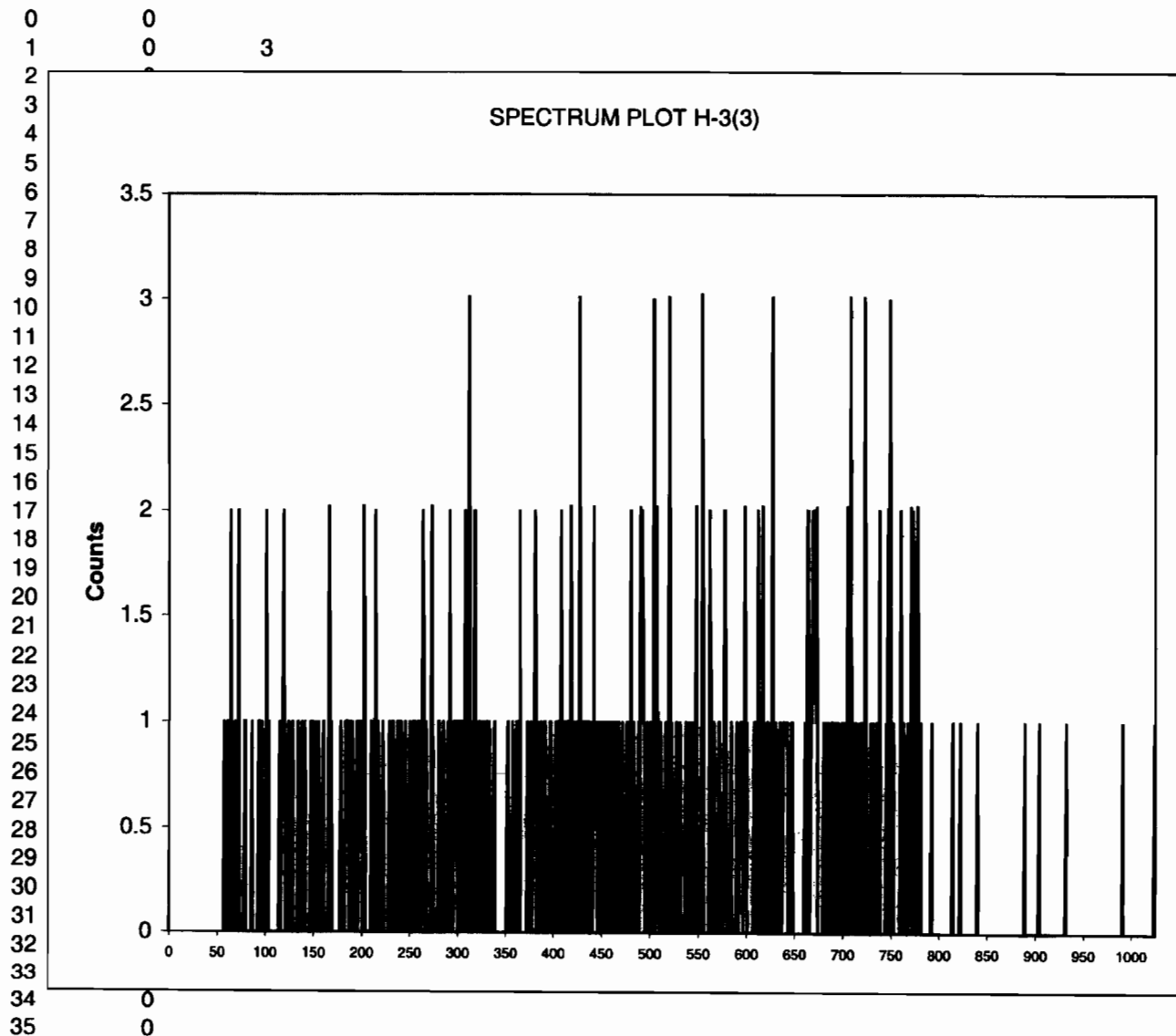
Instrument Type:  
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File Info:

Quantulus  
MON 29 MAR 2010 12:03  
s:\sc\files\pink\964063A0\SQ121501N.001.xls  
s:\sc\files\pink\964063A0\U964063A0.xls

ID: H-3(3)  
Comments: PINK

Sample, Rack-Pos, Time: 12, 248521007, 50.02973:  
Quench: 805.72  
Start, End, X-Axis 1-174

Channel Counts

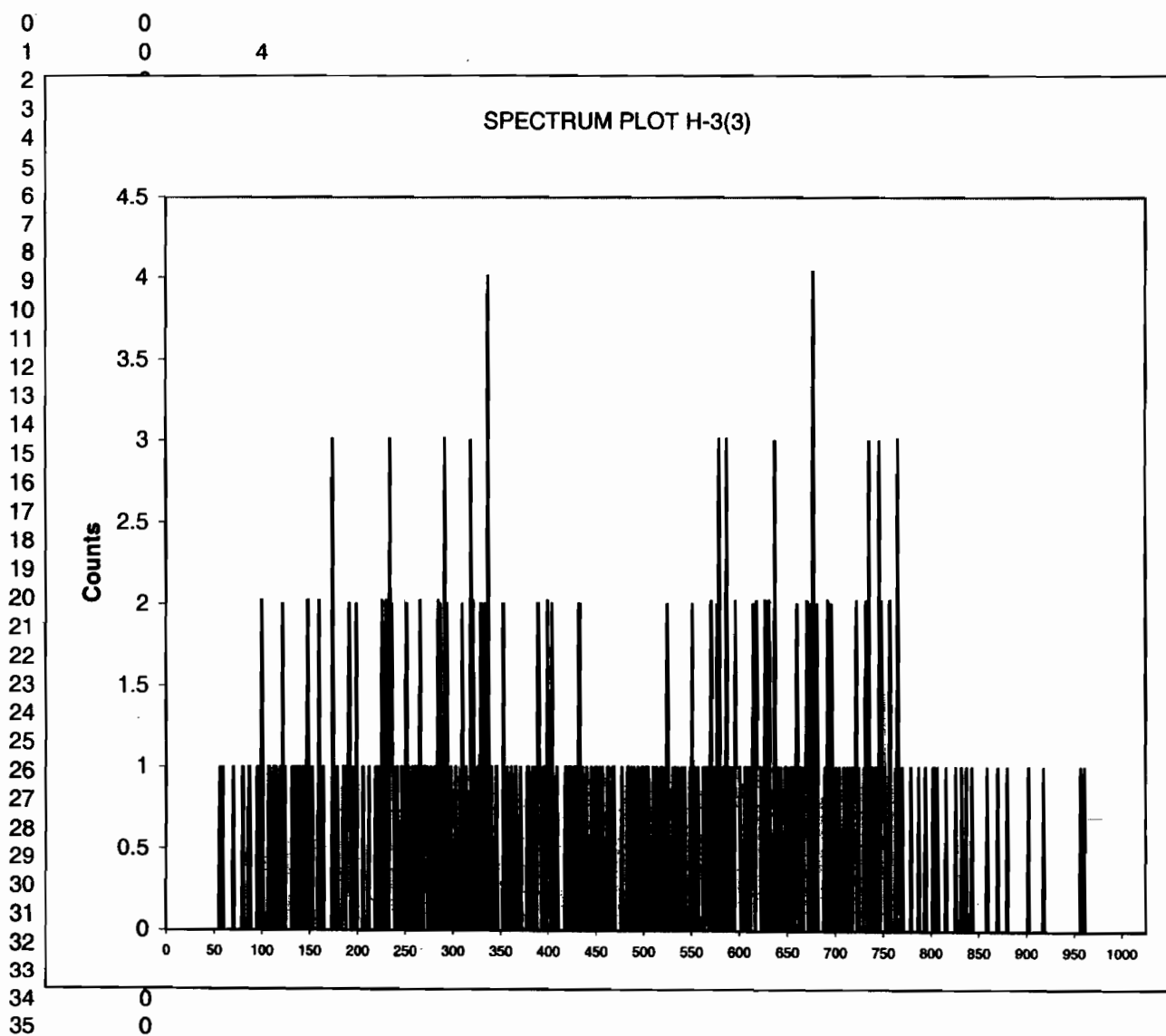


Instrument Type: Quantulus  
Data Capture Date: MON 29 MAR 2010 12:03  
FileName: s:\sc\files\pink\964063A0\SQ131601N.001.xls  
File Info: s:\sc\files\pink\964063A0\U964063A0.xls

ID: H-3(3)  
Comments: PINK

Sample, Rack-Pos, Time: 13, 248521008, 50.02973:  
Quench: 804.12  
Start, End, X-Axis: 1-174

Channel Counts





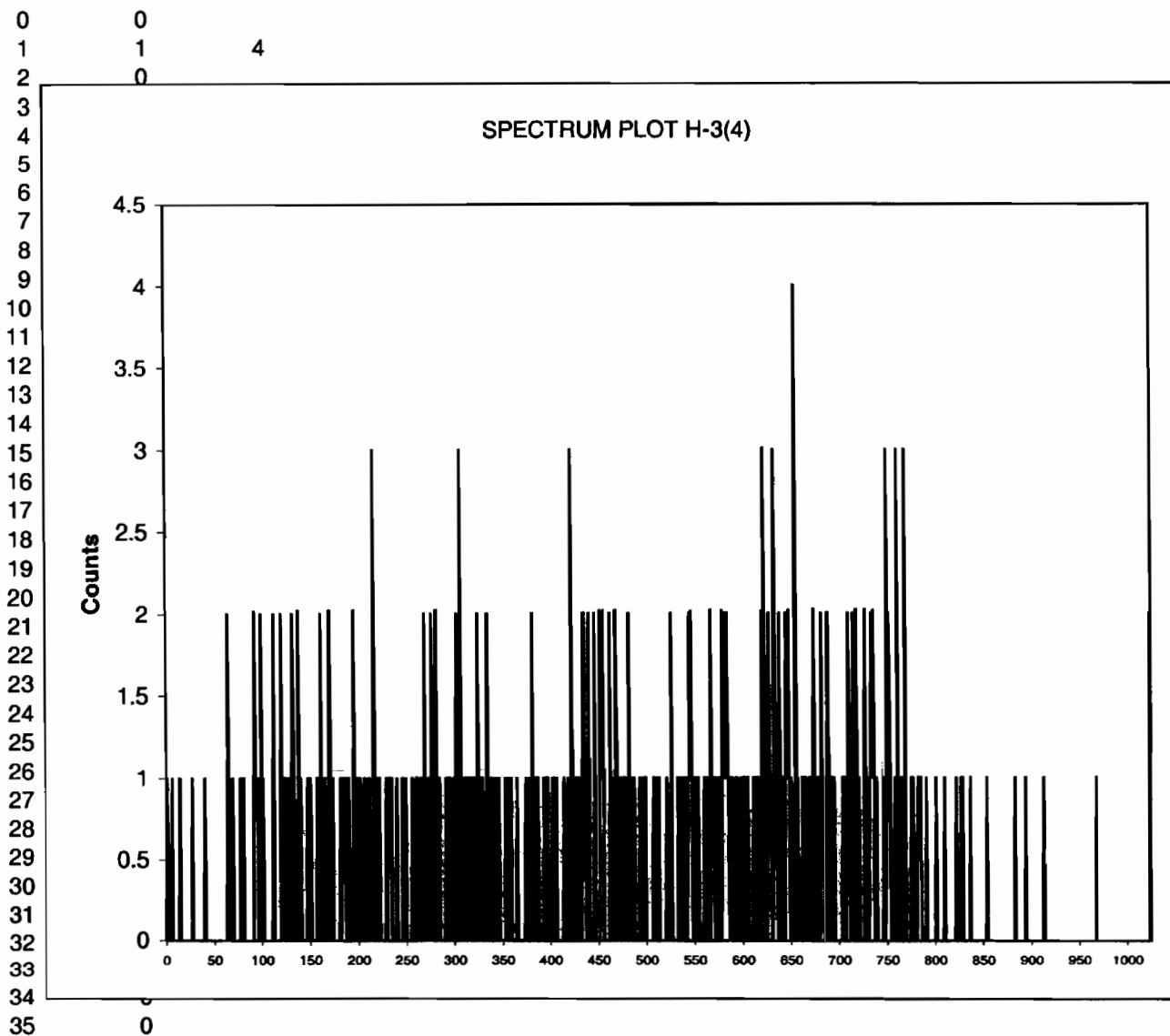
Instrument Type:  
Data Capture Date:  
FileName:  
File Info:

Quantulus  
TUE 30 MAR 2010 1:52  
s:\sc\files\pink\964063A1\SQ011701N.001.xls  
s:\sc\files\pink\964063A1\U964063A1.xls

ID: H-3(4)  
Comments: PINK

Sample, Rack-Pos, Time: 1, 248521009, 50.02975:  
Quench: 804.4  
Start, End, X-Axis 1-174

Channel Counts



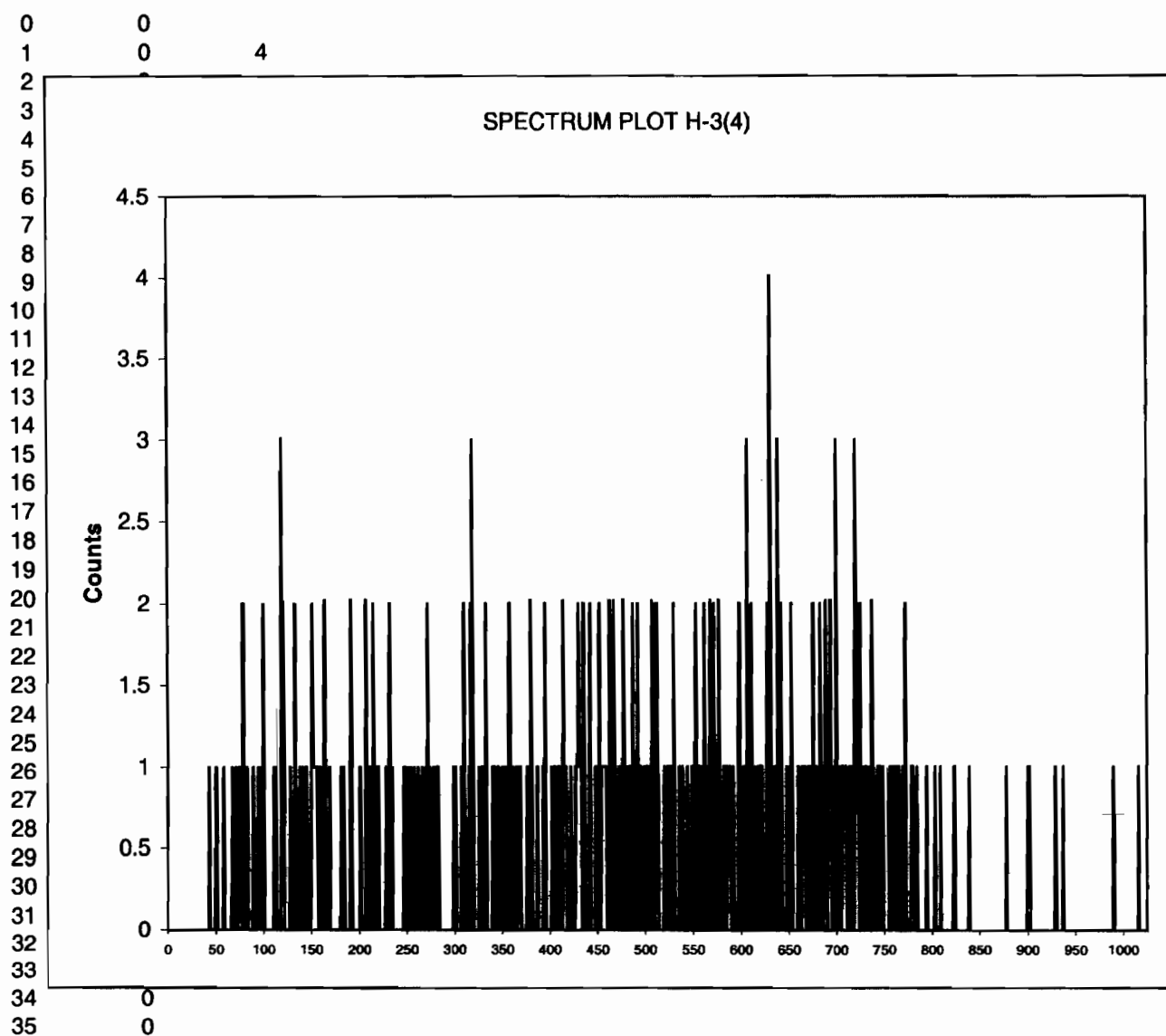
Instrument Type:  
Data Capture Date:  
FileName:  
File Info:

Quantulus  
TUE 30 MAR 2010 1:52  
s:\sc\files\pink\964063A1\SQ021801N.001.xls  
s:\sc\files\pink\964063A1\U964063A1.xls

ID: H-3(4)  
Comments: PINK

Sample, Rack-Pos, Time: 2, 248521010, 50.02975:  
Quench: 807.57  
Start, End, X-Axis 1-174

Channel Counts

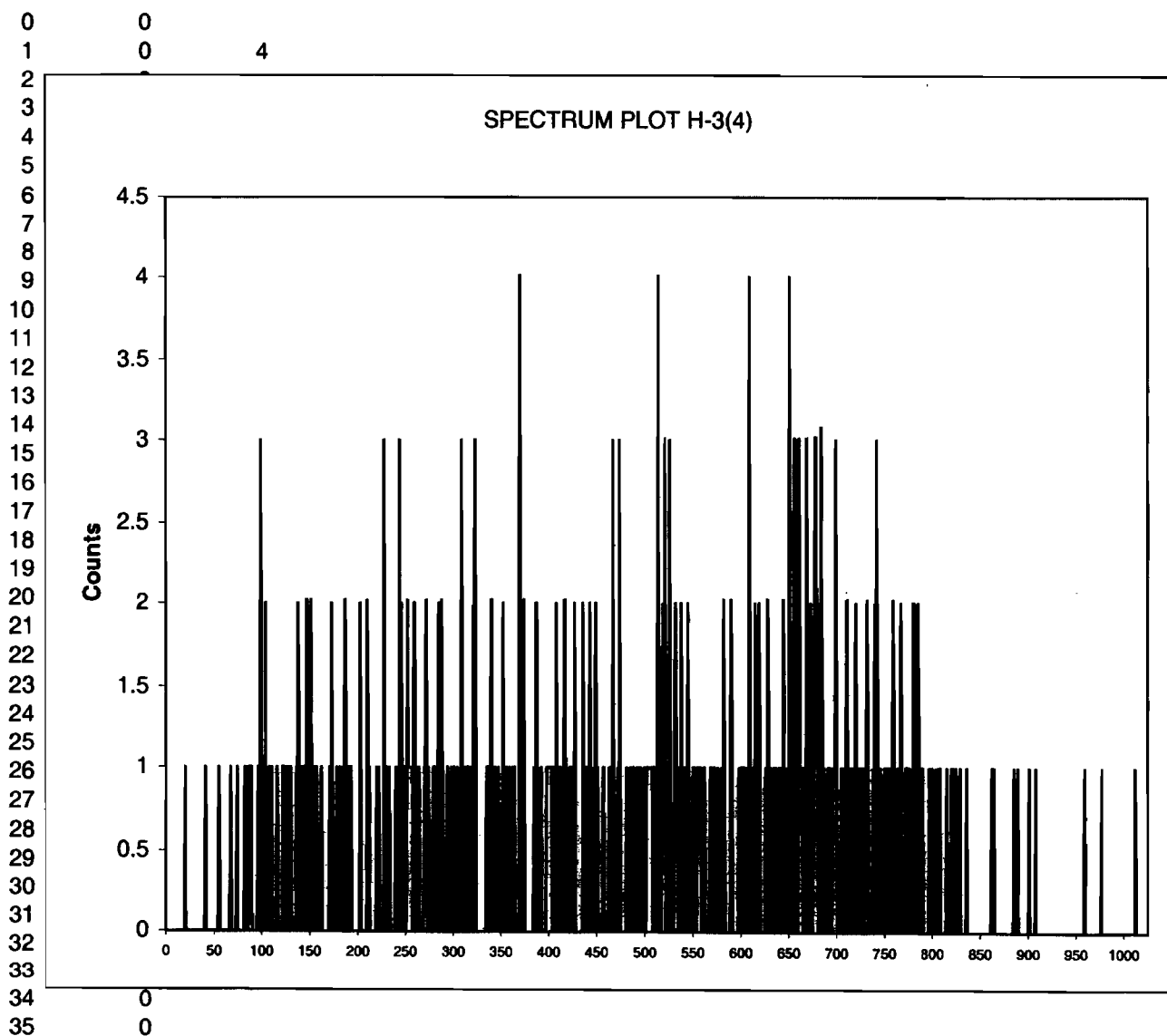


Instrument Type:	Quantulus
Data Capture Date:	TUE 30 MAR 2010 1:52
FileName:	s:\sc\files\pink\964063A1\SQ031901N.001.xls
File Info:	s:\sc\files\pink\964063A1\U964063A1.xls

ID:	H-3(4)
Comments:	PINK

Sample, Rack-Pos, Time:	3, 248521011, 50.02975:
Quench:	806.26
Start, End, X-Axis	1-174

Channel Counts



Instrument Type:  
Data Capture Date:  
FileName:  
File Info:

Quantulus  
TUE 30 MAR 2010 1:52  
s:\sc\files\pink\964063A1\SQ042001N.001.xls  
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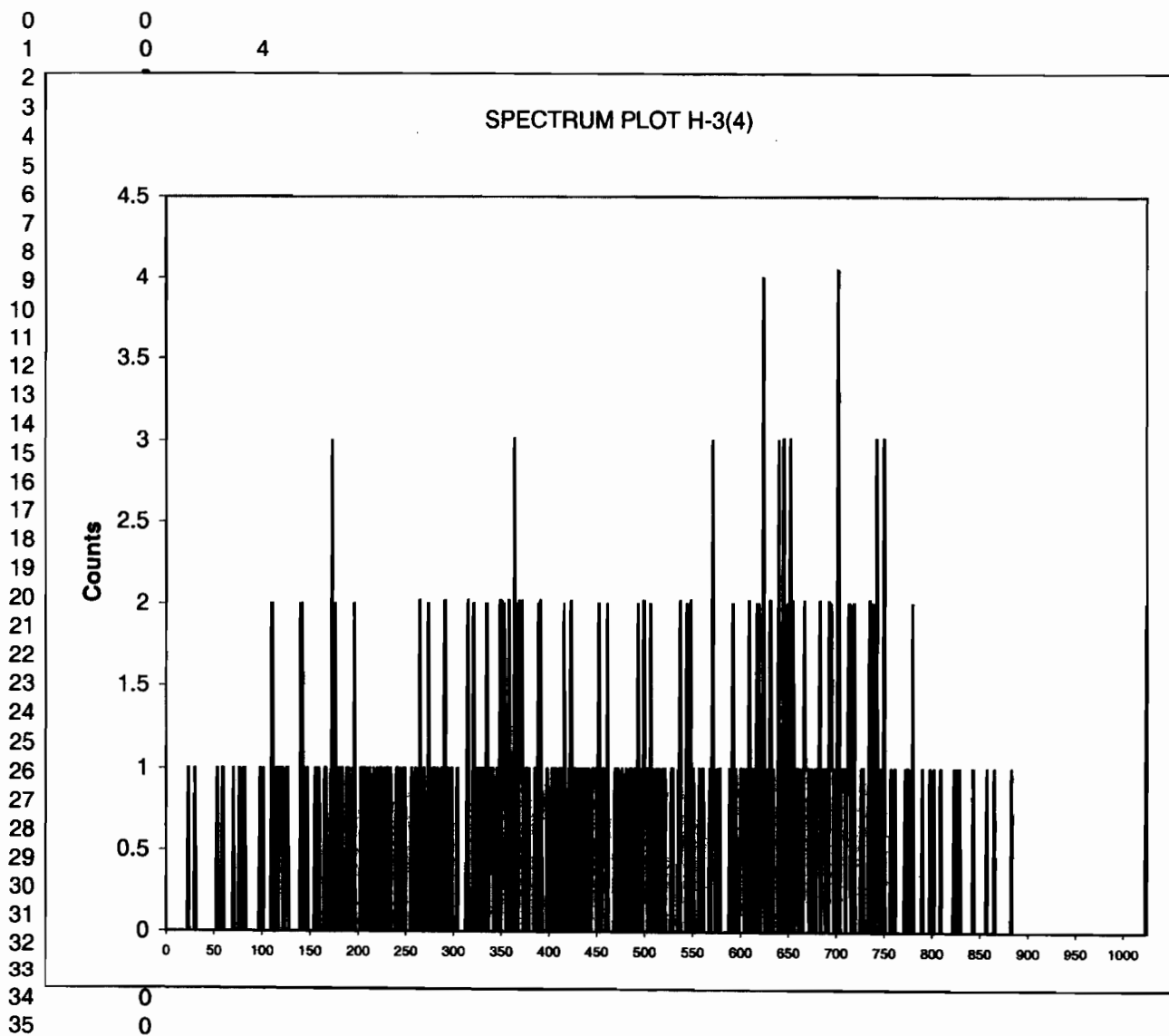
ID:  
Comments:

H-3(4)  
PINK

Sample, Rack-Pos, Time:  
Quench:  
Start, End, X-Axis

4, 248526001, 50.02963:  
804.58  
1-174

Channel Counts



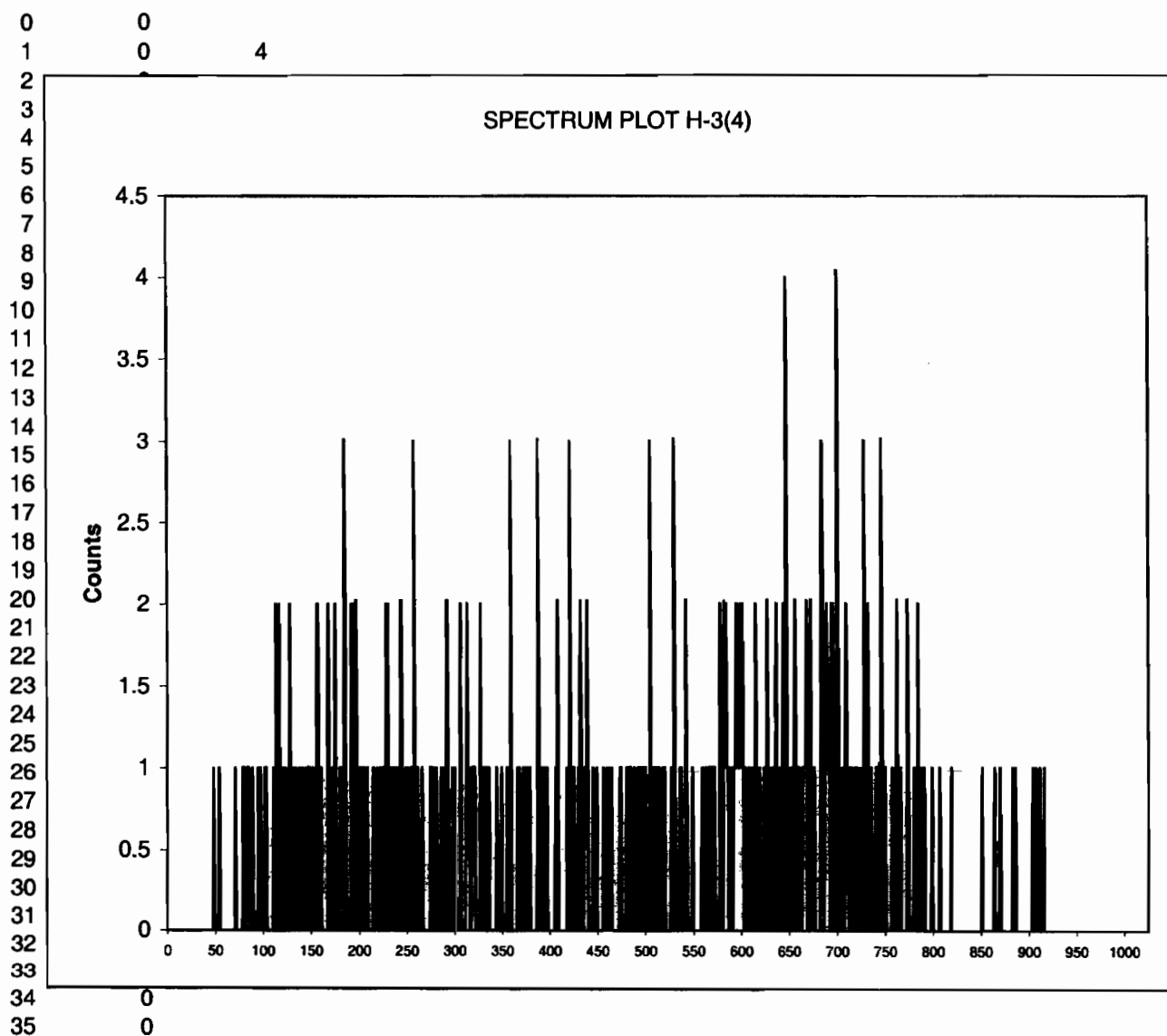
Instrument Type:  
Data Capture Date:  
FileName:  
File Info:

Quantulus  
TUE 30 MAR 2010 1:52  
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s:\sc\files\pink\964063A1\U964063A1.xls

ID: H-3(4)  
Comments: PINK

Sample, Rack-Pos, Time: 5, 1202068228, 50.02975:  
Quench: 806.03  
Start, End, X-Axis 1-174

Channel Counts



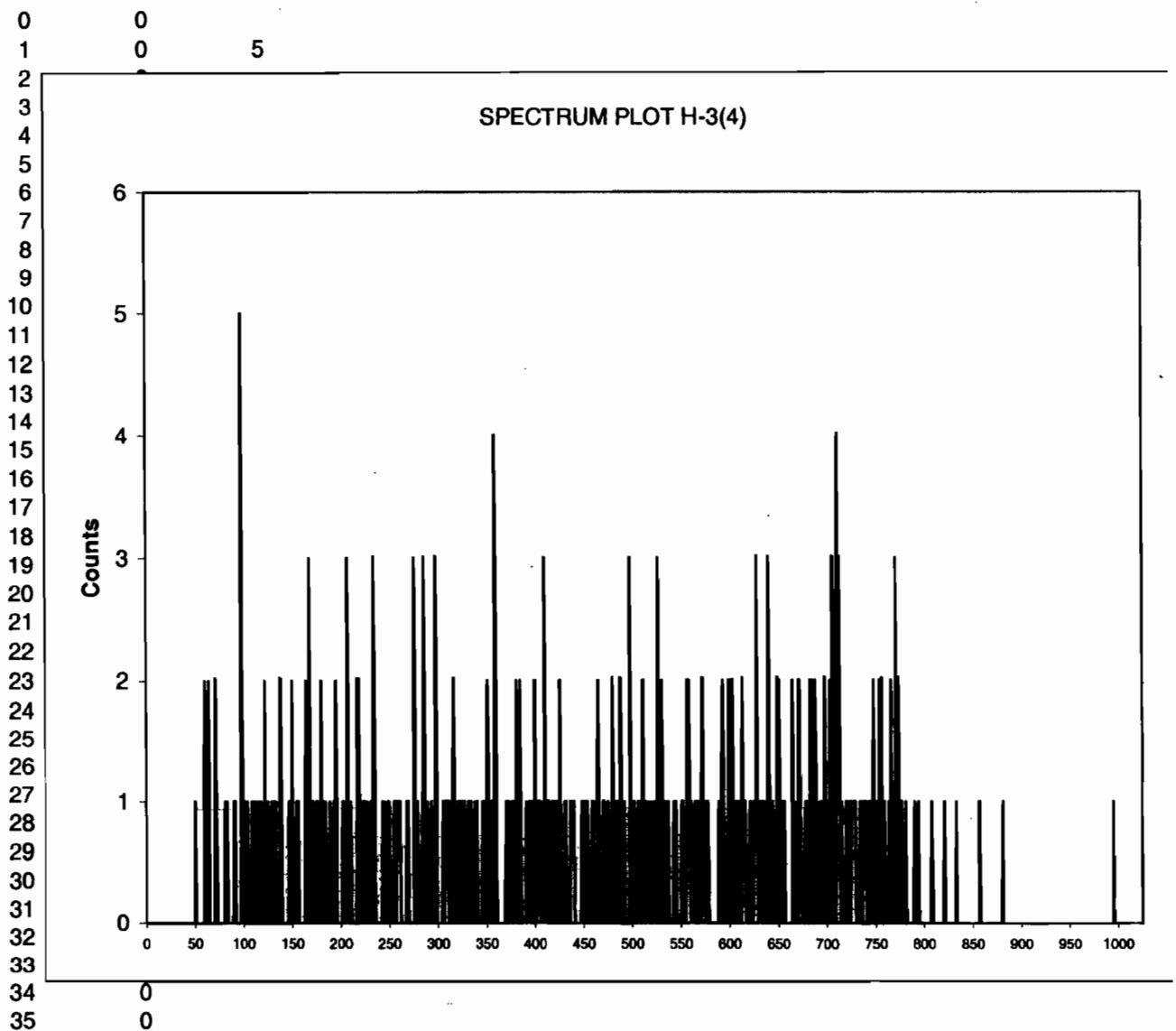
Instrument Type:  
Data Capture Date:  
FileName:  
File Info:

Quantulus  
TUE 30 MAR 2010 1:52  
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s:\sc\files\pink\964063A1\U964063A1.xls

ID: H-3(4)  
Comments: PINK

Sample, Rack-Pos, Time: 6, 1202068229, 50.02975:  
Quench: 805.34  
Start, End, X-Axis 1-174

Channel Counts



Instrument Type:  
Data Capture Date:  
FileName:  
File Info:

Quantulus  
TUE 30 MAR 2010 1:52  
s:\sc\files\pink\964063A1\SQ072301N.001.xls  
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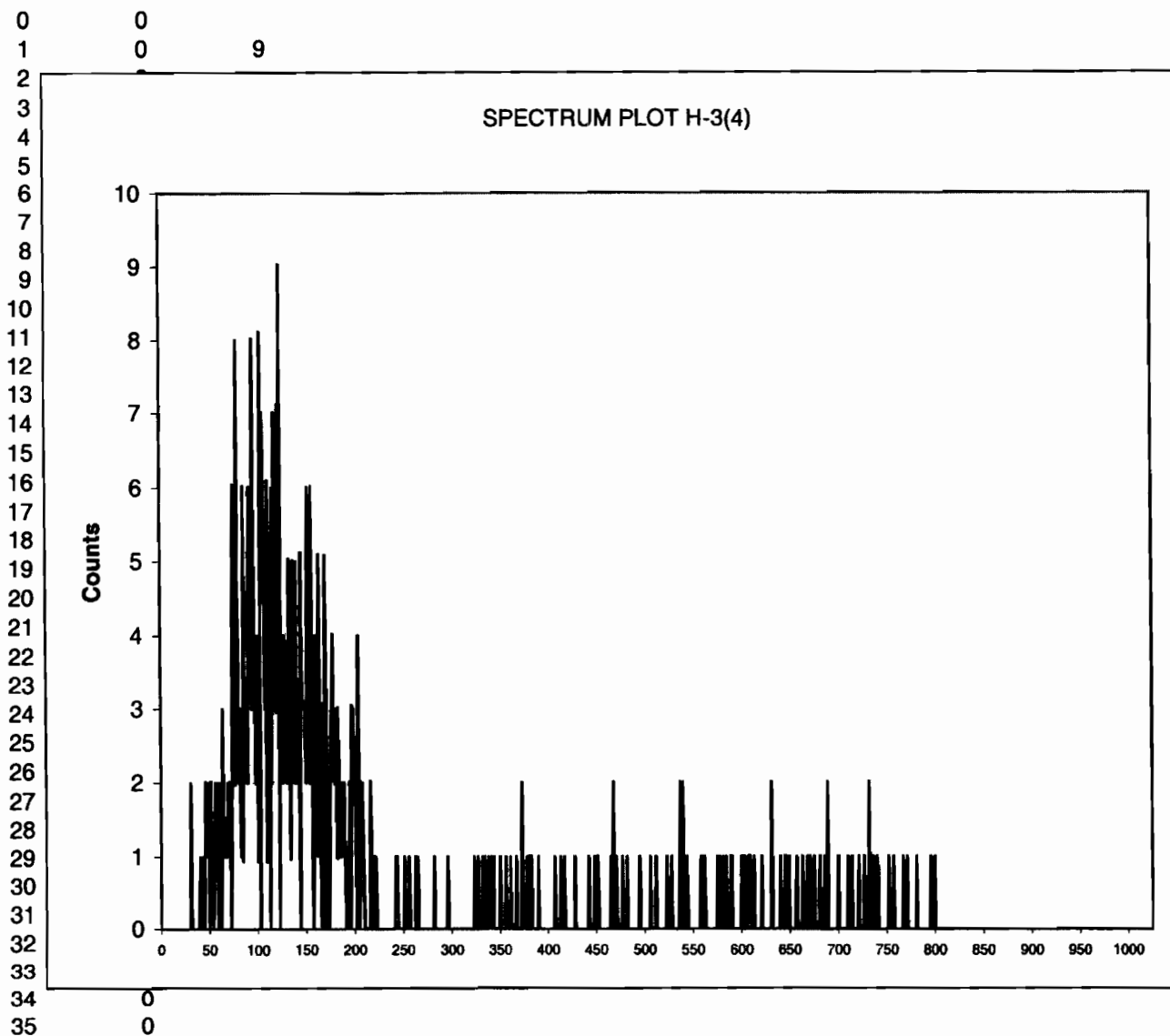
ID:  
Comments:

H-3(4)  
PINK

Sample, Rack-Pos, Time:  
Quench:  
Start, End, X-Axis

7, 1202068230, 15.02963:  
806.36  
1-174

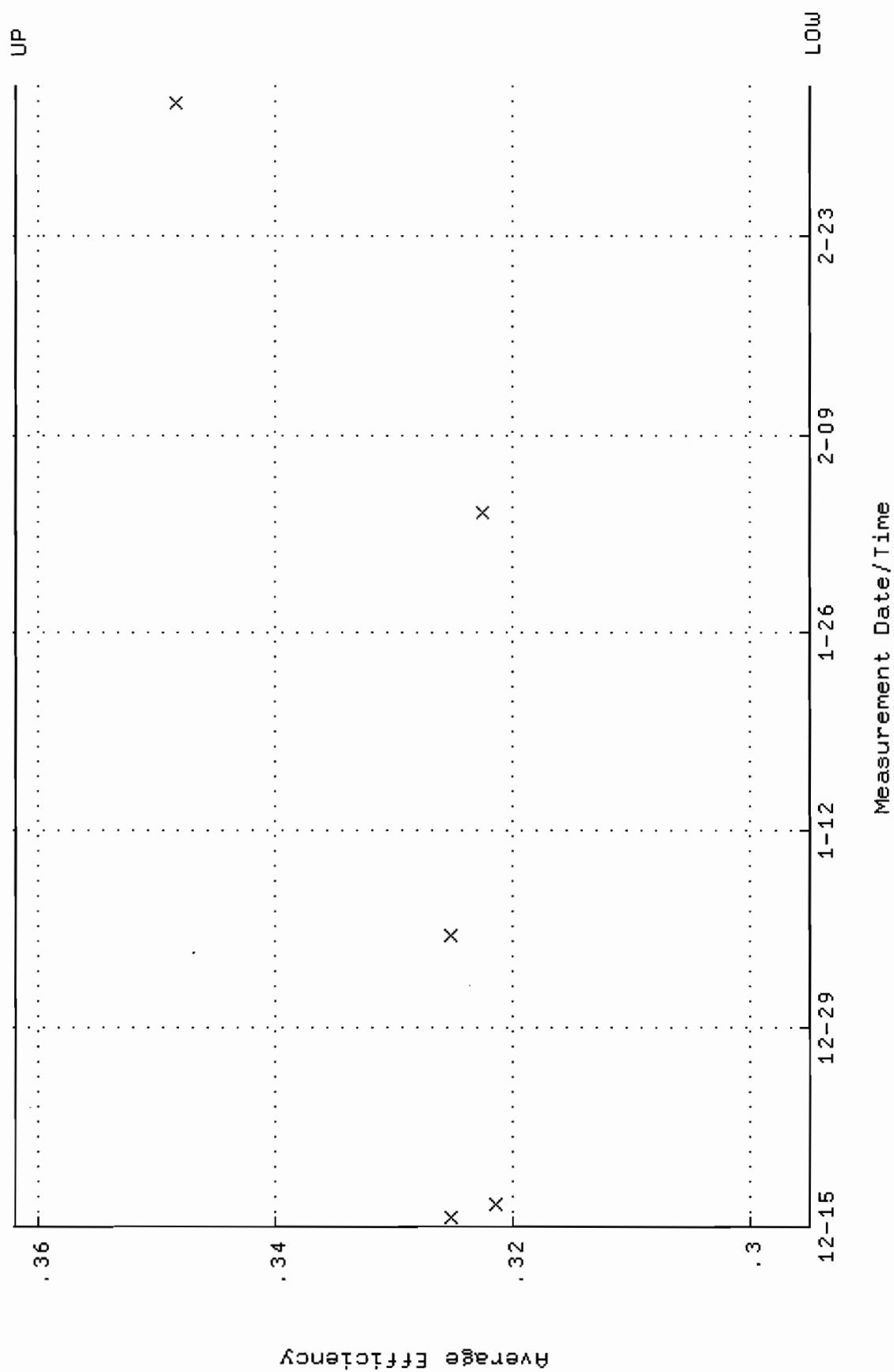
Channel Counts



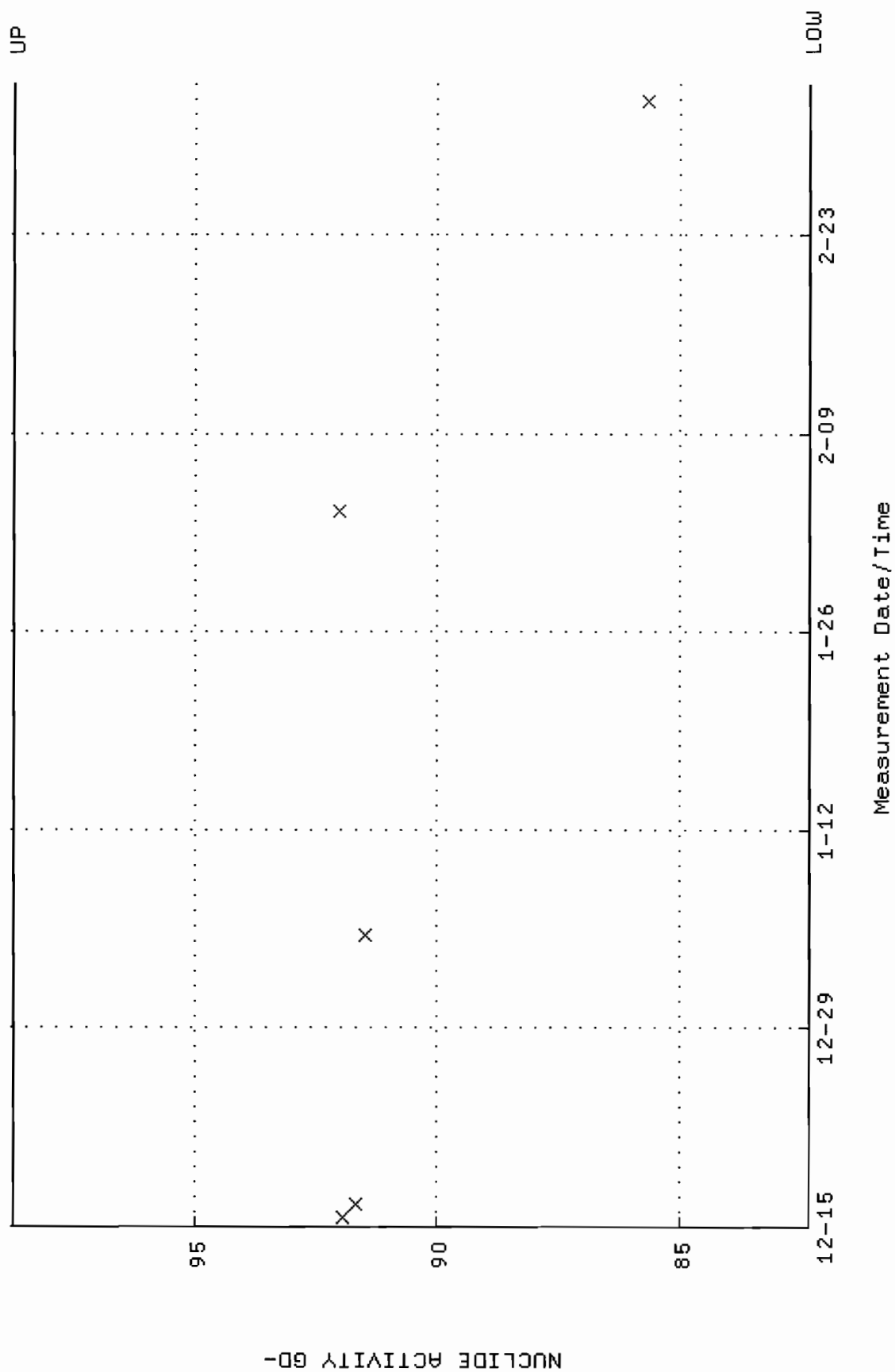
# BACKGROUND AND EFFICIENCY DATA



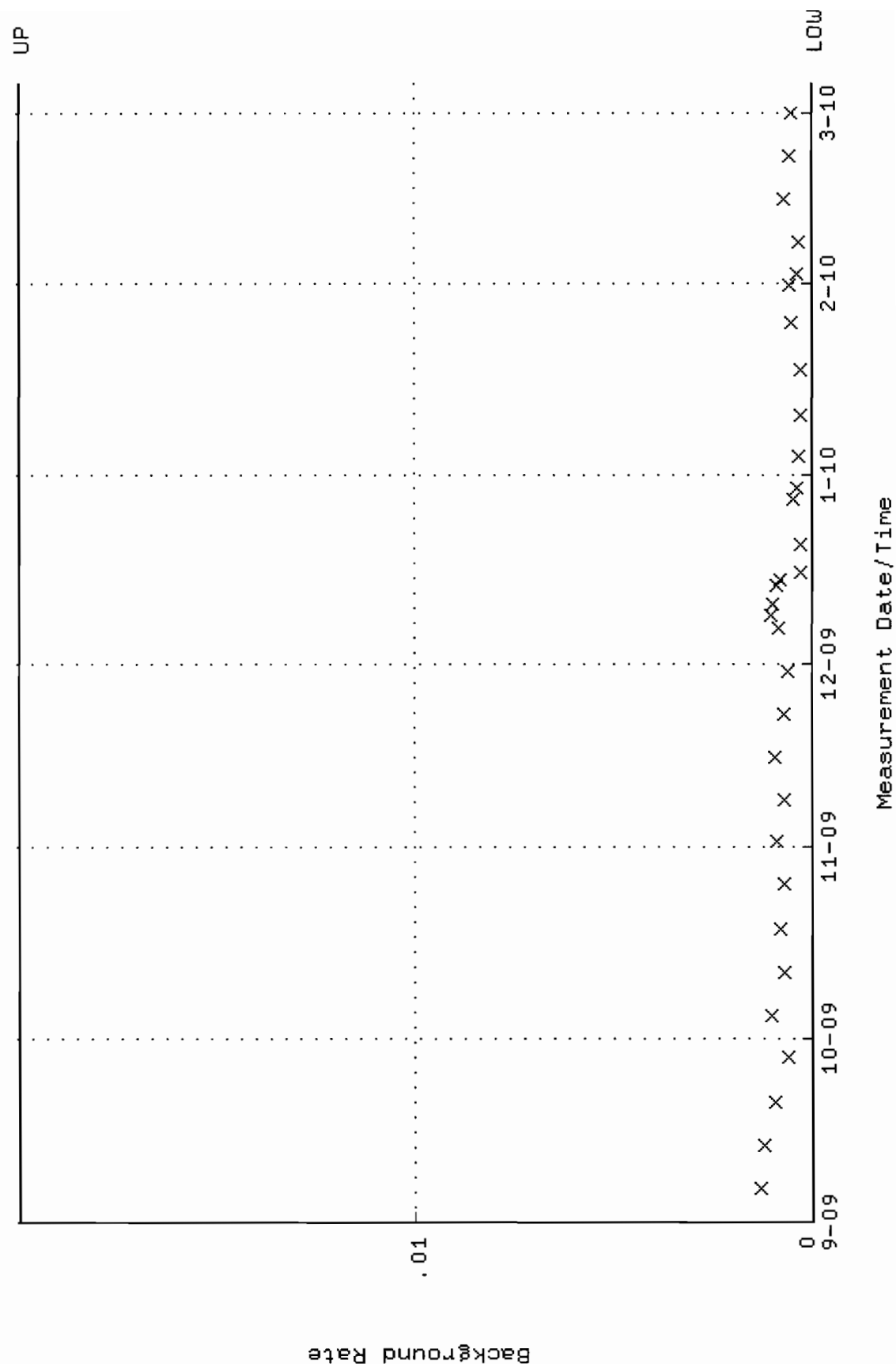
QA filename : DKA100:[ENV\_ALPHA.QA.W]W001.QAF;7  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.294900 through 0.361886



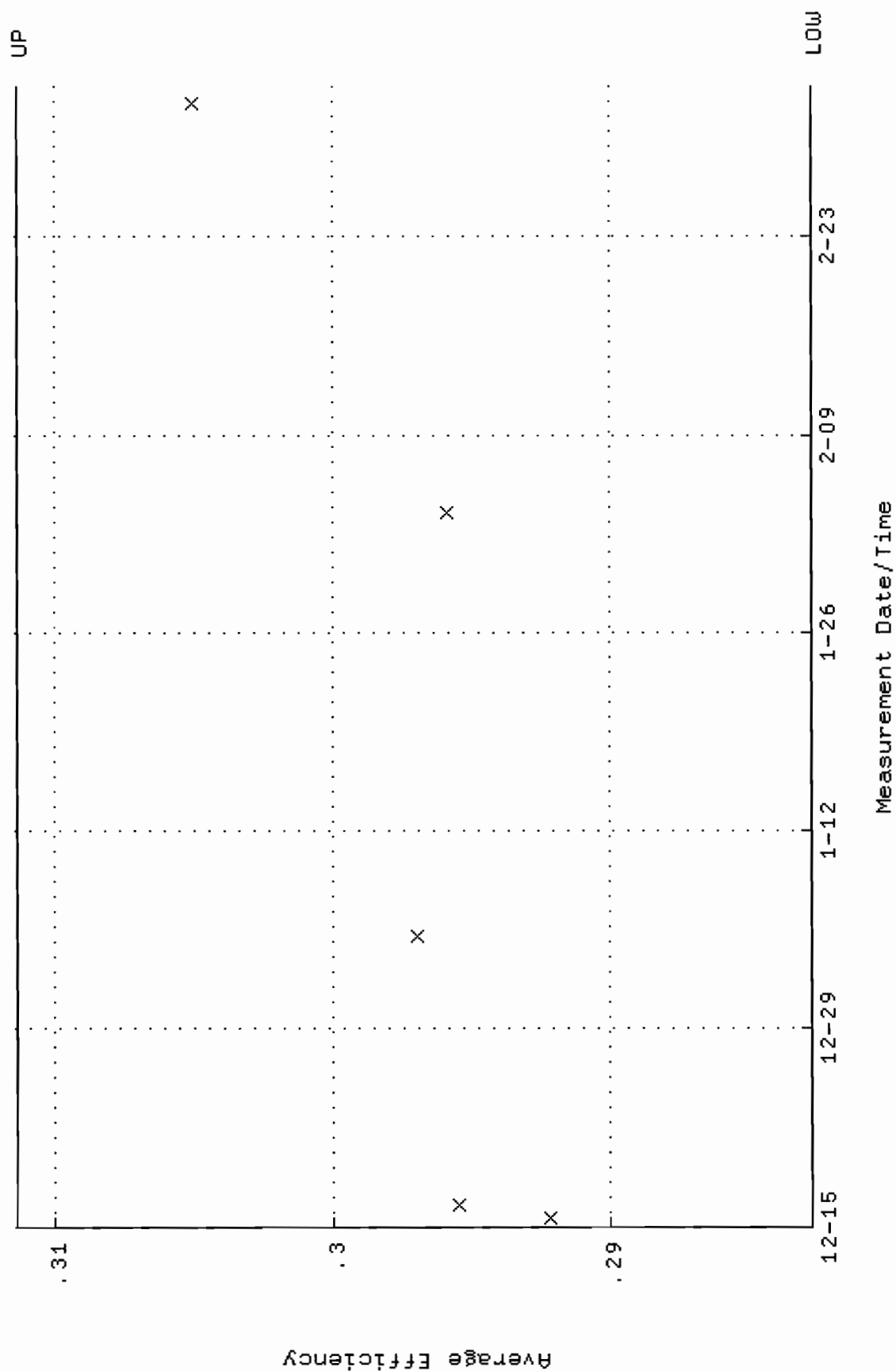
QA filename : DKA100:[ENV\_ALPHA.QA.W]W001.QAF;7  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-MAR-2010 12:00:00  
 Lower/Upper Lmts: 82.3264 through 98.7414



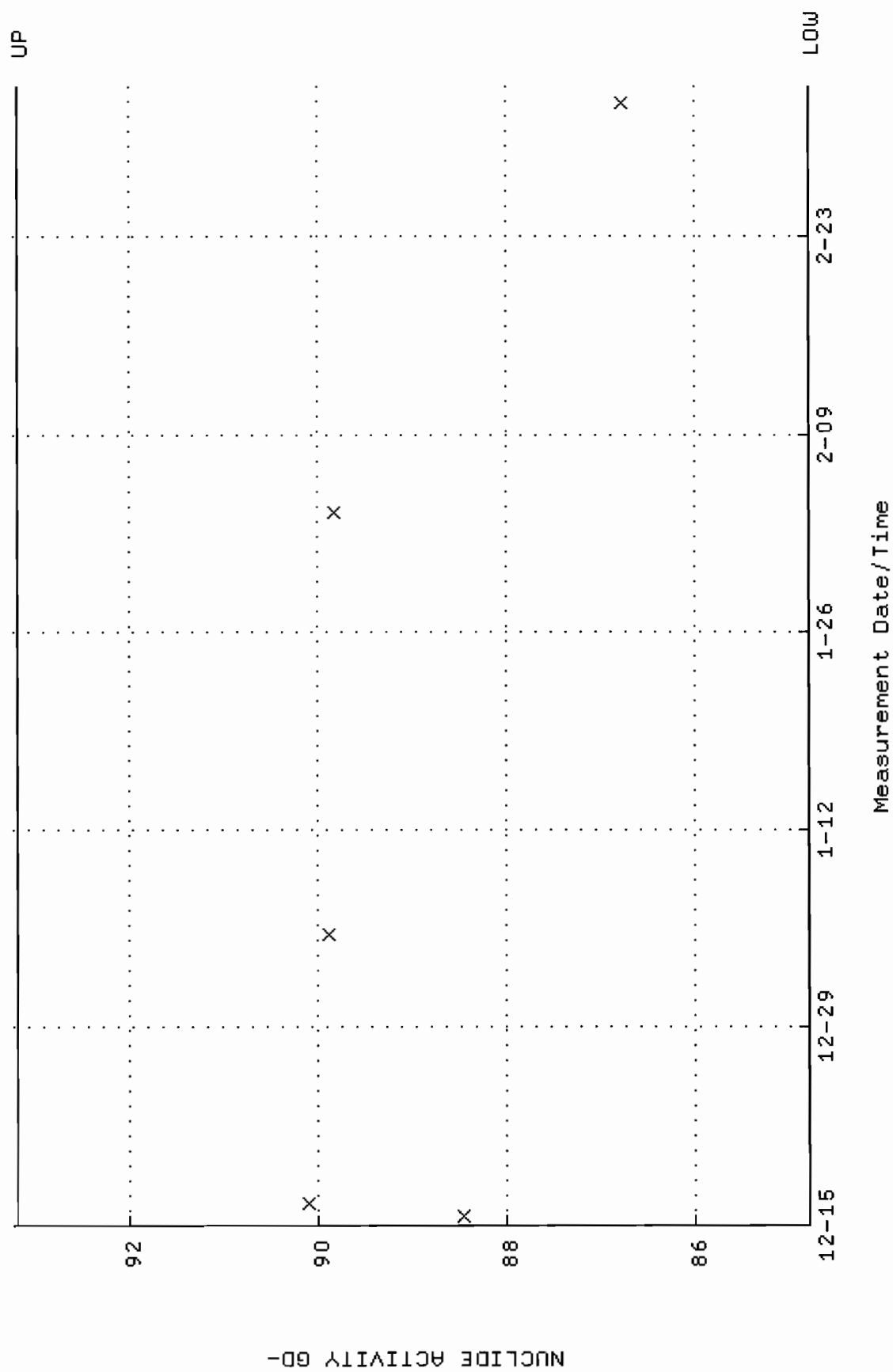
QA filename : DKA100:[ENV\_ALPHA.QA.B]B001.QAF;1  
 Parameter Name : BACKRATE (Background Rate).  
 Start/End Dates : 6-SEP-2009 14:27:00 through 5-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



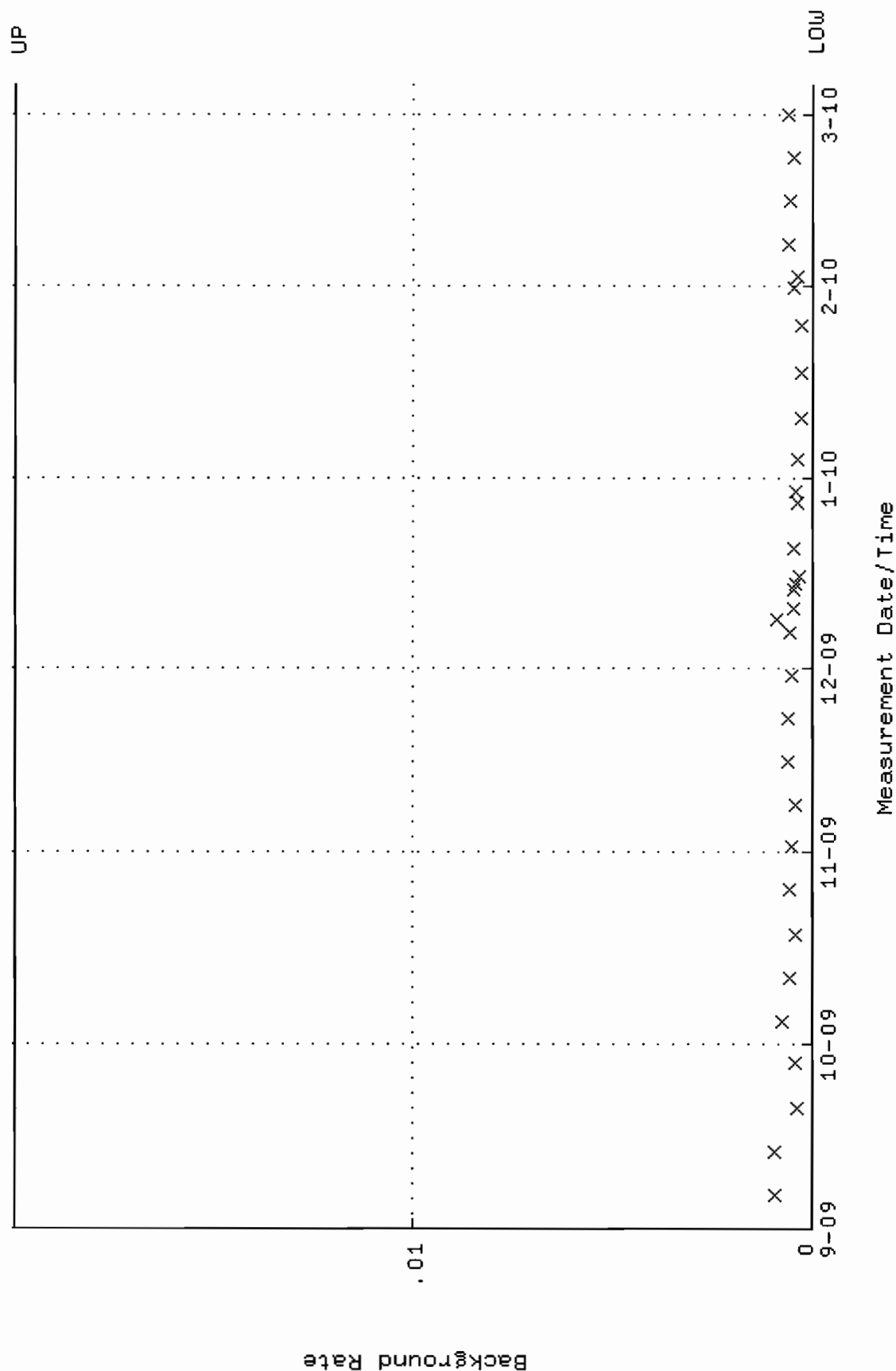
QA filename : DKA100:[ENV\_ALPHA.QA.W]W002.QAF;4  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.282705 through 0.311367



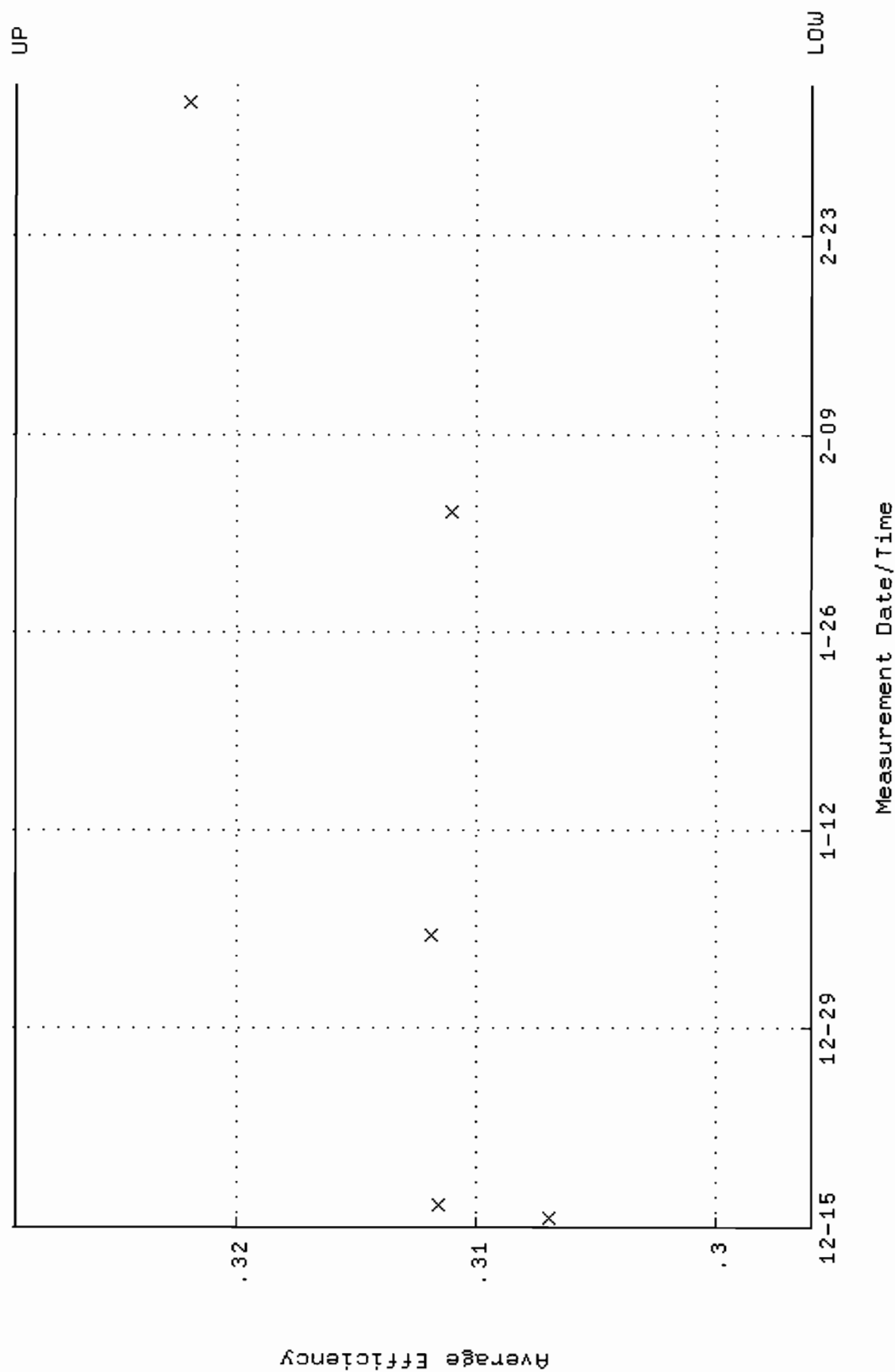
QA filename : DKA100:[ENV\_ALPHA.QA.W]W002.QAF;4  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-MAR-2010 12:00:00  
 Lower/Upper Lmts: 84.7927 through 93.2014



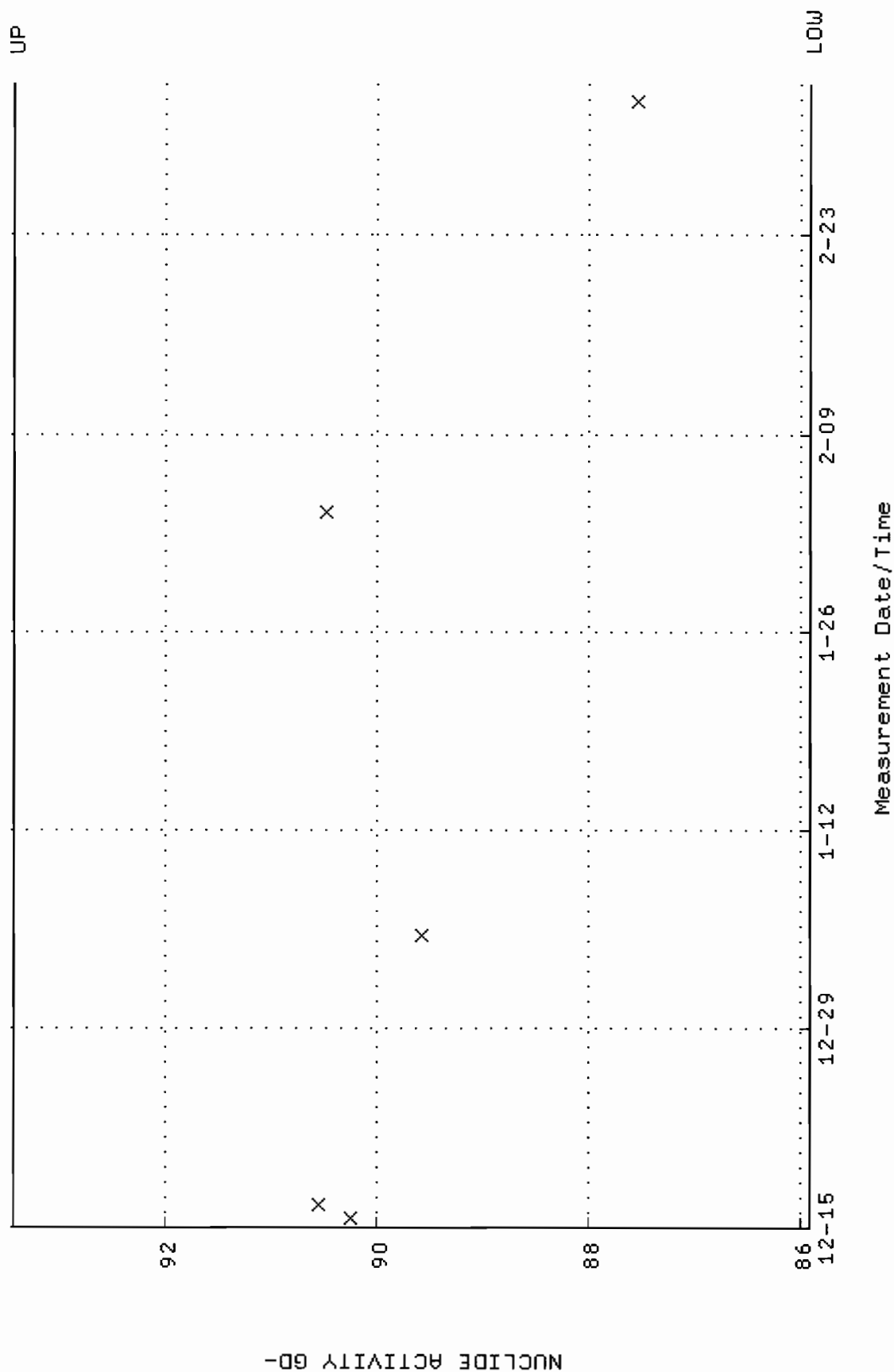
QA filename : DKA100:[ENV\_ALPHA.QA.B]B002.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 6-SEP-2009 14:27:00 through 5-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



QA filename : DKA100:[ENV\_ALPHA.QA.W]W003.QAF;5  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.295986 through 0.329192

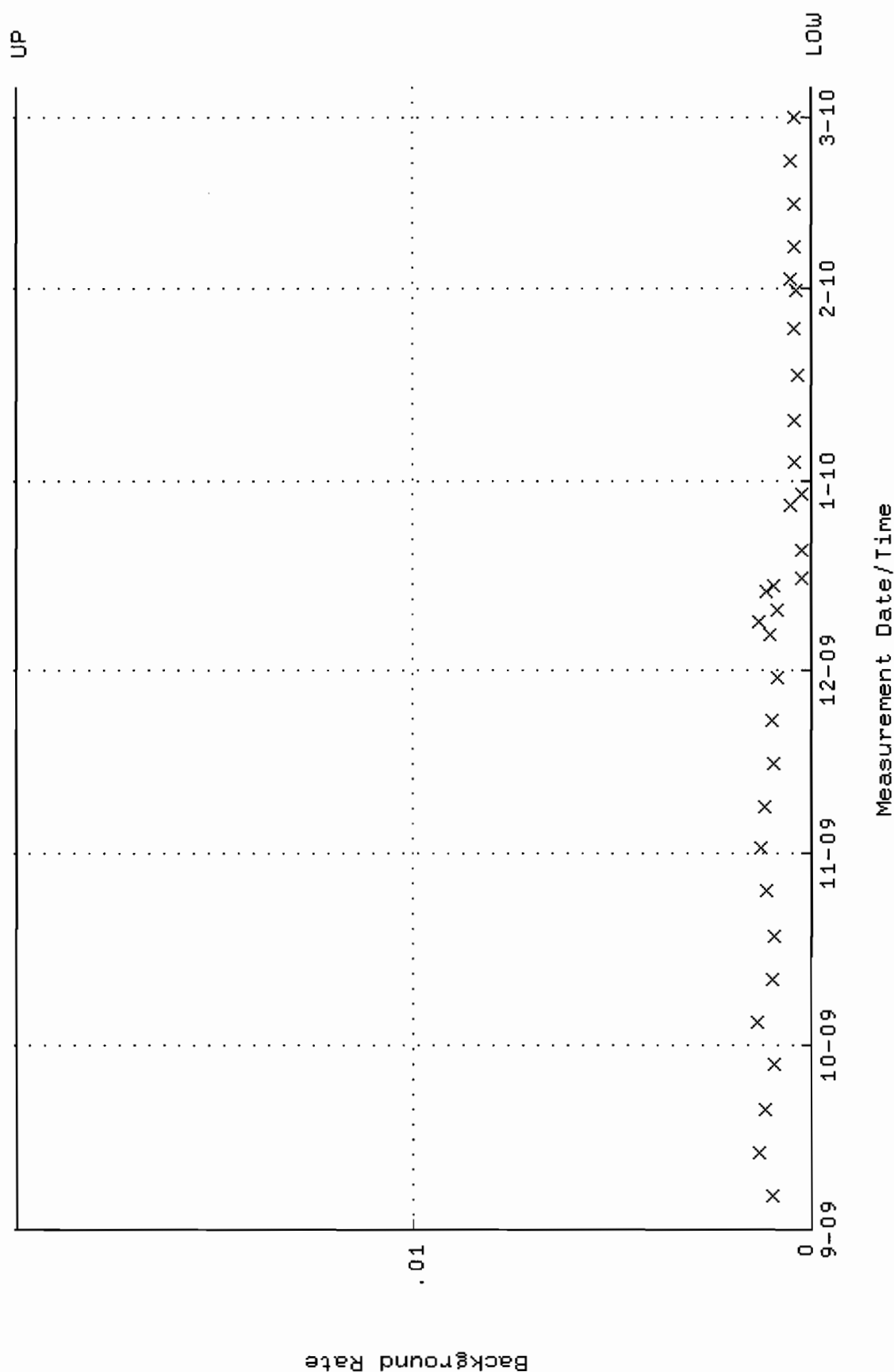


QA filename : DKA100:[ENV\_ALPHA.QA.W]W003.QAF;5  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-MAR-2010 12:00:00  
 Lower/Upper Lmts: 85.9157 through 93.4313

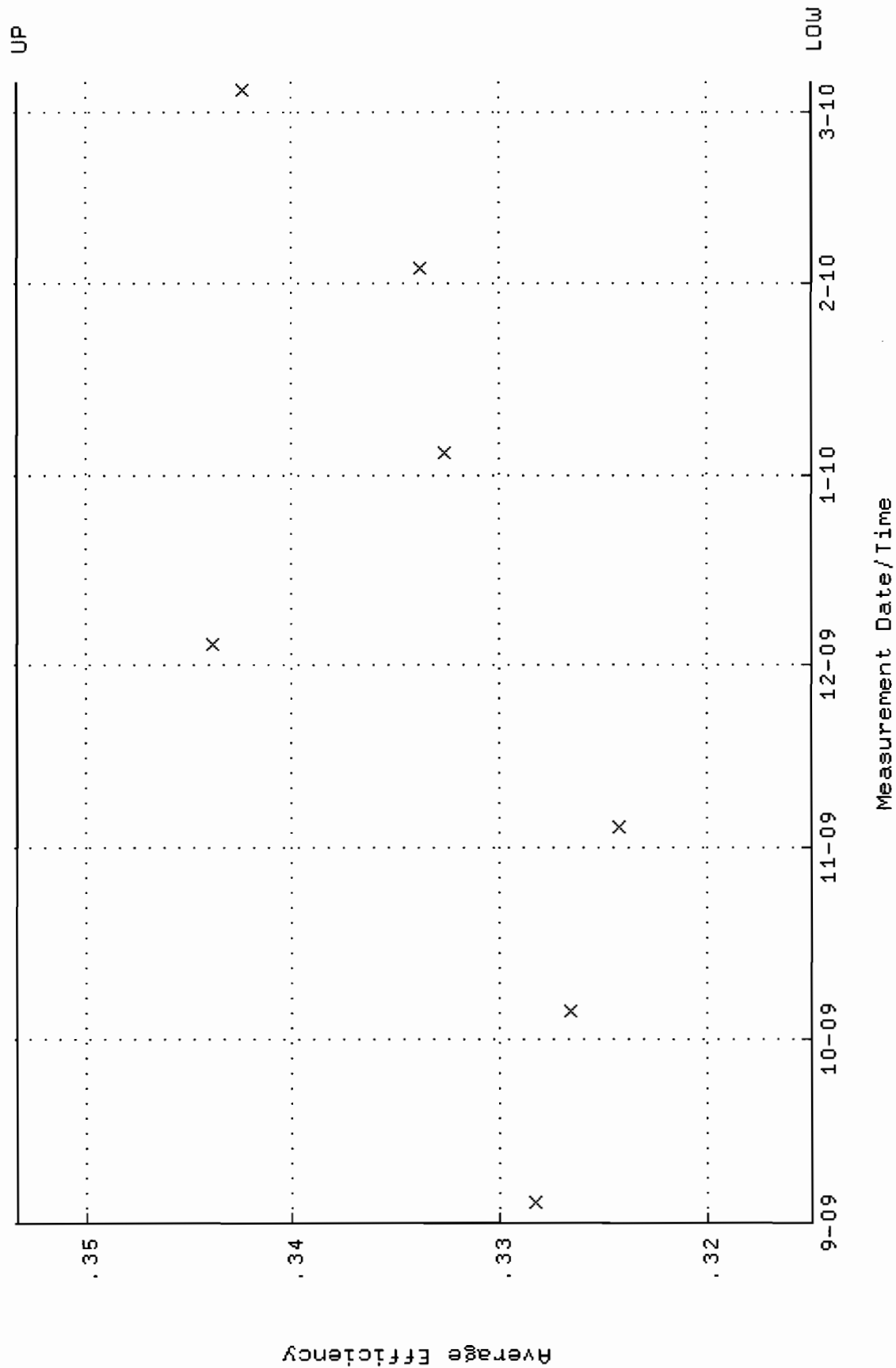




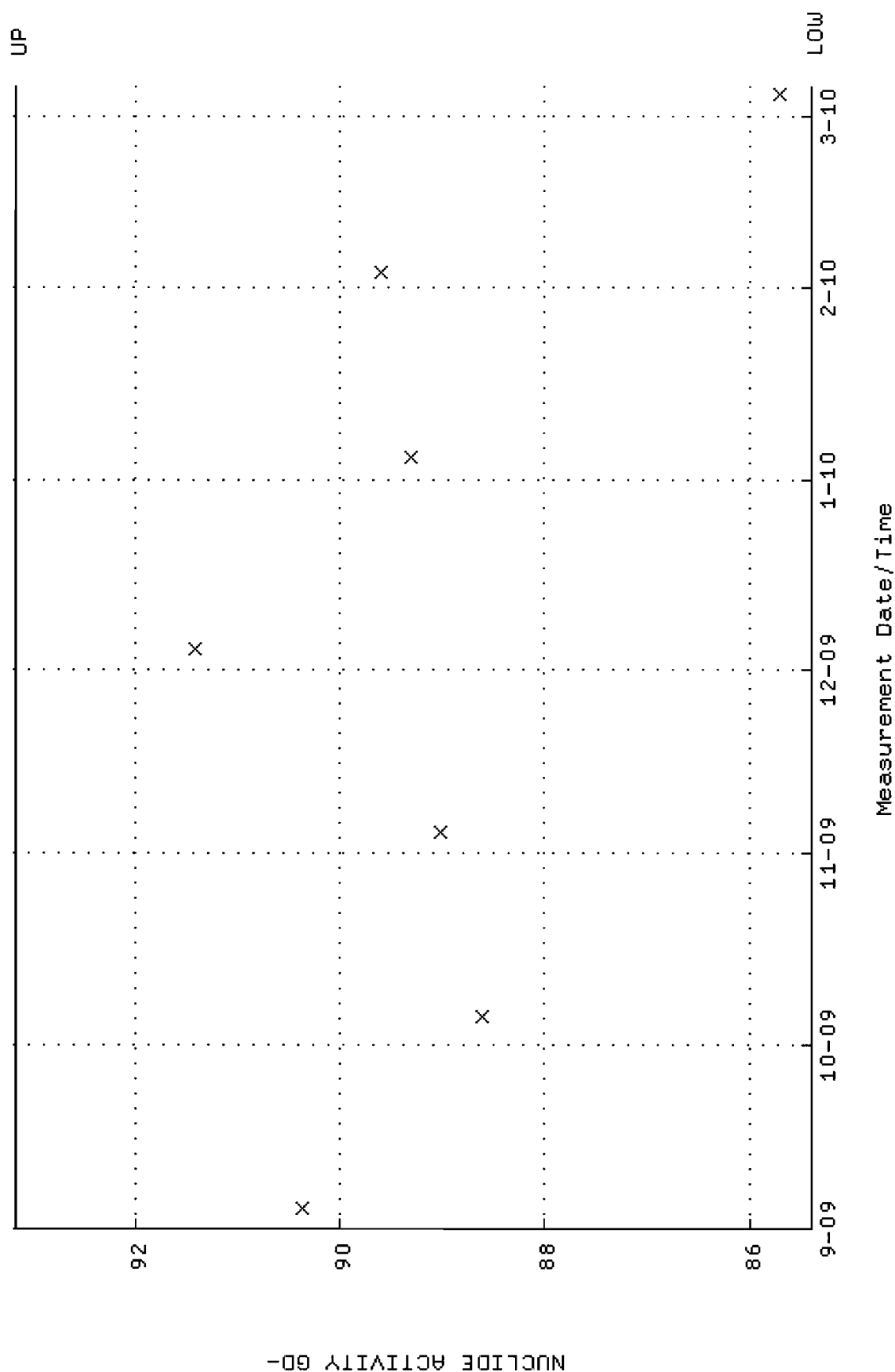
QA filename : DKA100:[ENV\_ALPHA.QA.B]B003.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 6-SEP-2009 14:27:00 through 5-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



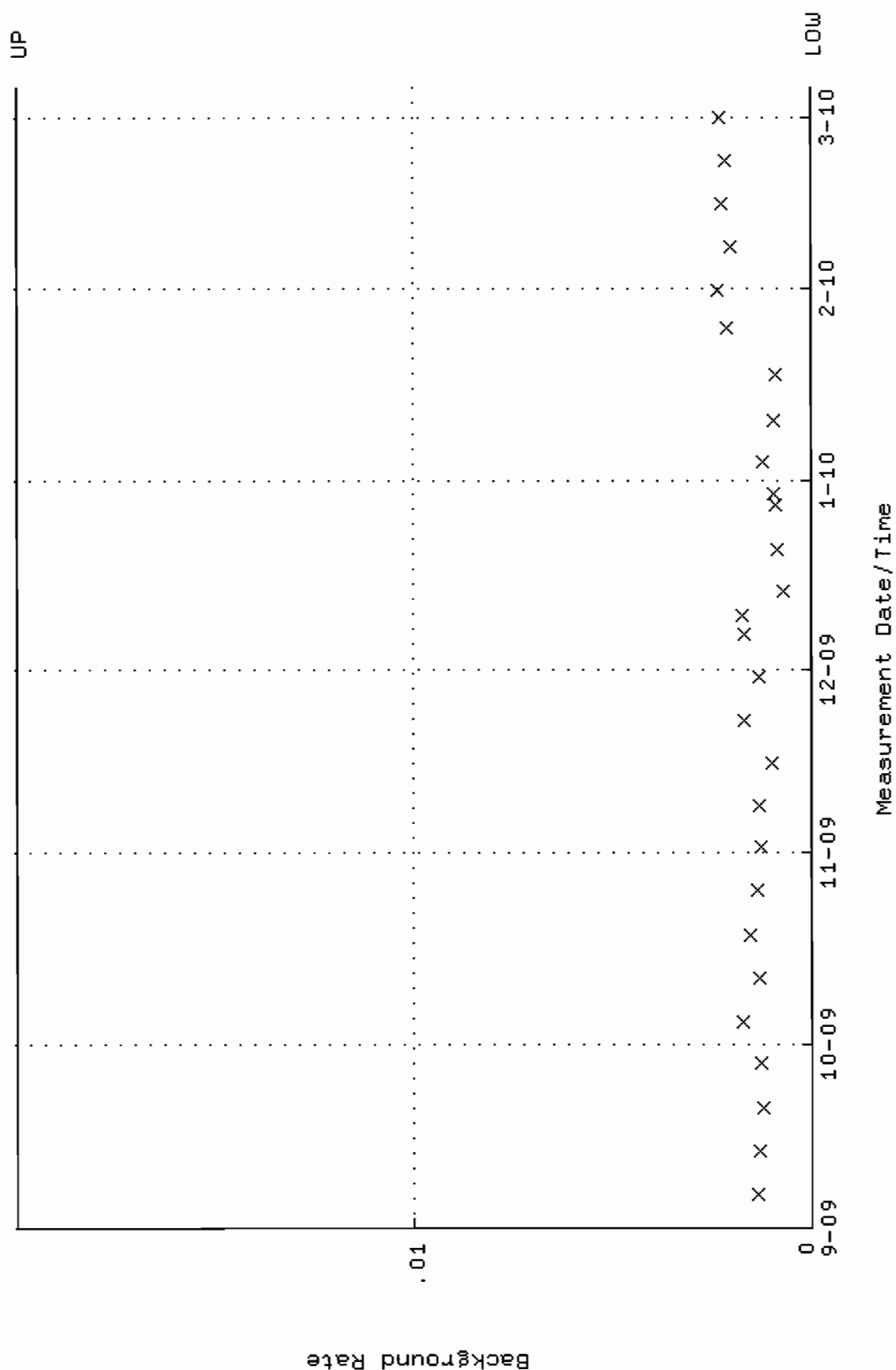
QA filename : DKA100:[ENV\_ALPHA.QA.W]W024.QAF;2  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 4-SEP-2009 07:36:42 through 5-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.314917 through 0.353325



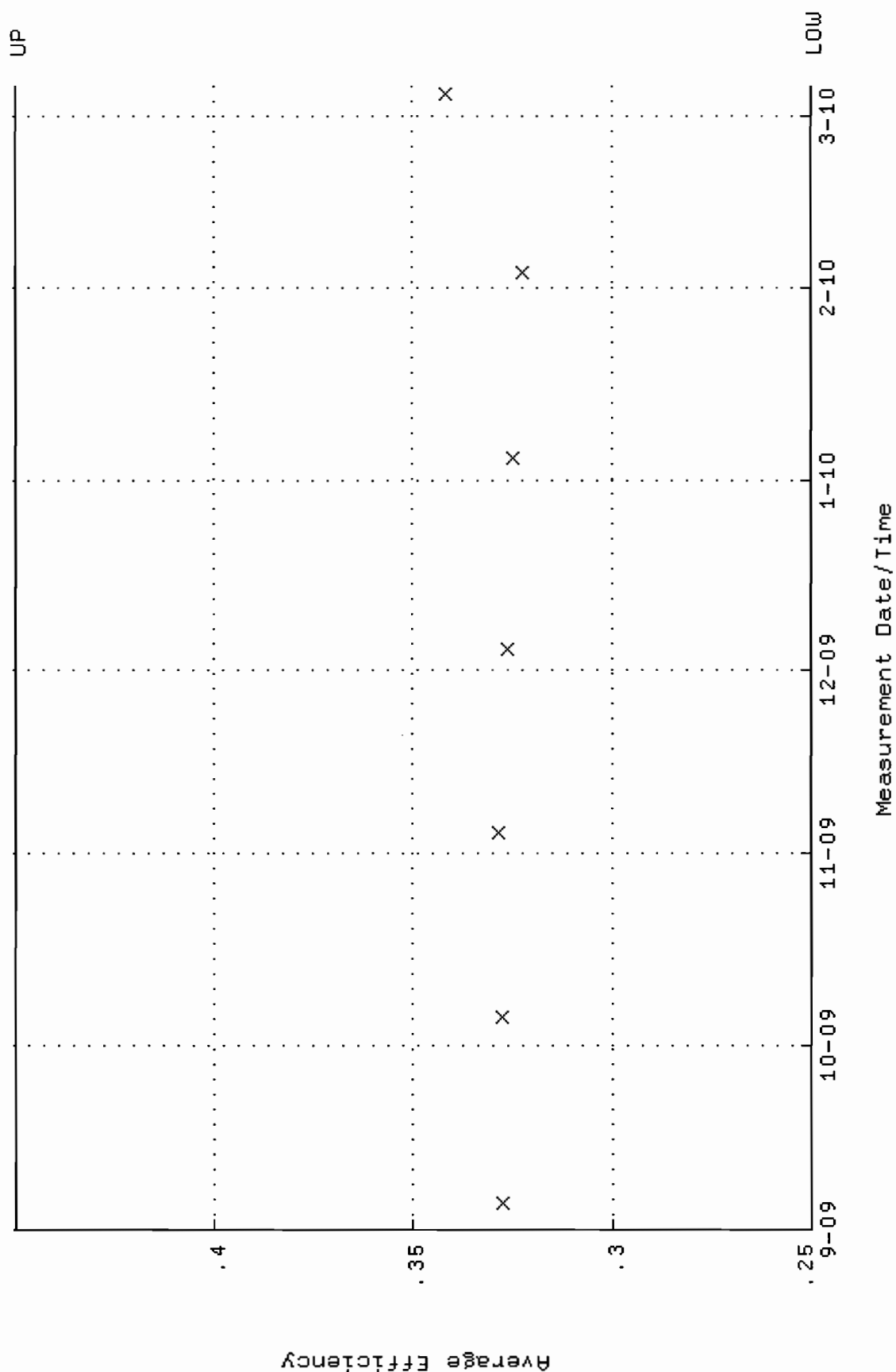
QA filename : DKA100:[ENV\_ALPHA.QA.W]W024.QAF;2  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 4-SEP-2009 07:36:42 through 5-MAR-2010 12:00:00  
 Lower/Upper Lmts: 85.3858 through 93.1784



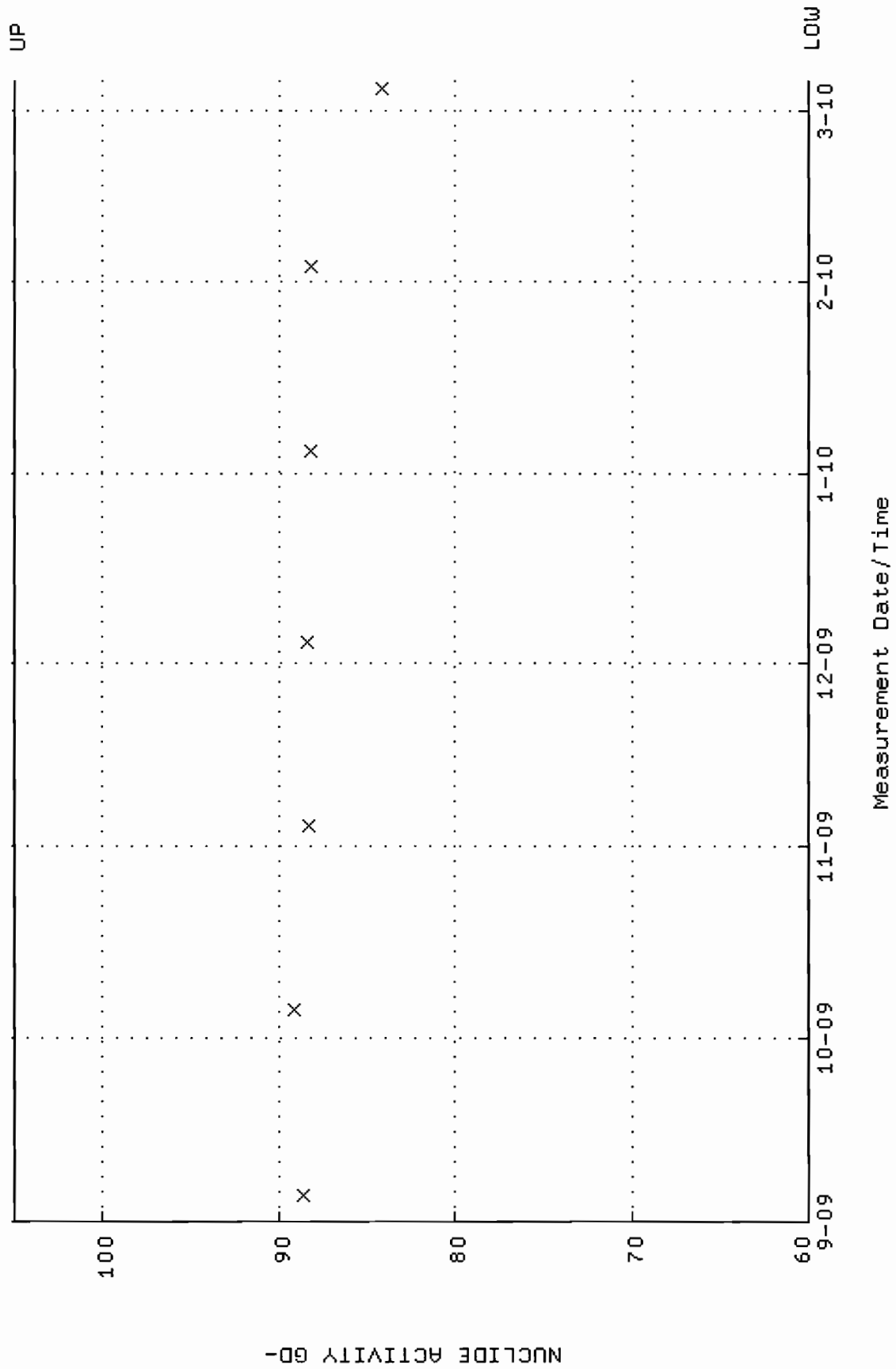
QA filename : DKA100:[ENV\_ALPHA.QA.B]B024.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 6-SEP-2009 14:27:03 through 5-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



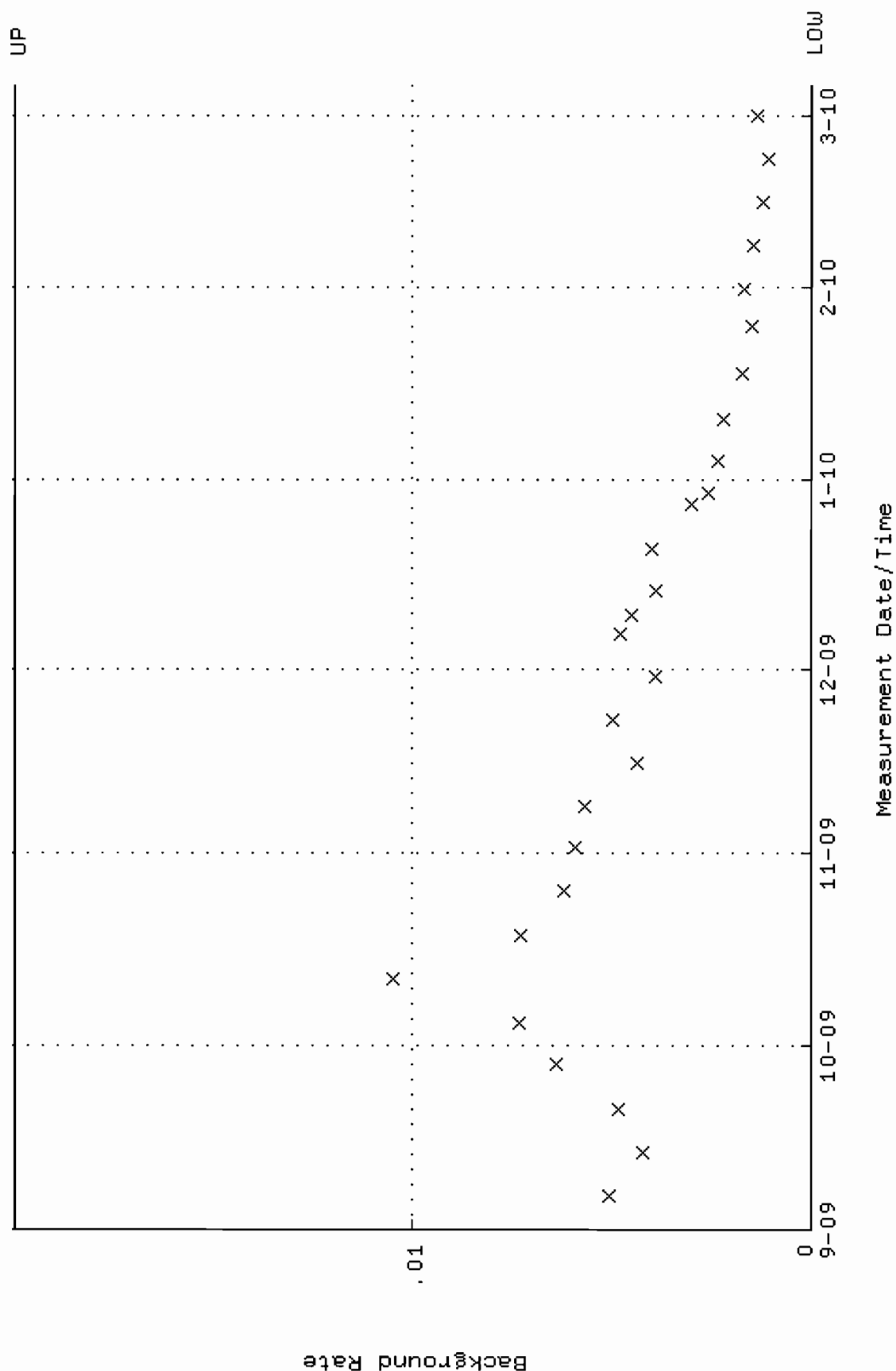
QA filename : DKA100:[ENV\_ALPHA.QA.W]W025.QAF;4  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 5-SEP-2009 09:03:08 through 5-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.250000 through 0.450000



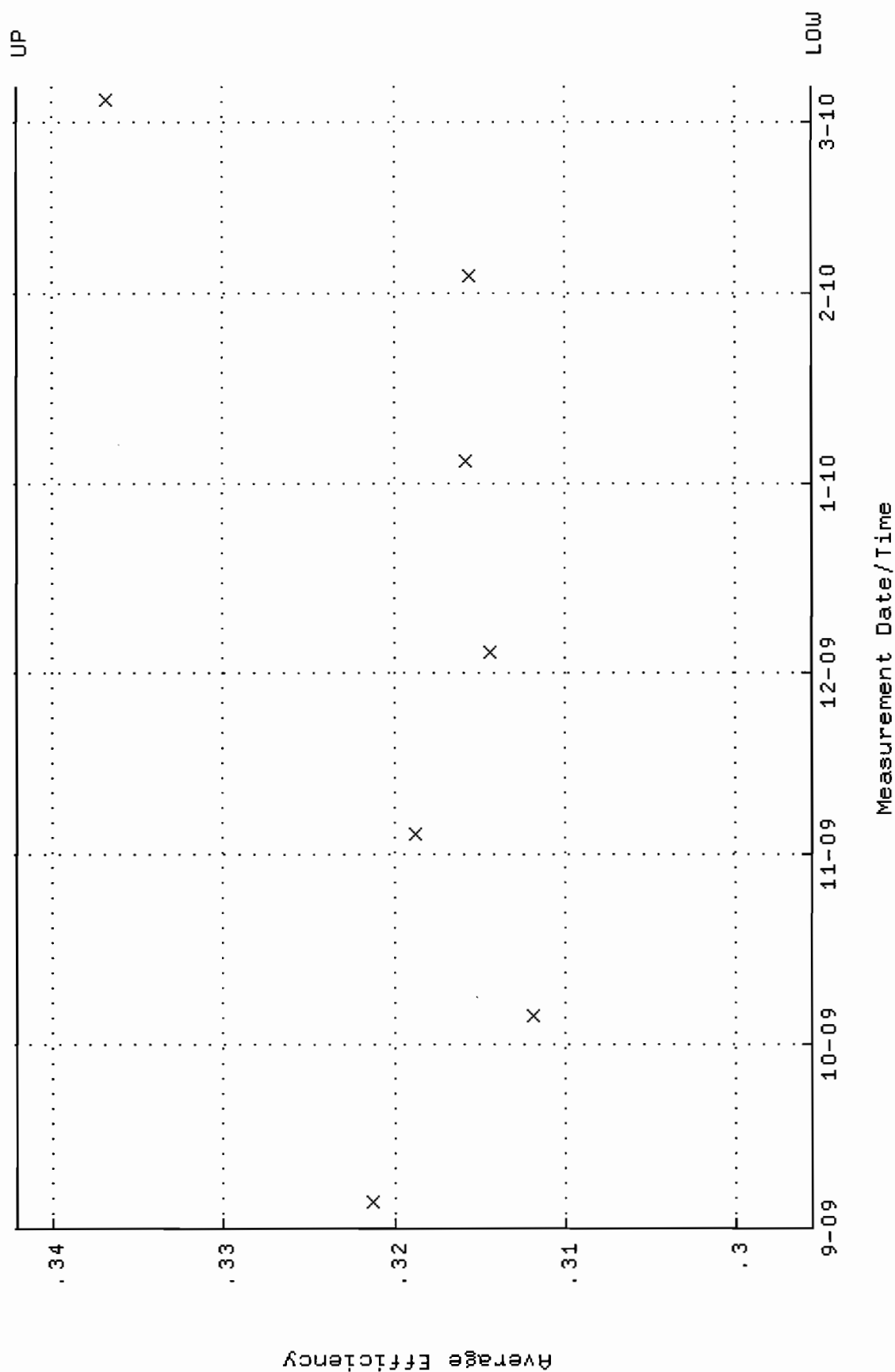
QA filename : DKA100:[ENV\_ALPHA.QA.W]W025.QAF;4  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 5-SEP-2009 09:03:08 through 5-MAR-2010 12:00:00  
 Lower/Upper Lmts: 60.0000 through 105.0000



QA filename : DKA100:[ENV\_ALPHA.QA.B]B025.QAF;2  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 6-SEP-2009 14:27:03 through 5-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02

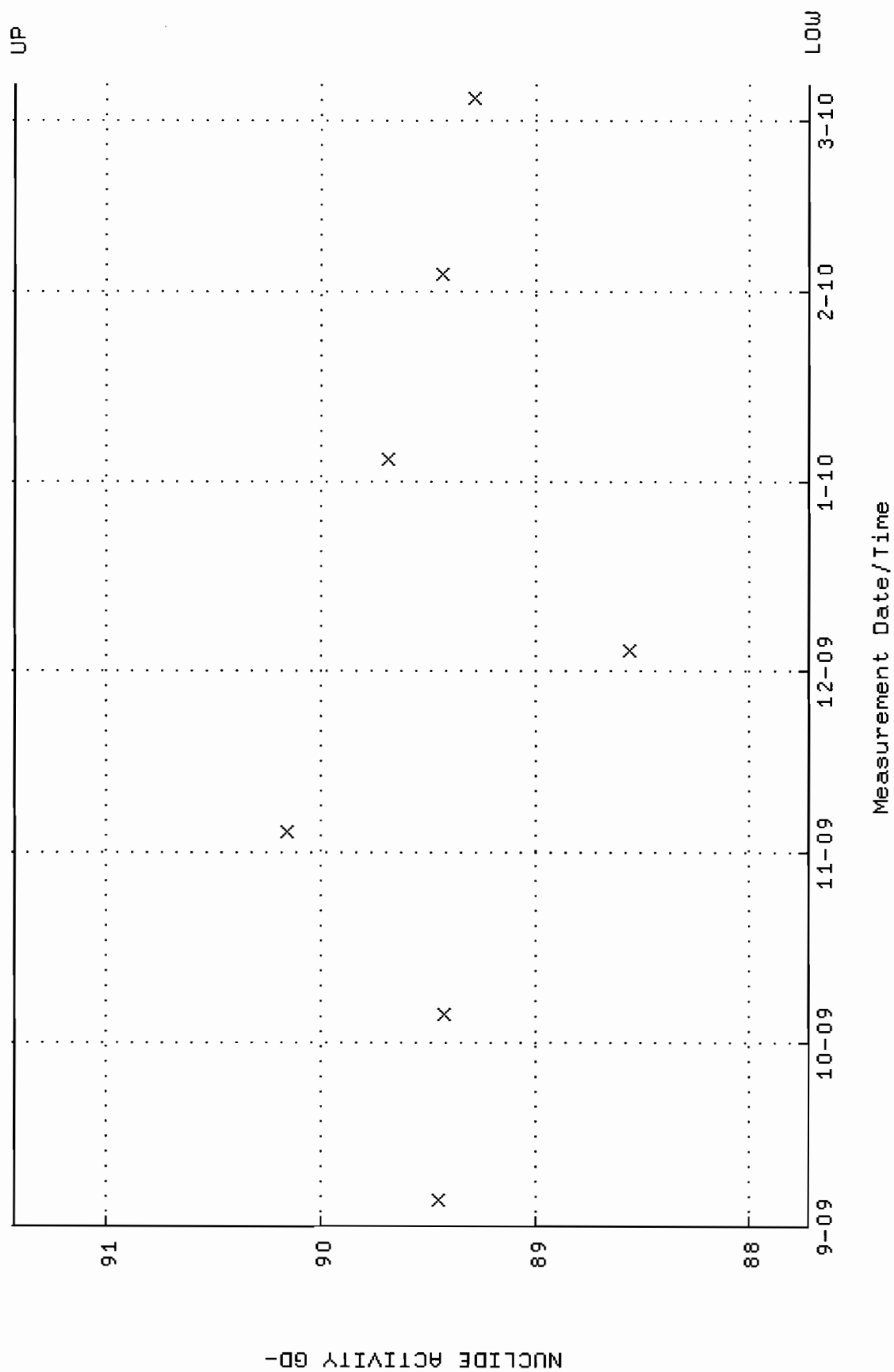


QA filename : DKA100:[ENV\_ALPHA.QA.W]W026.QAF;3  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 5-SEP-2009 09:03:08 through 6-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.295501 through 0.342091



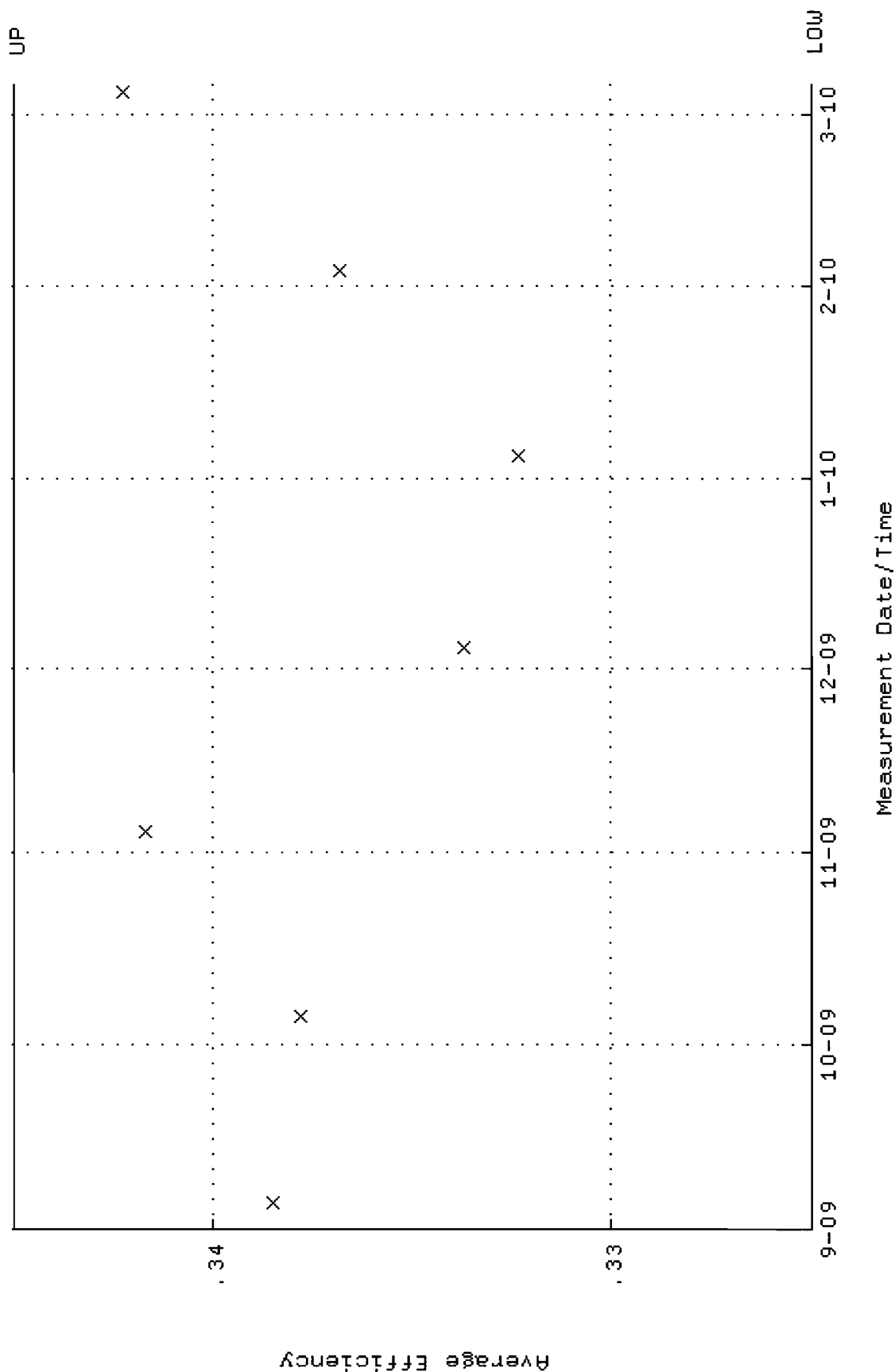


QA filename : DKA100:[ENV\_ALPHA.QA.W]W026.QAF;3  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 5-SEP-2009 09:03:08 through 6-MAR-2010 12:00:00  
 Lower/Upper Lmts: 87.7241 through 91.4271

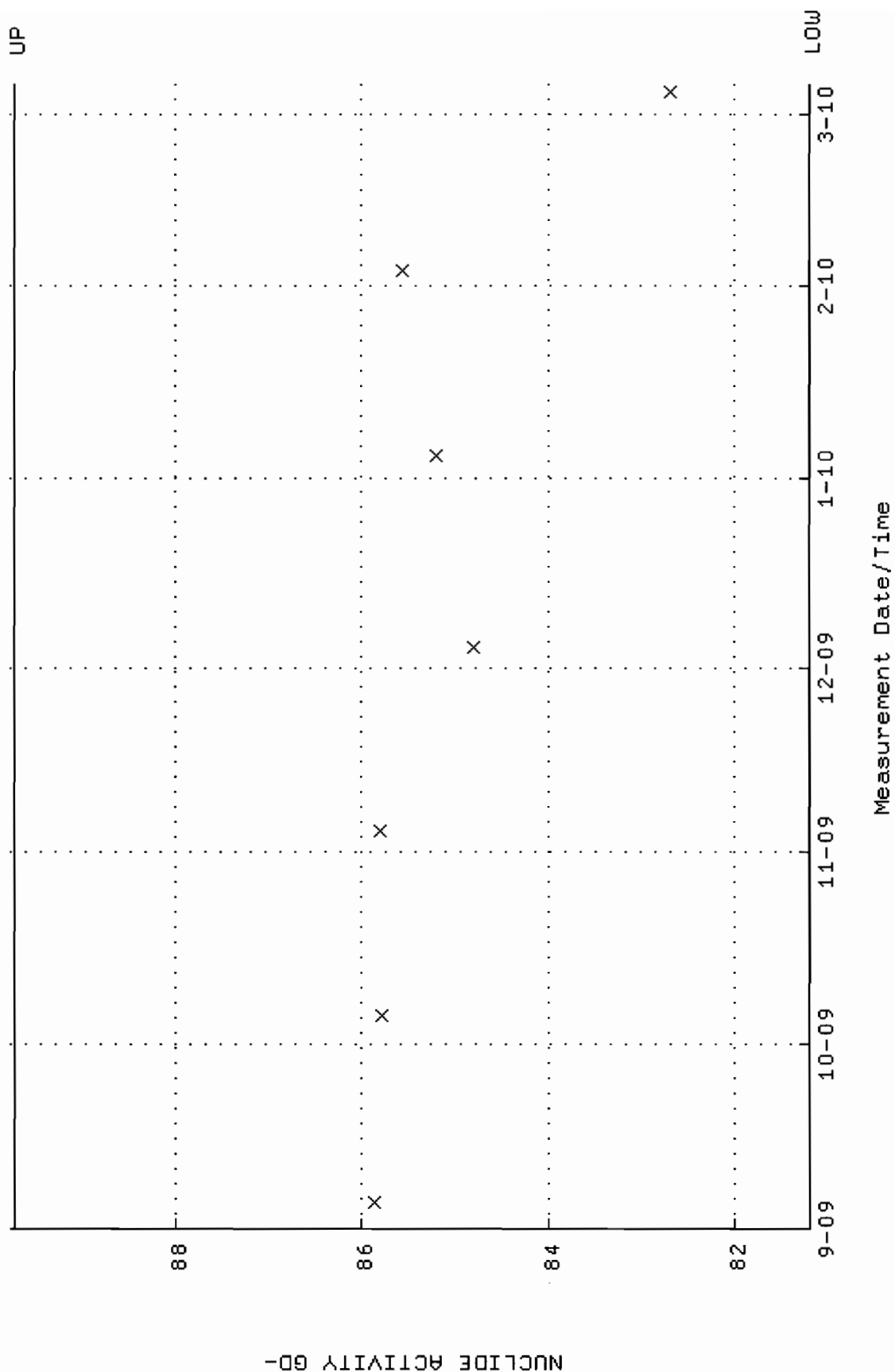




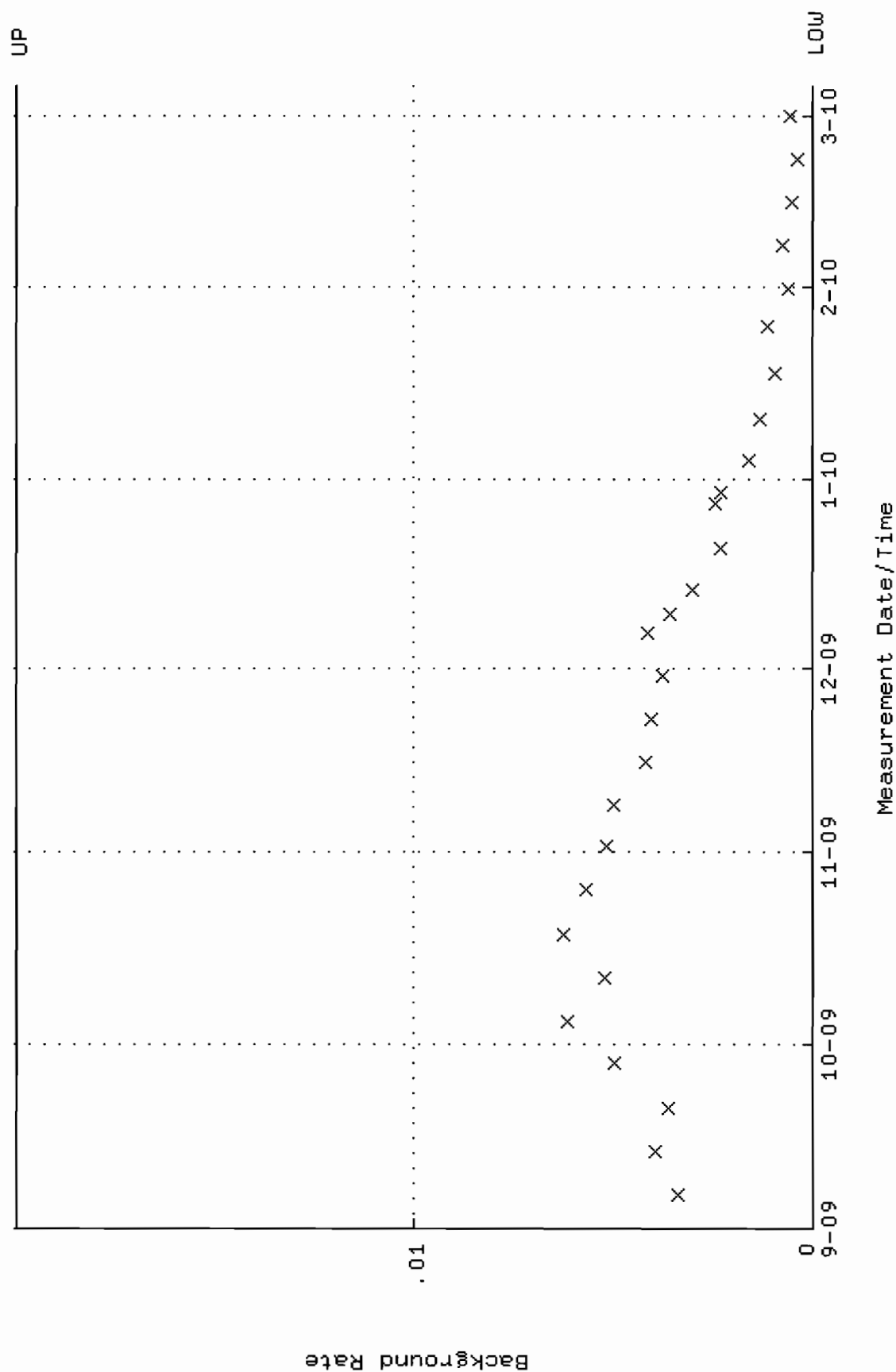
QA filename : DKA100:[ENV\_ALPHA.QA.W]W027.QAF;4  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 5-SEP-2009 09:03:08 through 5-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.324980 through 0.344980



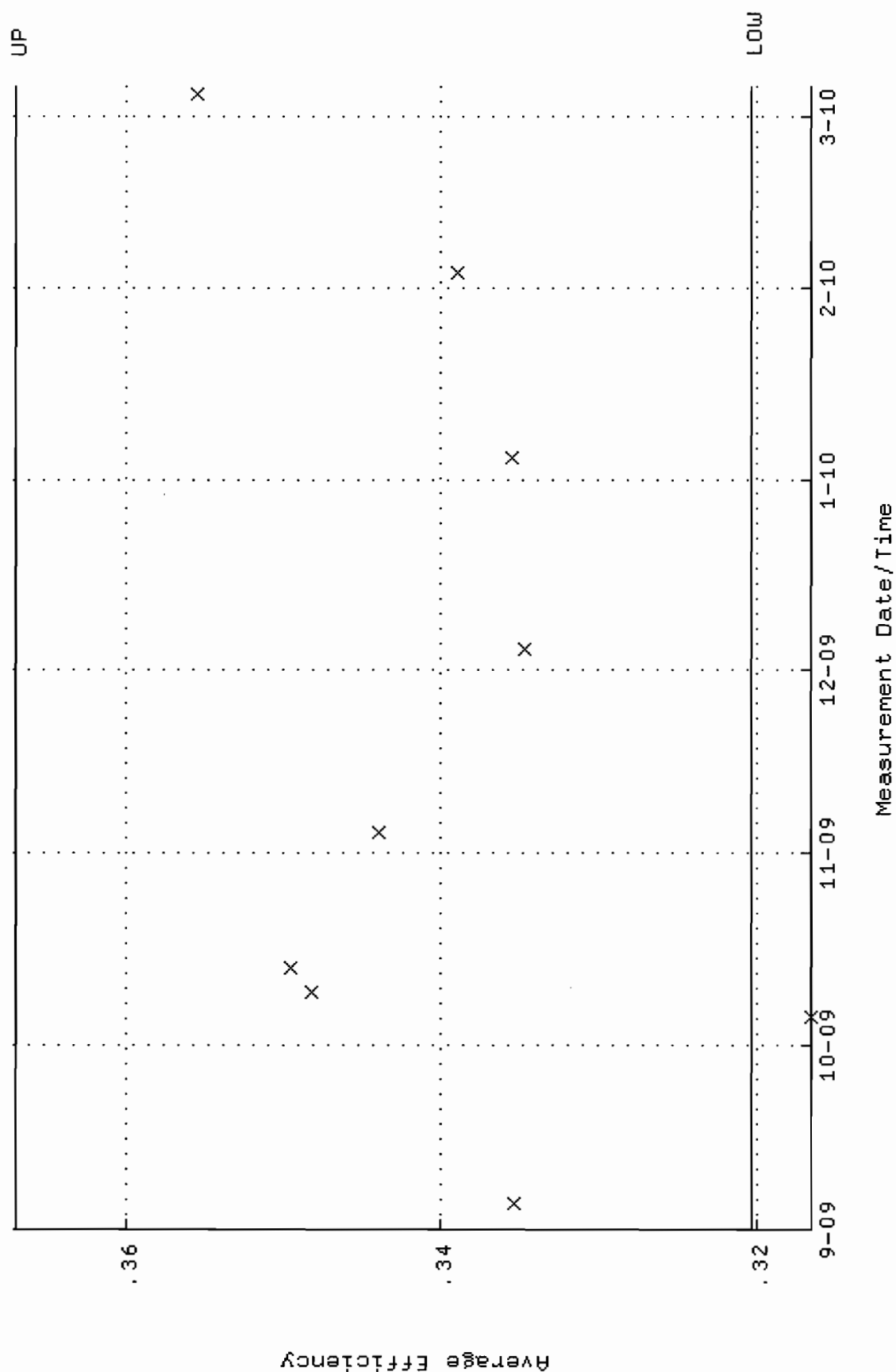
QA filename : DKA100:[ENV\_ALPHA.QA.W]W027.QAF;4  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 5-SEP-2009 09:03:08 through 5-MAR-2010 12:00:00  
 Lower/Upper Lmts: 81.2030 through 89.7506



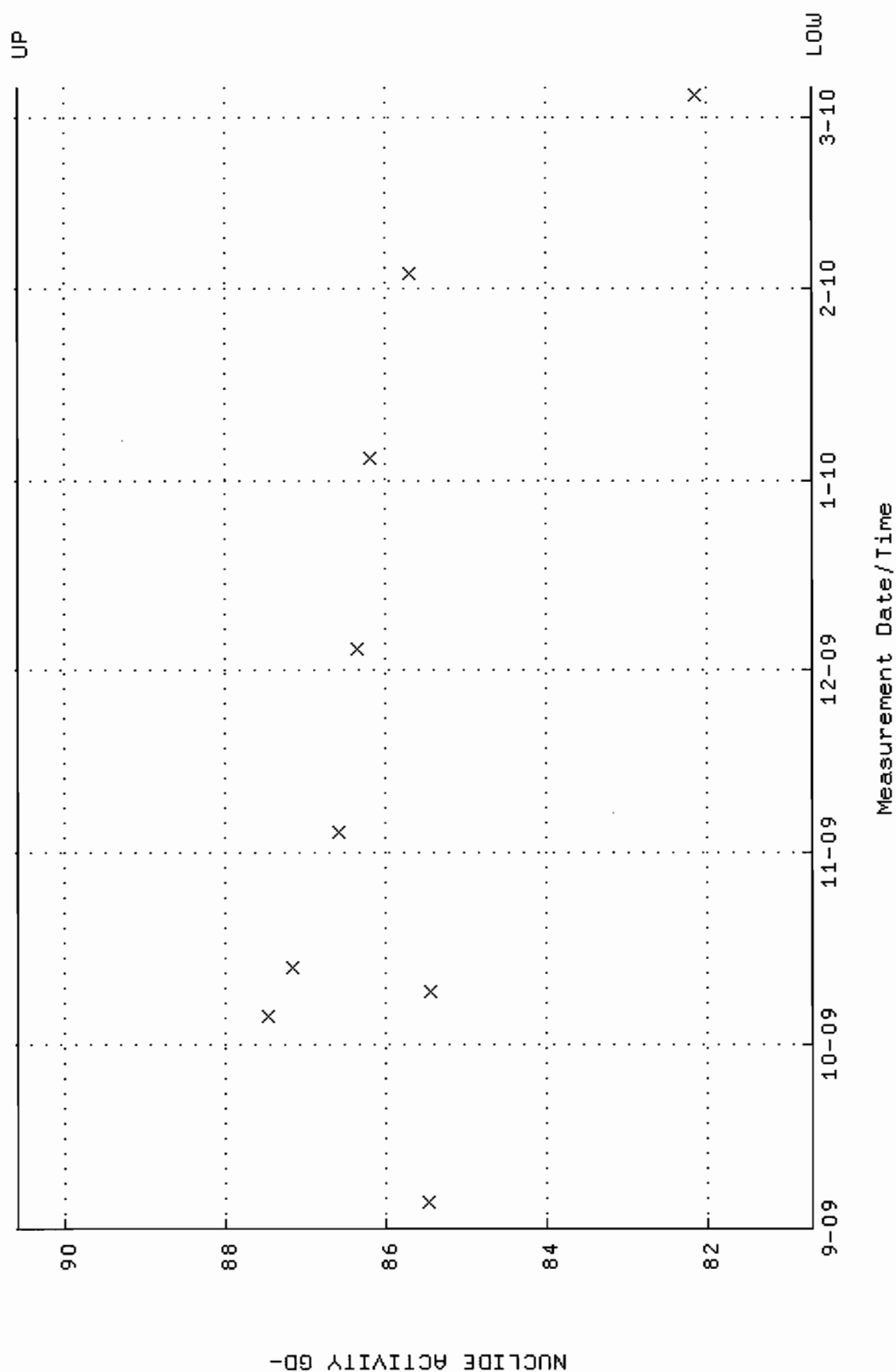
QA filename : DKA100:[ENV\_ALPHA.QA.B]B027.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 6-SEP-2009 14:27:03 through 5-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



QA filename : DKA100:[ENV\_ALPHA.QA.W]W031.QAF;4  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 5-SEP-2009 09:03:09 through 5-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.320406 through 0.367042



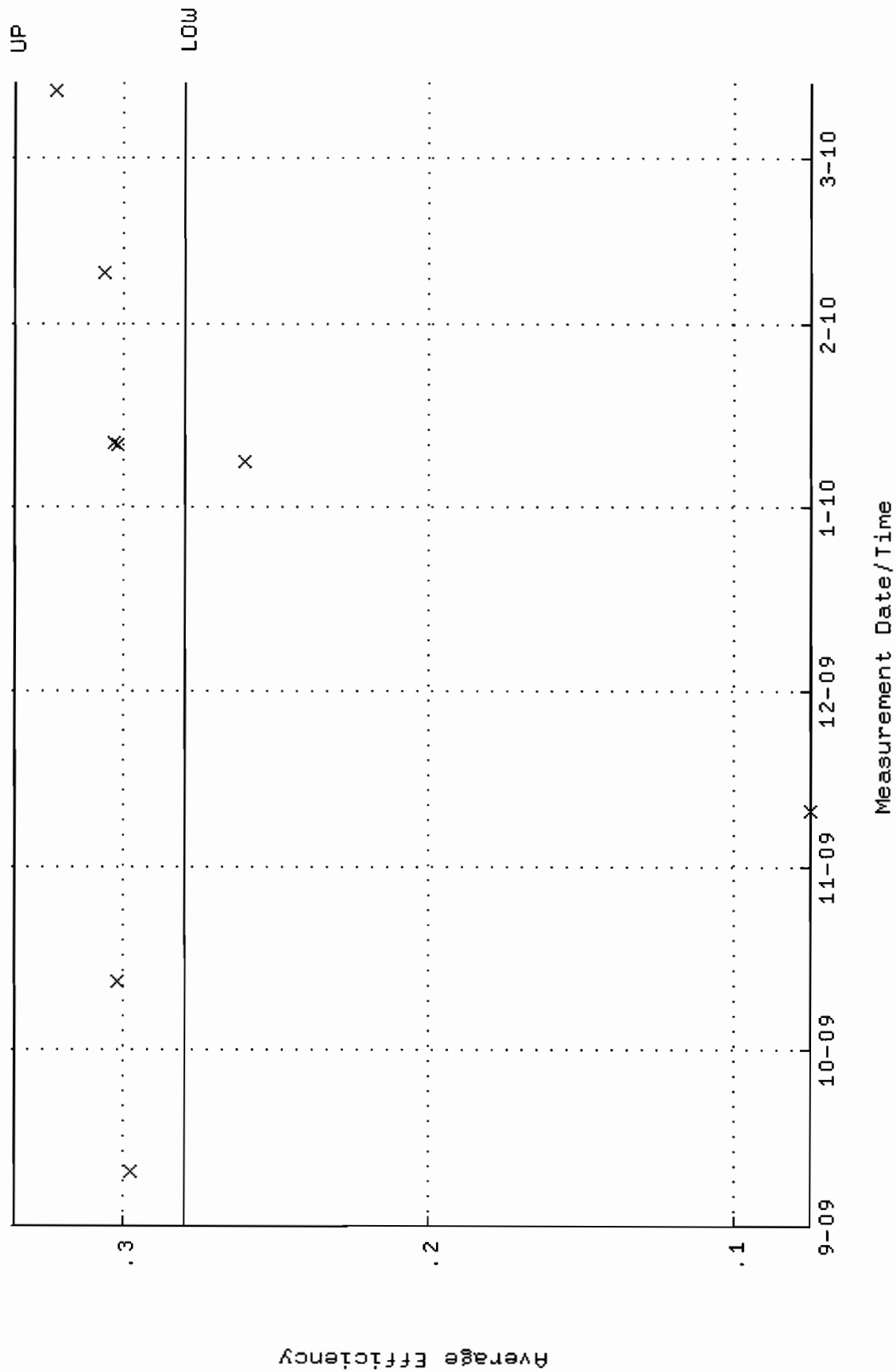
QA filename : DKA100:[ENV\_ALPHA.QA.W]W031.QAF;4  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 5-SEP-2009 09:03:09 through 5-MAR-2010 12:00:00  
 Lower/Upper Lmts: 80.6868 through 90.5808



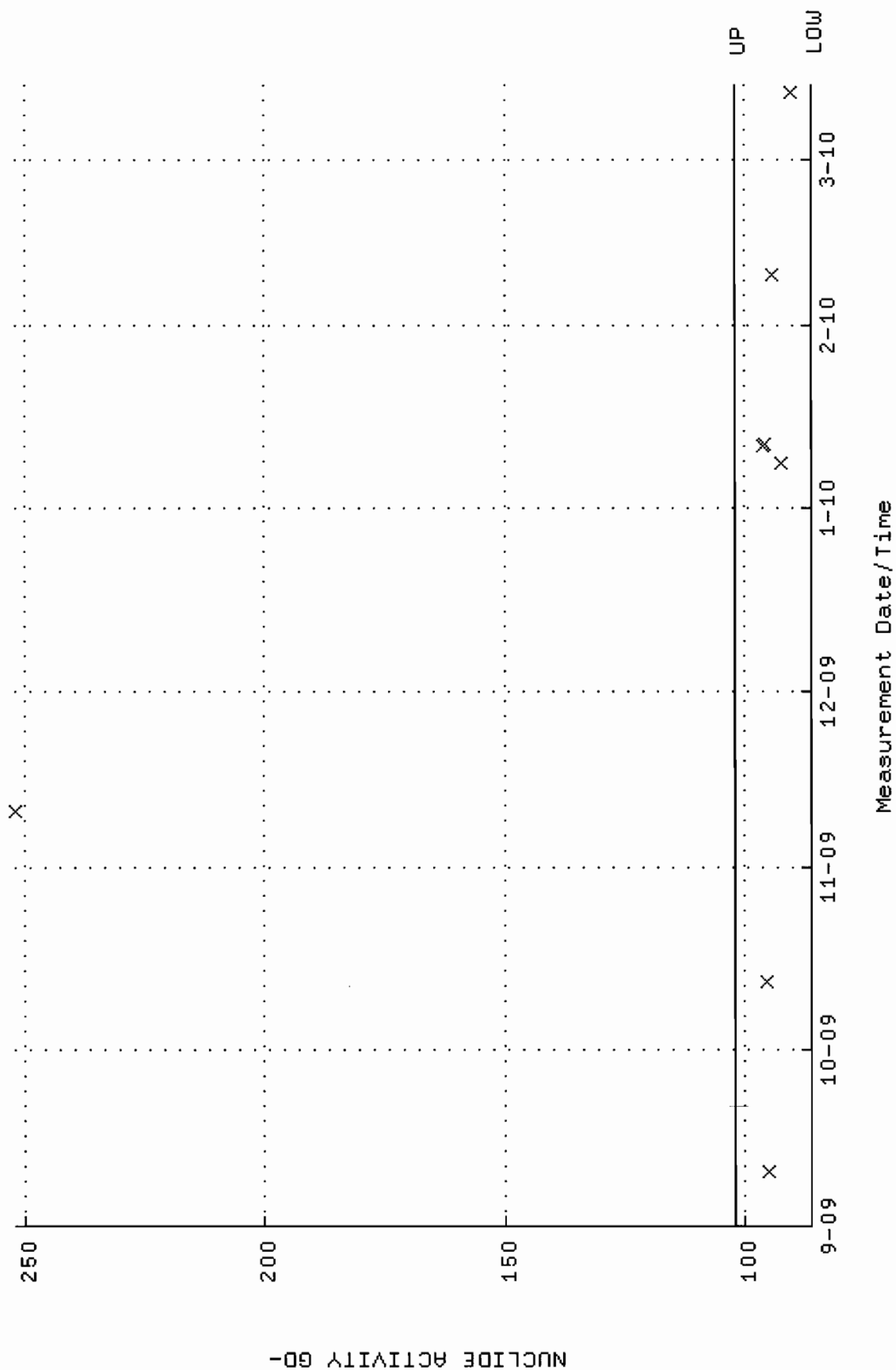




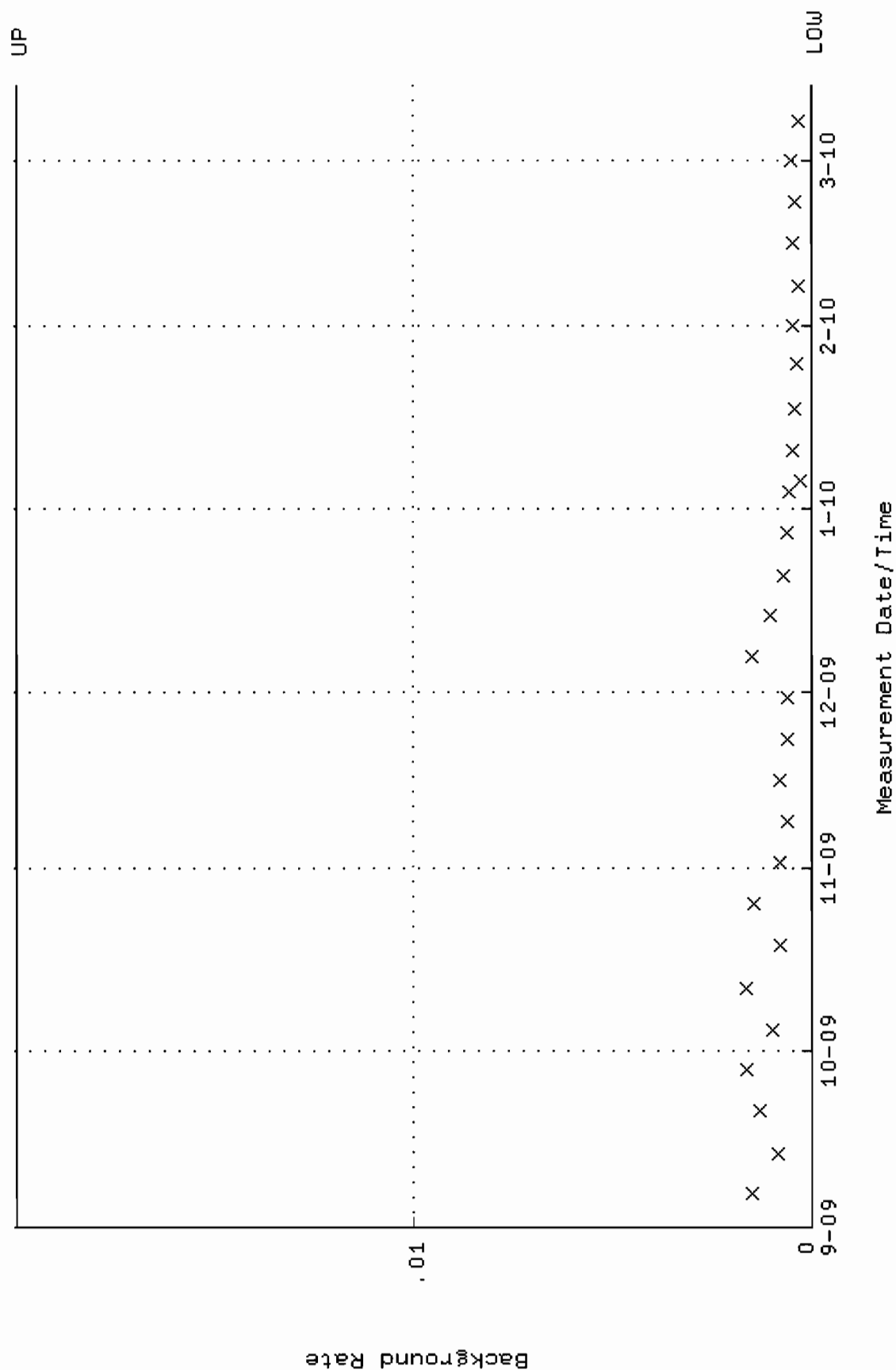
QA filename : DKA100:[ENV\_ALPHA.QA.W]W075.QAF;3  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 10-SEP-2009 07:45:11 through 13-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.279983 through 0.335803



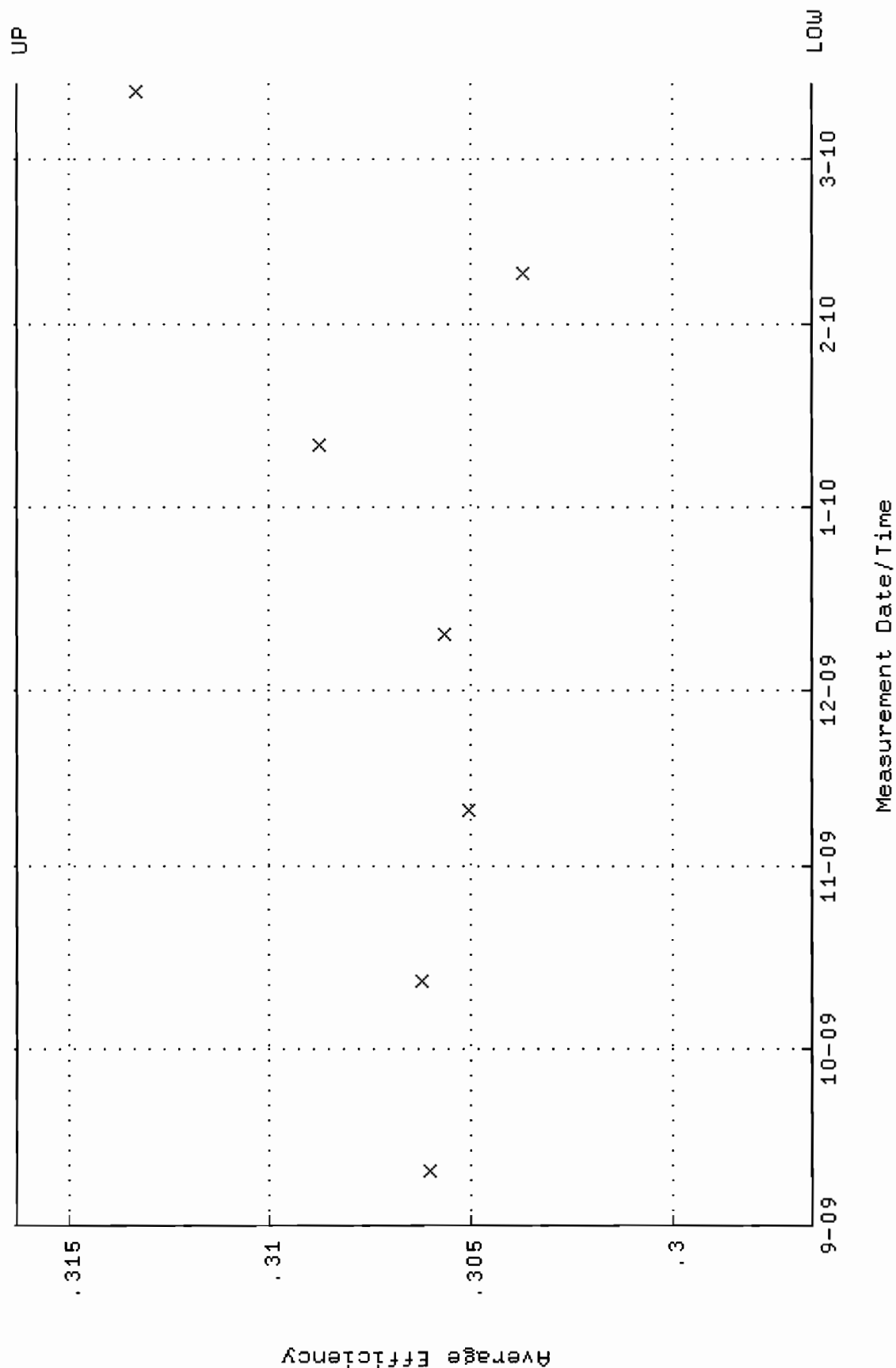
QA filename : DKA100:[ENV\_ALPHA.QA.W]W075.QAF;3  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 10-SEP-2009 07:45:11 through 13-MAR-2010 12:00:00  
 Lower/Upper Lmts: 86.1031 through 102.173



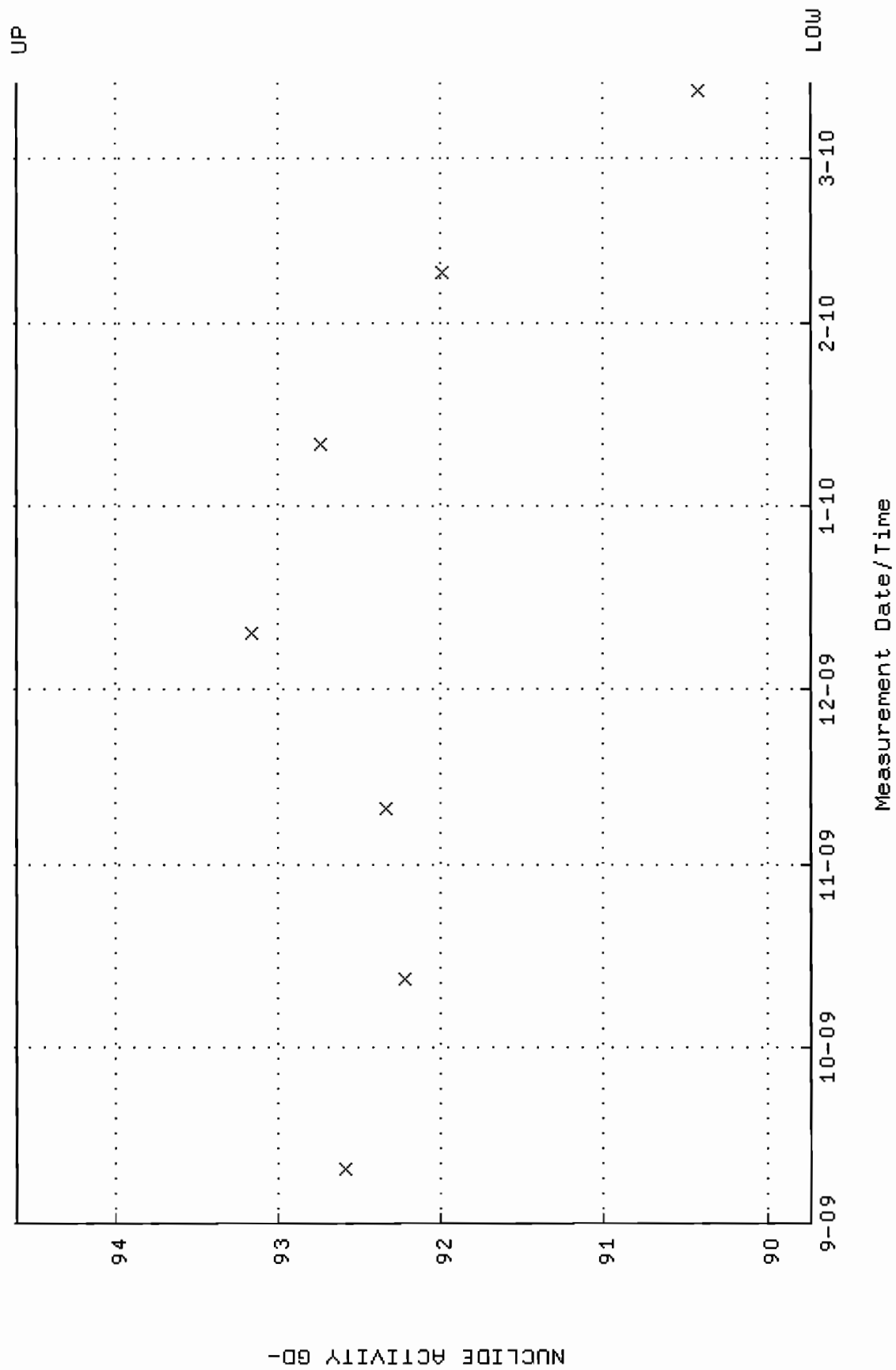
QA filename : DKA100:[ENV\_ALPHA.QA.B]B075.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 6-SEP-2009 14:27:07 through 13-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02

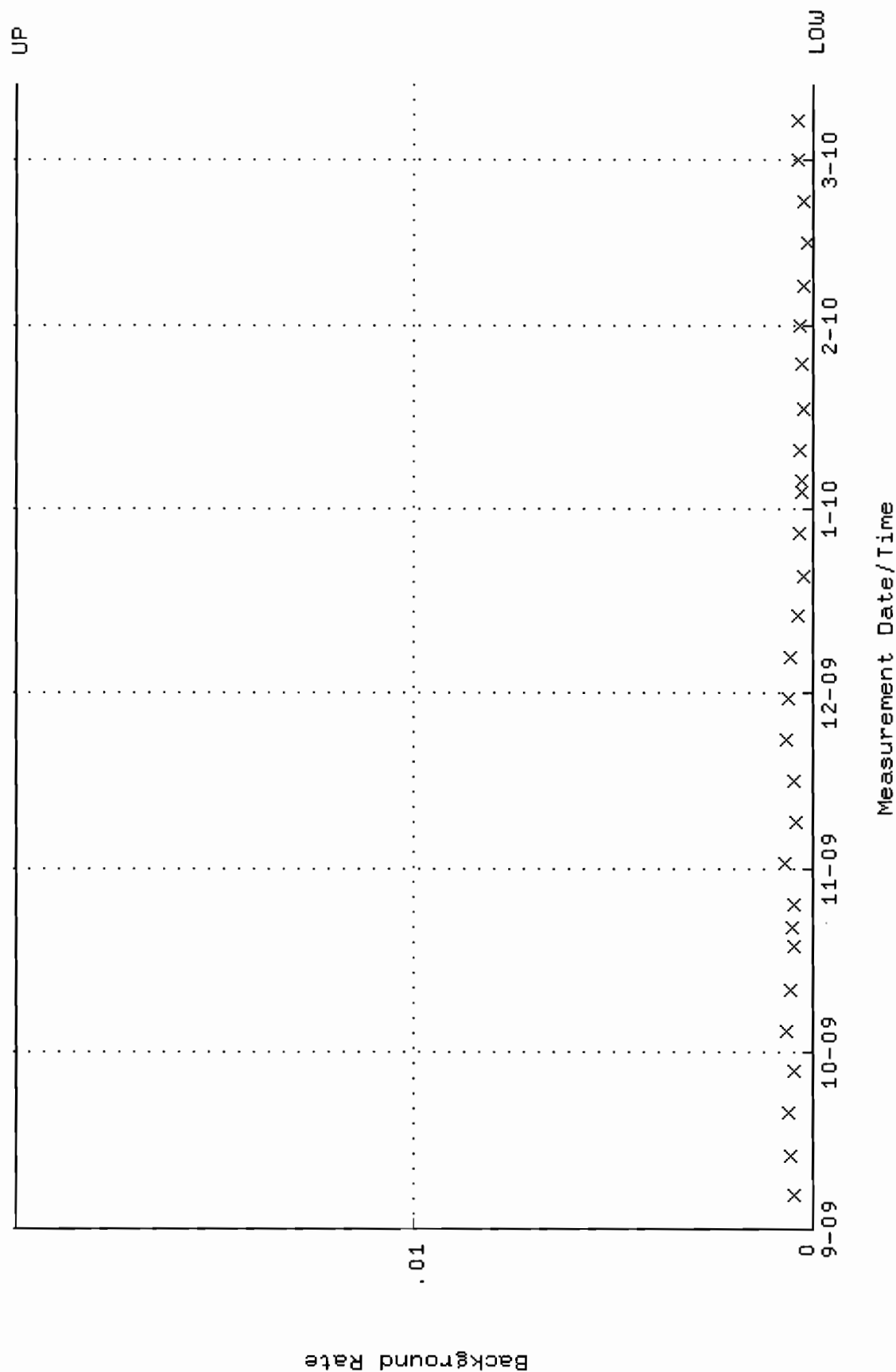


QA filename : DKA100:[ENV\_ALPHA.QA.W]W076.QAF;2  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 10-SEP-2009 07:45:11 through 13-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.296554 through 0.316286

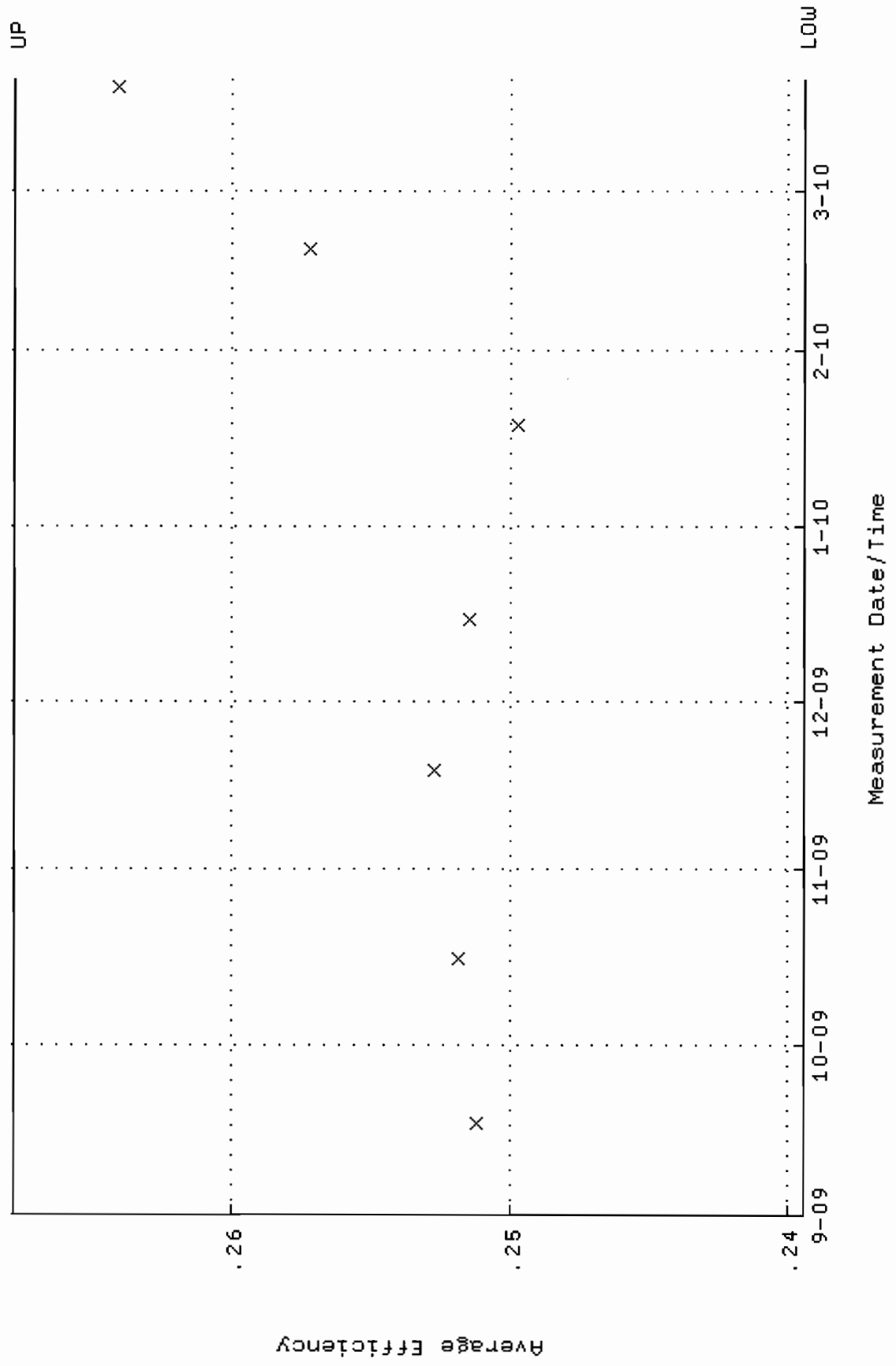


QA filename : DKA100:[ENV\_ALPHA.QA.W]W076.QAF;2  
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 10-SEP-2009 07:45:11 through 13-MAR-2010 12:00:00  
 Lower/Upper Lmts: 89.7306 through 94.6123

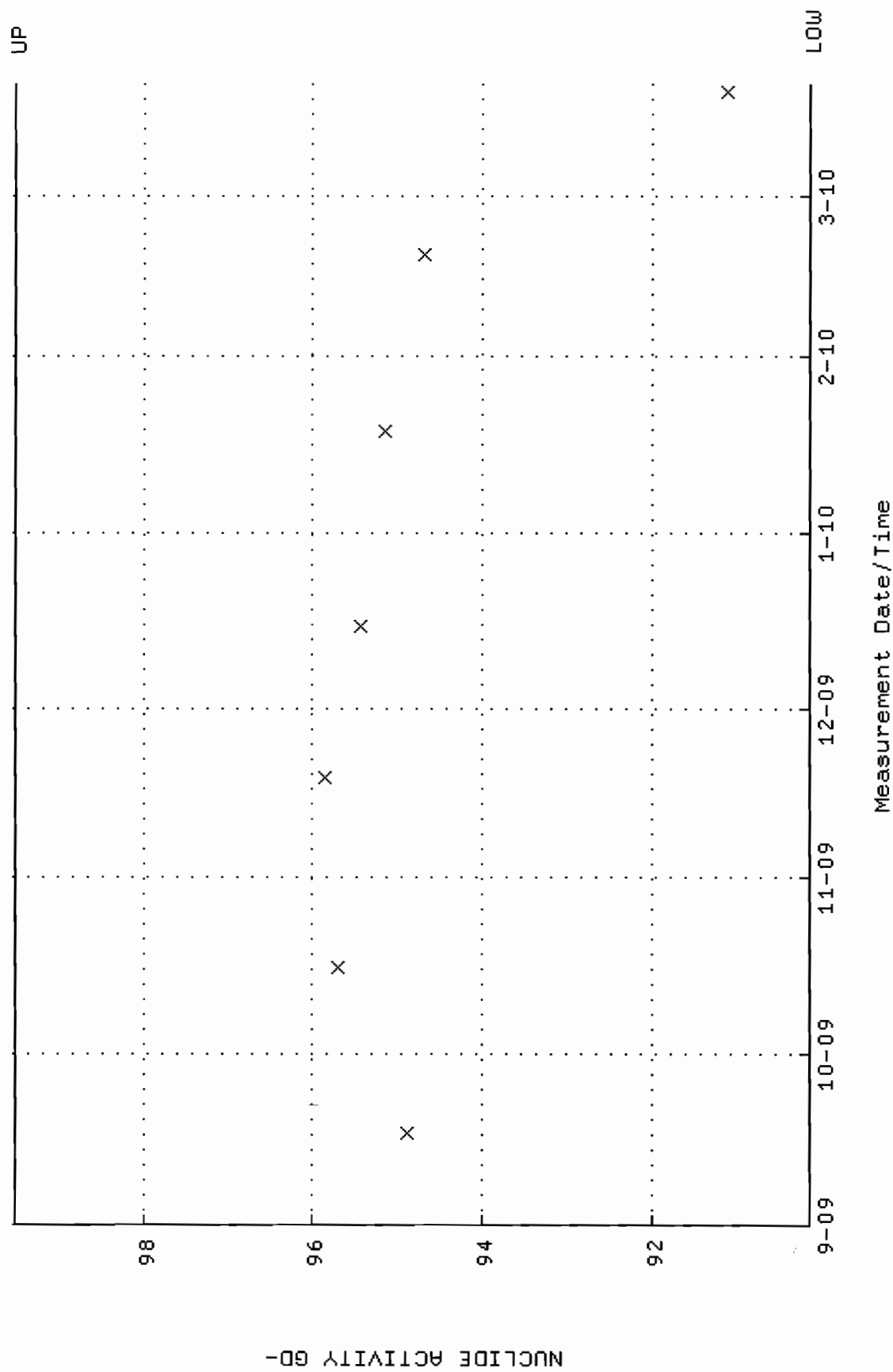




QA filename : DKA100:[ENV\_ALPHA.QA.W]W122.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 17-SEP-2009 07:23:33 through 20-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.239412 through 0.267828

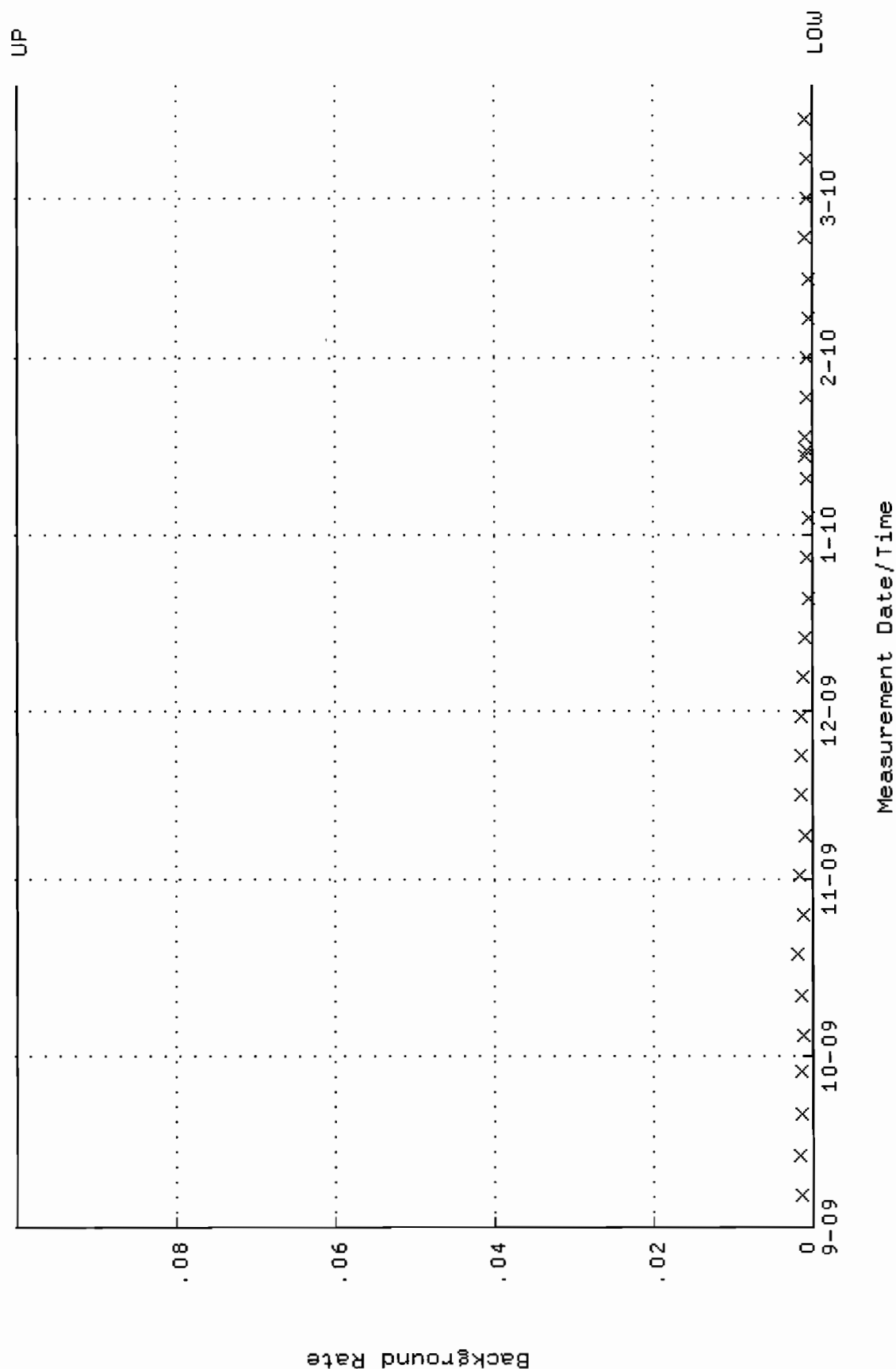


QA filename : DKA100:[ENV\_ALPHA.QA.W]W122.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 17-SEP-2009 07:23:33 through 20-MAR-2010 12:00:00  
 Lower/Upper Lmts: 90.1506 through 99.5122

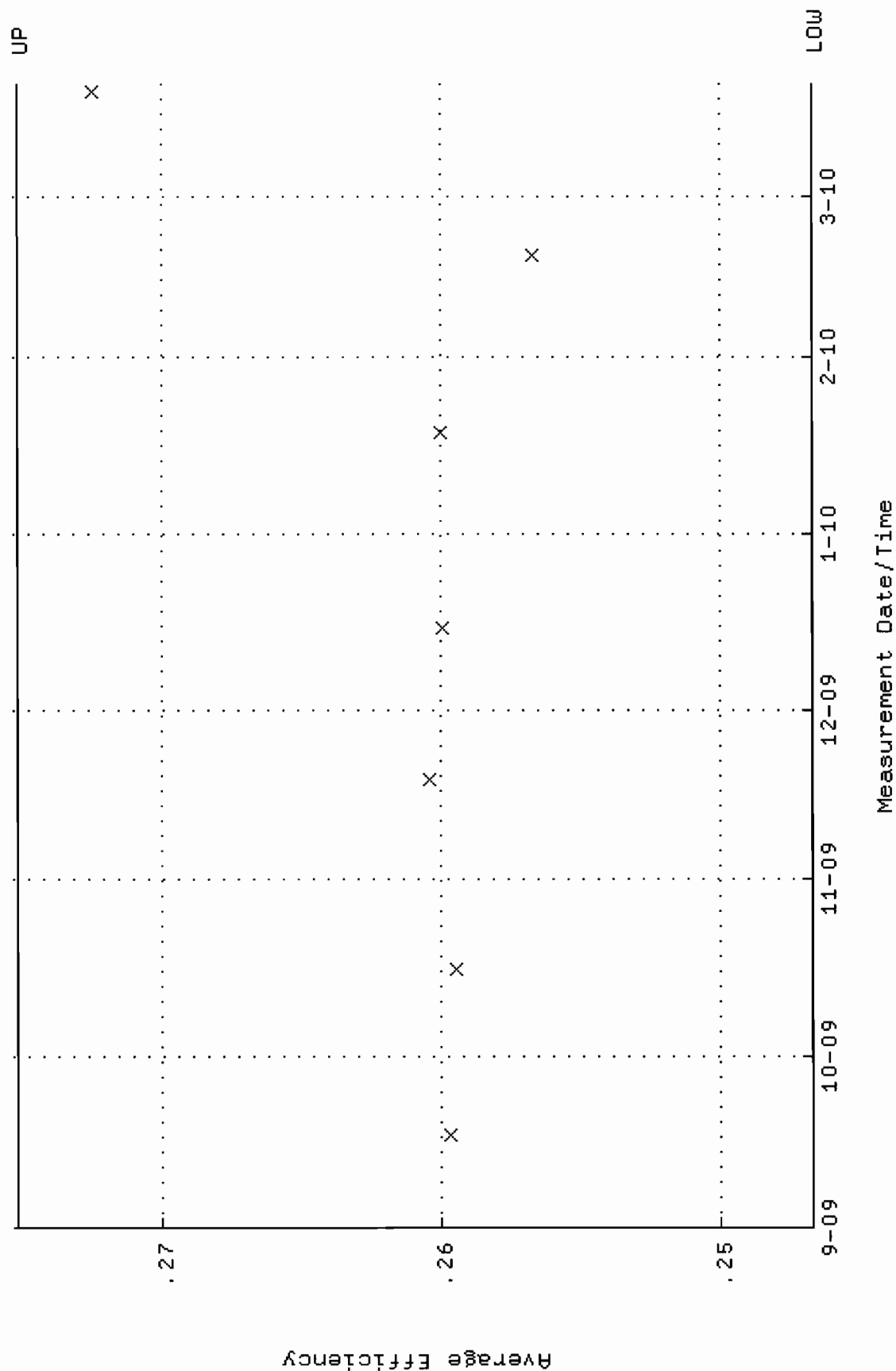




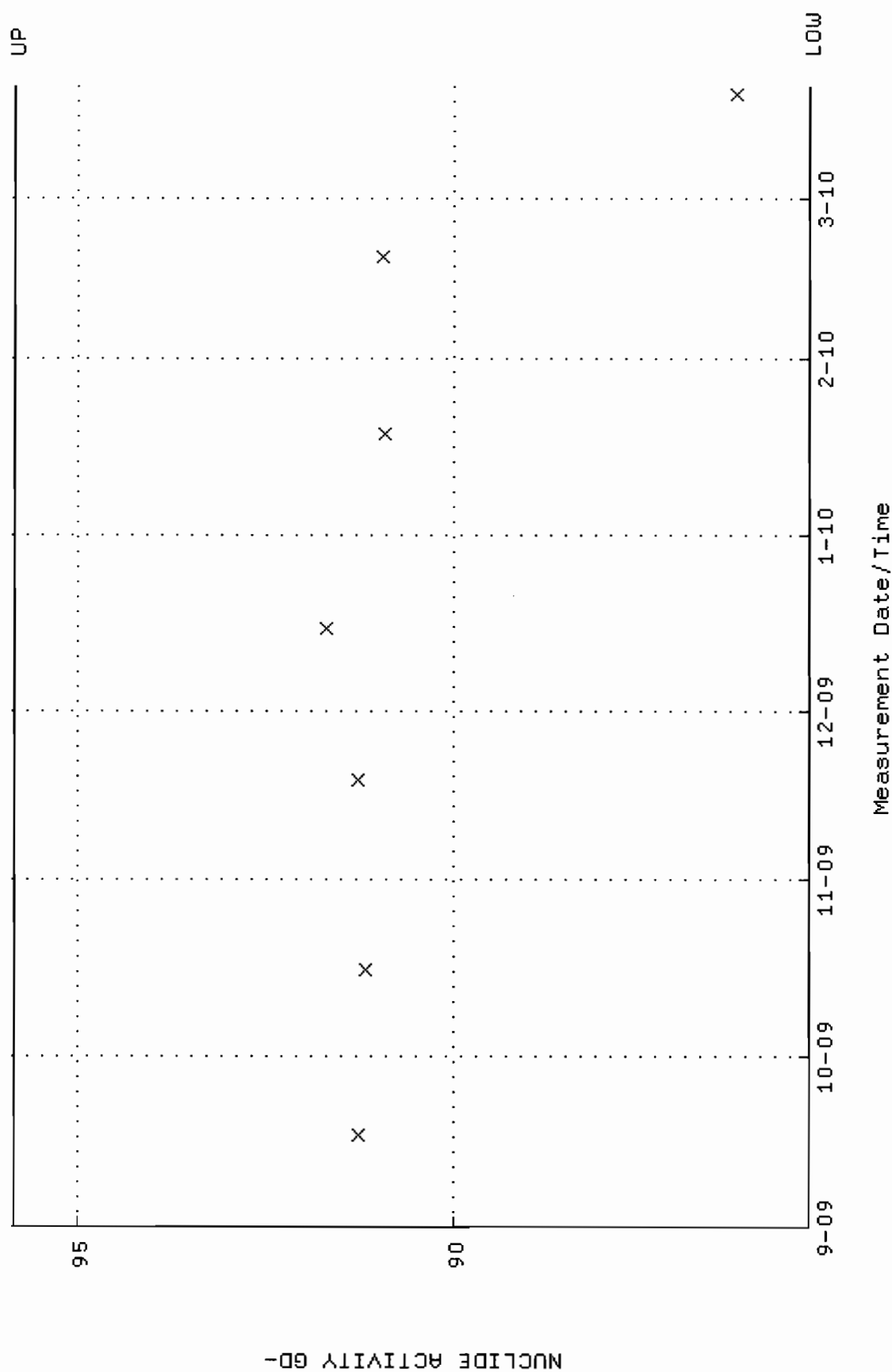
QA filename : DKA100:[ENV\_ALPHA.QA.B]B122.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 6-SEP-2009 15:40:48 through 20-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



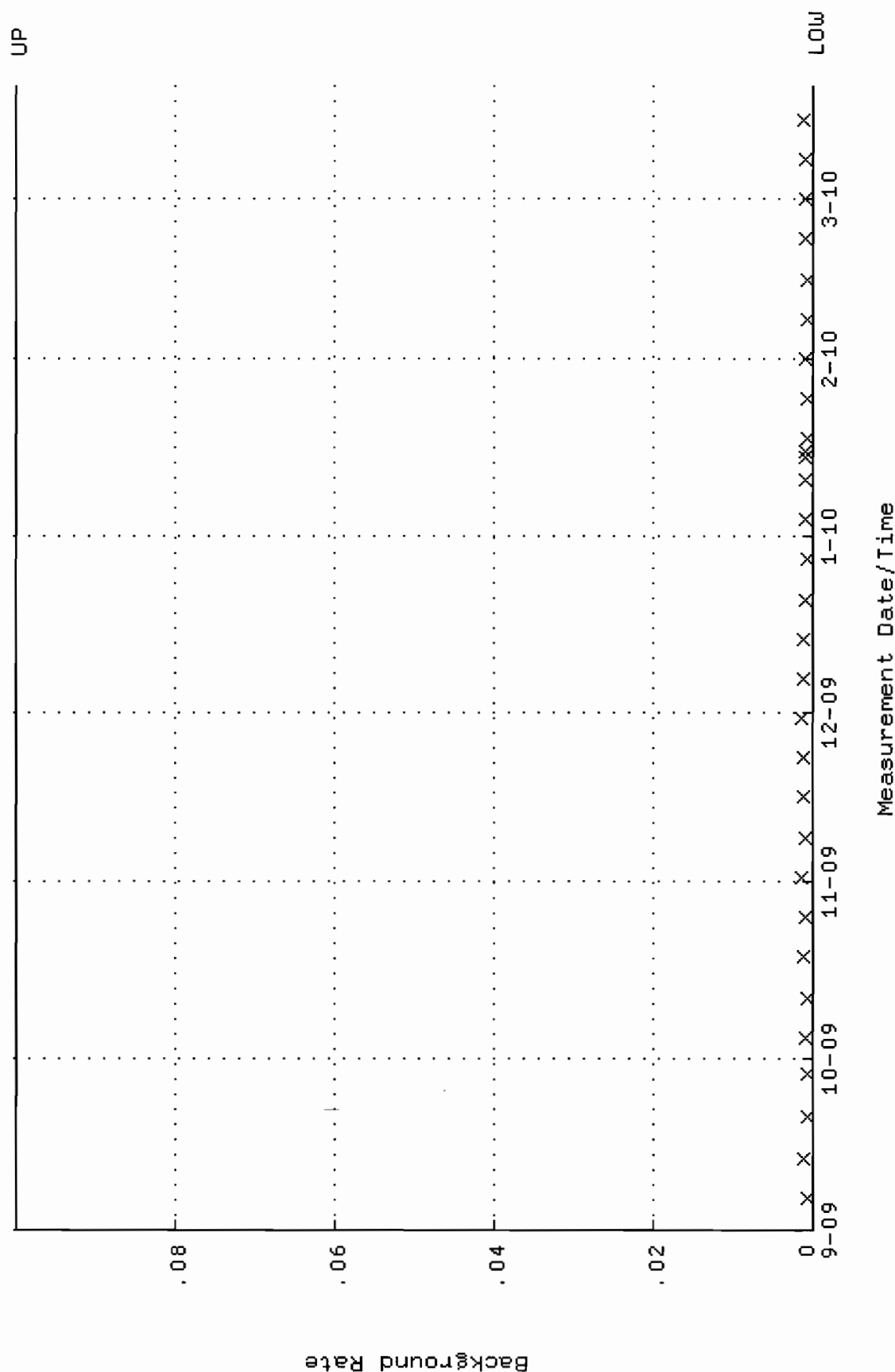
QA filename : DKA100:[ENV\_ALPHA.QA.W]W123.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 17-SEP-2009 07:23:40 through 20-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.246718 through 0.275204



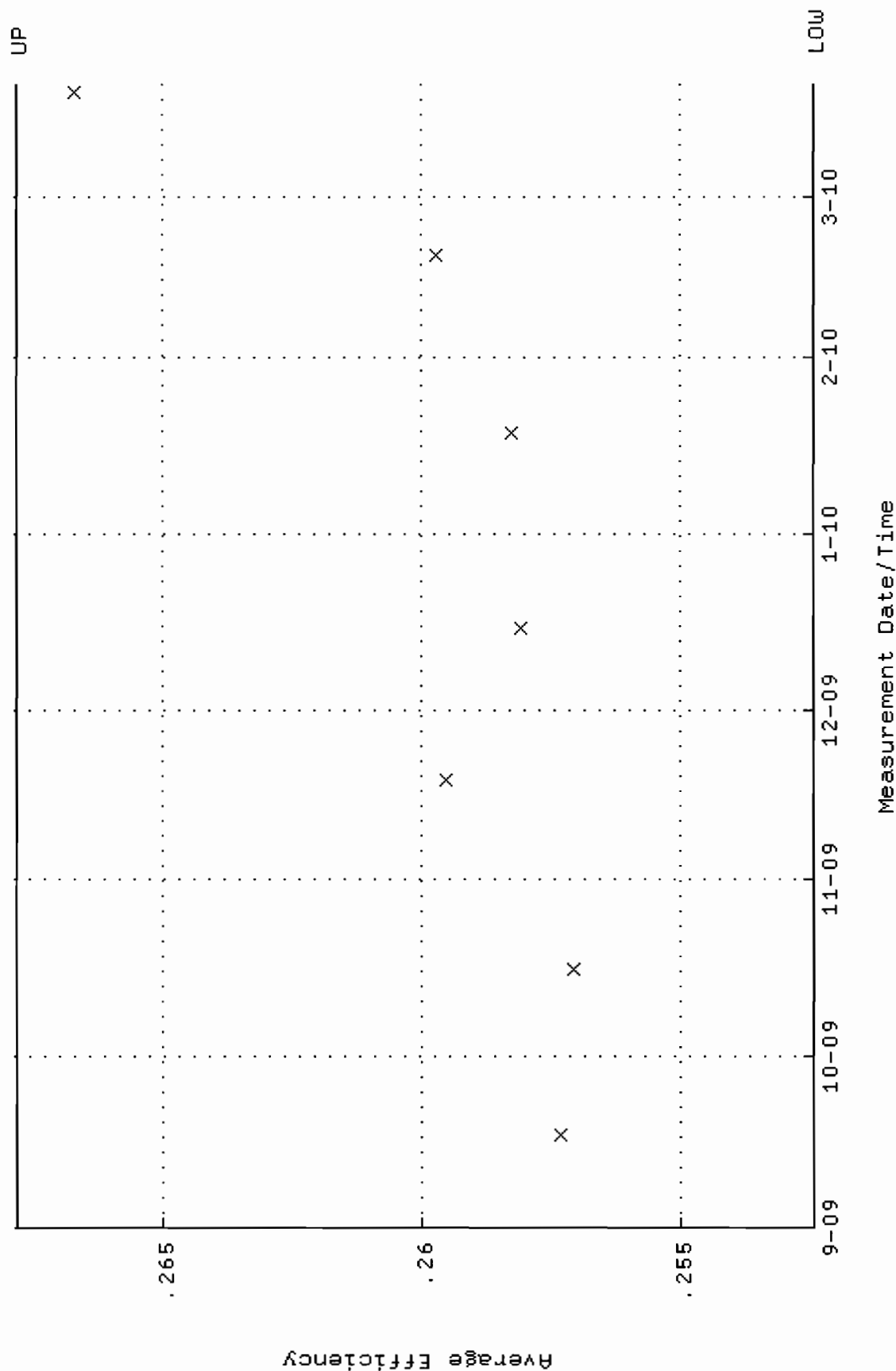
QA filename : DKA100:[ENV\_ALPHA.QA.W]W123.QAF;1  
 Parameter Name : NACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 17-SEP-2009 07:23:40 through 20-MAR-2010 12:00:00  
 Lower/Upper Lmts: 85.2791 through 95.8339



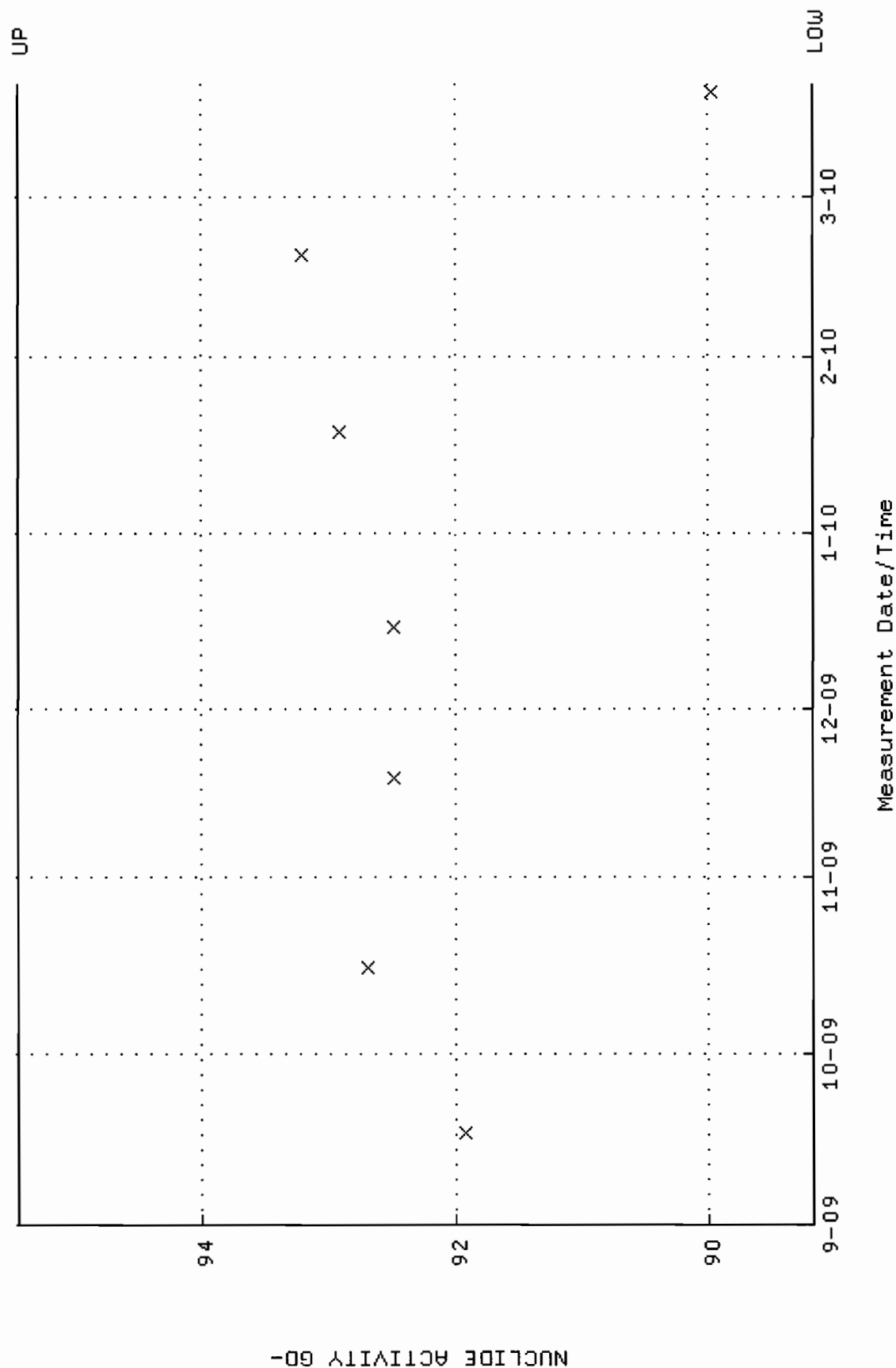
QA filename : DKA100:[ENV\_ALPHA.QA.B]B123.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 6-SEP-2009 15:40:52 through 20-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



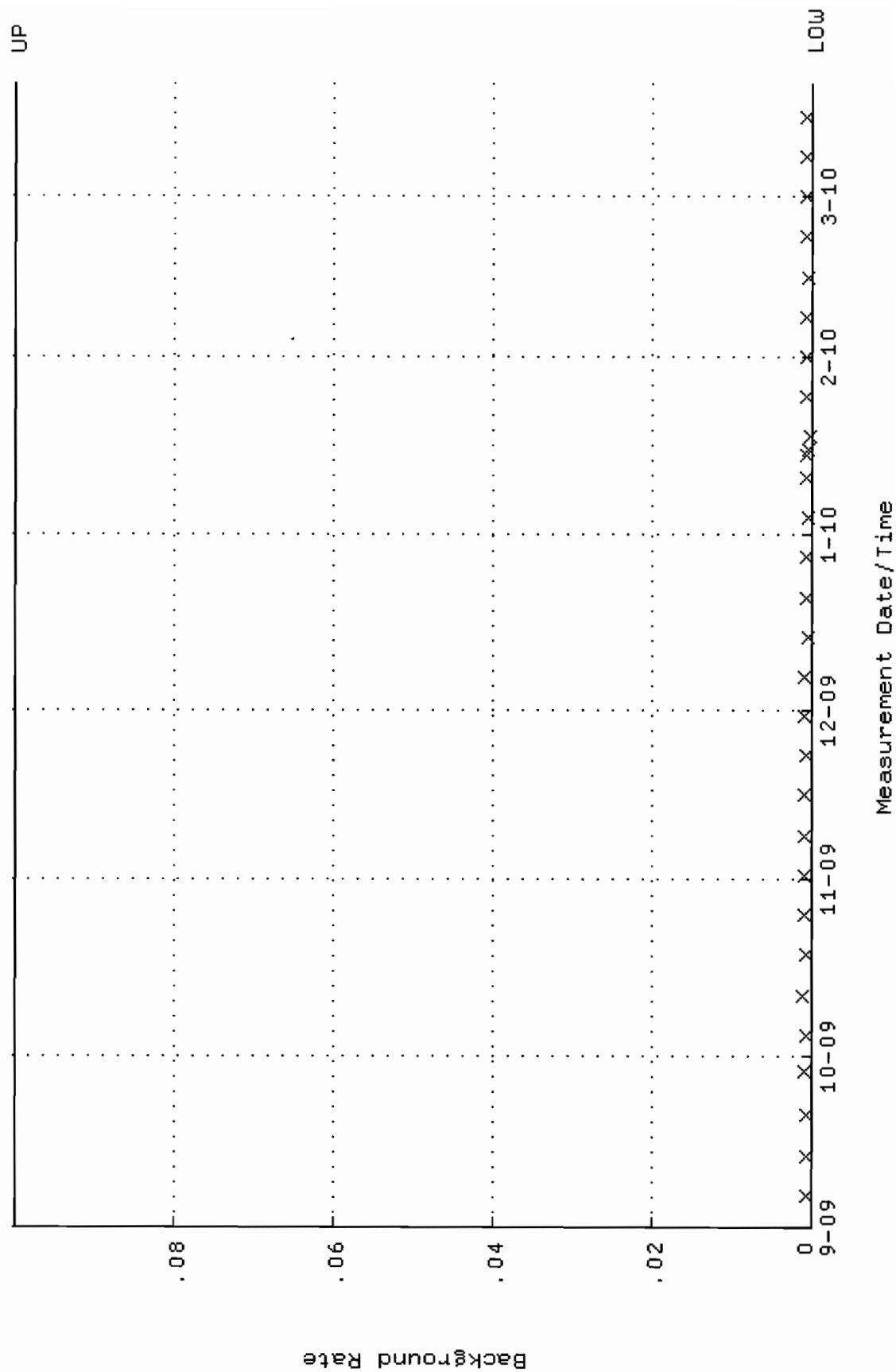
QA filename : DKA100:[ENV\_ALPHA.QA.W]W124.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 17-SEP-2009 07:23:47 through 20-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.252448 through 0.267830



QA filename : DKA100:[ENV\_ALPHA.QA.W]W124.QAF;1  
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 17-SEP-2009 07:23:47 through 20-MAR-2010 12:00:00  
 Lower/Upper Lmts: 89.1805 through 95.4483



QA filename : DKA100:[ENV\_ALPHA.QA.B]B124.QAF;1  
Parameter Name : BACKRATE (Background Rate)  
Start/End Dates : 6-SEP-2009 15:40:56 through 20-MAR-2010 12:00:00  
Lower/Upper Lmts: 0.000000E+00 through 0.100000

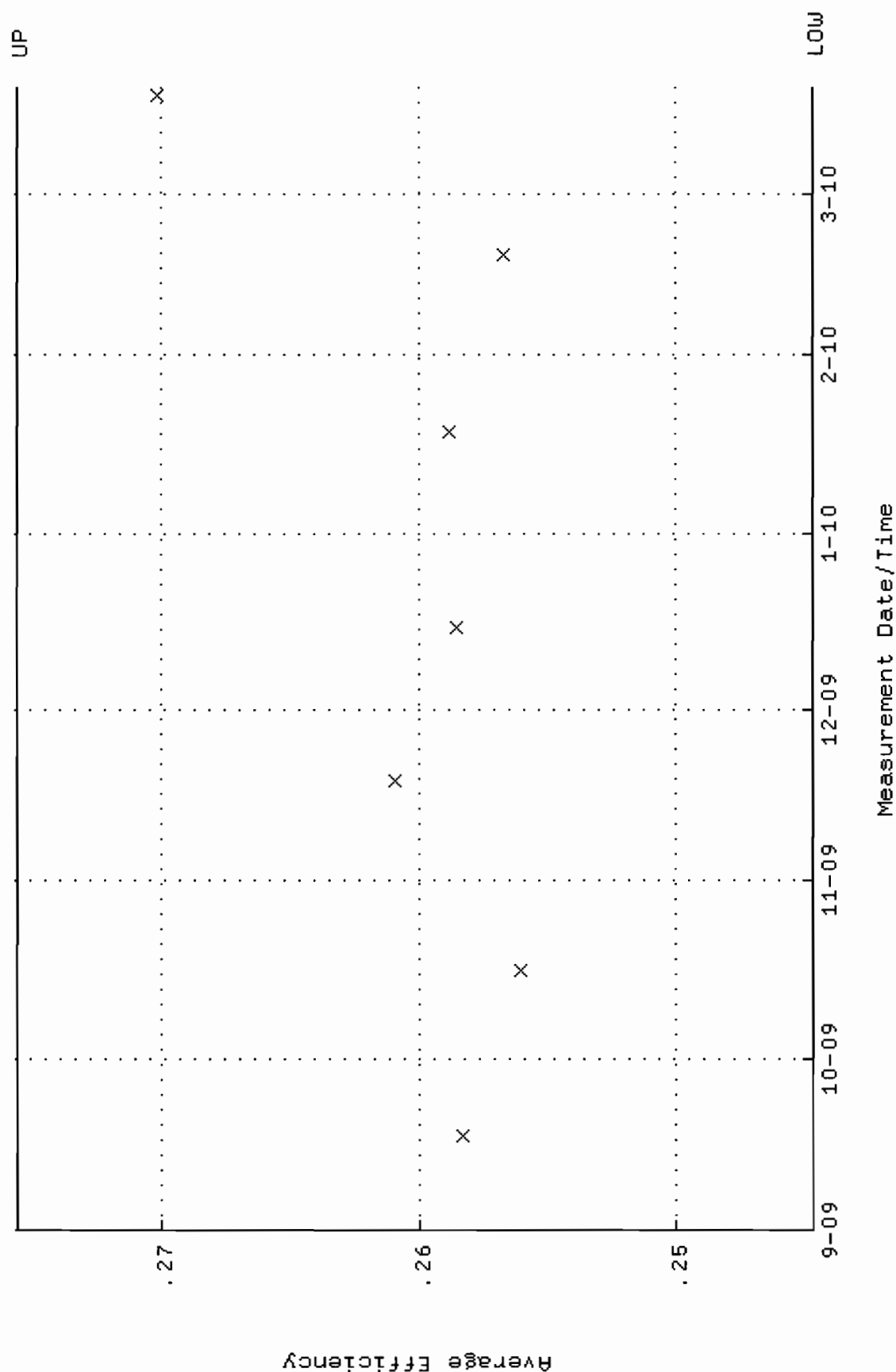


QA filename : DKA100:[ENV\_ALPHA.QA.W]W125.QAF;1

Parameter Name : AVRGEFF (Average Efficiency)

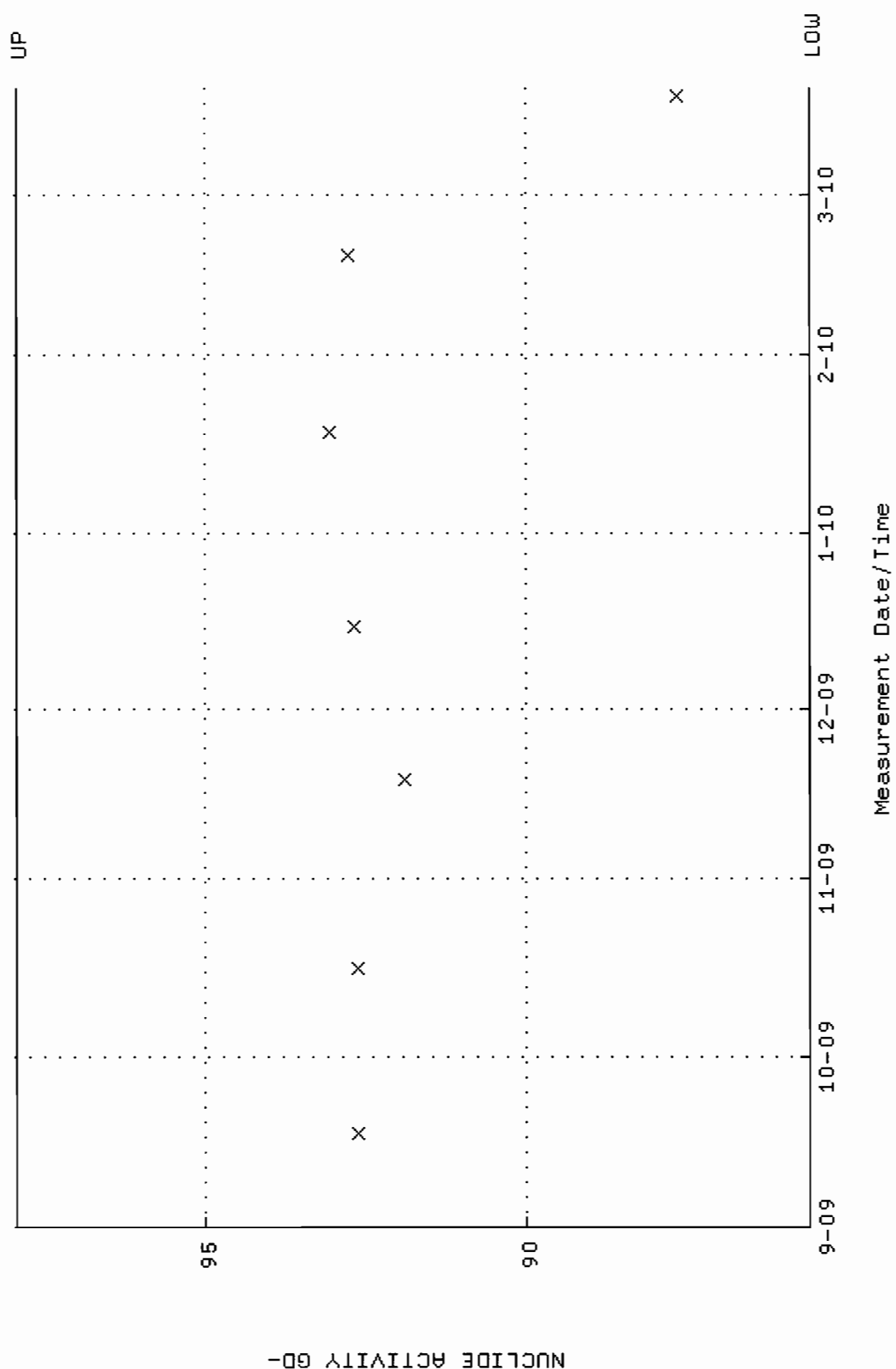
Start/End Dates : 17-SEP-2009 07:23:54 through 19-MAR-2010 12:00:00

Lower/Upper Lmts: 0.244676 through 0.275622

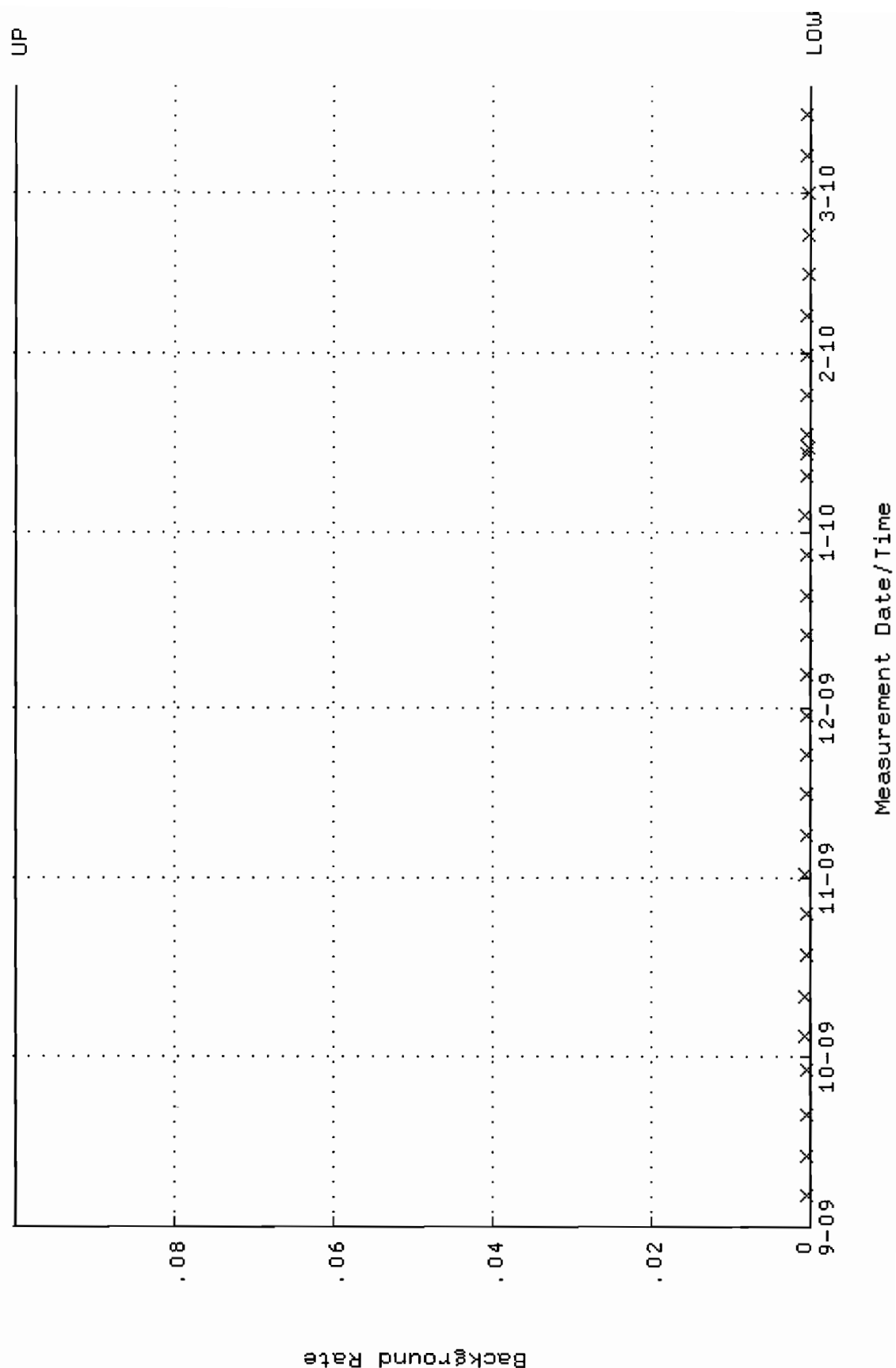




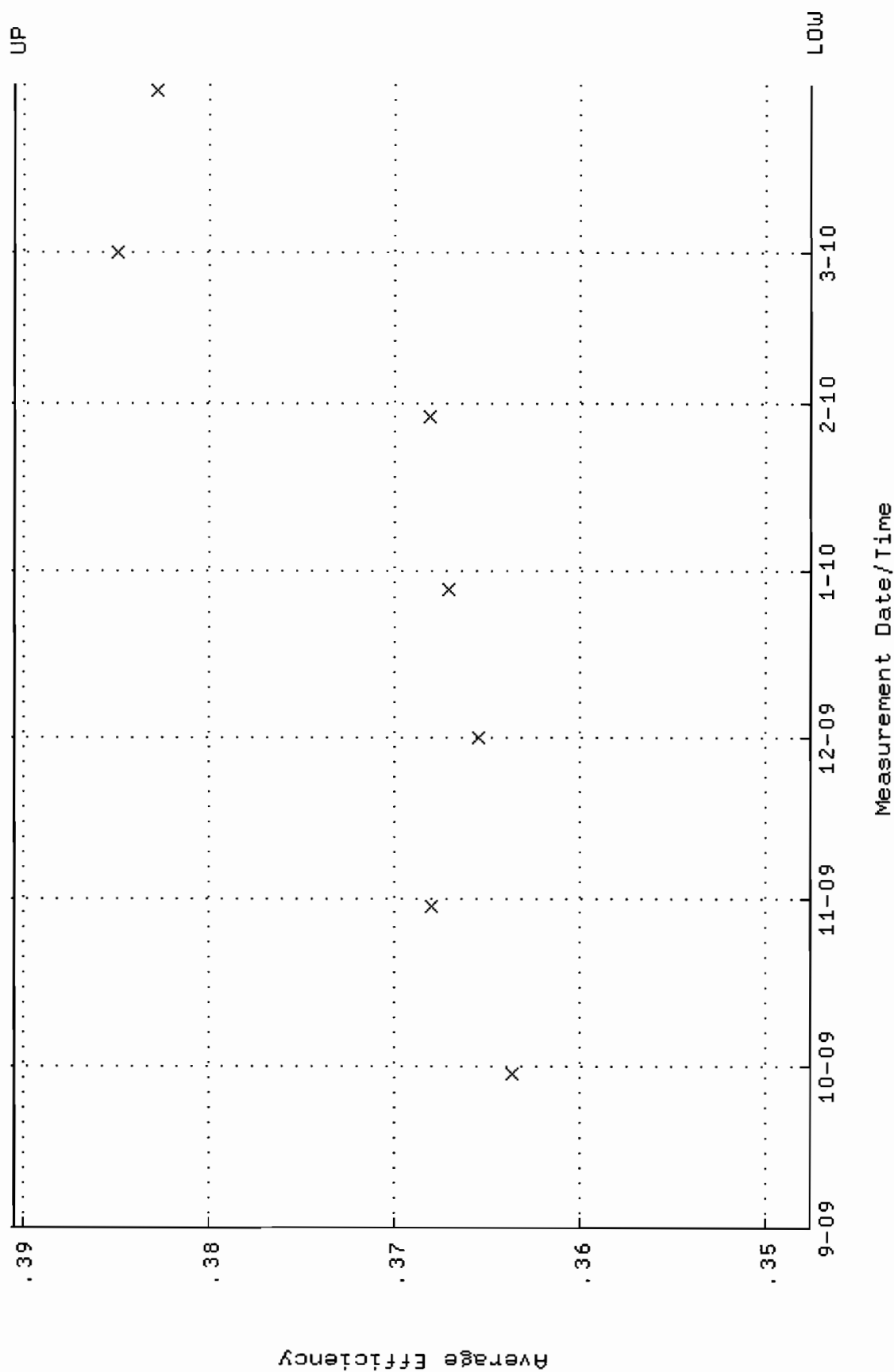
QA filename : DKA100:[ENV\_ALPHA.QA.W]W125.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 17-SEP-2009 07:23:54 through 19-MAR-2010 12:00:00  
 Lower/Upper Lmts: 85.5532 through 97.9632



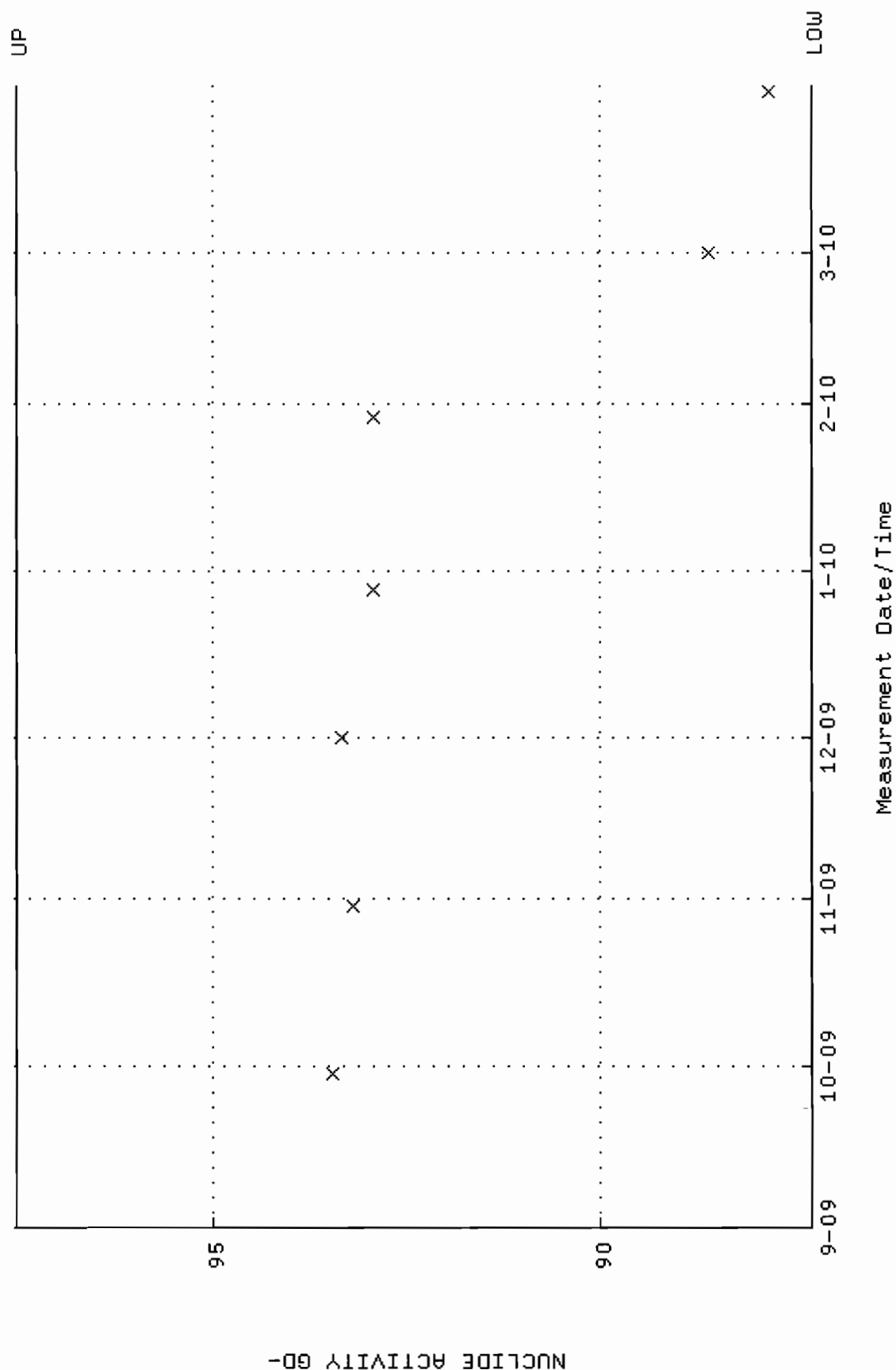
QA filename : DKA100:[ENV\_ALPHA.QA,B]B125.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 6-SEP-2009 15:41:01 through 19-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



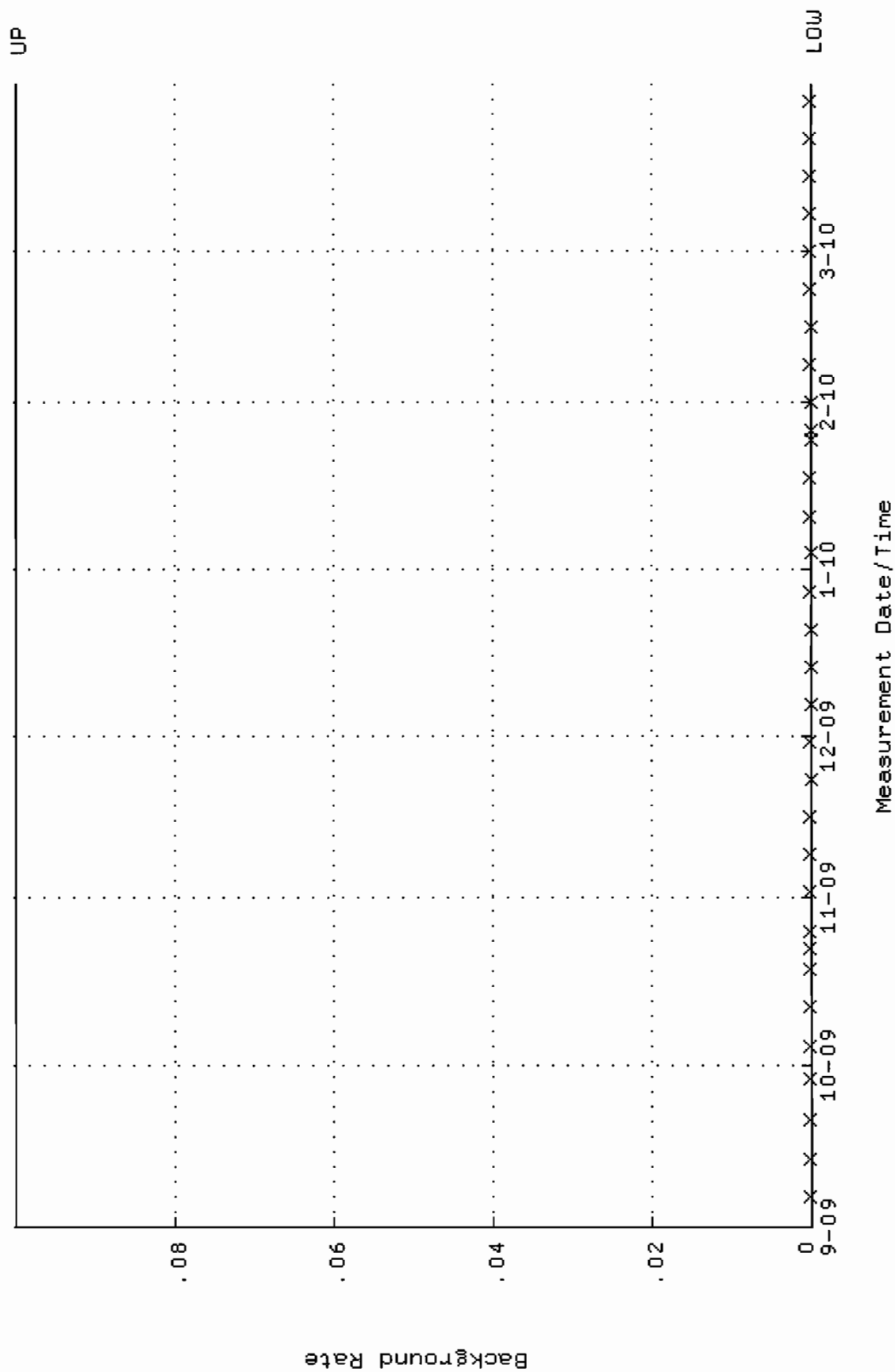
QA filename : DKA100:[ENV\_ALPHA.QA.W]W217.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 29-SEP-2009 08:37:06 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.347554 through 0.390494



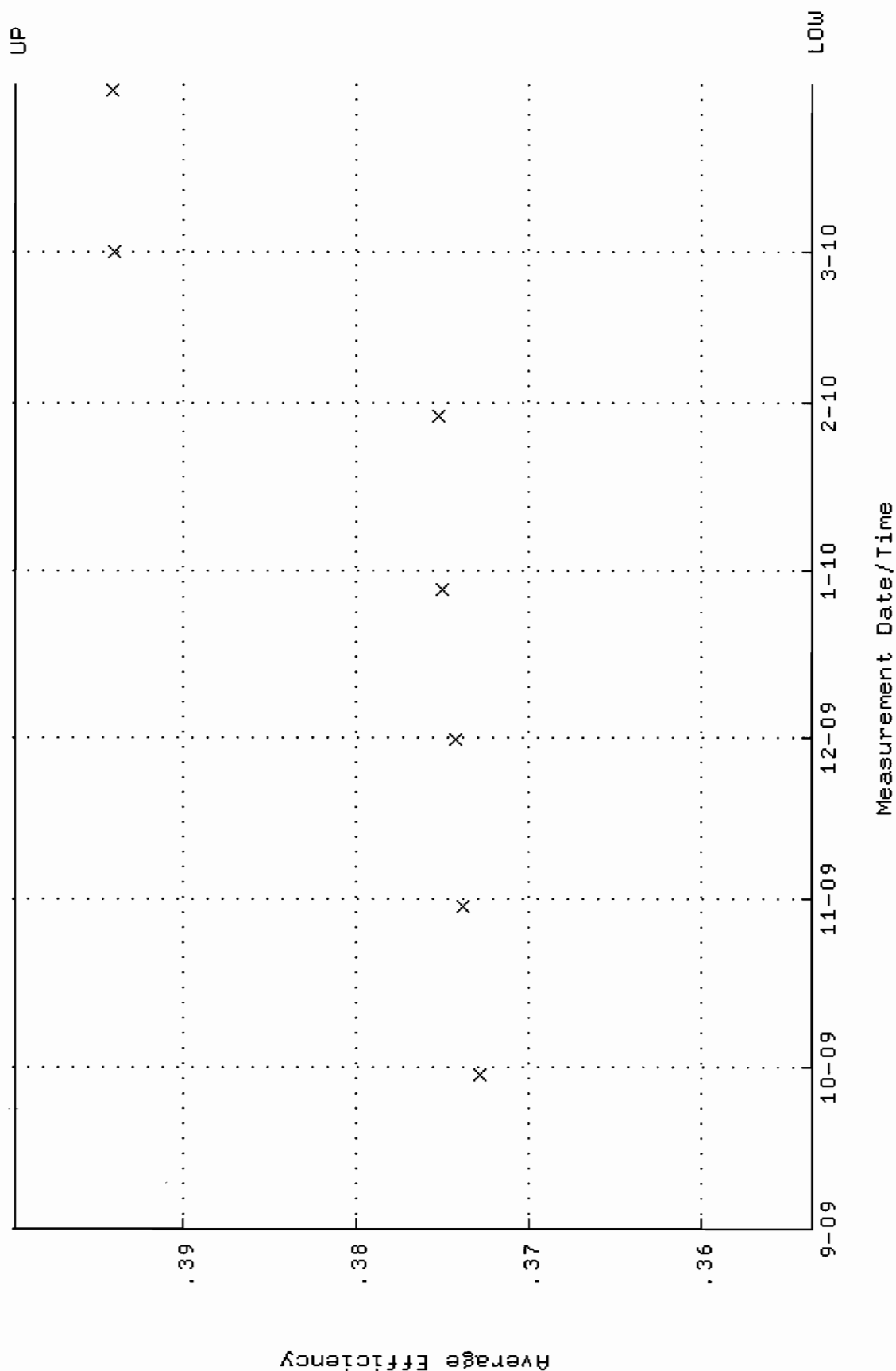
QA filename : DKA100:[ENV\_ALPHA.QA.W]W217.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 29-SEP-2009 08:37:06 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 87.2610 through 97.5406



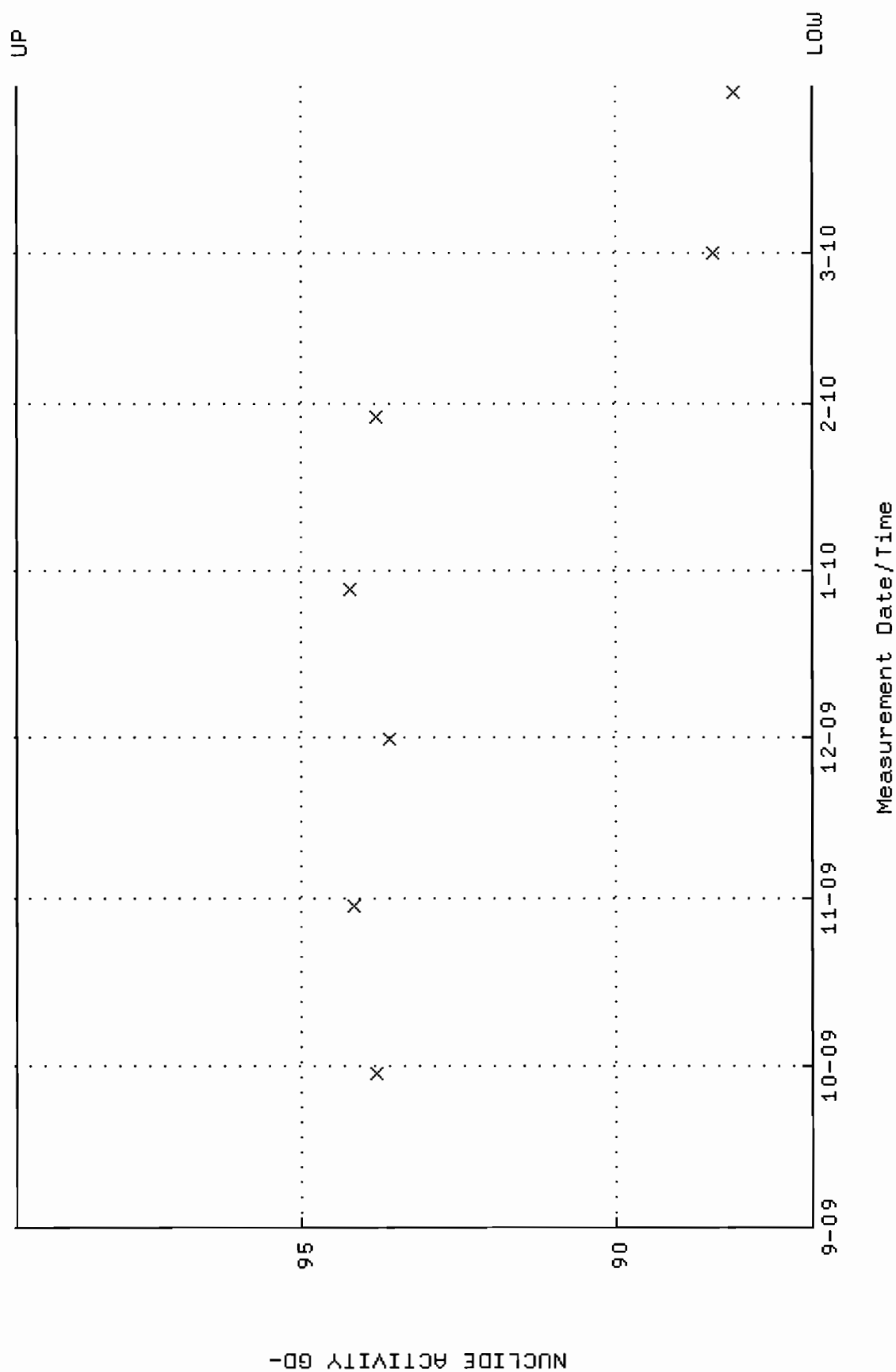
QA filename : DKA100:[ENV\_ALPHA.QA.B]B217.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 6-SEP-2009 15:48:58 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



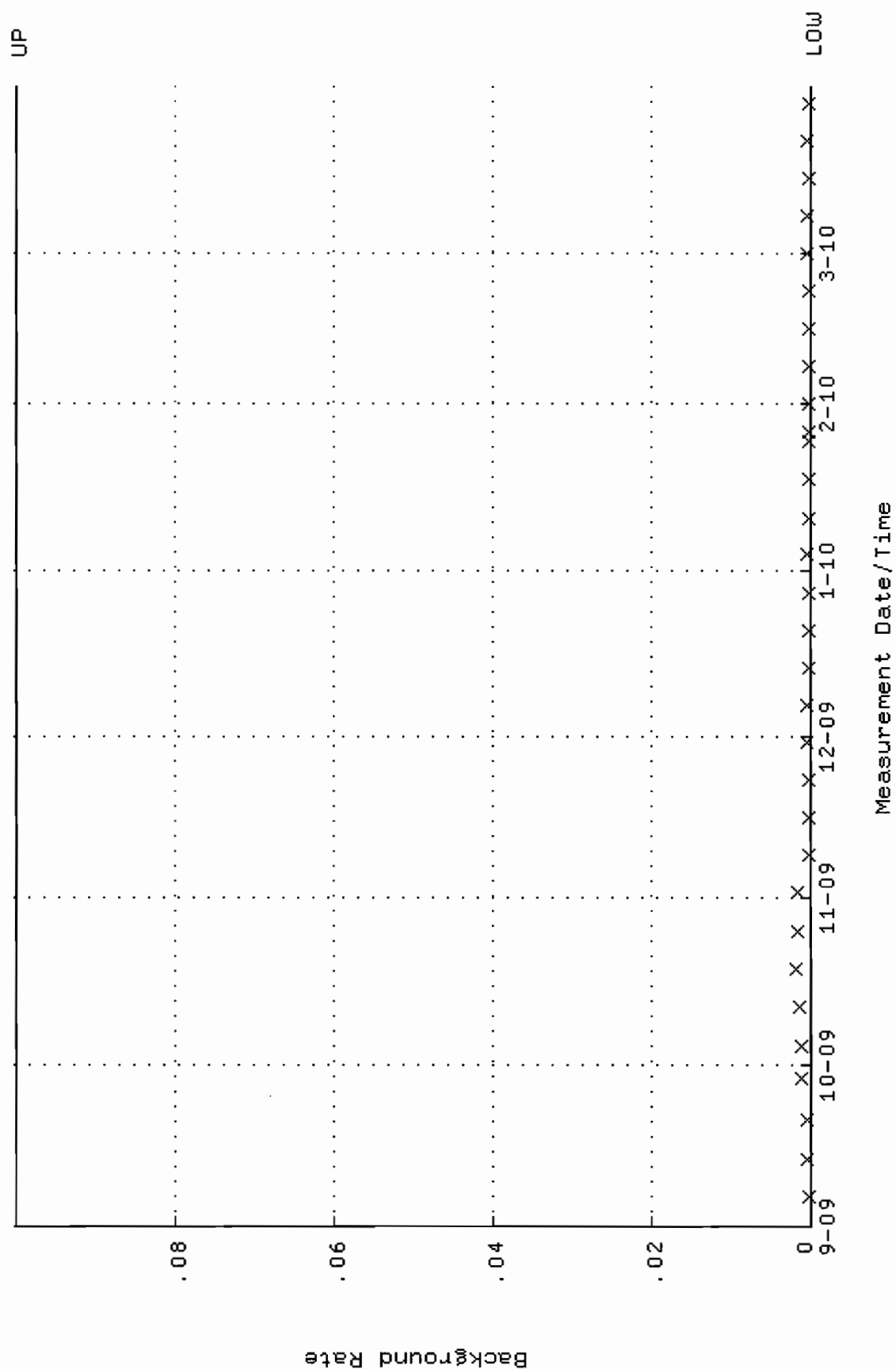
QA filename : DKA100:[ENV\_ALPHA.QA.W]W218.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 29-SEP-2009 08:37:13 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.353641 through 0.399809



QA filename : DKA100:[ENV\_ALPHA.QA.W]W218.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 29-SEP-2009 08:37:13 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 86.8733 through 99.5183

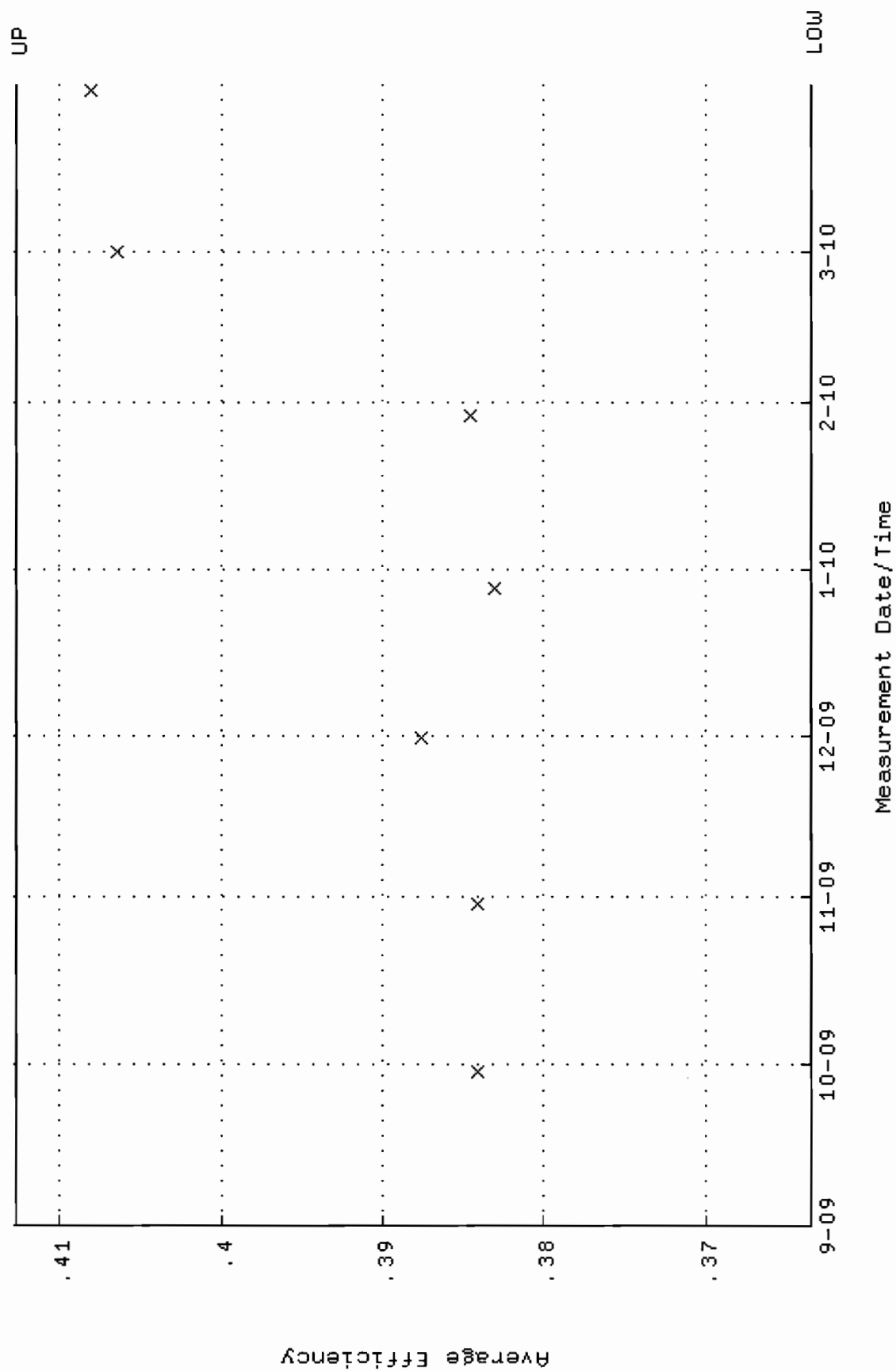


QA filename : DKA100:[ENV\_ALPHA.QA.B]B218.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 6-SEP-2009 15:49:02 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000

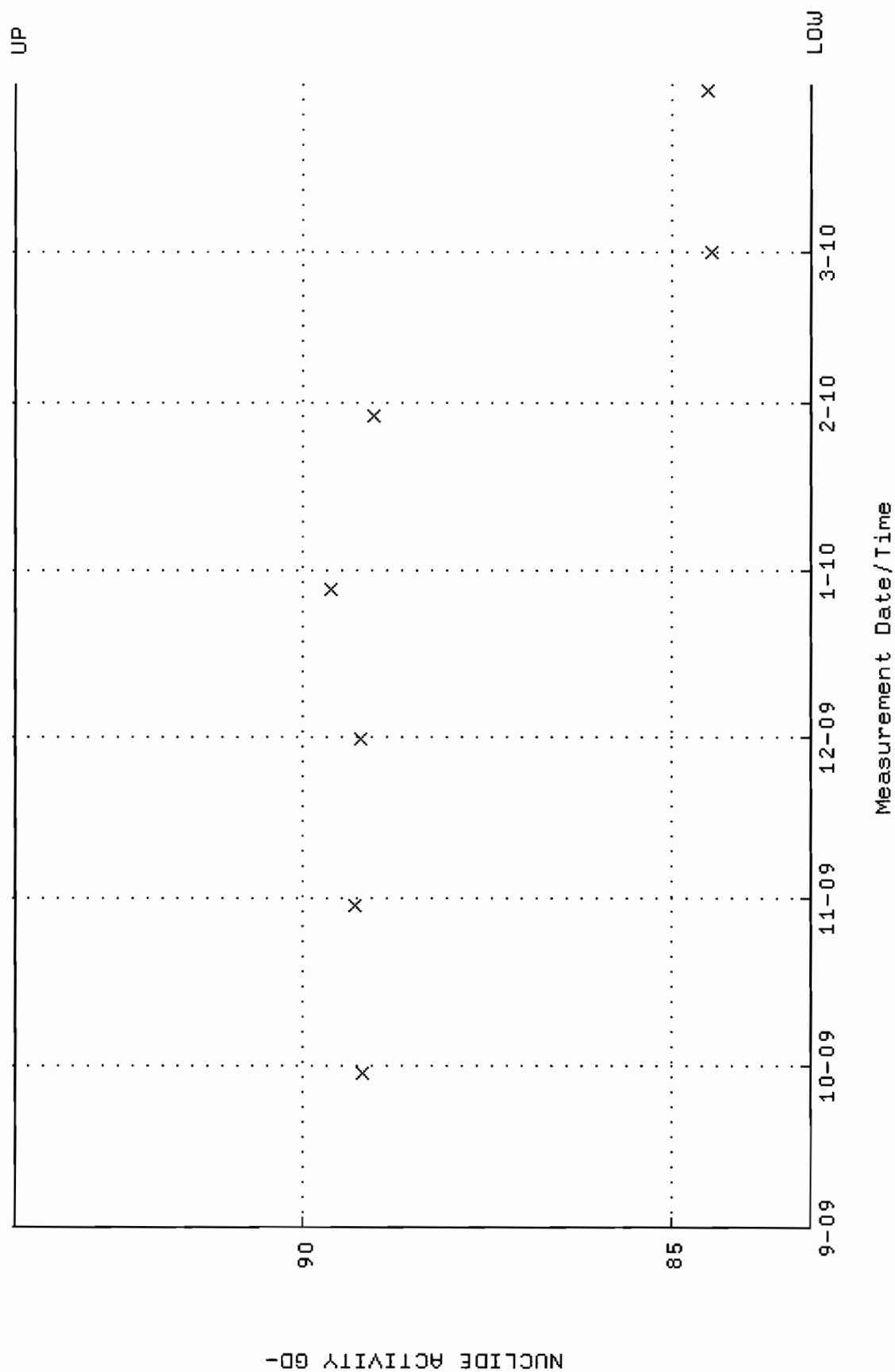




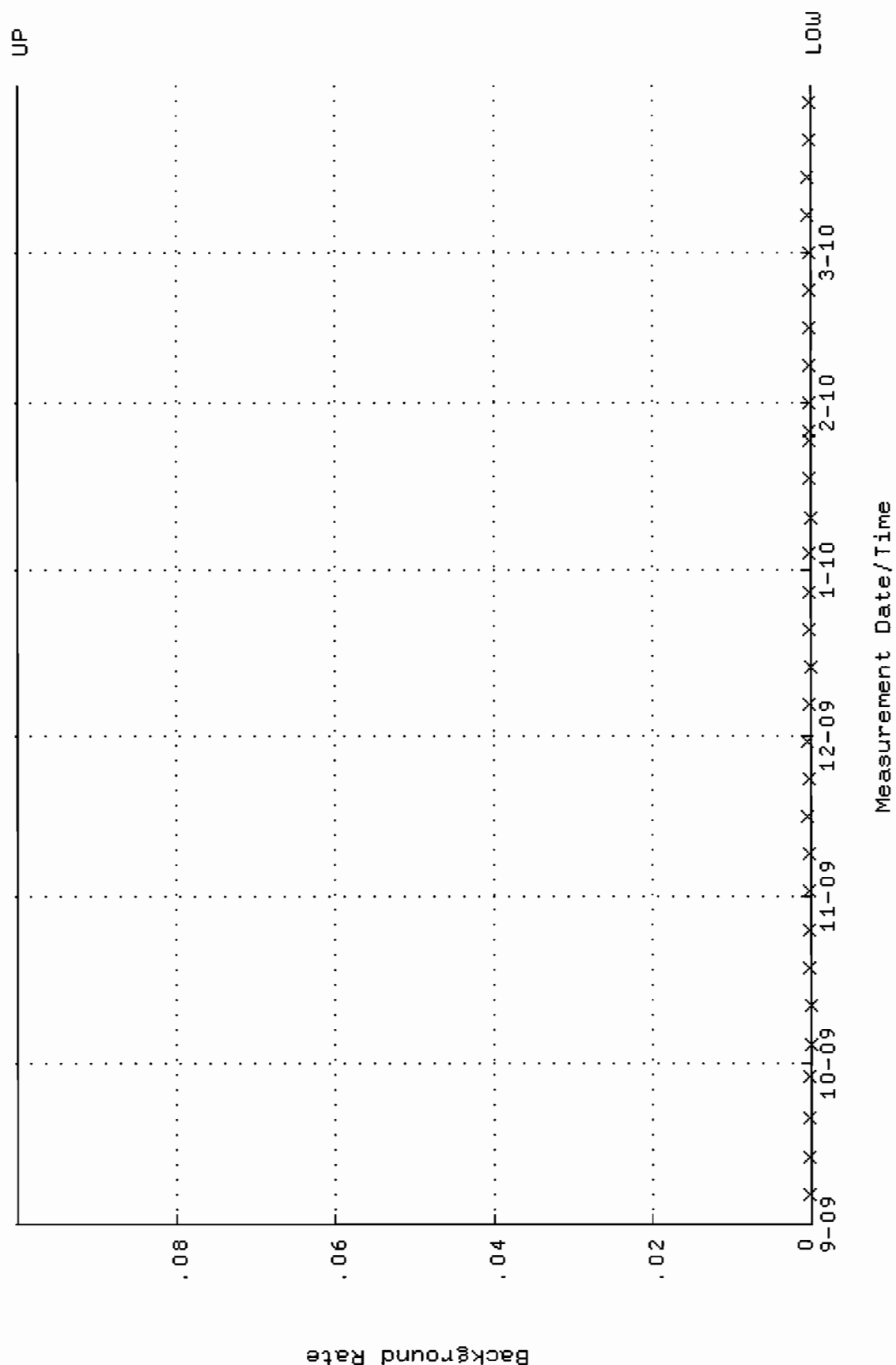
QA filename : DKA100:[ENV\_ALPHA.QA.W]W219.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 29-SEP-2009 08:37:19 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.363471 through 0.412689



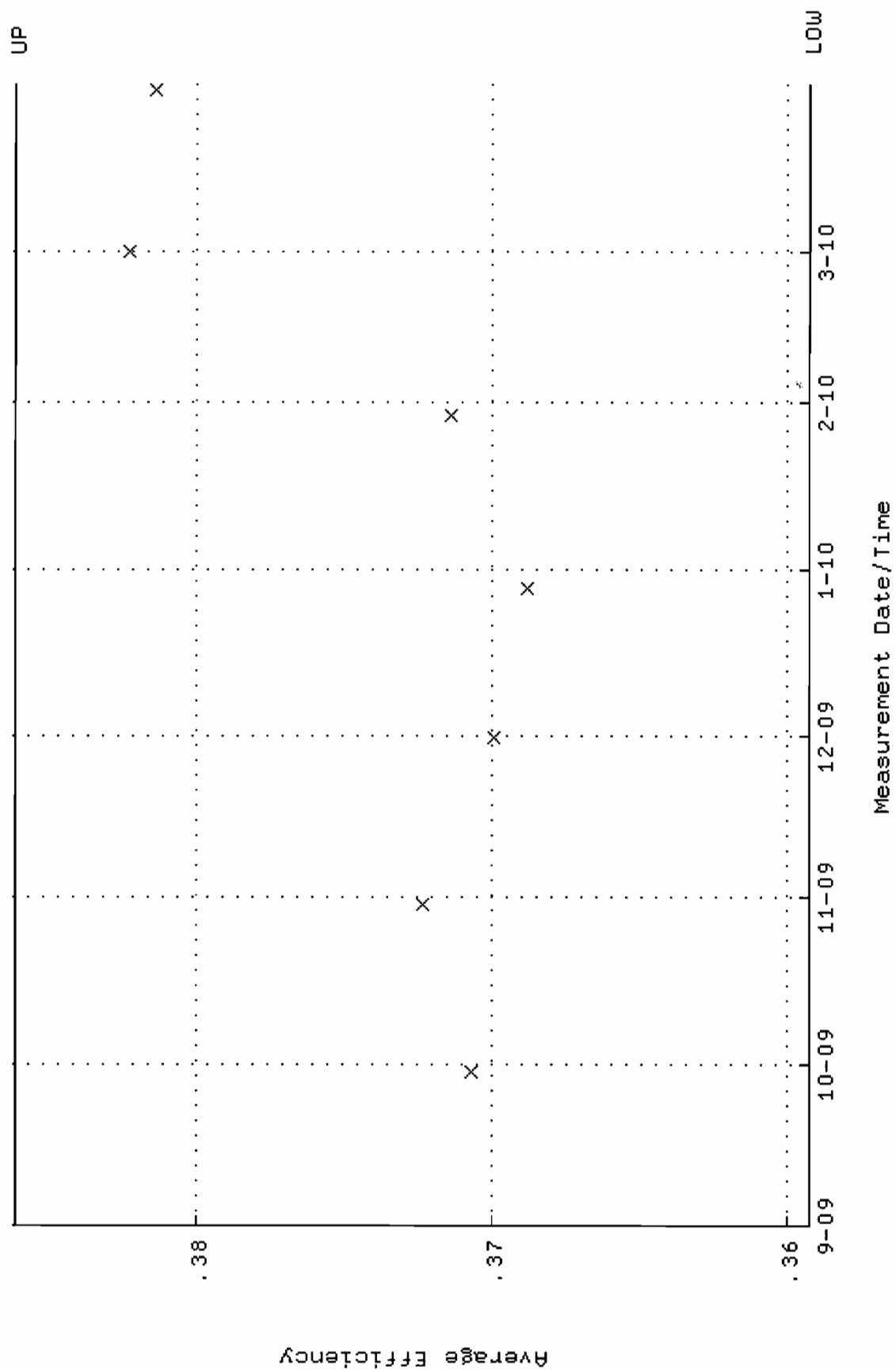
QA filename : DKA100:[ENV\_ALPHA.QA.W]W219.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 29-SEP-2009 08:37:19 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 83.1251 through 93.8923



QA filename : DKA100:[ENV\_ALPHA.QA.B]B219.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 6-SEP-2009 15:49:07 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000

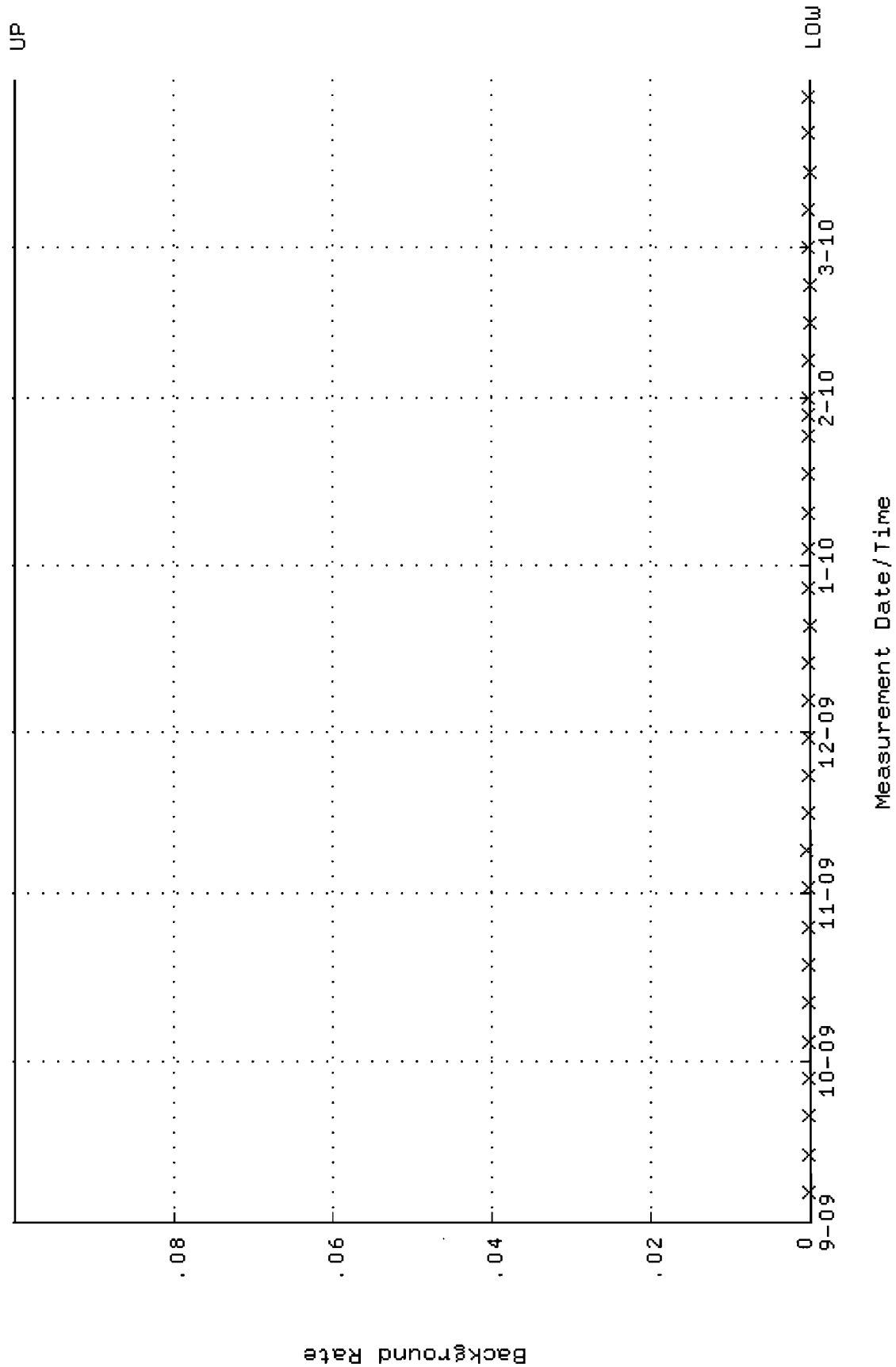


QA filename : DKA100:[ENV\_ALPHA.QA.W]W228.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 29-SEP-2009 08:38:09 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.359272 through 0.386096

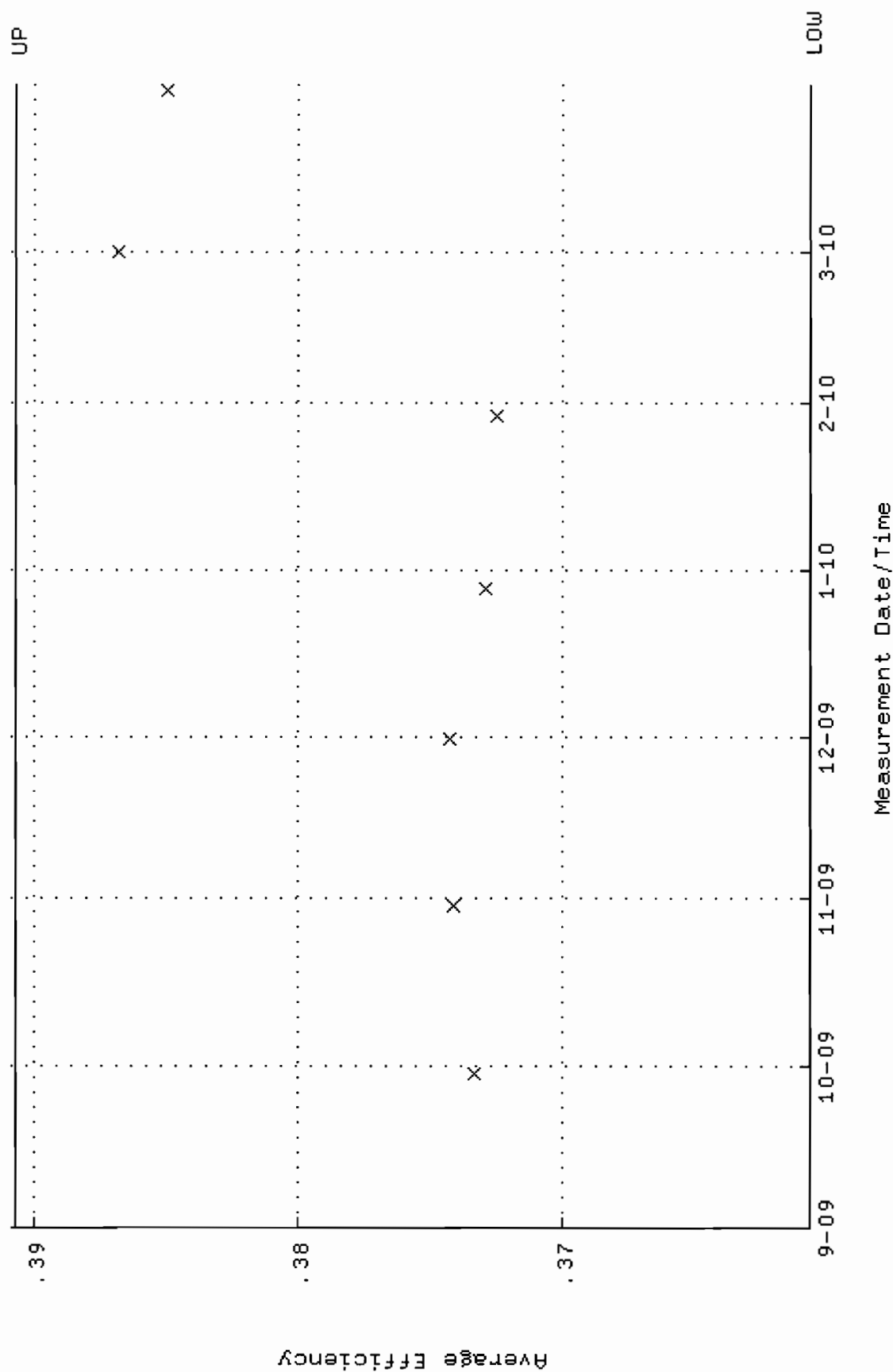




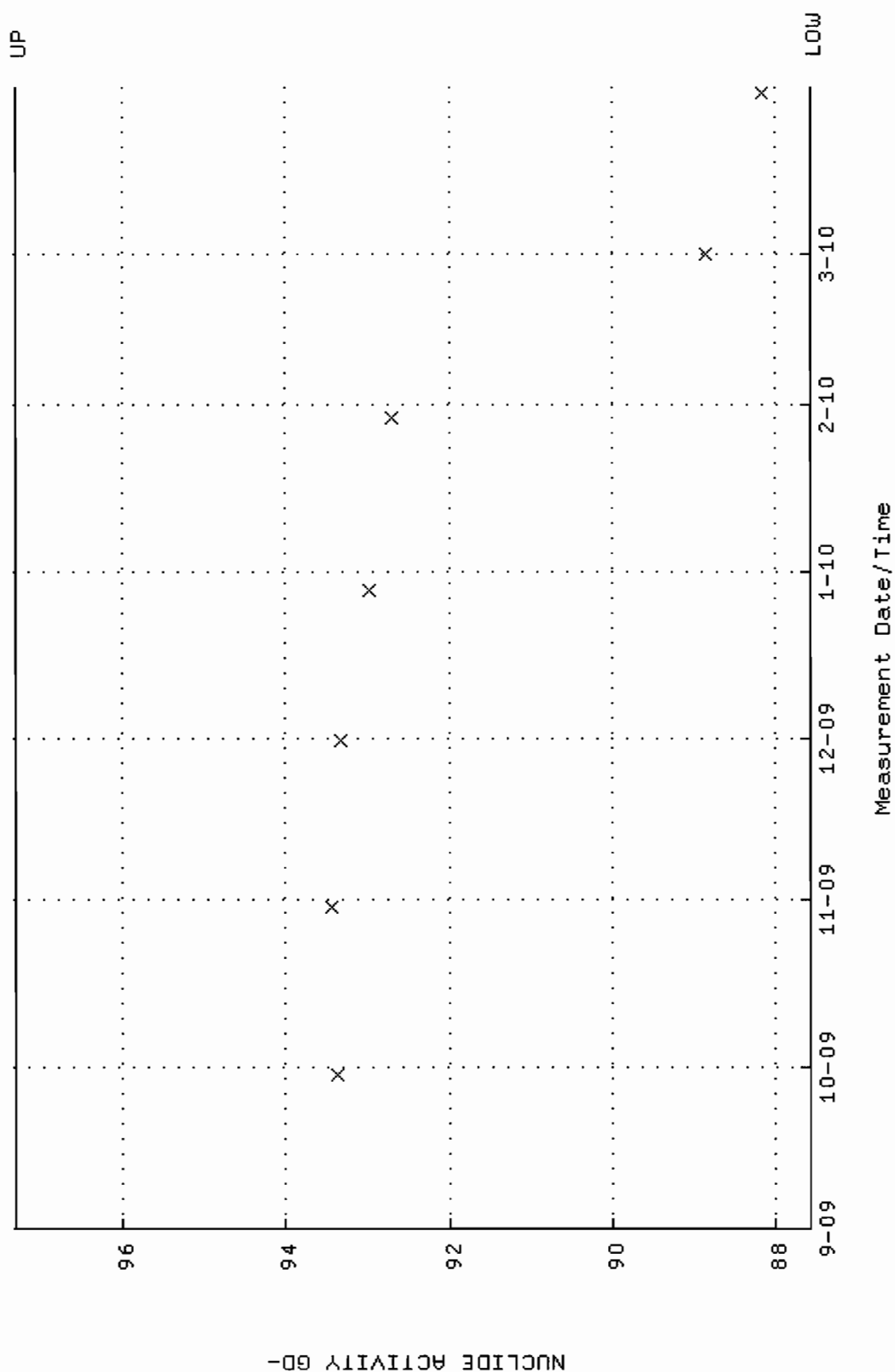
QA filename : DKA100:[ENV\_ALPHA.QA.B]B228.QAF;1  
Parameter Name : BACKRATE (Background Rate)  
Start/End Dates : 6-SEP-2009 15:49:49 through 31-MAR-2010 12:00:00  
Lower/Upper Lmts: 0.000000E+00 through 0.100000



QA filename : DKA100:[ENV\_ALPHA.QA.W]W229.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 29-SEP-2009 08:38:15 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.360663 through 0.390815

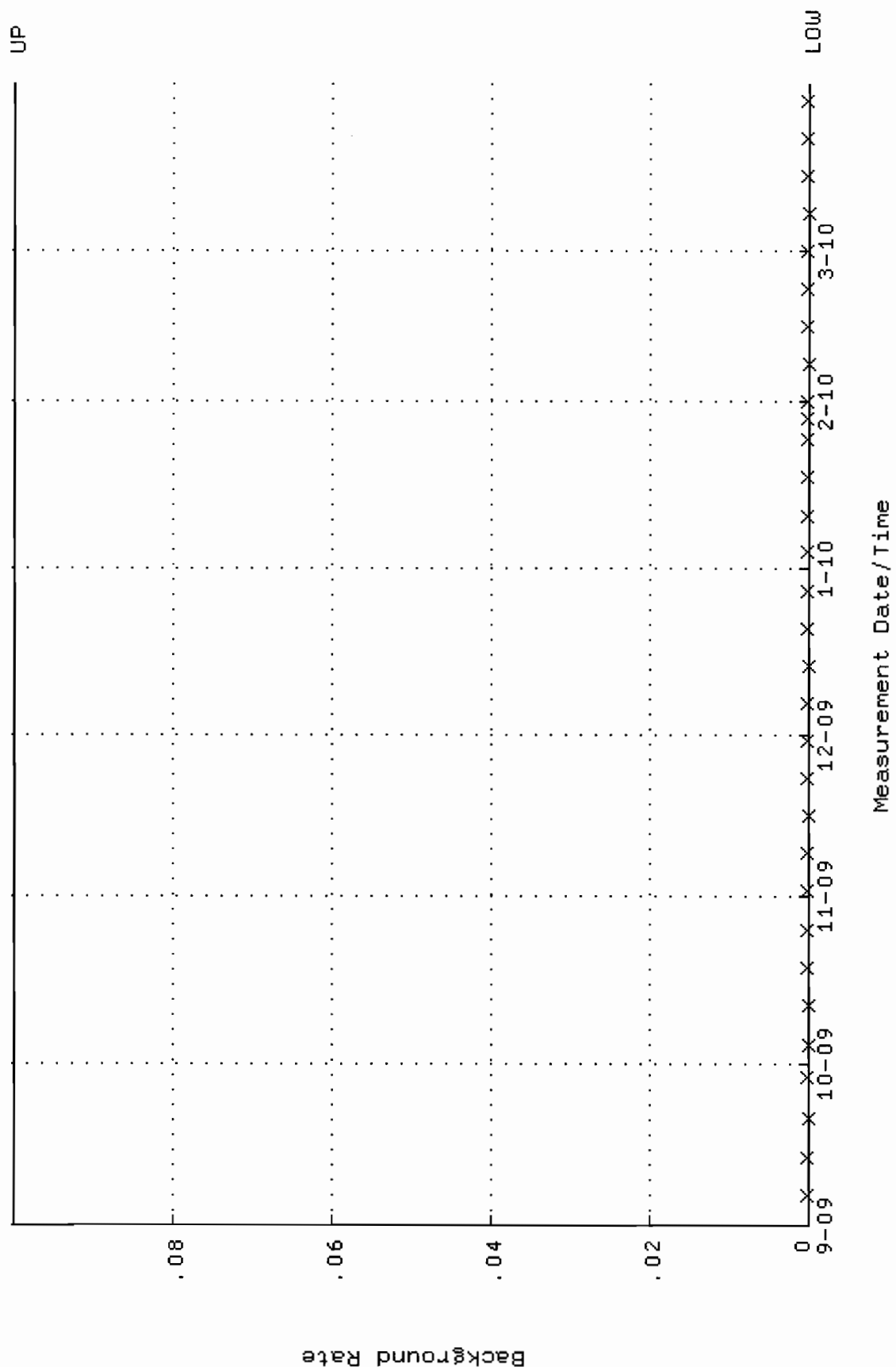


QA filename : DKA100:[ENV\_ALPHA.QA.W]W229.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 29-SEP-2009 08:38:15 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 87.5648 through 97.3078

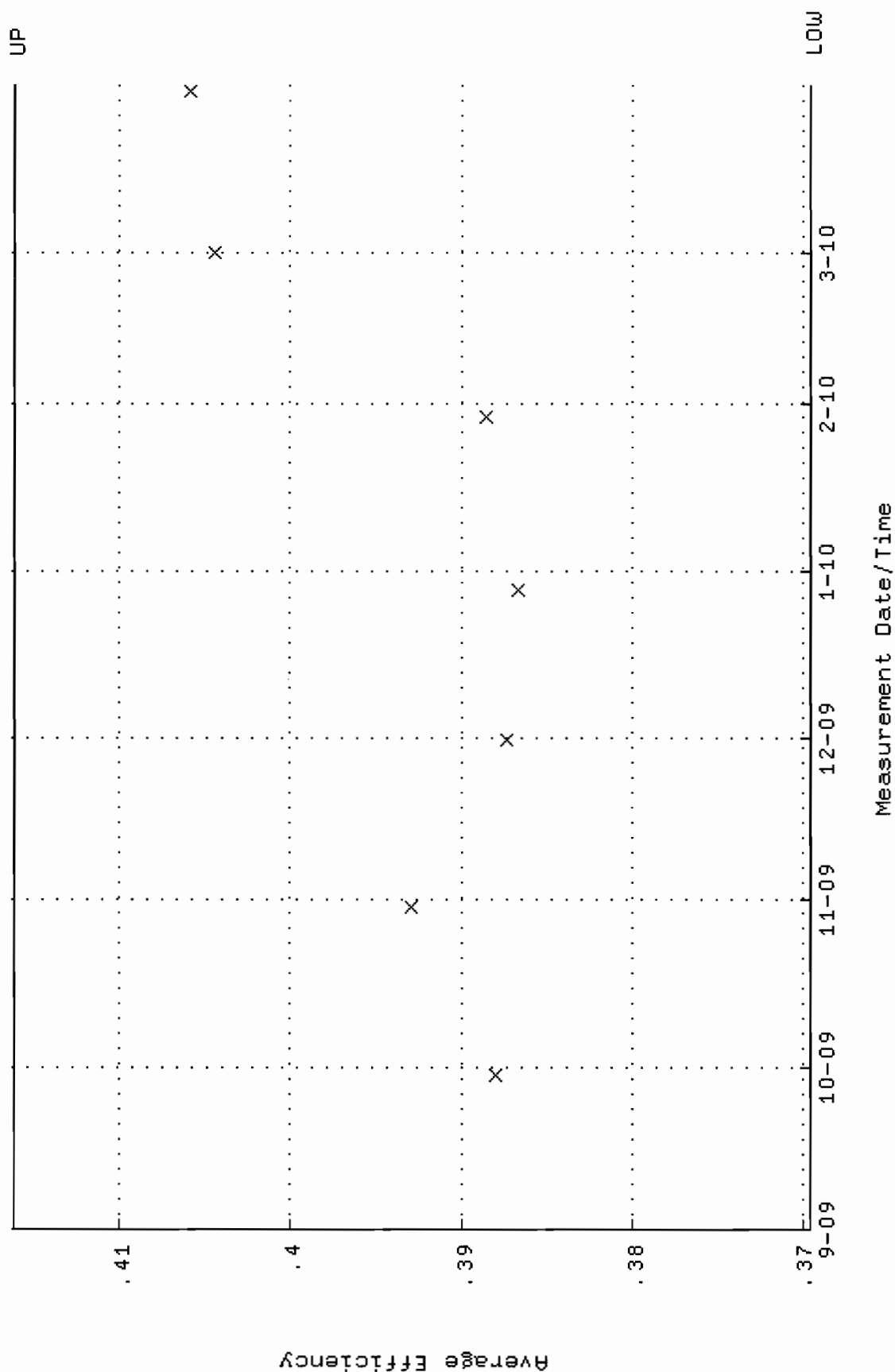




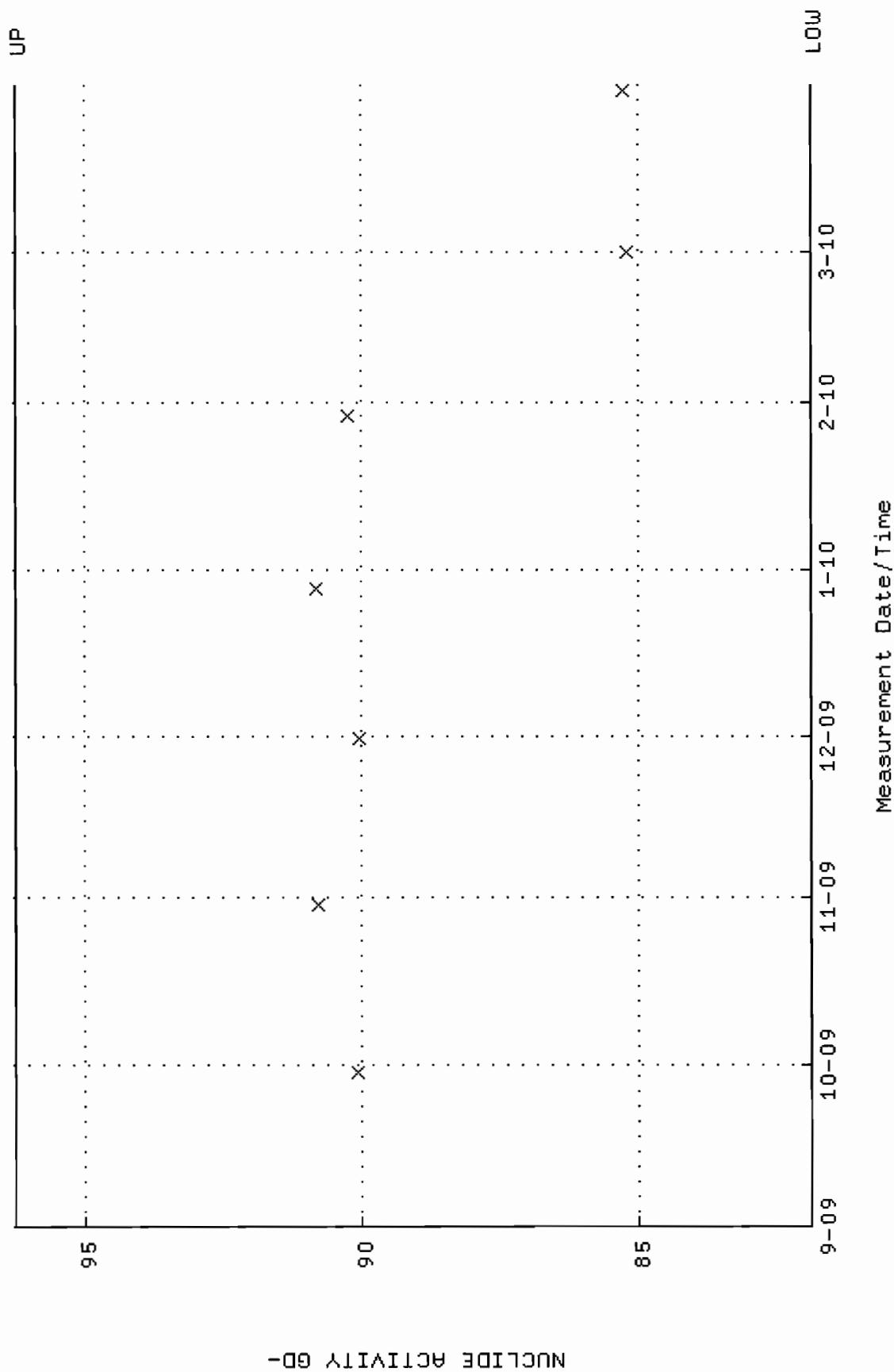
QA filename : DKA100:[ENV\_ALPHA.QA.B]B229.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 6-SEP-2009 15:49:53 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



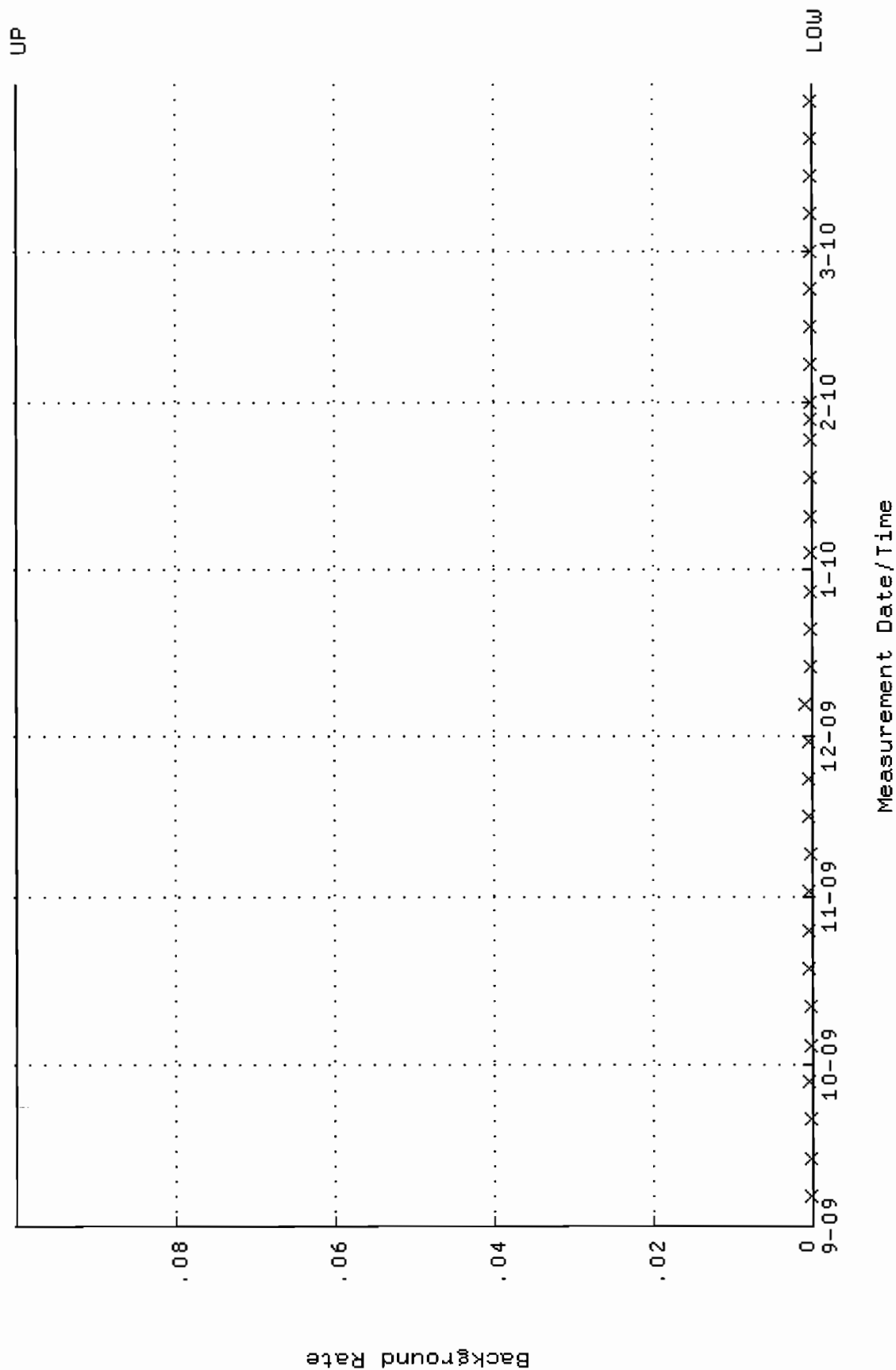
QA filename : DKA100:[ENV\_ALPHA.QA.W]W231.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 29-SEP-2009 08:38:26 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.369606 through 0.416088



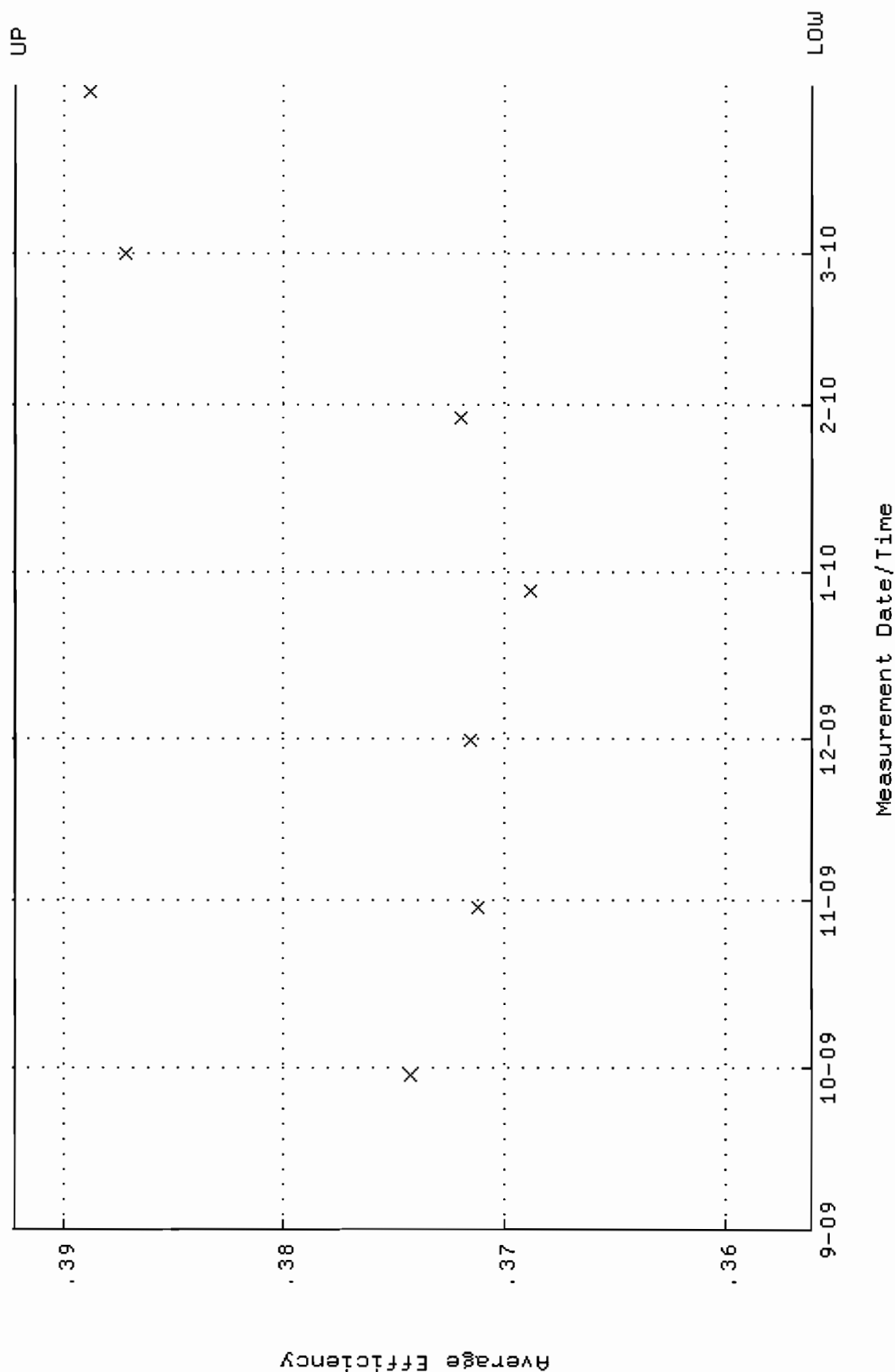
QA filename : DKA100:[ENV\_ALPHA.QA.W]W231.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 29-SEP-2009 08:38:26 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 81.9098 through 96.2570



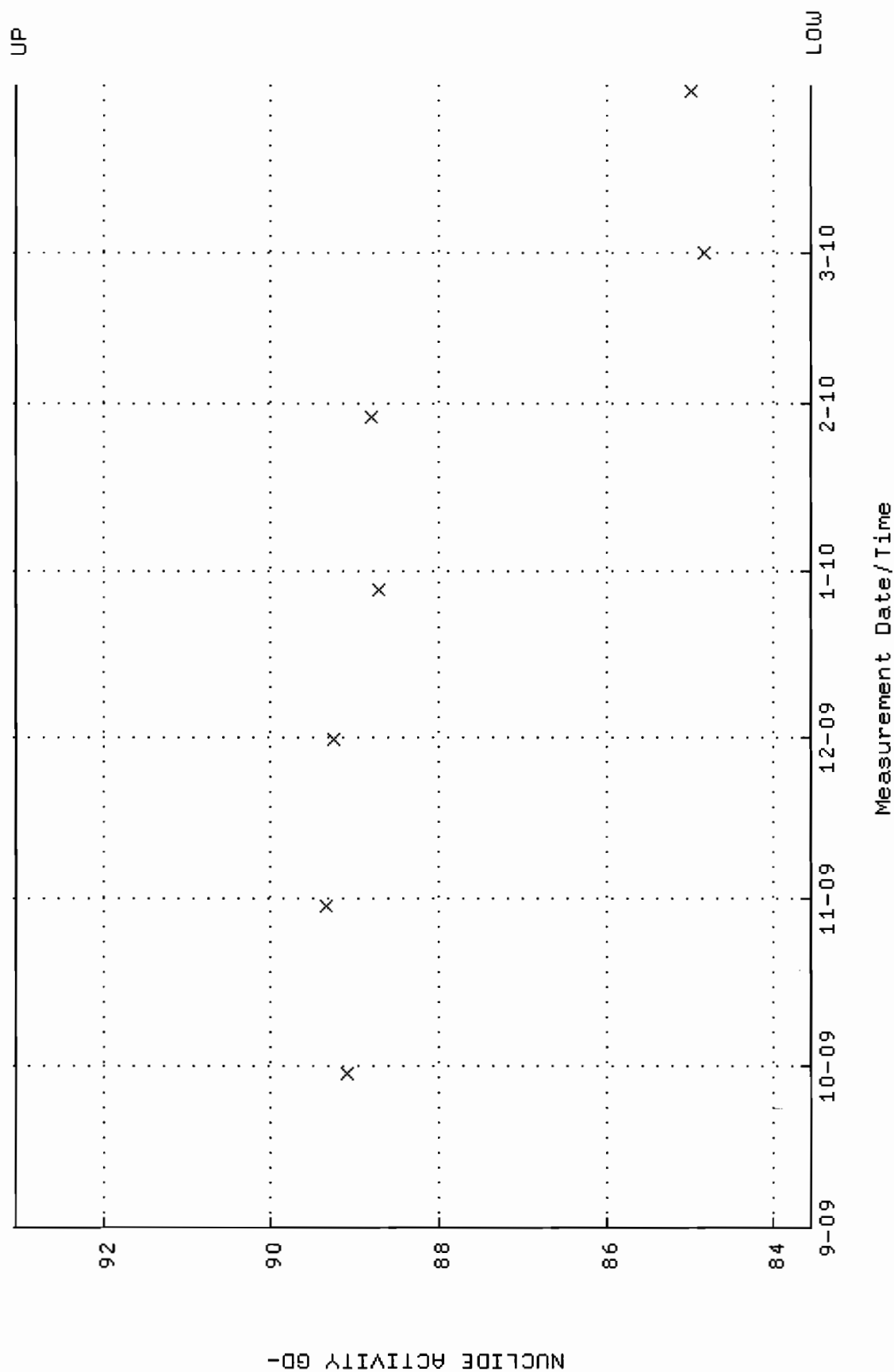
QA filename : DKA100:[ENV-ALPHA.QA.B]B231.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 6-SEP-2009 15:50:03 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



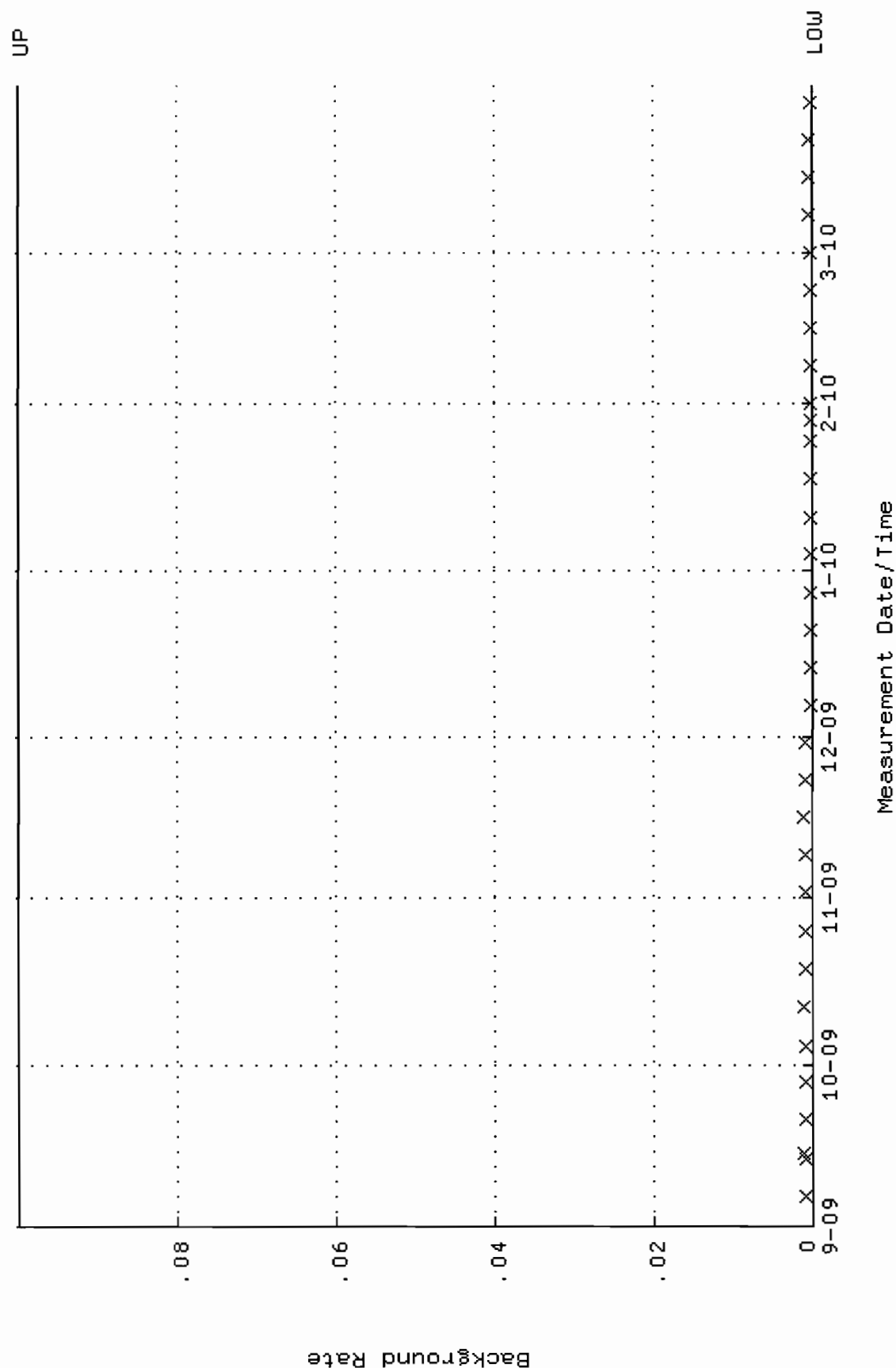
QA filename : DKA100:[ENV\_ALPHA.QA.W]W232.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 29-SEP-2009 08:38:31 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.356063 through 0.392181



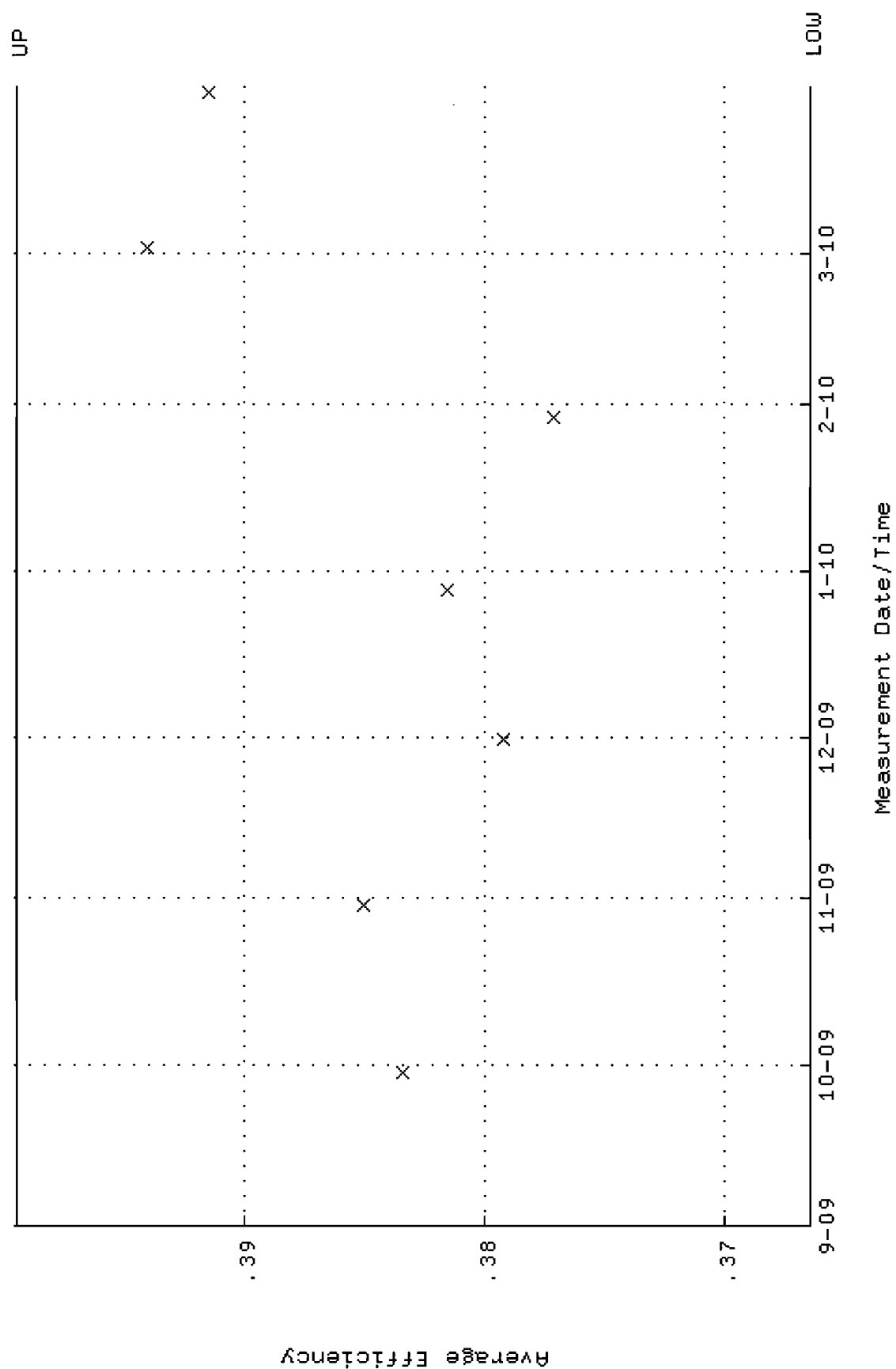
QA filename : DKA100:[ENV\_ALPHA.QA.w]W232.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 29-SEP-2009 08:38:31 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 83.5615 through 93.0435



QA filename : DKA100:[ENV\_ALPHA.QA.B]B232.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 6-SEP-2009 15:50:07 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000

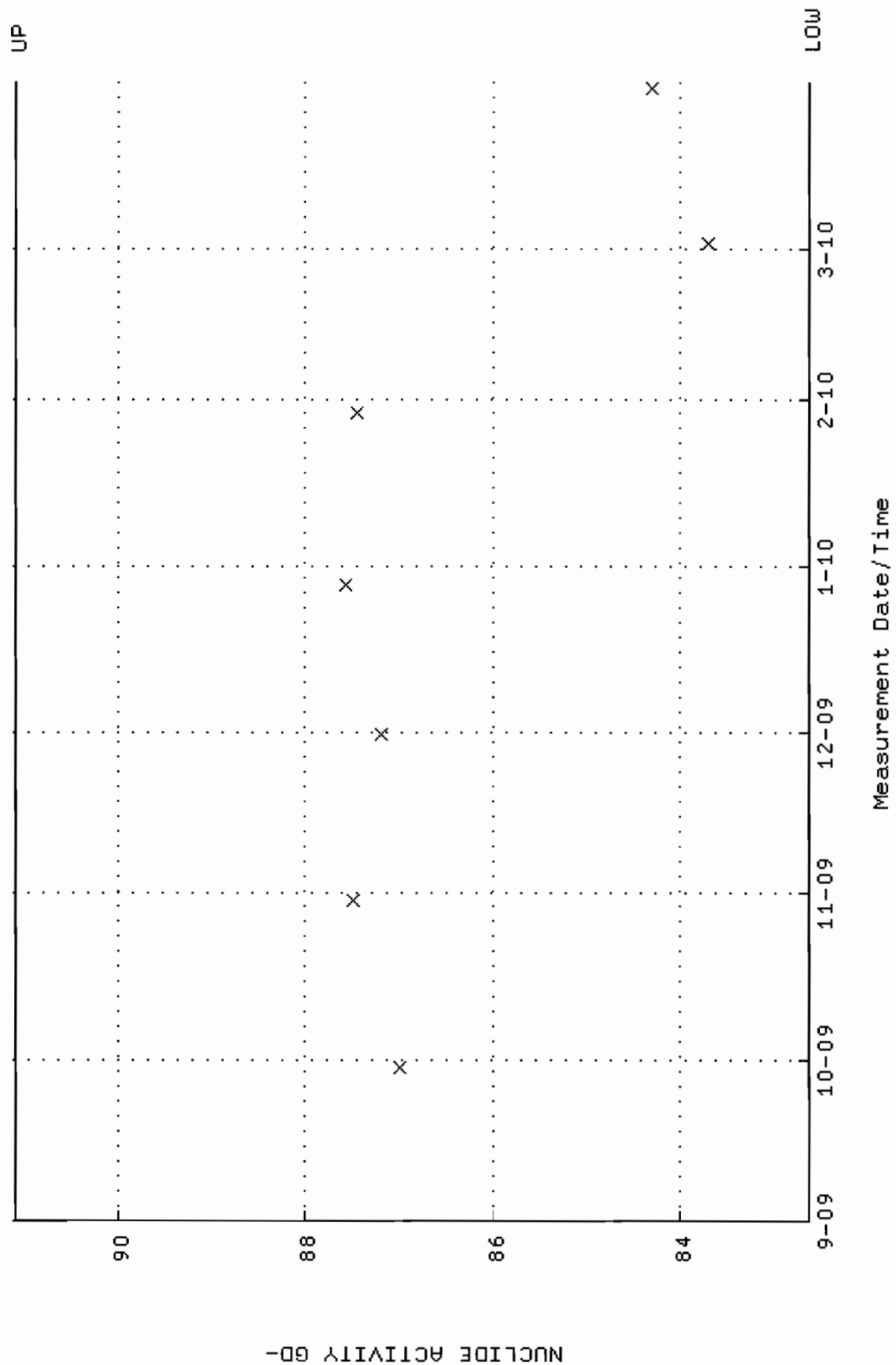


QA filename : DKA100:[ENV\_ALPHA.QA.W]W233.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 29-SEP-2009 08:38:37 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.366381 through 0.399563

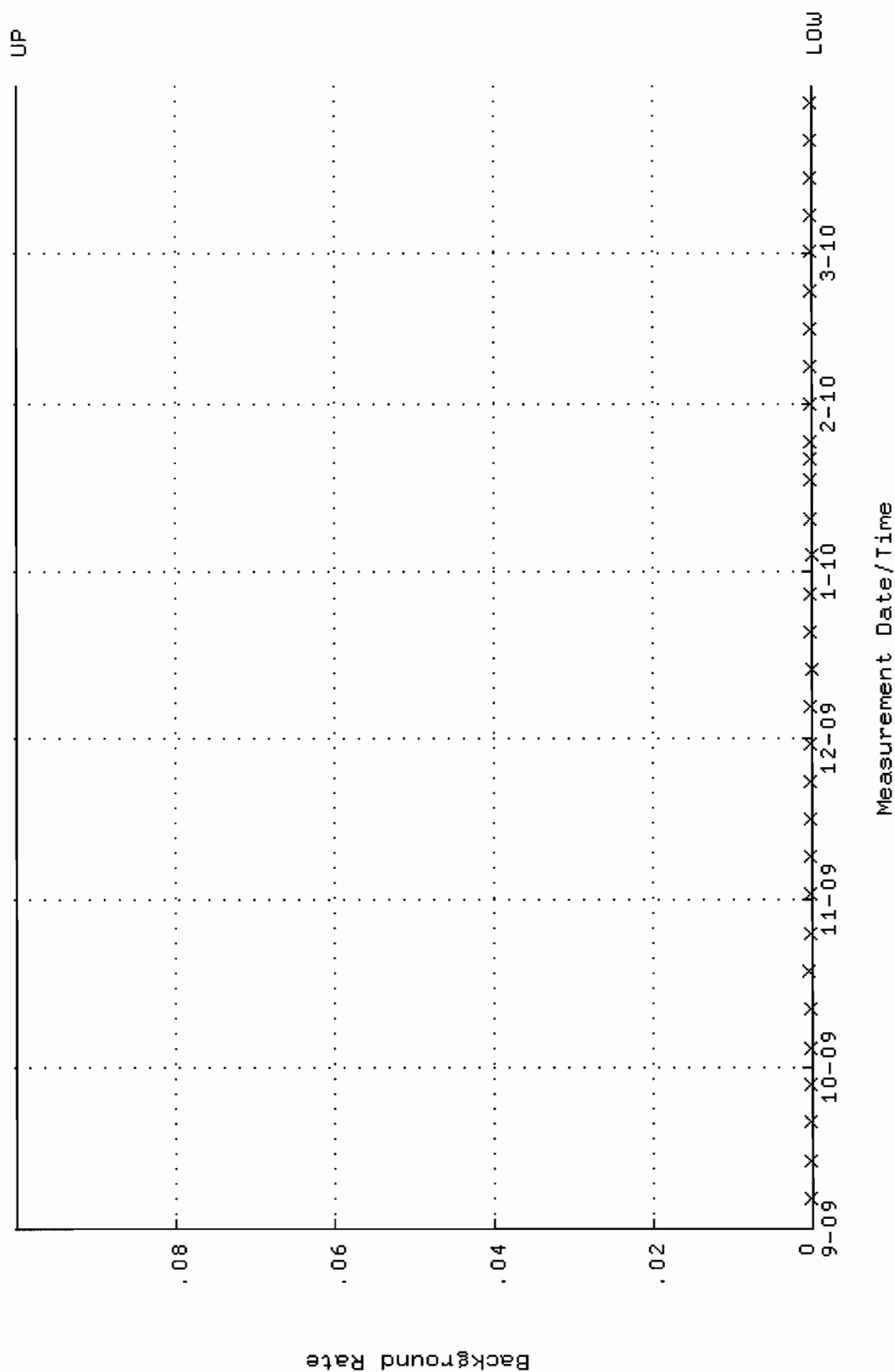




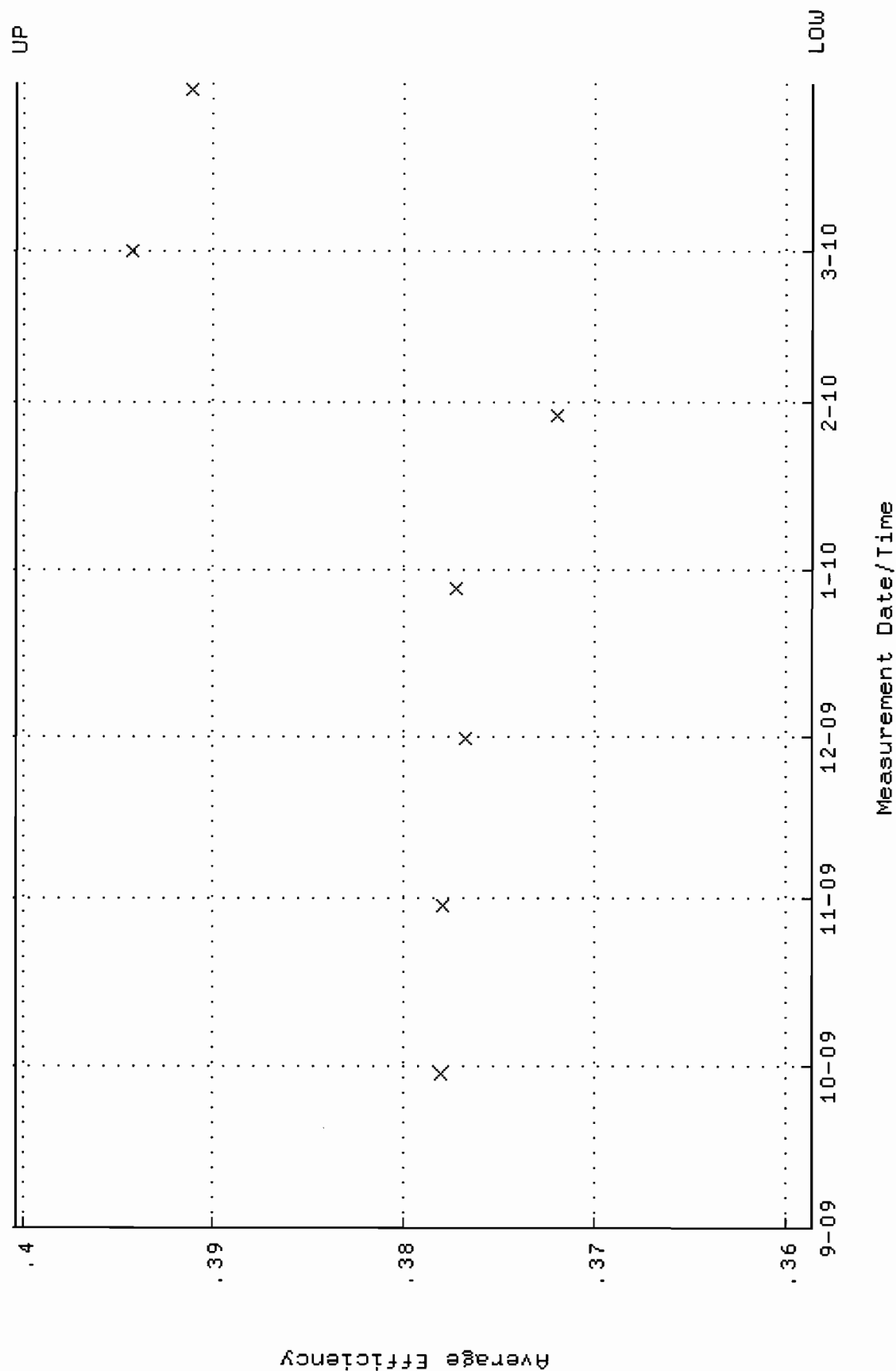
QA filename : DKA100:[ENV\_ALPHA.QA.W]W233.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 29-SEP-2009 08:38:37 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 82.6177 through 91.1049



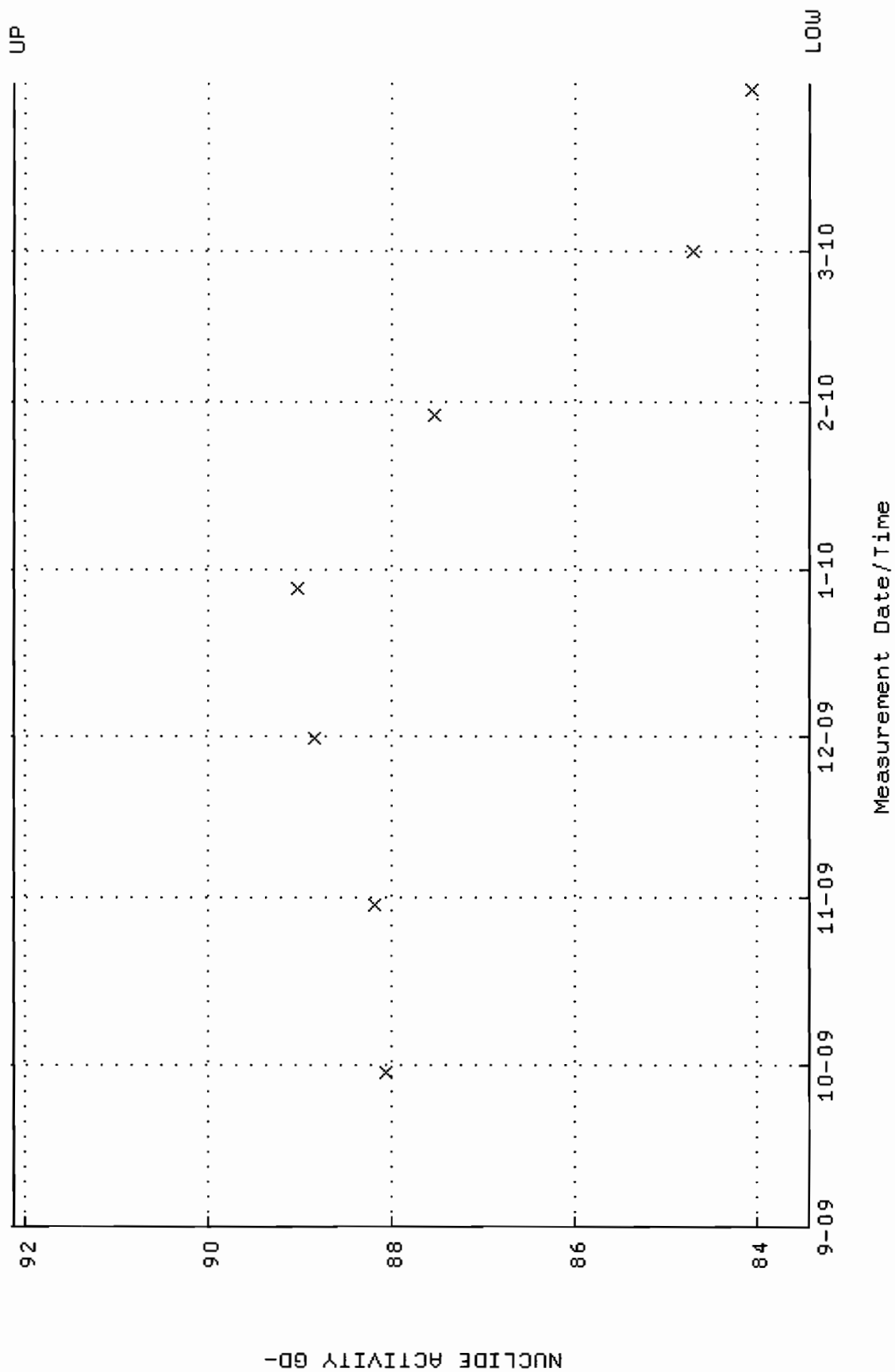
QA filename : DKA100:[ENV\_ALPHA.QA.B]B233.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 6-SEP-2009 15:50:12 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



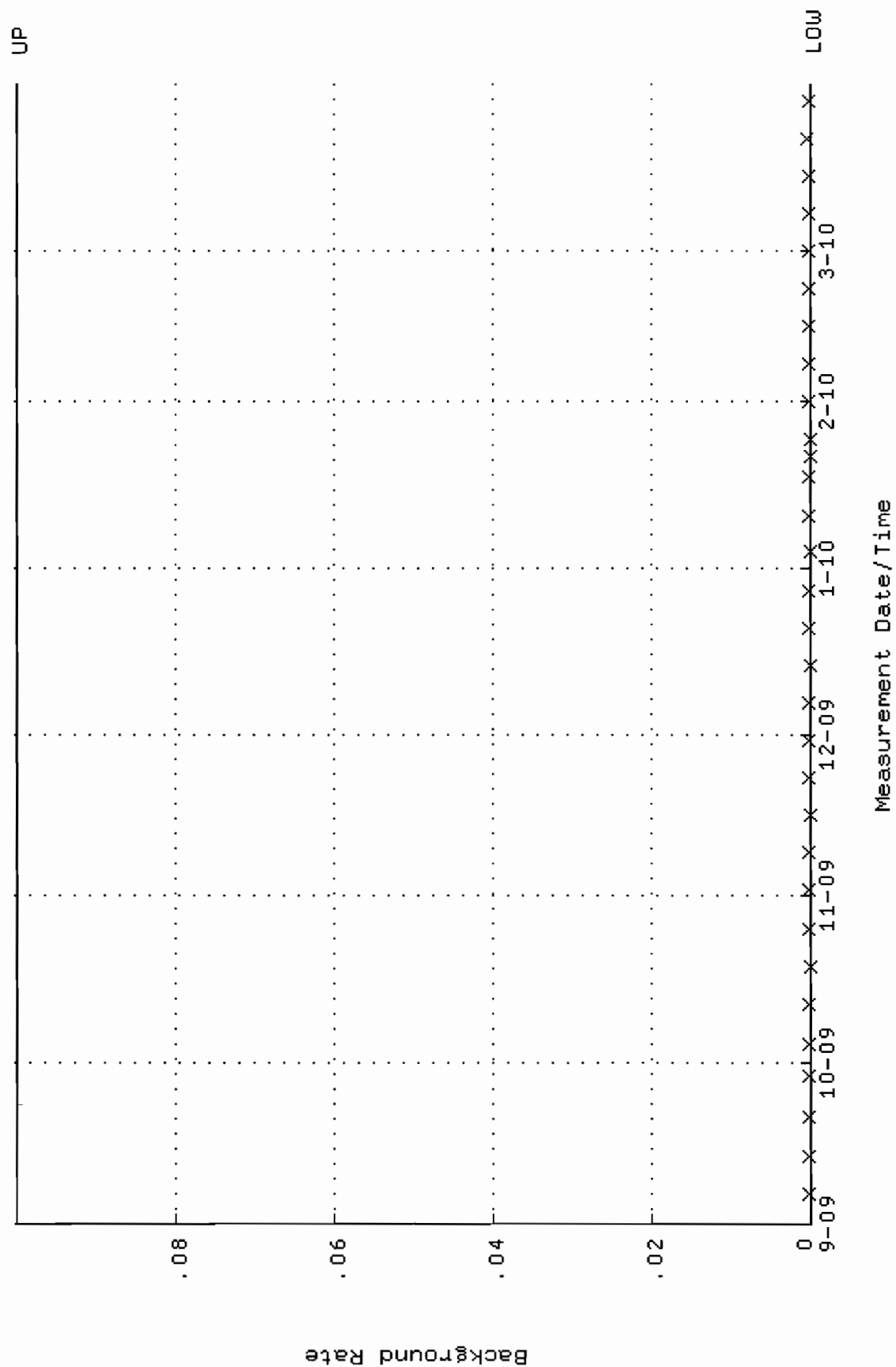
QA filename : DKA100:[ENV\_ALPHA.QA.W]W241.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 29-SEP-2009 08:39:20 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.358643 through 0.400349



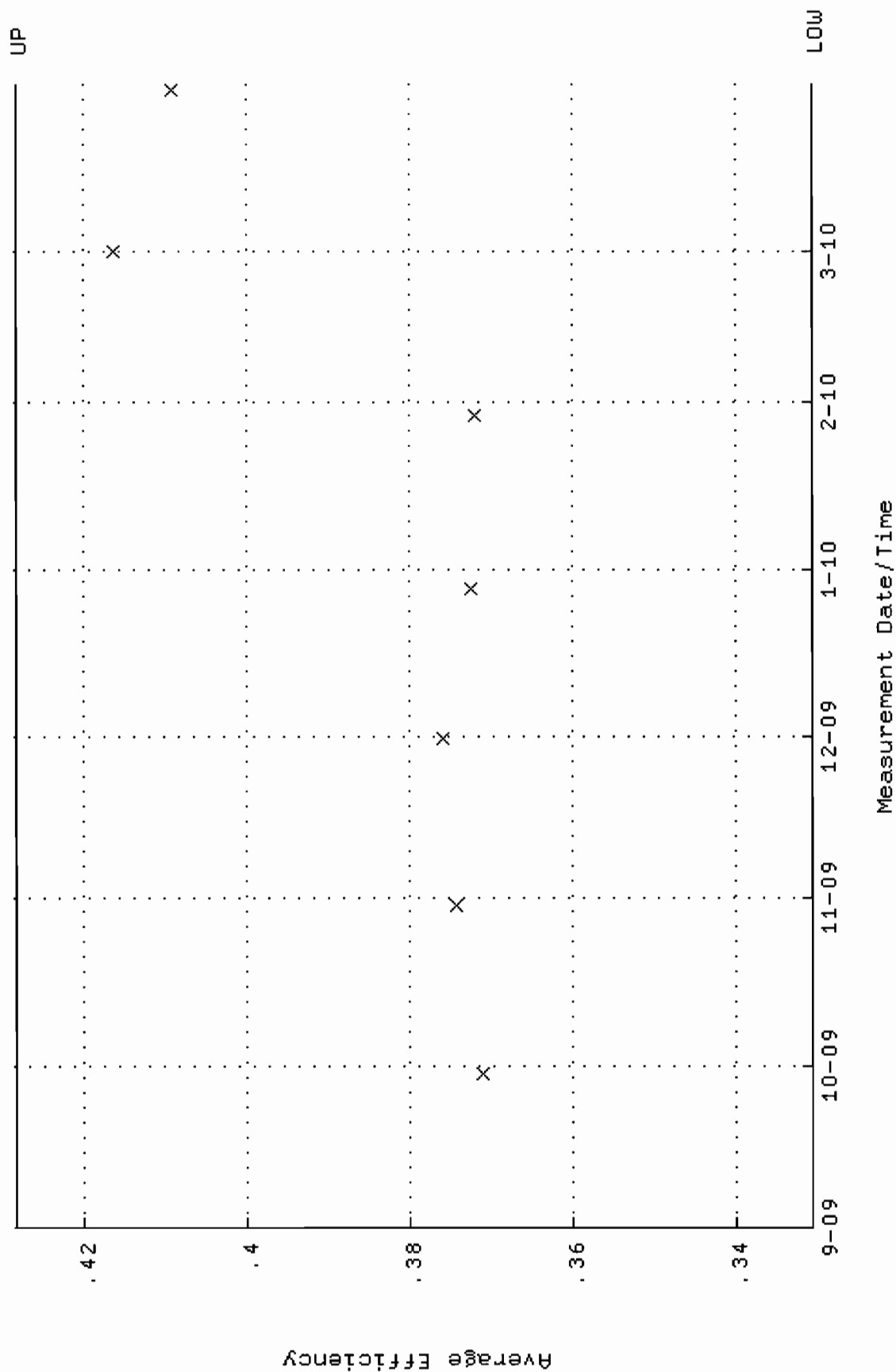
QA filename : DKA100:[ENV\_ALPHA.QA.W]W241.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 29-SEP-2009 08:39:20 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 83.4341 through 92.1277



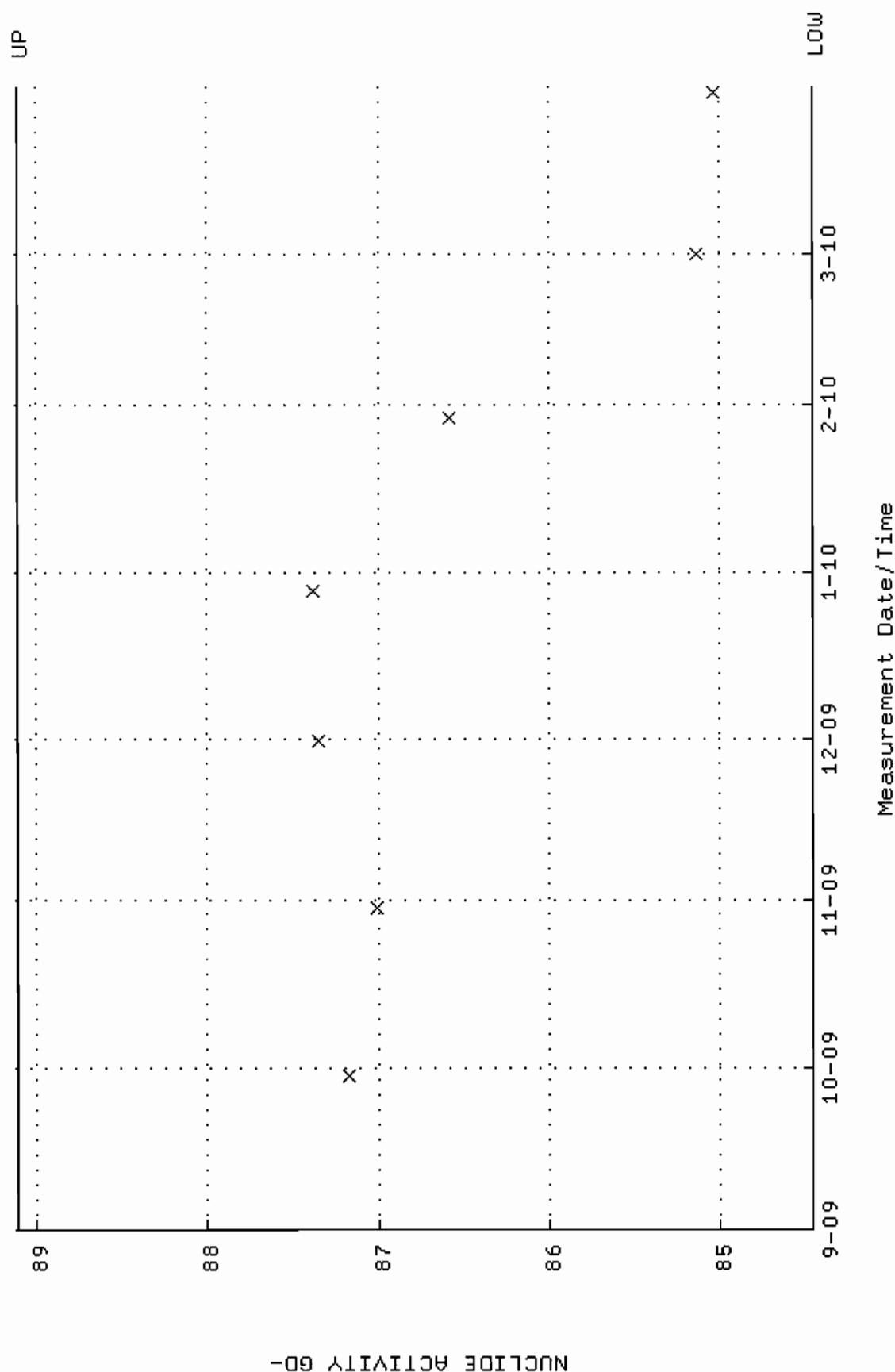
QA filename : DKA100:[ENV\_ALPHA.QA.B]B241.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 6-SEP-2009 15:50:48 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



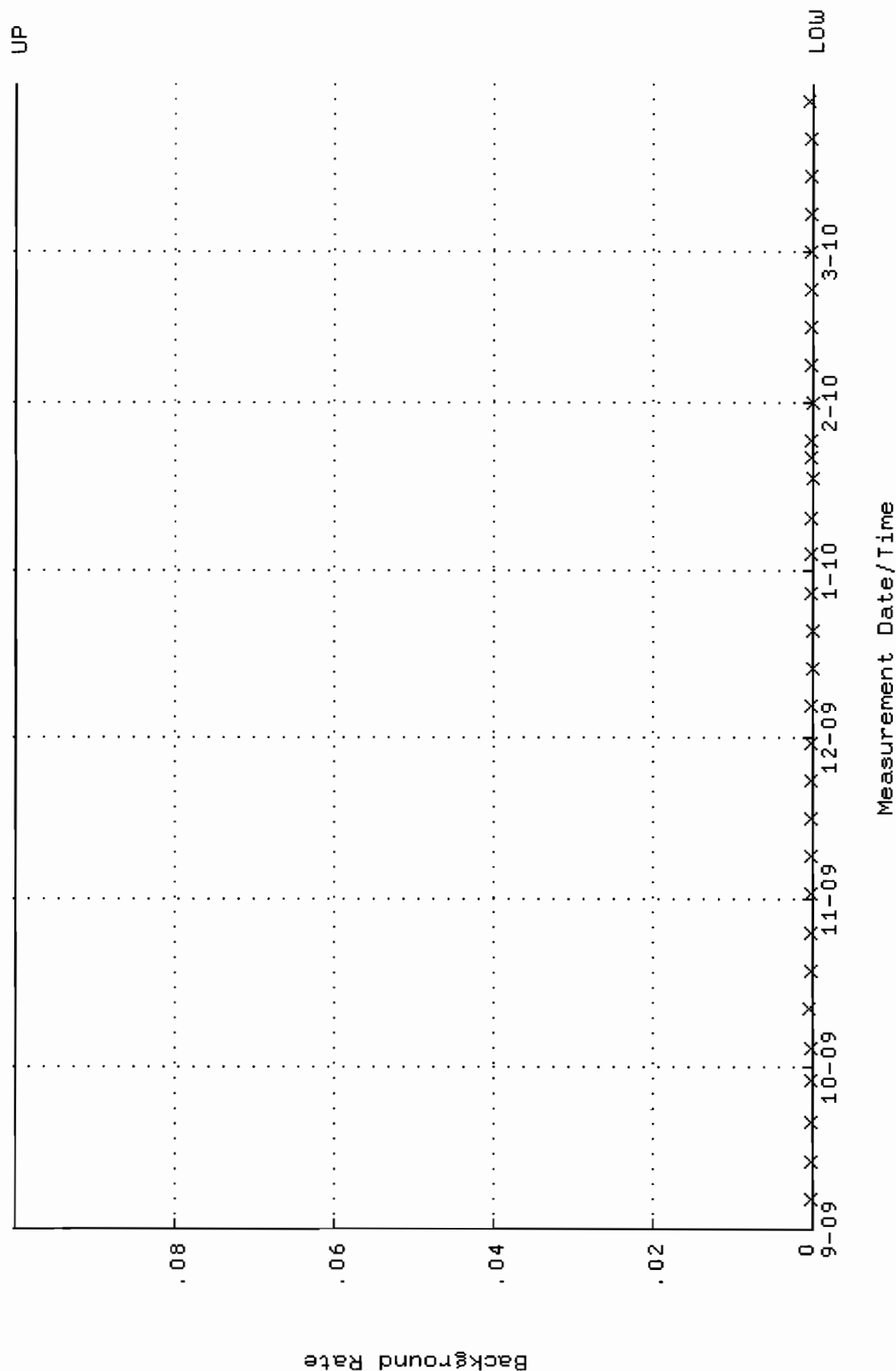
QA filename : DKA100:[ENV\_ALPHA.QA.W]W243.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 29-SEP-2009 08:39:32 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.330696 through 0.428326



QA filename : DKA100:[ENV\_ALPHA.QA.W]W243.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 29-SEP-2009 08:39:32 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 84.4488 through 89.1128

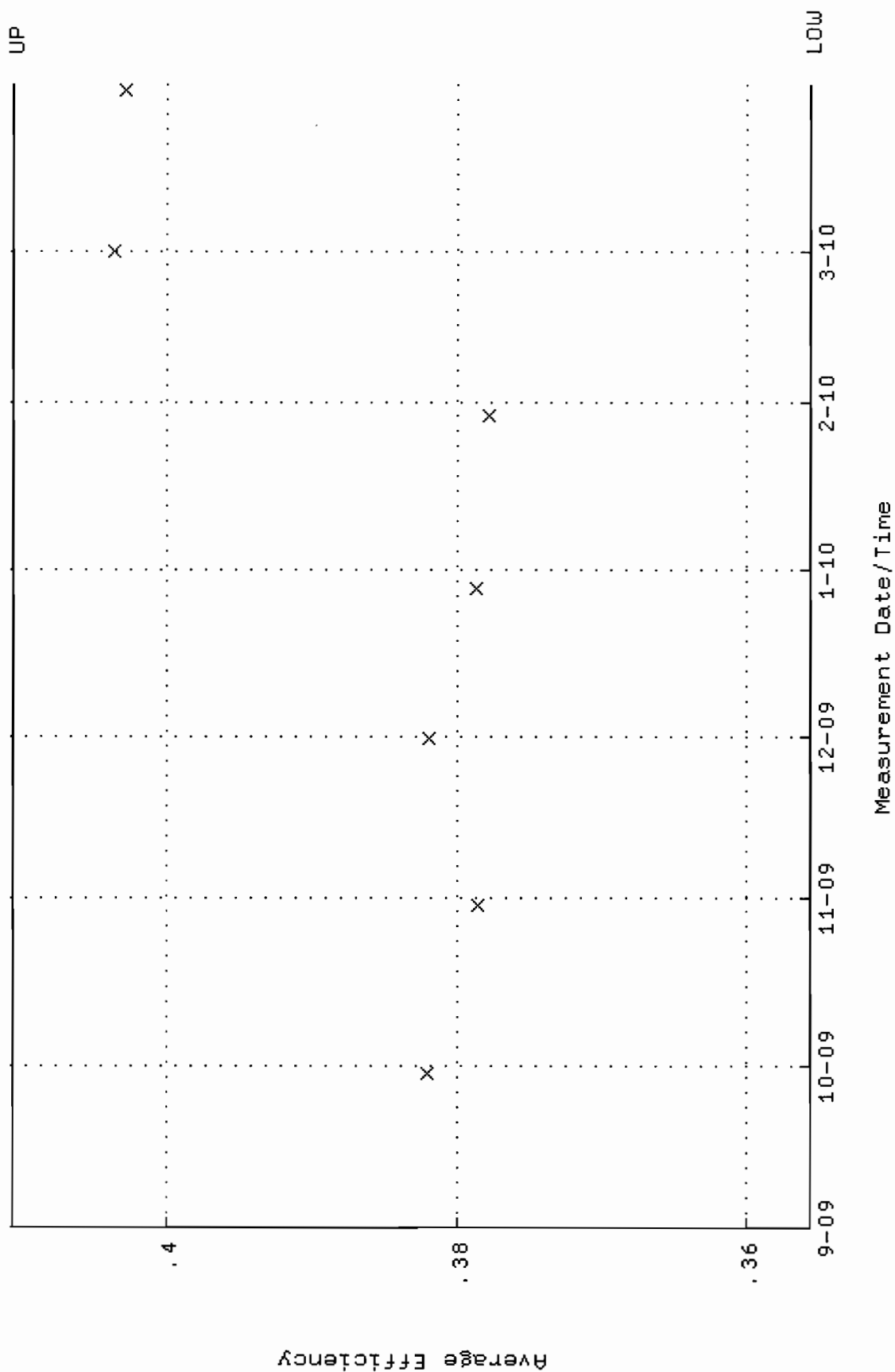


QA filename : DKA100:[ENV\_ALPHA.QA.B]B243.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 6-SEP-2009 15:50:58 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000

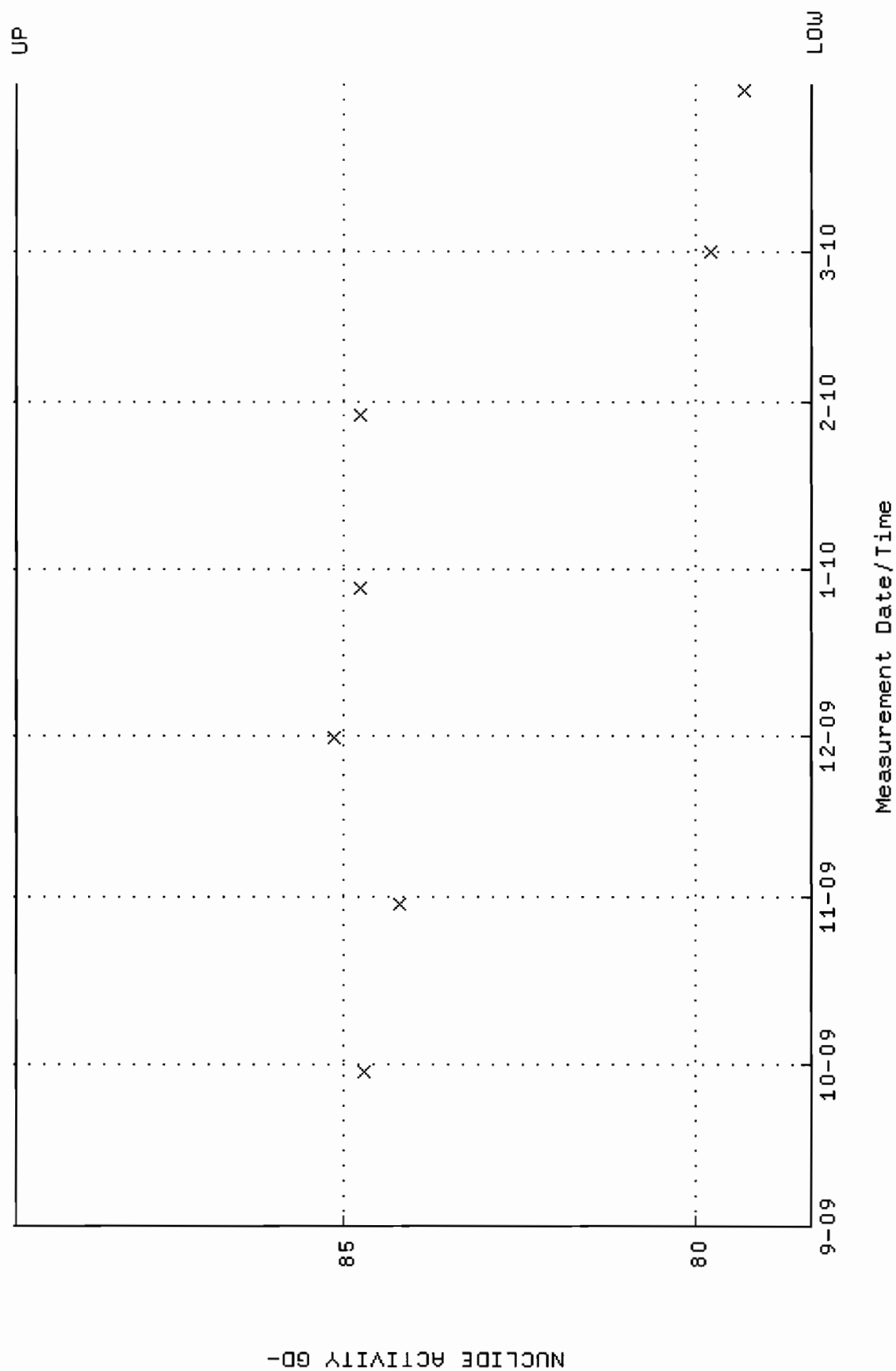




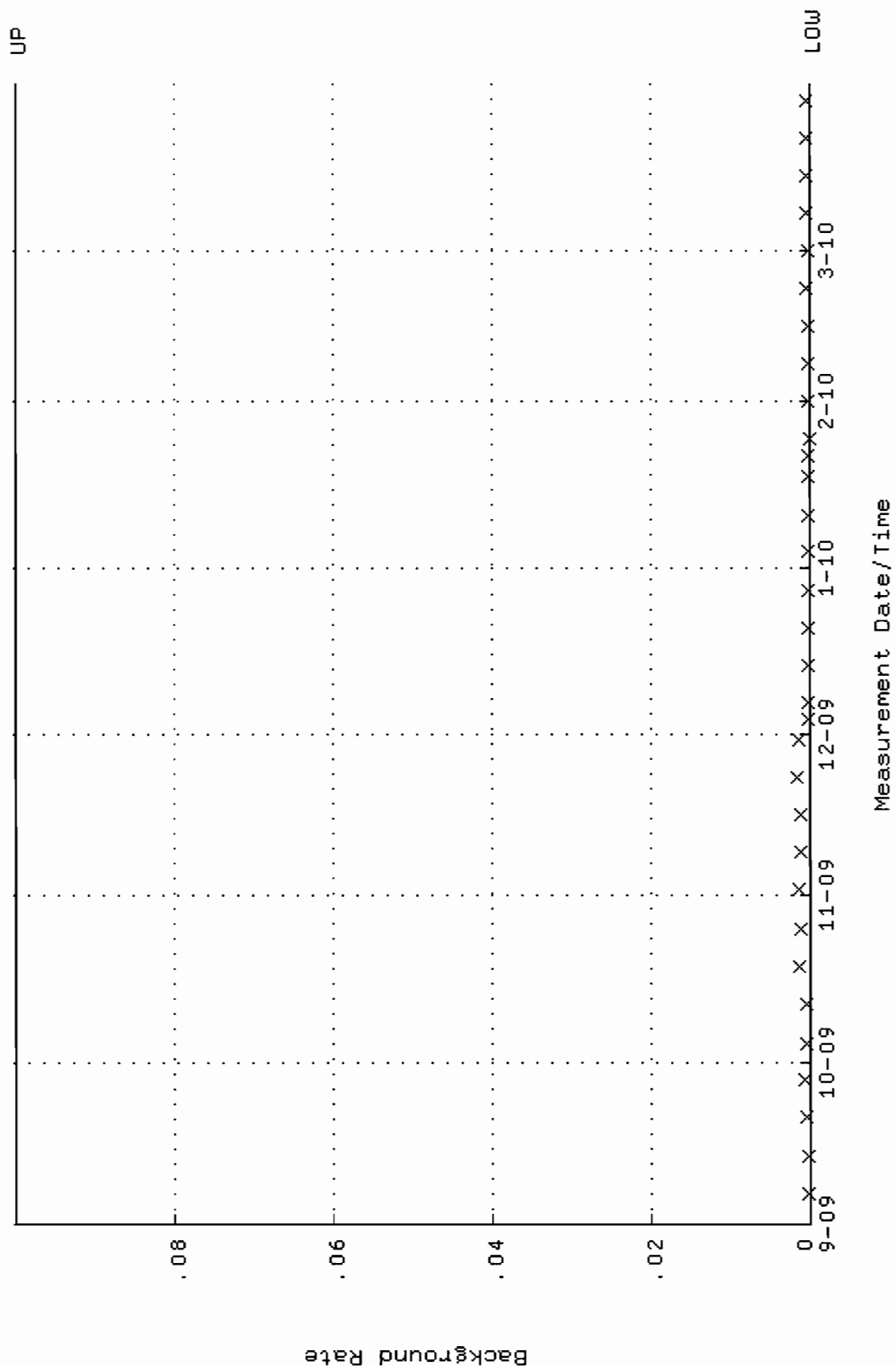
QA filename : DKA100:[ENV\_ALPHA.QA.W]W256.QAF;1  
 Parameter Name : AVRGEFF (Average Efficiency)  
 Start/End Dates : 29-SEP-2009 08:40:43 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.355610 through 0.410626



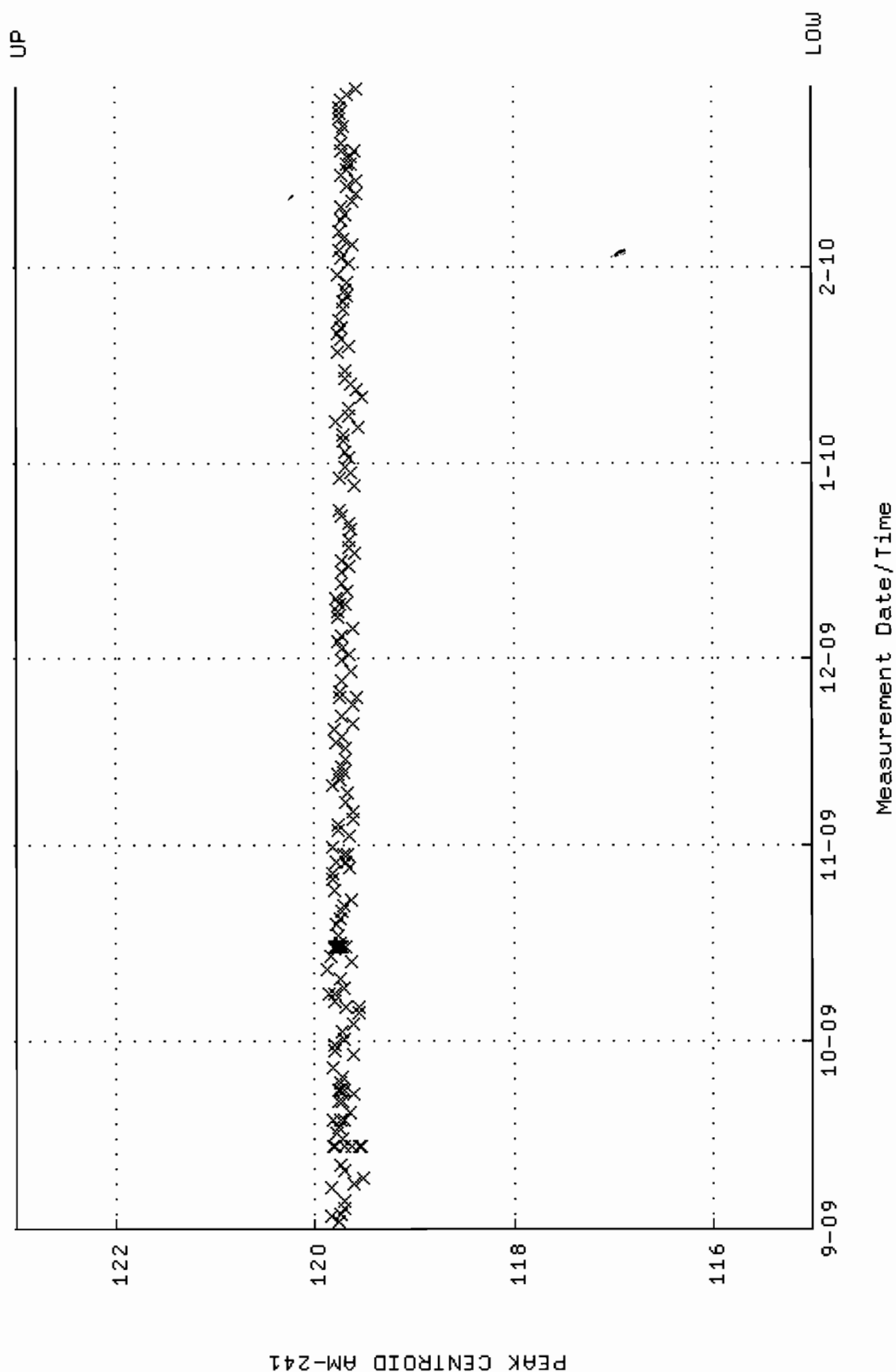
QA filename : DKA100:[ENV\_ALPHA.QA.w]w256.QAF;1  
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)  
 Start/End Dates : 29-SEP-2009 08:40:43 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 78.3575 through 89.6335



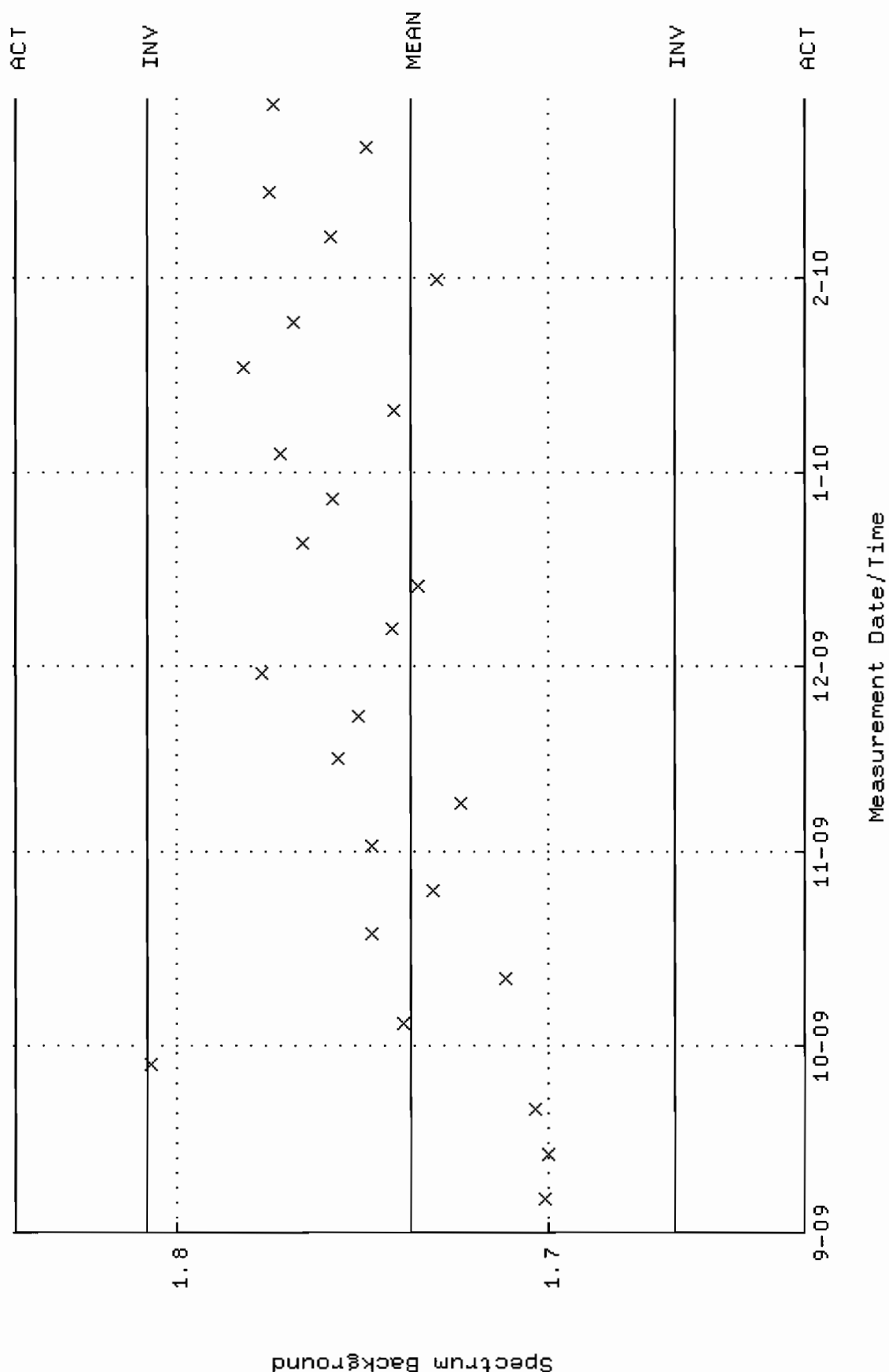
QA filename : DKA100:[ENV\_ALPHA.QA.B]B256.QAF;1  
 Parameter Name : BACKRATE (Background Rate)  
 Start/End Dates : 6-SEP-2009 15:51:59 through 31-MAR-2010 12:00:00  
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



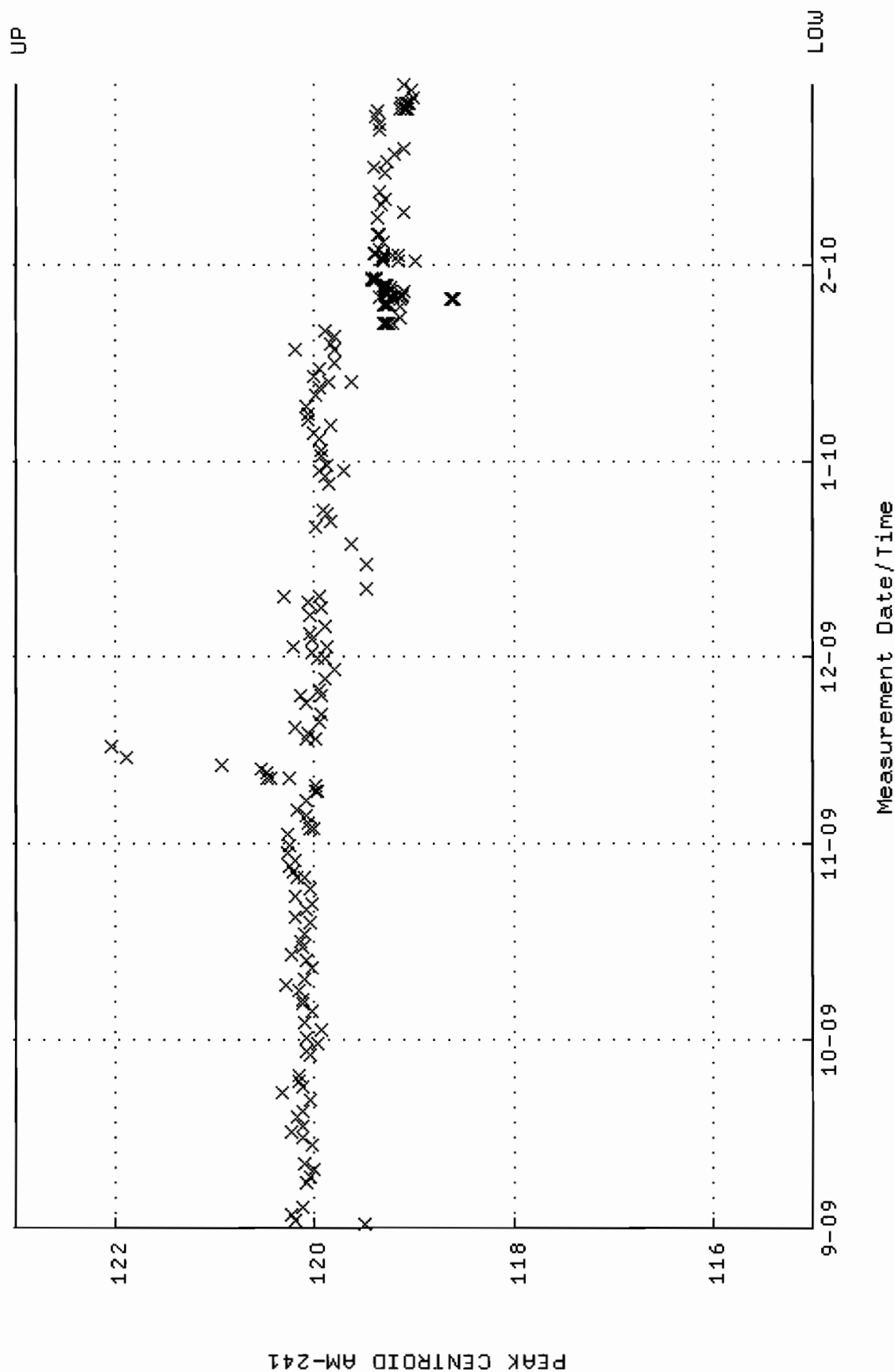
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM01-500MLMB.QAF;1  
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)  
 Start/End Dates : 2-SEP-2009 04:39:53 through 1-MAR-2010 12:00:00  
 Lower/Upper Lmts: 115.000 through 123.000



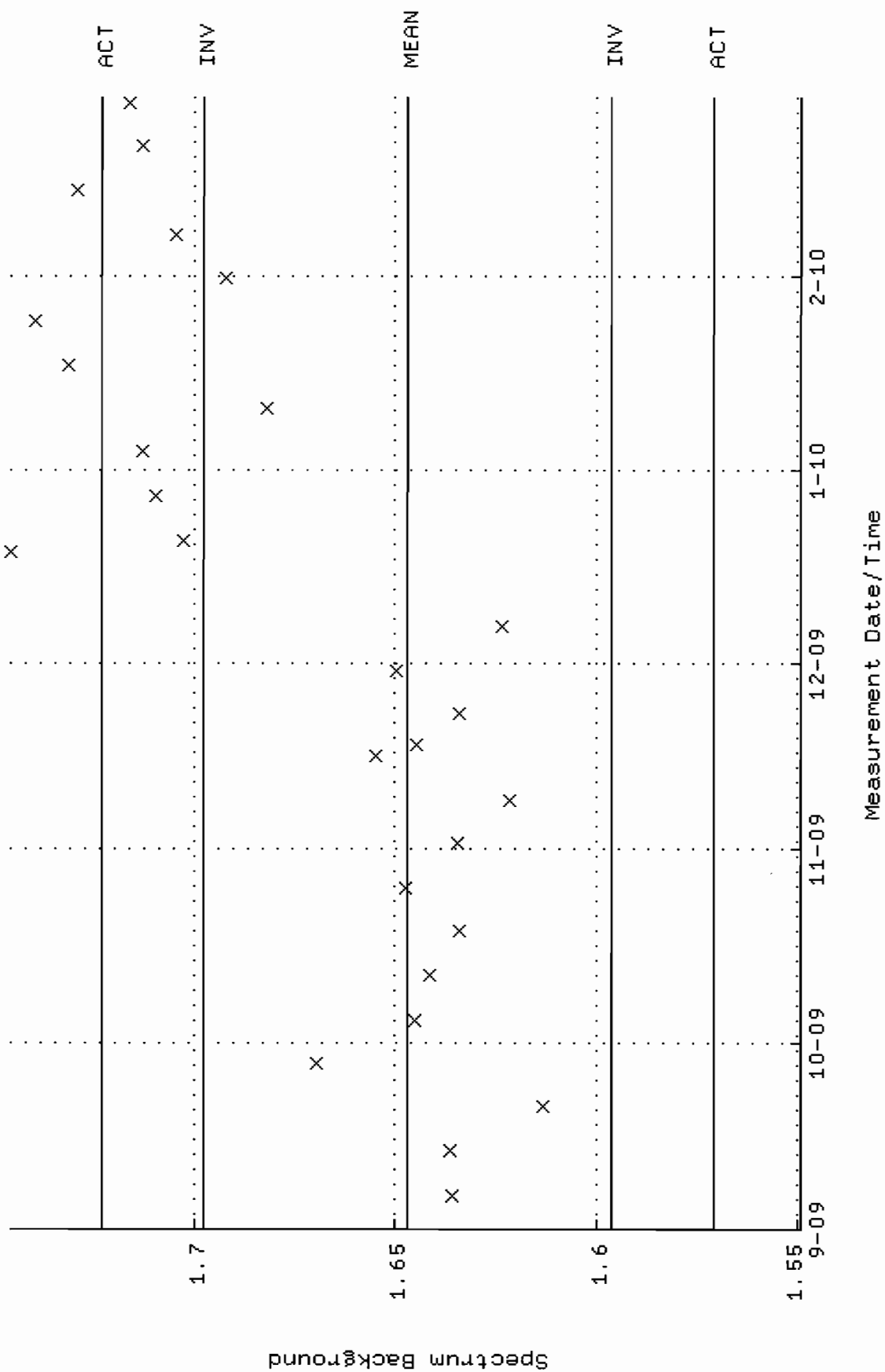
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC\_GAM01.QAF;1  
 Parameter Name : BACKRATE (Spectrum Background Rate)  
 Start/End Dates : 6-SEP-2009 11:36:28 through 1-MAR-2010 12:00:00  
 Mean +- Std Dev : 1.73723 +- 3.552524E-02 (2.04 %)



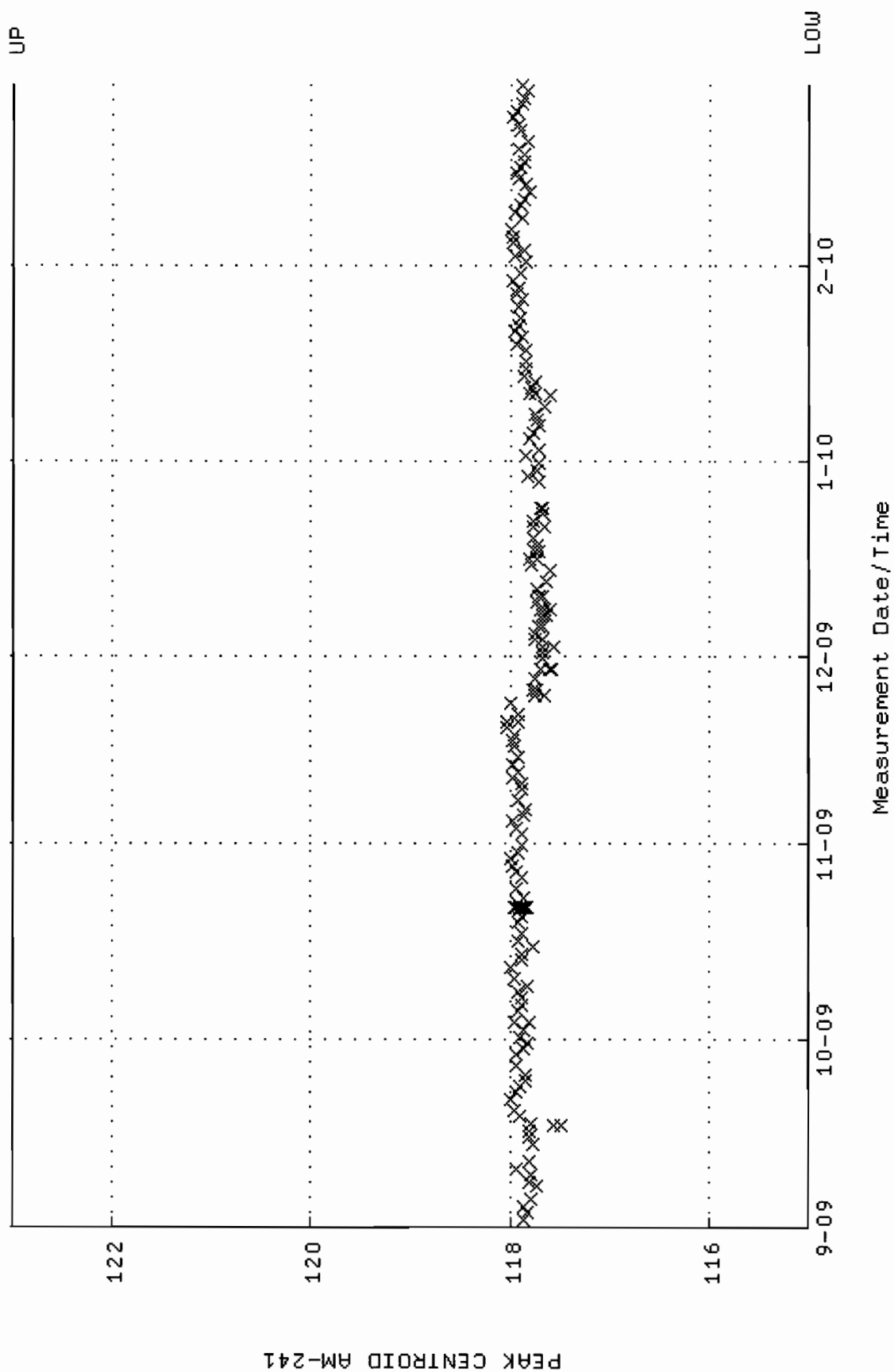
QA filename : DKA100:[CANSERRA.GAMMA.SCUSR.QA]QCC\_GAM05\_CAN.QAF;1  
 Parameter Name : PSCENTRO-241 (PEAK CENTROID AM-241)  
 Start/End Dates : 1-SEP-2009 14:54:46 through 1-MAR-2010 12:00:00  
 Lower/Upper Lmts: 115.000 through 123.000



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC\_GAM05.QAF;1  
 Parameter Name : BACKRATE (Spectrum Background Rate)  
 Start/End Dates : 6-SEP-2009 11:39:04 through 1-MAR-2010 12:00:00  
 Mean +- Std Dev : 1.64719 +- 2.547087E-02 (1.55 %)

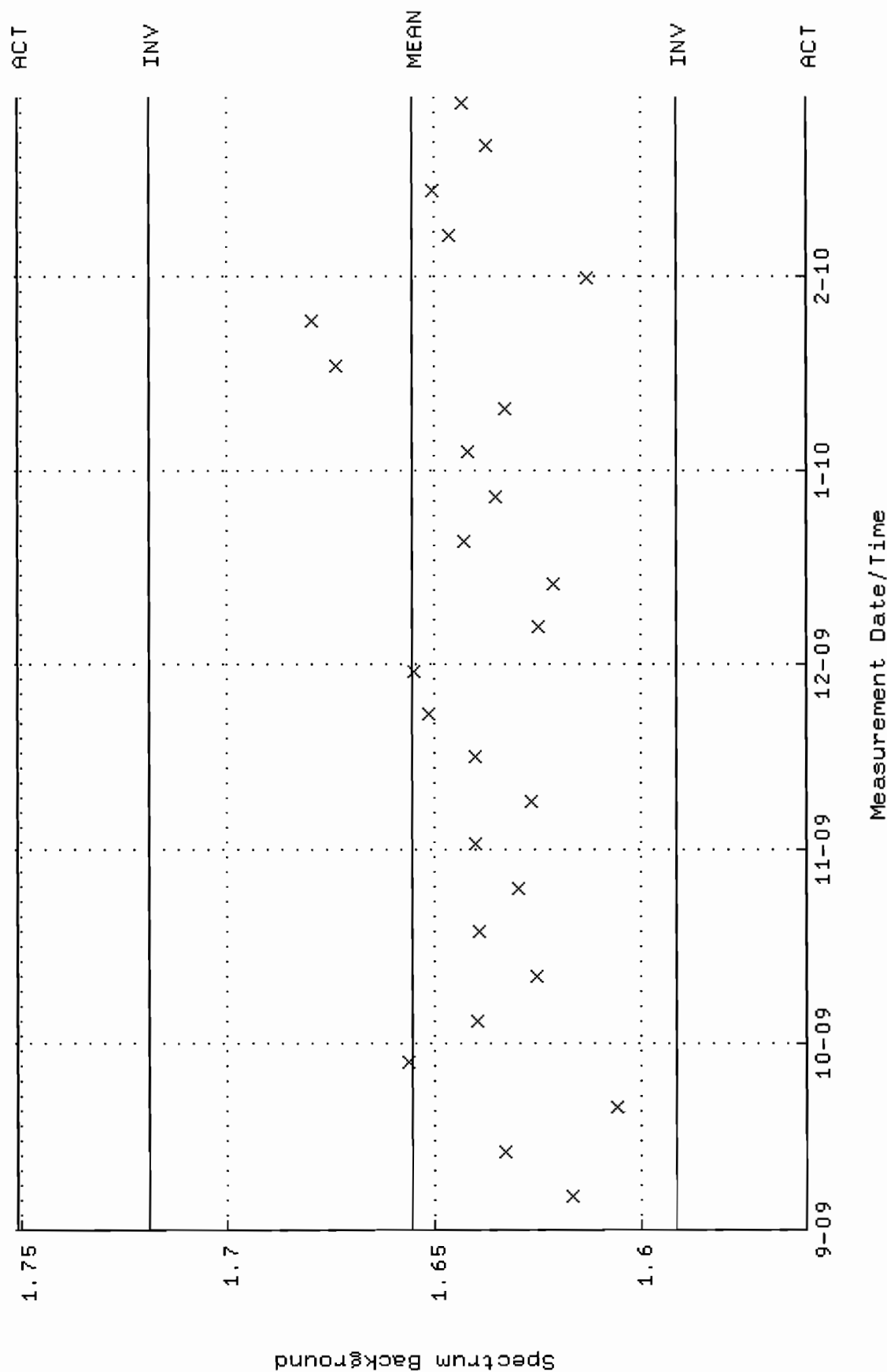


QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC\_GAM11\_JAR.QAF;1  
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)  
 Start/End Dates : 2-SEP-2009 06:47:51 through 1-MAR-2010 12:00:00  
 Lower/Upper Lmts: 115.000 through 123.000

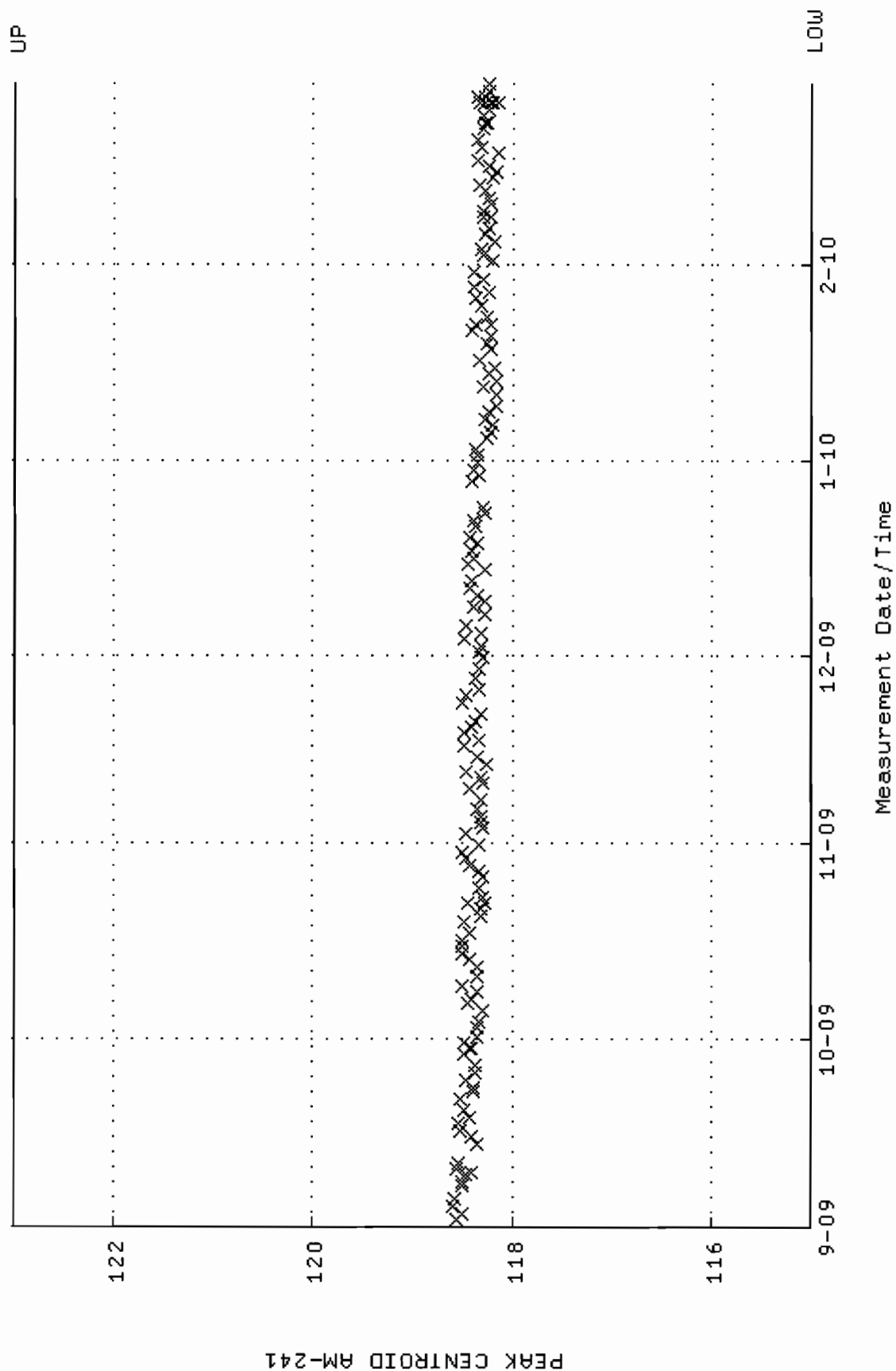




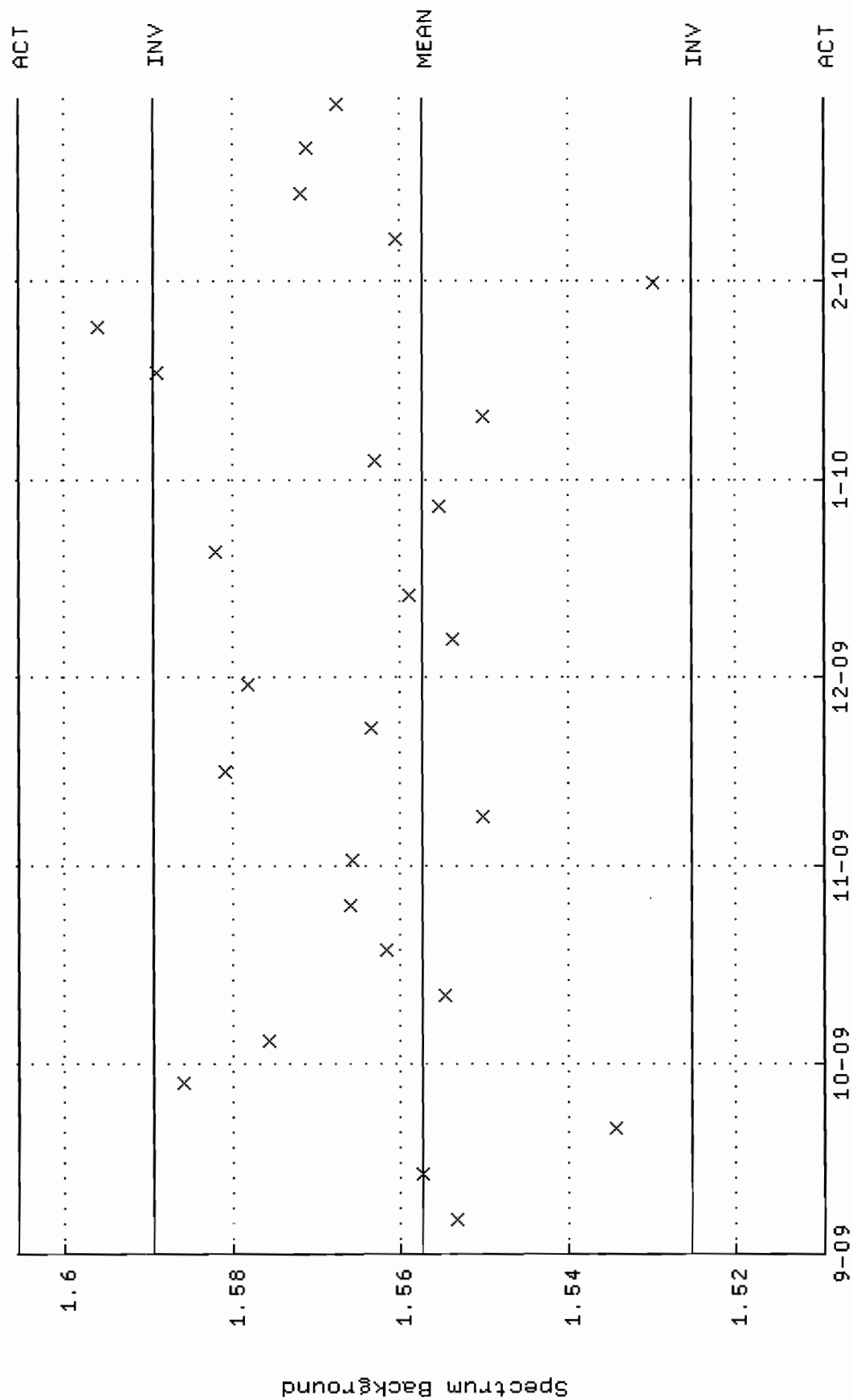
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC\_GAM11.QAF;1  
 Parameter Name : BACKRATE (Spectrum Background Rate)  
 Start/End Dates : 6-SEP-2009 11:41:47 through 1-MAR-2010 12:00:00  
 Mean +- Std Dev : 1.65552 +- 3.175806E-02 (1.92 %)



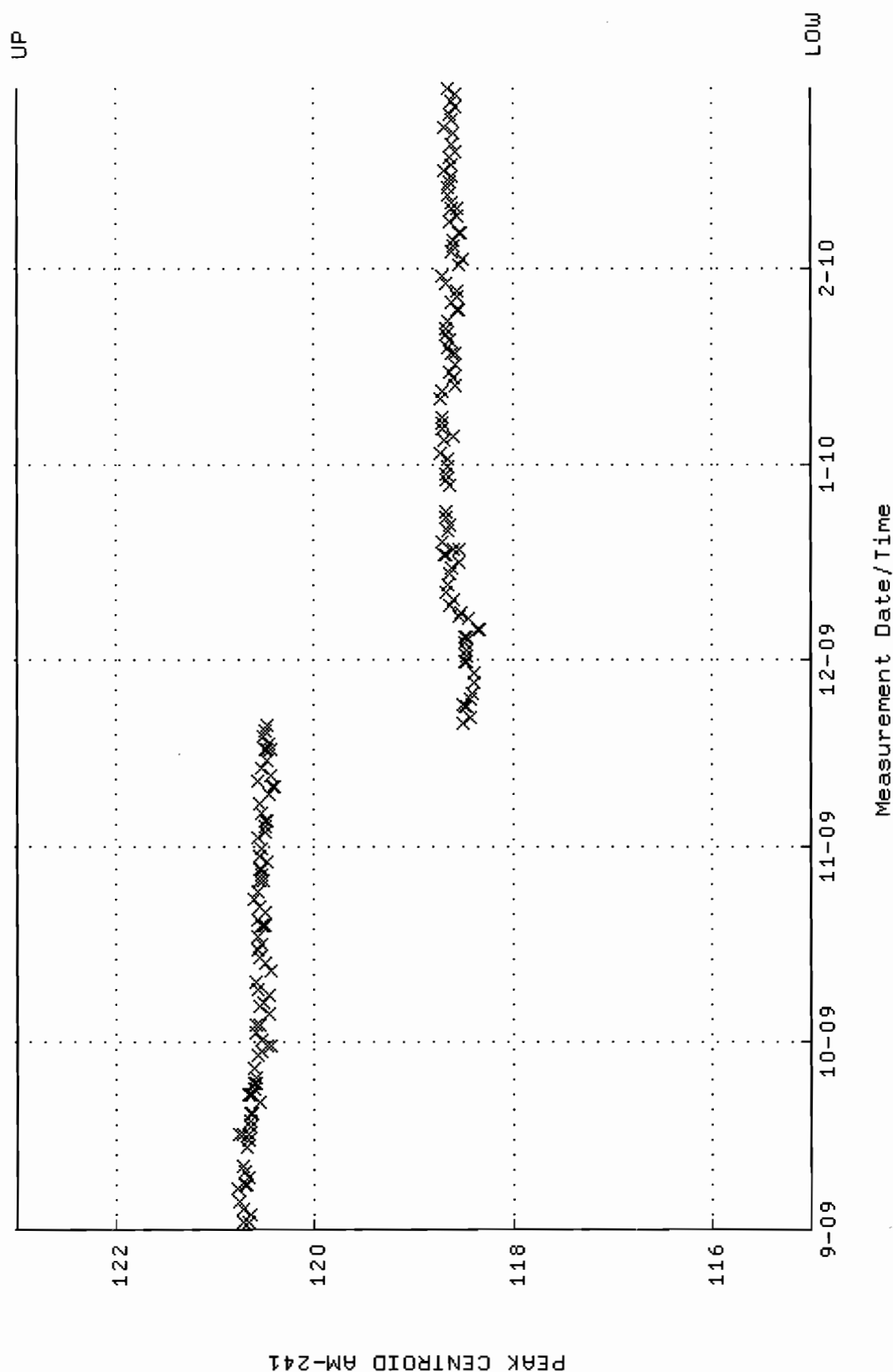
QA filename : DKA100:[CANBERRA,GAMMA,SCUSR.QA]QCC\_GAM12\_CAN.QAF;1  
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)  
Start/End Dates : 2-SEP-2009 07:07:38 through 1-MAR-2010 12:00:00  
Lower/Upper Lmts: 115.000 through 123.000



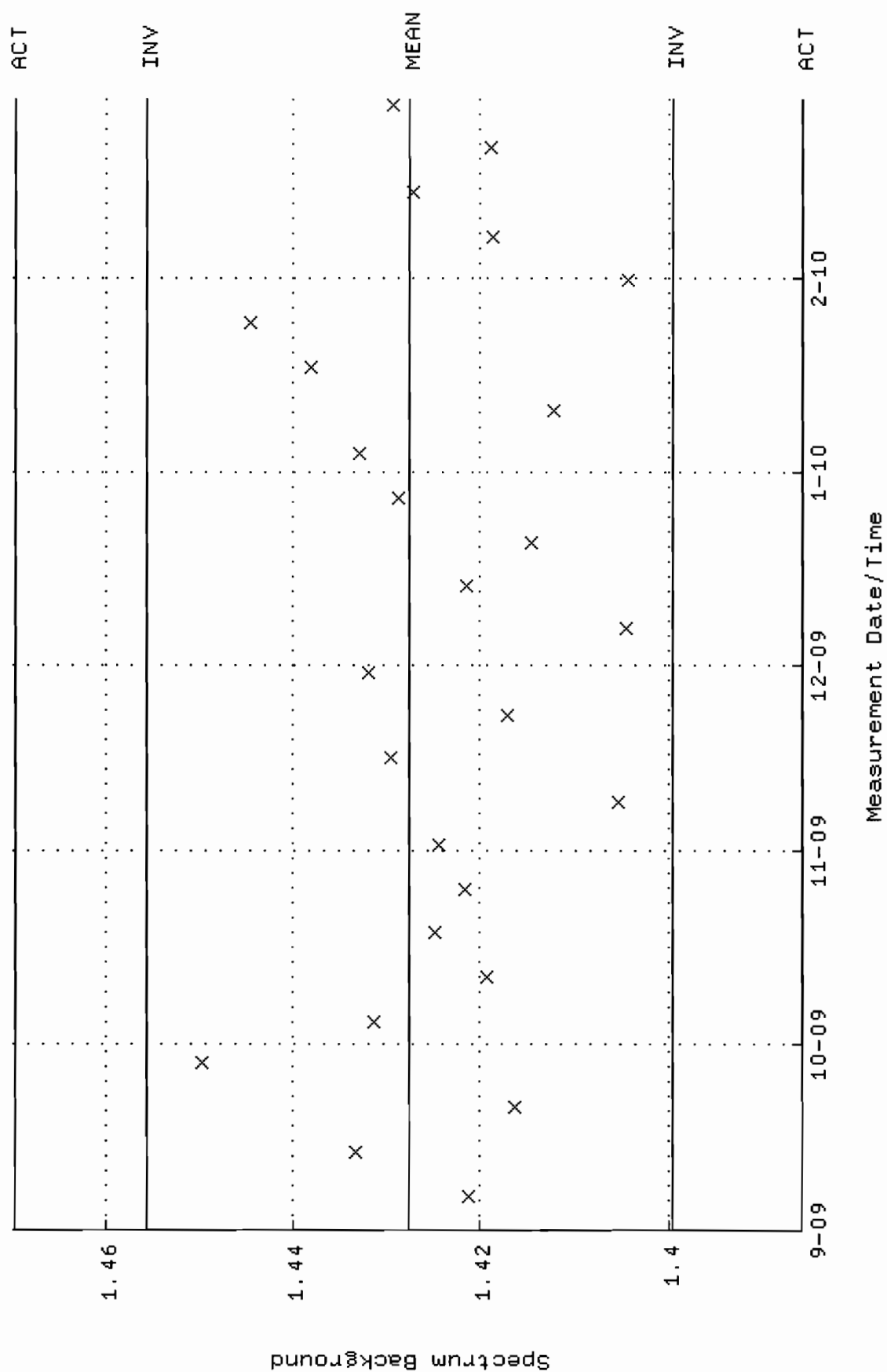
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC\_GAM12.QAF;1  
 Parameter Name : BACKRATE (Spectrum Background Rate)  
 Start/End Dates : 6-SEP-2009 11:42:20 through 1-MAR-2010 12:00:00  
 Mean +- Std Dev : 1.55746 +- 1.601675E-02 (1.03 %)



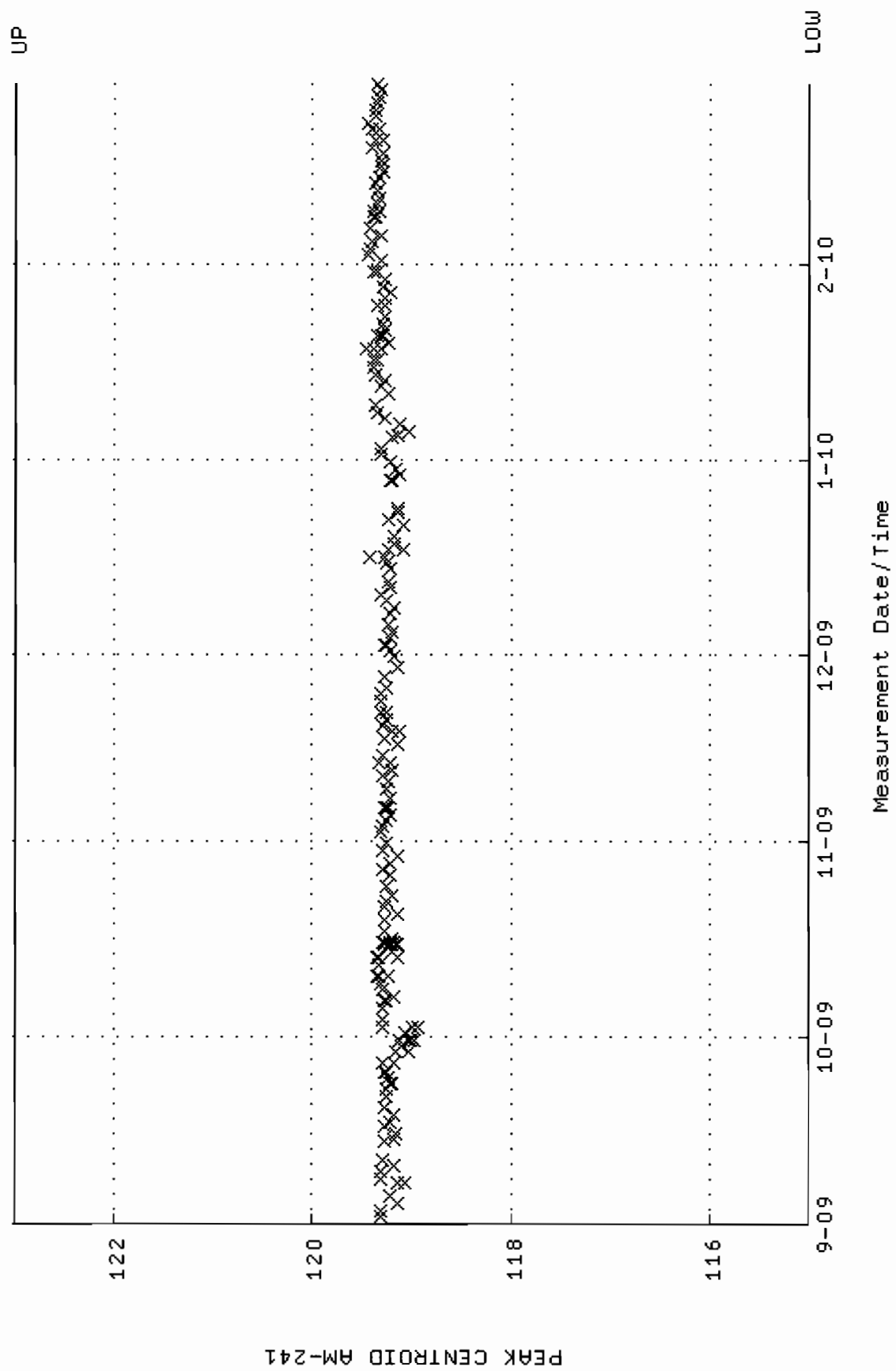
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC\_GAM17\_CAN.QAF;1  
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)  
 Start/End Dates : 2-SEP-2009 05:06:49 through 1-MAR-2010 12:00:00  
 Lower/Upper Lmts: 115.000 through 123.000



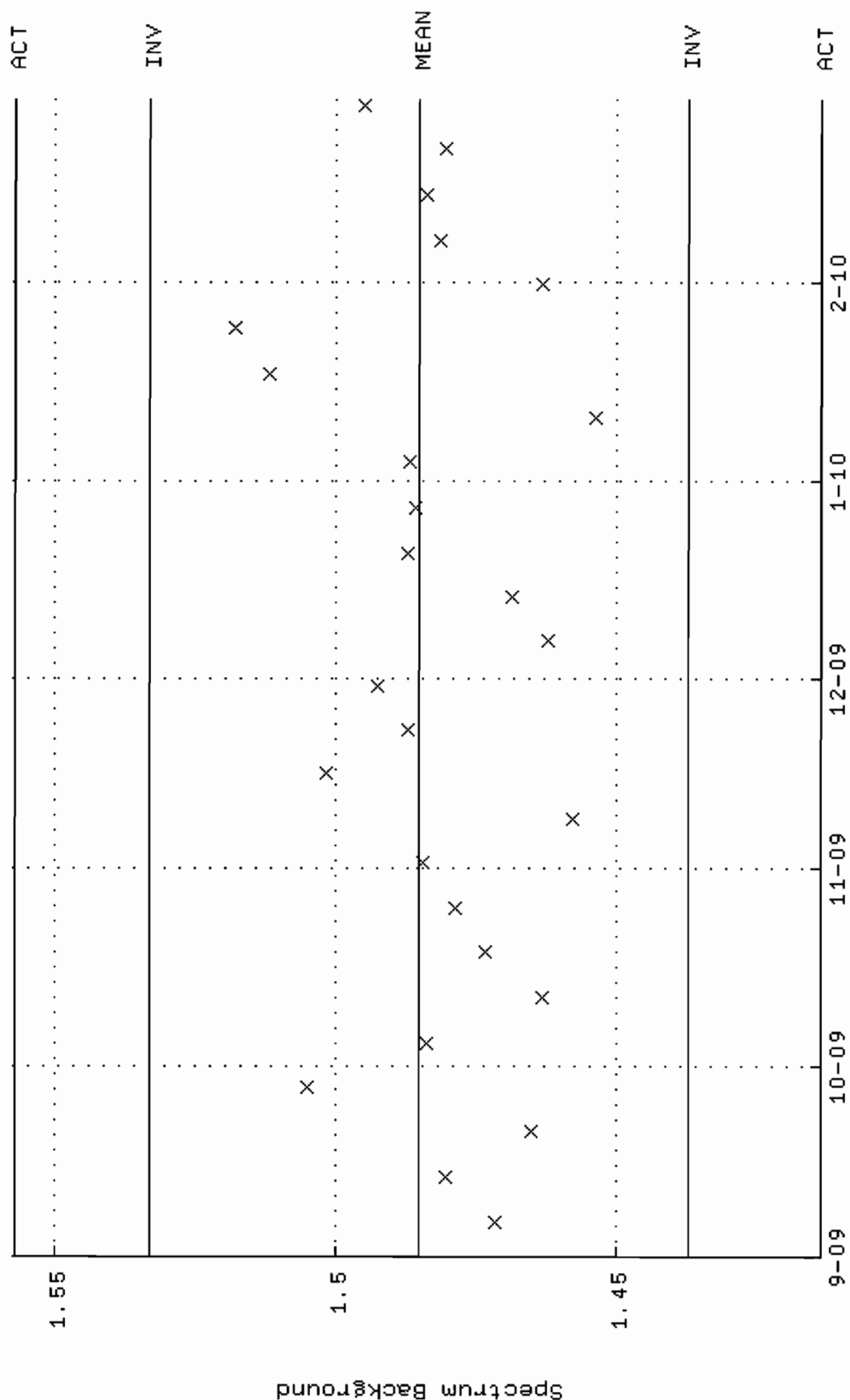
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC\_GAM17.QAF;1  
 Parameter Name : BACKRATE (Spectrum Background Rate)  
 Start/End Dates : 6-SEP-2009 11:44:33 through 1-MAR-2010 12:00:00  
 Mean +- Std Dev : 1.42766 +- 1.396974E-02 (0.98 %)



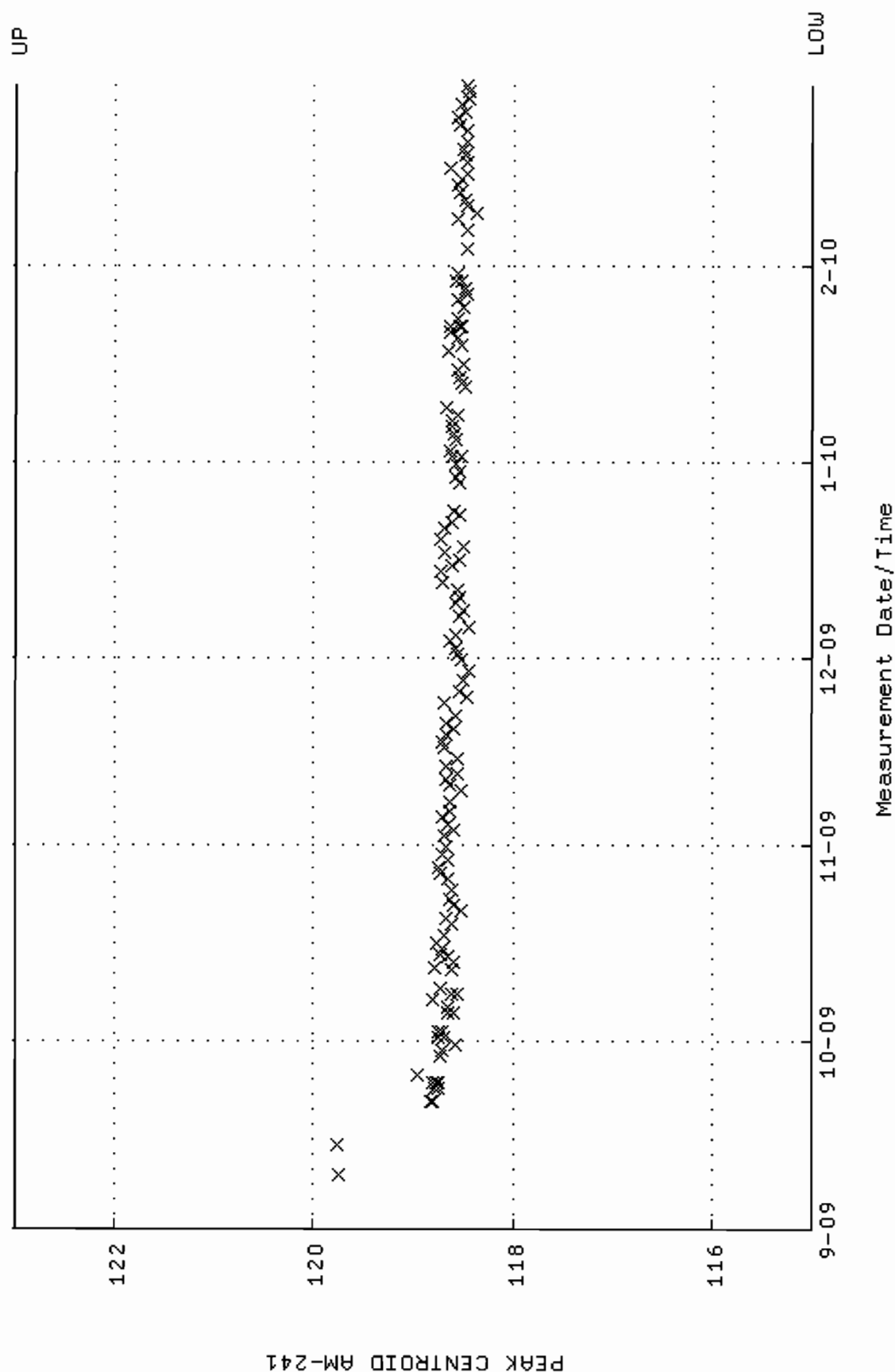
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC\_GAM20\_500MLMB.QAF;1  
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)  
Start/End Dates : 2-SEP-2009 04:53:11 through 1-MAR-2010 12:00:00  
Lower/Upper Lmts: 115.000 through 123.000



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC\_GAM20.QAF;1  
 Parameter Name : BACKRATE (Spectrum Background Rate)  
 Start/End Dates : 6-SEP-2009 11:46:04 through 1-MAR-2010 12:00:00  
 Mean +- Std Dev : 1.48527 +- 2.388665E-02 (1.61 %)

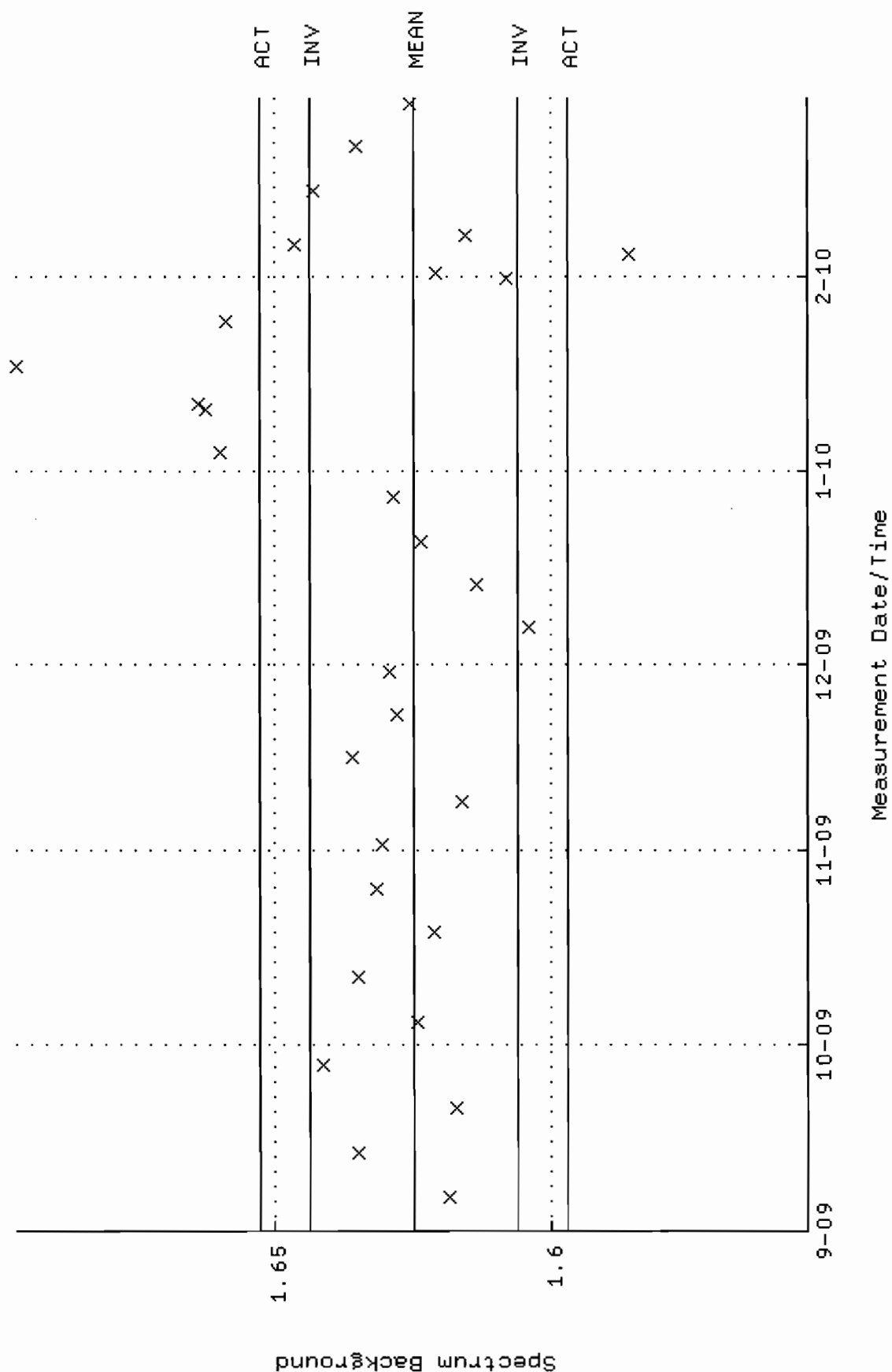


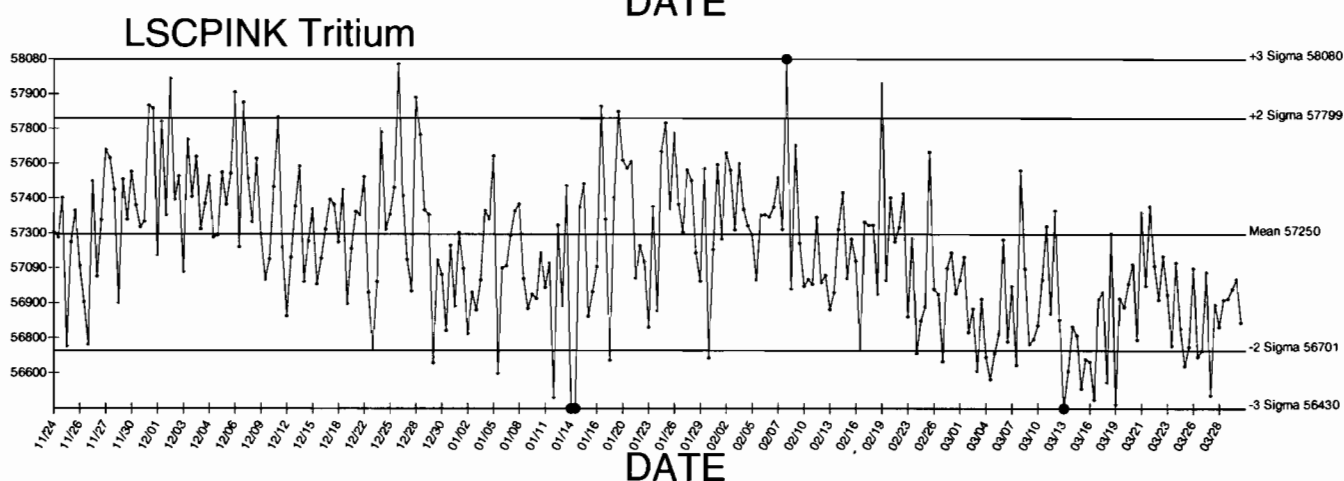
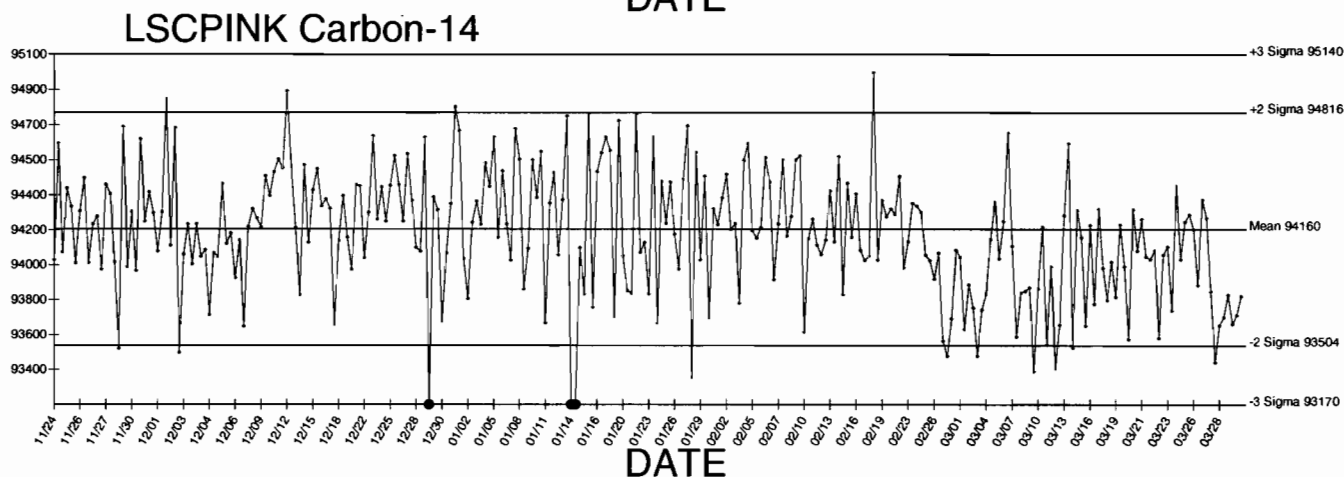
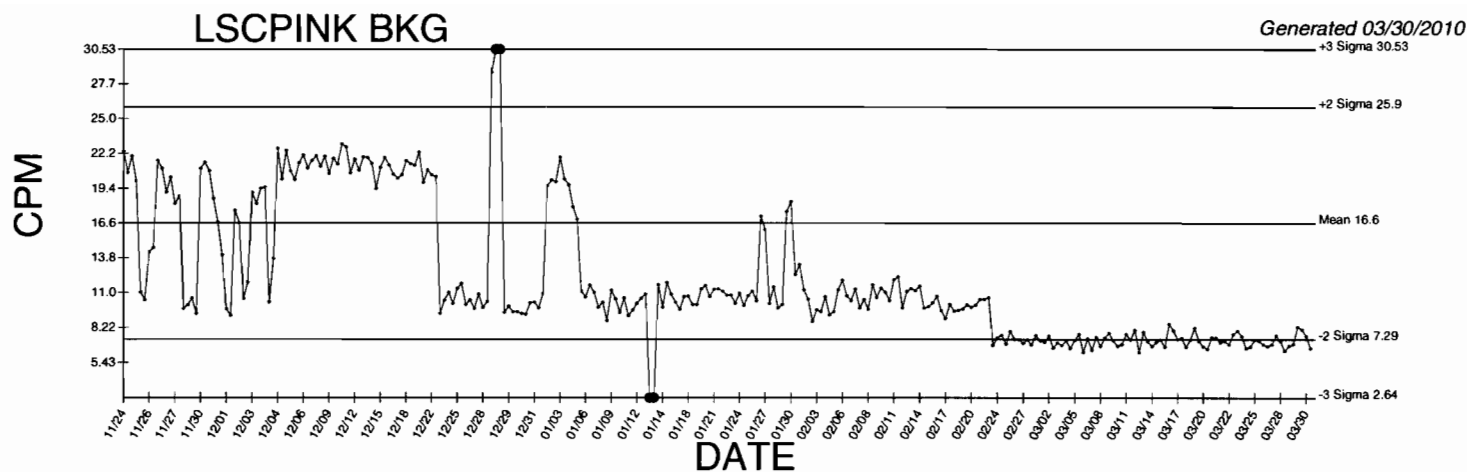
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC\_GAM25\_2LMB.QAF;1  
 Parameter Name : PSCENTRD-59 (PEAK CENTROID AM-241)  
 Start/End Dates : 9-SEP-2009 16:18:34 through 1-MAR-2010 12:00:00  
 Lower/Upper Lmts: 115.000 through 123.000





QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC\_GAM25.QAF;1  
 Parameter Name : BACKRATE (Spectrum Background Rate)  
 Start/End Dates : 6-SEP-2009 11:47:27 through 1-MAR-2010 12:00:00  
 Mean +- Std Dev : 1.62502 +- 9.370414E-03 (0.58 %)





● Denotes Outlier

# STANDARDS DATA

0134



CALIBRATION  
No. 0146

**Description** Radionuclide: TRITIUM (HYDROGEN-3) Product code: TRY-64  
Chemical form: water Batch: 111

**Measurement** Reference time: 1200 GMT on 1 March 1996  
Radioactive concentration of tritium: 488.0 kilobecquerels per gram of water  
which is equivalent to: 13.19 microcuries per gram of water  
or:  $2.93 \times 10^7$  disintegrations per minute per gram of water

**Method of Measurement**

This reference material was calibrated by direct comparison with a standard of tritium-labelled water obtained from the National Institute of Standards and Technology, USA.

**Accuracy** The OVERALL UNCERTAINTY of the result quoted above is estimated to be less than  $\pm 2.5\%$

This estimate of uncertainty was calculated in accordance with the recommendations of the International Commission on Radiation Units and Measurements (ICRU Report 12). The limits of uncertainty were taken as the arithmetic sum of the uncertainty due to random variations, calculated at the 99.7% confidence level, and the estimated systematic uncertainties.

**Purity** No radioactive impurities were detected. (Impurities with total activity greater than 0.001% of the activity of the tritium would have been detected).

**Physical Data** Half-life of tritium:  $12.43 \pm 0.11$  years  
Maximum beta energy of tritium: 18.6 keV

**Remarks:** The S.I. unit of radioactivity is the becquerel.

1 becquerel (Bq) = 1 nuclear transformation per second, therefore  
1 curie (Ci) =  $3.7 \times 10^{10}$  becquerels exactly.

Useful conversion factors are:

1 microcurie ( $\mu\text{Ci}$ ) =  $3.7 \times 10^4$  Bq = 37 kilobecquerels (kBq)

1 kilobecquerel (kBq) = 27.027 nanocuries (nCi)

This product meets the quality assurance requirements of NRC Regulatory Guide 4.15 for achieving implicit NIST (NBS) traceability as defined in NCRP58 (1985).

Approved  
signatory

*W. F. Case*

2C-5-023-061a

# Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	0134	Isotope:	Tritium
Prepared By:	Angela Johnson	Prepared By:	Angela Johnson
Carrier Conc:	DI WATER	Prep Date:	02/21/2001
Reference Date:	03/01/1996	Verification Date:	03/27/2009
Ampoule Mass (g):	5 g	Expiration Date:	03/11/2011
Uncertainty:	+/- 2.5 %	Primary Code:	0134-A
LogBook No:	RC S 023 061	Dilution(mL):	100 mL
		Mass of Parent(g):	3.3659 g
		Density(g/mL):	1.0004
		Balance ID:	38080204

## Calculations Converting parent activity to dpm/mL|dpm/g

<b>(Mass of parent(g)) * (Parm Activity (kBq/g)) * (conversion dpm to kBq) / (Dilution Vol) = Parent Activity (dpm/mL)</b>
<b>(Mass of parent(g)) * (Parm Activity (kBq/g)) * (conversion dpm to kBq) / Density (g/mL)/ (Dilution Vol) = Parent Activity (dpm/g)</b>
$(3.3659 \text{ g}) * (488 \text{ kBq/g}) * (60000 \text{ dpm/kBq}) / (100 \text{ mL}) = 985535.5200 \text{ dpm/mL}$
$(3.3659 \text{ g}) * (488 \text{ kBq/g}) * (60000 \text{ dpm/kBq}) / (1.0004 \text{ g/mL}) / (100 \text{ mL}) = 985180.3116 \text{ dpm/g}$

## Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
07/20/2004	Amanda Fehr	5.86	1000	0134-H	5773.1566 dpm/mL	07/25/2006	07/25/2007
12/20/2005	Amanda Fehr	5.5451	1000	0134-I	5462.92 dpm/mL	12/20/2006	12/20/2007
07/11/2007	Daniel Roy	5.5863	1000	0134-J	5503.5128 dpm/ml	07/29/2008	07/29/2009
03/25/2009	Mary Aders	5.4917	1000	0134-K	5410.3147 dpm/ml	03/11/2010	03/11/2011

GEL Laboratories LLC  
Version 1.0 9/18/2000

# Verification for H-3 Standard 0134-K

G. Ramsay	Isotope	Detector CPM	BKG CPM	NET CPM	Detector Eff. Mass. Used (mL)	Source DPM/mL
3/11/2010	0134-K N1	1081.2000	38.6000	1042.6000	1.0000	2358.639627
	0134-K N2	1132.6000	38.6000	1094.0000	1.0000	2474.920154
	0134-K N3	1142.0000	38.6000	1103.4000	1.0000	2496.185464
					Average =	2443.248415

Mean Value (Counting) =  
Stddev =

2443.248415  
74.04078992

Certificate Value =  
Lower Limit =  
Upper Limit =  
Rule 1 Pass/Fail  
Two sigma =  
10 % of Mean =  
Rule 2 (Pass/Fail)

2457.32  
2295.168835  
2591.329985  
Pass  
148.0815798  
244.3248415  
Pass

99.4273605  
0.03030424

Pass  
Rule 3 (Pass/Fail)

## 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 10% of the certificate value.

The analyst prepared three standard verification sources for H-3 source 0134-K by transferring 1.0 mL portions of the standard into glass liquid scintillation vials. Ten mL of Ecoscint Ultra liquid scintillation cocktail was added to each vial and the vials were shaken to mix. A Blank vial was prepared in a similar fashion using 1 mL of DI water and 10 mL of Ecoscint Ultra liquid scintillation cocktail. The standard verification vials and Background source were dark adapted for two hours and counted on Brown for H-3 source standard verification. The H-3 efficiency calibration which was used for verification calculations was performed on 3/11/10 using 1222 A (H-3).

Each verification source calculation was performed as follows:

$$\text{Source dpm/g} = (A - B)/(C)(D)$$

where:

- A = Ver. source cpm,
- B = BKG cpm,
- C = System efficiency, (cpm/dpm), and
- D = mass used for standard verification.

Reference RAD SOP M-001

*Handwritten:* 3/18/10  
Uy from 3/10/10

1032

## CERTIFICATE OF CALIBRATION

### Standard Radionuclide Source

74047-278

5 mL Liquid in Flame Sealed Vial

This standard radionuclide source was prepared using aliquots measured gravimetrically from master radionuclide solution sources. The Am-241 was calibrated by 4 pi alpha liquid scintillation counting. All other radionuclides were calibrated using a germanium gamma spectrometer system. Calibration and purity were checked using a germanium gamma spectrometer system. At the time of calibration no interfering gamma-ray emitting impurities were detected. The gamma-ray emission rates for the most intense gamma-ray lines are given. Analytics maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Rev. 1, February, 1979.

Calibration date: October 1, 2006 12:00 EST

ISOTOPE	GAMMA-RAY ENERGY	HALF-LIFE	GAMMA-RAYS PER SECOND	TOTAL UNCERTAINTY %
Am-241	59.5	432 y	3339	3.0
Cd-109	88	462.6 d	4815	3.3
Co-57	122	271.79 d	2409	3.0
Ce-139	166	137.6 d	3408	2.8
Hg-203	279	46.61 d	7522	2.7
Sn-113	392	115.1 d	4728	2.6
Cs-137	662	30.07 y	2973	3.0
Y-88	898	106.6 d	11600	2.6
Co-60	1173	5.2714 y	5780	2.7
Co-60	1332	5.2714 y	5783	2.6
Y-88	1836	106.6 d	12260	2.6

5.31725 grams 4M HCl solution.

P O NUMBER 2734RD, Item 1

SOURCE PREPARED BY:

M. Dimitrova  
 M. Dimitrova, Radiochemist

Q A APPROVED:

Wm. M. J. 11-28-06

This standard will expire one year after the calibration date.

 rec'd 11/30/06  
 RC-S-045-073-0

1380 Seaboard Industrial Blvd.  
 Atlanta, Georgia 30318

Tel 404-352-8677

Fax 404-352-2837

www.analytiscinc.com

## ANALYSIS OF UNCERTAINTY FOR MIXED GAMMA STANDARDS BATCH 127

### CALIBRATION DATE: October 1, 2006 12:00 EST

Isotope	Energy (keV)	Calibration Method <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	898	HPGe	0.19	1.0	0.33	0.7	0	0.2	1.29	2.6
Co-60	1173	HPGe	0.31	.97	0.45	0.7	0	0.2	1.33	2.7
Co-60	1332	HPGe	0.33	.93	0.48	0.7	0	0.2	1.32	2.6
Y-88	1836	HPGe	0.24	1.0	0.35	0.7	0	0.2	1.31	2.6

#### Optional Additional Isotopes

Pb-210	46.5	4π LS	0.33	1.1	0	0.9	0.30	0.2	1.50	3.0
Am-241	59.5	4π LS	0.33	1.1	0	0.9	0.30	0.2	1.50	3.0
Sr-85	514	IC	0.30	1.1	0	0.7	0.17	0.2	1.36	2.7
Cs-134	605	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7
Cs-134	796	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7
Mn-54	835	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7
Zn-65	1116	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7

#### Calibration Methods:

4π LS (4 pi Liquid Scintillation Counting)

HPGe (High Purity Germanium Gamma Ray Spectrometer)

IC (Gamma Ray Ionization Chamber)

<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	
Parent Code:	1032
Prepared By:	Daniel Roy
Carrier Conc:	4 M HCL
Reference Date:	10/01/2006
Ampoule Mass (g):	5.31725 g
Uncertainty:	+/- 2.81 %
LogBook No:	RC-S-045-073

A Solution Material Info	
Isotope:	Mixed Gamma
Prepared By:	Daniel Roy
Prep Date:	11/30/2006
Verification Date:	12/02/2009
Expiration Date:	12/02/2010
Primary Code:	1032-A
Dilution(mL):	100 mL
Mass of Parent(g):	5.2579 g
Density(g/mL):	1.0611
Balance ID:	38080204

## Calculations Converting parent activity to dpm/mL|dpm/g

$(\text{Mass of parent(g)}) * (\text{Parm Activity (dpm)}) * (\text{conversion dpm to dpm}) / (\text{Ampoule Mass(g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (dpm)}) * (\text{conversion dpm to dpm}) / \text{Density} / (\text{Ampoule Mass (g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/g)}$
$(5.2579 \text{ g}) * (218817 \text{ dpm}) * (1 \text{ dpm/dpm}) / (5.31725 \text{ g} * 100 \text{ mL}) = 2163.7461 \text{ dpm/mL}$
$(5.2579 \text{ g}) * (218817 \text{ dpm}) * (1 \text{ dpm/dpm}) / (1.0611 \text{ g/mL}) / (5.31725 \text{ g} * 100 \text{ mL}) = 2039.2400 \text{ dpm/g}$

## Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
-----------	----------	--------------	---------------	------	-------------	-------------------	-----------------

GEL Laboratories LLC  
Version 1.0 9/18/2000

# Verification for Mixed Gamma Standard 1032-A

M. Stamps  
12/2/2009

Am-241

Isotope	Result	pCi/L - Ver- Jar-1
Mixed Gamma N1	2534	pCi/L
Mixed Gamma N2	2510	pCi/L
Mixed Gamma N3	2413	pCi/L

Mean Value (Counting) = 2485.67 Pass  
Stdev = 64.065 Rule 3 (Pass/Fail)

Certificate Value =  
Lower Limit =  
Upper Limit =  
Rule 1 (Pass/Fail)  
Two sigma =  
10 % of Mean =  
Rule 2 (Pass/Fail)

2485.68018 pCi/L  
2357.536524 pCi/L  
2613.796809 pCi/L  
Pass  
128.1301422  
248.5666667  
Pass

M. Stamps  
12/2/09  
independent  
12/2/09

## Verification Rules

- Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
- Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
- Rule 3 = The determined mean value shall be within 5% of the certificate value.

# Verification for Mixed Gamma Standard 1032-A

M. Stamps  
12/2/2009

Cs-137

Isotope	Result	pCi/L - Ver. Tab. 1
Mixed Gamma N1	854.2	pCi/L
Mixed Gamma N2	907.6	pCi/L
Mixed Gamma N3	898.9	pCi/L

Mean Value (Counting) = 886.90  
Stddev = 28.651  
Rule 3 (Pass/Fail) Pass

Certificate Value = 933.44144  
Lower Limit = 829.597644  
Upper Limit = 944.202356  
Rule 1 (Pass/Fail) Pass  
Two sigma = 57.30235597  
10 % of Mean = 88.69000000  
Rule 2 (Pass/Fail) Pass

## 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 notes:*  
12/2/09  
12/2/09  
12/2/09

# Verification for Mixed Gamma Standard 1032-A

M. Stamps  
12/2/2009

Co-60 (1332.5)

Isotope	Result	pCi/L - VER-JAN-5
Mixed Gamma N1	1572	pCi/L - VER-JAN-2
Mixed Gamma N2	1495	pCi/L - VER-JAN-3
Mixed Gamma N3	1501	

Mean Value (Counting) = 1522.67 Pass  
Stdev = 42.829 Rule 3 (Pass/Fail)

Certificate Value = 1545.8378  
Lower Limit = 1437.008431  
Upper Limit = 1608.324902  
Rule 1 (Pass/Fail) Pass  
Two sigma = 85.65823564  
10 % of Mean = 152.26666667  
Rule 2 (Pass/Fail) Pass

## Verification Rules

- Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
- Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
- Rule 3 = The determined mean value shall be within 5% of the certificate value.

*U.S. Stamp issued 12/2/09*

### 0244-A Characterization

Sample #	Uranium-233/234 Result (pCi/g)	Uranium-238 Result (pCi/g)	Thorium-230 Result (pCi/g)
0244-A 1	6.59	6.12	25.3
0244-A 2	6.36	6.07	28.5
0244-A 3	5.78	5.53	26.5
0244-A 4	6.48	5.97	25.5
0244-A 5	5.65	5.59	26.2
0244-A 6	6.96	5.78	27.0
0244-A 7	5.95	5.75	24.2
0244-A 8	5.29	5.67	27.2
0244-A 9	5.51	6.05	24.3
0244-A 10	6.37	5.57	25.6
0244-A 11	6.50	5.80	25.8
0244-A 12	6.13	5.42	22.4
0244-A 13	5.49	5.24	24.7
0244-A 14	6.19	5.21	26.9
0244-A 15	6.50	6.27	27.6
0244-A 16	6.50	5.24	24.9
0244-A 17	6.25	6.05	24.7
0244-A 18	6.14	6.00	25.4
0244-A 19	6.19	6.14	26.4
0244-A 20	5.67	5.61	23.2
Mean Value	6.13	5.75	25.62
1 sigma	0.439	0.325	1.493
2 sigma	0.878	0.650	2.986
75% Limit	4.60	4.31	19.22
125% Limit	7.66	7.19	32.03
Expected Result	6.2 +/- 4.0	6.0 +/- 4.0	24.5 +/- 0.6
Achieved Results	6.13 +/- 0.439	5.75 +/- 0.325	25.62 +/- 1.493

REFERENCE DATA 4/11/2000 *fit c held 12/1/04*

*angela d. johnson 12/3/04*

TRM

Invoice:

5 boxes of TRM-1  
 10 " " TRM-2 and 3  
 5 " each of NRM-1 through 6  
 7 " baghouse dirt

Use 1/4 gm x 10 samples WITH together  
 for TRM-2

Table 7. Recommended Concentrations of Tailings Reference Materials (pCi/g)

	TRM-1	TRM-2	TRM-3	TRM-4
U-238	99 ± 6	6.0 ± 4.0	19.6 ± 1.4	44.9 ± 1.6
U-234	105 ± 6	6.2 ± 4.0	19.6 ± 1.9	44.6 ± 1.2
Th-230	471 ± 11	24.5 ± 0.6	53.5 ± 2.1	44.0 ± 1.6
Ra-226	489 ± 17	25.4 ± 0.9	60.3 ± 2.3	42.9 ± 1.2
Pb-210	425 ± 24	22.1 ± 1.2	56.0 ± 2.1	38.9 ± 2.0



### 0244-B Characterization

Sample #	Plutonium-239 Result (pCi/g)	Plutonium-238 Result (pCi/g)	Americium-241 Result (pCi/g)
0244-B 1	39.9	7.88	38.4
0244-B 2	44.1	7.97	40.6
0244-B 3	45.8	6.56	31.8
0244-B 4	43.6	7.69	31.5
0244-B 5	43	7.9	40.2
0244-B 6	43.5	7.84	29.4
0244-B 7	41.3	7.67	36
0244-B 8	44.3	6.95	33.2
0244-B 9	42.7	7.2	29.2
0244-B 10	44.9	7.69	30
0244-B 11	41.4	7.22	30.2
0244-B 12	41.3	7.74	36
0244-B 13	39.2	6.65	33.8
0244-B 14	39.6	7.78	31.1
0244-B 15	45.3	8.41	37.3
0244-B 16	38.1	6.74	33.6
0244-B 17	48.5	8.51	30.5
0244-B 18	36.5	7.23	38.6
0244-B 19	35.3	6.98	30.9
0244-B 20	37.4	8.55	31.3
Mean Value	41.79	7.56	33.68
1 sigma	3.418	0.596	3.724
2 sigma	6.835	1.193	7.448
75% Limit	30.75	6.02	24.38
125% Limit	51.25	10.04	40.63
Expected Result	41.0 +/- 3.0	8.03 +/- 0.37	32.5 +/- 1.1
Achieved Results	41.79 +/- 3.418	7.56 +/- .596	33.68 +/- 3.724

REFERENCE DATA 4/14/2000

Amanda L. Lehn 4/30/04  
 fitt & shal 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.

Attention Nancy Slater At GEL  
Not for Log In  
991627-01-20  
Page 1 of 1  
AR/COC- 602945

SF 2001-COC (10-97)  
Supervisor (S-97) Jane

Internal Lab  
Batch No.

SAR/WR No. N/A

Press F1 for Instructions for each field.

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.:  
Contract No.: AJ-2480A  
Case No.: 10204 13  
SMO Authorization: Doug Salmi  
Bill to: Sandia National Laboratories  
Supplier Services, Dept.  
P.O. Box 5800 MS 0154

Location			Tech Area		VI	Room	N/A	Beginning Depth in Td	ER Site No.	Date/Time Collected	Reference LOV (available at SMO)				
Building	N/A	Sample No. - Fraction	ER Sample ID or Sample Location Detail	Sample Matrix							Container		Preservative	Sample Collection Method	Sample Type
											Type	Volume			
	050484 - 001	PEM-1			N/A	N/A	11/15/9 1100	S	P	1 L	4 C	G	SA		
	050485 - 001	TRM-2			N/A	N/A	11/15/9 1100	S	G	1 L	4 C	G	SA		
	050486 - 001	NRMT-2	NBHD		N/A	N/A	11/15/9 1100	S	G	1 L	4 C	G	SA		
	-														
	-														
	-														
	-														
	-														
	-														
	-														

RMMA ☐ Yes ☒ No Ref. No.  
Sample Disposal ☐ Return to Client ☒ Disposal by lab  
Turnaround Time ☒ Normal ☐ Rush Required Report Date  
Sample Team  
Name Douglas E. Perry  
Signature  
Members  
1. Relinquished by  
1. Received by  
2. Relinquished by  
2. Received by  
3. Relinquished by  
3. Received by

Special Instructions/QC Requirements  
EDD ☐ Yes ☒ No  
Raw data package ☐ Yes ☒ No  
These samples are well characterized and materials being sent to GEL for be better and think this is a Please list as separate report.  
Date 11-16-99 Time 0900  
4. Relinquished by  
4. Received by  
5. Relinquished by  
5. Received by  
6. Relinquished by  
6. Received by

Abnormal Conditions on Receipt as Use  
1st Copy To Accompany Samples, Laboratory Copy (White)  
2nd Copy SMO Suspense Copy (Yellow)  
3rd Copy Field Copy (Pink)

# CERTIFICATE OF CALIBRATION

## ALPHA STANDARD SOLUTION

Radionuclide	Am-243	Customer:	GENERAL ENGINEERING LABS
Half Life:	7380 $\pm$ 40 years	P.O.No.:	9290-RAD
Catalog No.:	7243	Reference Date:	January 1 1994 12:00 PST.
Source No.:	445-96-2	Contained Radioactivity:	(Am-243) 101.2 $\mu$ Ci
		Contained Radioactivity:	(Am-243) 3750 kBq

### Description of Solution

a. Mass of solution:	5.3739 g (in a 5 ml Flame Sealed Ampoule)
b. Chemical form:	Am(NO <sub>3</sub> ) <sub>3</sub> in 2N HNO <sub>3</sub>
c. Carrier content:	None added
d. Density:	1.0651 g/ml @ 20°C.

### Radioimpurities

None detected

### Radioactive Daughters

Np-239 (beta active) in equilibrium

### Radionuclide Concentration

(Am-243) 18.84  $\mu$ Ci/g

### Method of Calibration

Weighed aliquots of the solution were assayed using gamma spectrometry for Np-239:

Energy peak(s) intergrated under:	228, 278	keV.
Branching ratio(s) used:	0.108, 0.1420	gamma rays per decay.

### Uncertainty of Measurement

a. Systematic uncertainty in instrument calibration:	$\pm 3.0\%$
b. Random uncertainty in assay:	$\pm 0.4\%$
c. Random uncertainty in weighing(s):	$\pm 0.0\%$
d. Total uncertainty at the 99% confidence level:	$\pm 3.0\%$

### NIST Traceability

This calibration is implicitly traceable to the National Institute of Standards and Technology.

### Leak Test(s)

See reverse side for Leak Test(s) applied to this source.

### Notes

1. Nuclear data were taken from "Table of Radioactive Isotopes", edited by Virginia S. Shirley, 1986.
2. IPL participates in an NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).



ISOTOPE PRODUCTS LABORATORIES  
1800 North Keystone Street  
Burbank, California 91504  
(818) 843 - 7000

*Anna H. Khan*  
QUALITY CONTROL

*Jan 3, 1994*  
Date Signed

THE LEAK TEST(S) INDICATED BY THE CHECKED BOX(ES) WAS(WERE) APPLIED TO  
DETERMINE THE INTEGRITY OF THE SOURCE DESCRIBED ON THE FRONT SIDE

☒ 1. STANDARD WIPE TEST

The source is wiped over its entire surface with a moistened filter paper disk. After drying, the disk is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001  $\mu\text{Ci}$  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		A Solution Material Info	
Parent Code:	445-96-2	Isotope:	Americium-243
Prepared By:	Genie Bost	Prepared By:	Angela Johnson
Carrier Conc:	2M HNO3	Prep Date:	01/05/1994
Reference Date:	01/01/1994	Verification Date:	03/09/2010
Ampoule Mass (g):	5.3739 g	Expiration Date:	03/09/2011
Uncertainty:	+/- 3 %	Primary Code:	445-96-2-A
LogBook No:	RC S 005 032	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	Tara Sides	.0025219	250	445-96-2-QQ	20.8977 dpm/mL	09/14/2009	09/14/2010
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
03/09/2010	Ashley Drochter	.011	1000	445-96-2-VV	22.7878 dpm/mL	03/09/2010	03/09/2011
03/17/2003	Angela Johnson	2.1108	1000	445-96-2-W	4370.857 dpm/mL	03/14/2006	03/14/2007
03/23/2010	Ashley Drochter	.0163	1000	445-96-2-WW	33.7674 dpm/mL	03/23/2010	03/23/2011
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-VV

A.Drochter 3/15/2010	Isotope	Value	Uncertainty
	445-96-2-VV #1	1.040	0.1630
	445-96-2-VV #2	0.964	0.1480
	445-96-2-VV #3	0.970	0.1550
Mean Value (Counting) =	0.991	96.72	Pass
Stdev =	0.042253205	Rule 3 (Pass/Fail)	
Target =	1.025		
Lower Limit =	0.906826923		
Upper Limit =	1.075839743		
Rule 1 Pass/Fail	Pass		
Two sigma =	0.08450641		
10 % of Mean =	0.099133333		
Rule 2 (Pass/Fail)	Pass		

The analyst prepared three standard verification sources for standard **445-96-2-VV** 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.

*fil* 3/15/10  
*L* 3/16/10



# NATIONAL PHYSICAL LABORATORY

Teddington Middlesex UK TW11 0LW Telephone +44 20 8977 3222

## Certificate of Calibration



0478

PLUTONIUM-236 SOLUTION  
R37-02

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to recognised national standards, and to units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

FOR: GEL Laboratories LLC  
2040 Savage Road  
Charleston, SC 29407  
USA

FOR THE ATTENTION OF: Mr Tim Winters

NPL PRODUCT CODE: R37-02

IDENTIFICATION: A09881

DESCRIPTION: An aqueous solution of  $^{236}\text{Pu}$  also containing  $2 \text{ mol dm}^{-3}$  of nitric acid. The solution is contained in a flame sealed ampoule of type Q and nominal volume 5 ml (squat) as defined in BS 795:1983.

DATE(S) OF CALIBRATION: 26 June 2009 to 1 July 2009

INTENDED USE: Calibration of instruments for response to  $^{236}\text{Pu}$

STORAGE: The material may be stored at room temperature in a suitably sealed container. Flame-sealed glass ampoules are recommended for long-term storage. Regulatory conditions may apply to the manner in which this material is stored.

### MEASUREMENTS

The samples were prepared by gravimetric dilution of a  $^{236}\text{Pu}$  solution, which had been previously standardised using liquid scintillation counting. The accuracy of the dilution factor was checked using liquid scintillation counting.

Reference: 2009100356

Date of Issue: 4 November 2009

Checked by: *Ch. Ali*

Signed: *AAH*

Name: Dr Arvic Harms

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(Authorised Signatory)

for Managing Director

## RESULTS

Principal radionuclide:	$^{236}\text{Pu}$
Reference time:	2009-07-01 12:00 UTC
Activity concentration of principal radionuclide:	$170.8 \text{ Bq g}^{-1}$
Expanded uncertainty:	$\pm 0.6 \text{ Bq g}^{-1} (\pm 0.36 \%)$
Contaminants present:	$^{226}\text{Ra}, ^{232}\text{U}, ^{228}\text{Th}, ^{237}\text{Np}$
Activity concentration of $^{226}\text{Ra}$ :	$11.0 \text{ mBq g}^{-1}$
Expanded uncertainty:	$\pm 4.0 \text{ mBq g}^{-1} (\pm 36 \%)$
Activity concentration of $^{232}\text{U}$ :	$0.67 \text{ Bq g}^{-1}$
Expanded uncertainty:	$\pm 0.12 \text{ Bq g}^{-1} (\pm 18 \%)$
Activity concentration of $^{228}\text{Th}$ :	$11.38 \text{ mBq g}^{-1}$
Expanded uncertainty:	$\pm 0.46 \text{ mBq g}^{-1} (\pm 4 \%)$
Activity concentration of $^{237}\text{Np}$ :	$5.00 \text{ mBq g}^{-1}$
Expanded uncertainty:	$\pm 0.34 \text{ mBq g}^{-1} (\pm 8 \%)$
Sample Mass:	$4.97 \text{ g} \pm 0.02 \text{ g}$

## UNCERTAINTIES

The reported uncertainties are based on standard uncertainties multiplied by a coverage factor  $k=2$ , providing a level of confidence of approximately 95 %. The uncertainty evaluations have been carried out in accordance with UKAS requirements.

Reference: 2009100356

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Checked by: 

## NOTES

- [1]. The reported reference time is stated consistent with the format given in ISO 8601:2004. UTC is the abbreviation for Universal Time, Coordinated. The date is stated in the format YYYY-MM-DD such that 2008-09-01 represents 1 September 2008.
- [2]. The recommended half life of  $^{236}\text{Pu}$  is 1044 (6) days and is taken from the evaluations published in *Nuclear Data Sheets*.
- [3]. The recommended half life of  $^{226}\text{Ra}$  is  $5.844 (50) \times 10^5$  days and is taken from the evaluations of the *Decay Data Evaluation Project*, see for example [www.nucleide.org/DDEP.htm](http://www.nucleide.org/DDEP.htm).
- [4]. The recommended half life of  $^{232}\text{U}$  is 25800 (800) days and is taken from the evaluations of the *Decay Data Evaluation Project*, see for example [www.nucleide.org/DDEP.htm](http://www.nucleide.org/DDEP.htm).
- [5]. The recommended half life of  $^{237}\text{Np}$  is  $7.83 (6) \times 10^8$  days and is taken from the evaluations of the *Decay Data Evaluation Project*, see for example [www.nucleide.org/DDEP.htm](http://www.nucleide.org/DDEP.htm).
- [6]. The recommended half life of  $^{228}\text{Th}$  is 698.60 (46) days and is taken from the evaluations of the *Decay Data Evaluation Project*, see for example [www.nucleide.org/DDEP.htm](http://www.nucleide.org/DDEP.htm).

## UNCERTAINTIES

The reported uncertainties are based on standard uncertainties multiplied by a coverage factor  $k=2$ , providing a level of confidence of approximately 95 %. The uncertainty evaluations have been carried out in accordance with UKAS requirements.

# Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	1430	Isotope:	Plutonium-236
Prepared By:	Ashley Drochter	Prepared By:	Ashley Drochter
Carrier Conc:	2 M HNO3	Prep Date:	01/27/2010
Reference Date:	07/01/2009	Verification Date:	01/27/2010
Ampoule Mass (g):	4.97 g	Expiration Date:	01/27/2011
Uncertainty:	+/- .36 %	Primary Code:	1430-A
LogBook No:	RC-S-051-149	Dilution(mL):	100 mL
		Mass of Parent(g):	4.8051 g
		Density(g/mL):	1.0610
		Balance ID:	38080204

## Calculations Converting parent activity to dpm/mL|dpm/g

$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq/g)}) * (\text{conversion dpm to Bq}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq/g)}) * (\text{conversion dpm to Bq}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(4.8051 \text{ g}) * (170.8 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (100 \text{ mL}) = 492.4266 \text{ dpm/mL}$
$(4.8051 \text{ g}) * (170.8 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (1.0610 \text{ g/mL}) / (100 \text{ mL}) = 464.1156 \text{ dpm/g}$

## Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
01/27/2010	Bethany Fiem	33.0429	200	1430-B	76.6786262 dpm/mL	01/27/2010	01/27/2011
03/04/2010	Ashley Drochter	15.2331	200	1430-C	35.3496 dpm/mL	03/04/2010	03/04/2011
03/17/2010	Ashley Drochter	15.0683	200	1430-D	34.9672 dpm/mL	03/17/2010	03/17/2011

GEL Laboratories LLC  
Version 1.0 9/18/2000

## Verification for Plutonium-236 Standard 1430-C

	Isotope	Value	Uncertainty
A. Drochter 3/4/2010	1430-C	2.760	0.4480
	1430-C	2.770	0.4520
	1430-C	2.950	0.4850
Mean Value (Counting) =	2.827	104.54659 % of Known Value	
Stdev =	0.106926766		
Target =	2.70		
Lower Limit =	2.612813134		
Upper Limit =	3.040520199		
Rule 1 Pass/Fail	Pass	Pass	Pass
Two sigma =	0.213853532		
10 % of Mean =	0.282666667		
Rule 2 (Pass/Fail)	Pass		

The analyst prepared three standard verification sources for standard 1430-B using 0.1 mL for each source. Each standard was combined with 0.1 mL of Pu 239 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. After approximately ten minutes, 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-236 were calculated by comparison to Pu-239 certified values.

*file* 3/5/10  
*file* 3/5/10



**Eckert & Ziegler**  
Analytics

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Atlanta, Georgia 30318  
Tel 404-352-8677  
Fax 404-352-2837  
www.analytisc.com

**CERTIFICATE OF CALIBRATION**  
Standard Radionuclide Source

**78747-278**

1283

**U-232 5 mL Liquid in Flame Sealed Vial**

**Customer:** GEL Laboratories, LLC  
**P.O. No.:** 7319 RD, Item 1

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated using a germanium gamma spectrometer system.

Radionuclide purity and calibration were checked using a germanium gamma spectrometer system. The nuclear decay rate and assay date for this source are given below.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

Isotope:	U-232
Activity (Bq):	3.754 E3
Half-Life:	68.9 years
Calibration Date:	December 9, 2008 12:00 EST
Relative Expanded Uncertainty (k=2):	5.0%

**Comments:**

Impurities: U-233 <0.3%, Am-241 <0.15%  
5.20483 grams 1M HNO<sub>3</sub> solution.

Source Prepared By: WMS

W. Mao, Radiochemist

QA Approved: DM Montgomery

D. M. Montgomery, QA Manager

Date: 12-11-08

RECEIVED  
12/15/08

2C-S-0E

# 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	12/02/2009	12/02/2010
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	01/08/2010	12/02/2010
12/09/2009	Ashley Drochter	21.56	1000	1283-H	45.58 dpm/mL	12/09/2009	12/09/2010



## Verification for Uranium-232 Standard 1283-H

Analyst: A. Drochter  
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: 961099

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
248515001	SAMPLE	MXR1	GAM01	19-MAR-10 20:40	DONE	CAN	12-JAN-10 00:00
248515002	SAMPLE	MXR1	GAM05	19-MAR-10 20:40	DONE	CAN	11-JUN-09 00:00
248515003	SAMPLE	MXR1	GAM17	19-MAR-10 20:40	DONE	CAN	06-JAN-10 00:00
248517001	SAMPLE	MXR1	GAM18	19-MAR-10 20:41	DONE	CAN	23-APR-09 00:00
248521001	SAMPLE	MXR1	GAM19	19-MAR-10 20:42	DONE	CAN	12-MAR-09 00:00
248521002	SAMPLE	MXR1	GAM22	19-MAR-10 20:42	DONE	CAN	02-DEC-09 00:00
248521003	SAMPLE	MXR1	GAM23	19-MAR-10 20:43	DONE	CAN	02-JUN-09 00:00
248526001	SAMPLE	MXR1	GAM25	19-MAR-10 20:43	DONE	CAN	07-OCT-09 00:00
248521004	SAMPLE	MXR1	GAM05	19-MAR-10 23:11	DONE	CAN	11-JUN-09 00:00
248521005	SAMPLE	MXR1	GAM20	19-MAR-10 23:11	DONE	CAN	26-AUG-09 00:00
248521006	SAMPLE	MXR1	GAM22	19-MAR-10 23:12	DONE	CAN	02-DEC-09 00:00
248521007	SAMPLE	MXR1	GAM23	19-MAR-10 23:12	DONE	CAN	02-JUN-09 00:00
248521008	SAMPLE	MXR1	GAM06	19-MAR-10 23:14	DONE	CAN	16-FEB-10 00:00
248521009	SAMPLE	MXR1	GAM21	19-MAR-10 23:15	DONE	CAN	28-JUL-09 00:00
248521010	SAMPLE	MXR1	GAM05	20-MAR-10 11:10	DONE	CAN	11-JUN-09 00:00
248521011	SAMPLE	MXR1	GAM06	20-MAR-10 11:10	DONE	CAN	16-FEB-10 00:00
1202061469	MB	MXR1	GAM11	20-MAR-10 11:11	DONE	CAN	18-NOV-09 00:00
1202061470	DUP	MXR1	GAM12	20-MAR-10 11:11	DONE	CAN	25-FEB-10 00:00
1202061471	LCS	MXR1	GAM20	20-MAR-10 11:12	DONE	CAN	26-AUG-09 00:00

# Instrument Run Log

Instrument Type: LSC

Batch ID: 964063

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
248515001	SAMPLE	KXK2	LSCPINK	29-MAR-10 14:07	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
248515002	SAMPLE	KXK2	LSCPINK	29-MAR-10 15:00	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
248515003	SAMPLE	KXK2	LSCPINK	29-MAR-10 15:53	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
248517001	SAMPLE	KXK2	LSCPINK	29-MAR-10 16:45	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
248521001	SAMPLE	KXK2	LSCPINK	29-MAR-10 17:38	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
248521002	SAMPLE	KXK2	LSCPINK	29-MAR-10 18:30	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
248521003	SAMPLE	KXK2	LSCPINK	29-MAR-10 19:23	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
248521004	SAMPLE	KXK2	LSCPINK	29-MAR-10 20:15	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
248521005	SAMPLE	KXK2	LSCPINK	29-MAR-10 21:08	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
248521006	SAMPLE	KXK2	LSCPINK	29-MAR-10 22:00	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
248521007	SAMPLE	KXK2	LSCPINK	29-MAR-10 22:53	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
248521008	SAMPLE	KXK2	LSCPINK	29-MAR-10 23:45	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
248521009	SAMPLE	KXK2	LSCPINK	30-MAR-10 01:53	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
248521010	SAMPLE	KXK2	LSCPINK	30-MAR-10 02:46	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
248521011	SAMPLE	KXK2	LSCPINK	30-MAR-10 03:38	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
248526001	SAMPLE	KXK2	LSCPINK	30-MAR-10 04:31	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
1202068228 MB		KXK2	LSCPINK	30-MAR-10 05:24	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
1202068229 DUP		KXK2	LSCPINK	30-MAR-10 06:17	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
1202068230 LCS		KXK2	LSCPINK	30-MAR-10 07:09	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00

## Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 965494

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
248515001	SAMPLE	MXE1	1241	25-MAR-10 22:12	DONE		
248515002	SAMPLE	MXE1	1242	25-MAR-10 22:12	DUSE		
248515003	SAMPLE	MXE1	1243	25-MAR-10 22:12	DONE		
248517001	SAMPLE	MXE1	1244	25-MAR-10 22:12	DONE		
248521001	SAMPLE	MXE1	1245	25-MAR-10 22:12	DONE		
248521002	SAMPLE	MXE1	1246	25-MAR-10 22:12	DONE		
248521003	SAMPLE	MXE1	1247	25-MAR-10 22:12	DONE		
248521004	SAMPLE	MXE1	1248	25-MAR-10 22:12	DONE		
248521005	SAMPLE	MXE1	1249	25-MAR-10 22:13	DONE		
248521006	SAMPLE	MXE1	1250	25-MAR-10 22:13	DONE		
248521007	SAMPLE	MXE1	1251	25-MAR-10 22:13	DONE		
248521008	SAMPLE	MXE1	1252	25-MAR-10 22:13	DONE		
248521009	SAMPLE	MXE1	1253	25-MAR-10 22:13	DONE		
248521010	SAMPLE	MXE1	1254	25-MAR-10 22:13	DONE		
248521011	SAMPLE	MXE1	1255	25-MAR-10 22:13	DUSE		
248526001	SAMPLE	MXE1	1256	25-MAR-10 22:13	DONE		
1202071661	MB	MXE1	1217	26-MAR-10 07:43	DONE		
1202071662	DUP	MXE1	1218	26-MAR-10 07:43	DONE		
1202071663	LCS	MXE1	1219	26-MAR-10 07:43	DONE		

## Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID:965495

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
248515001	SAMPLE	MXE1	1075	25-MAR-10 16:55	DONE		
248515002	SAMPLE	MXE1	1076	25-MAR-10 16:55	DONE		
248515003	SAMPLE	MXE1	1031	25-MAR-10 18:40	DONE		
248517001	SAMPLE	MXE1	1033	25-MAR-10 18:40	DONE		
248521001	SAMPLE	MXE1	1035	25-MAR-10 18:40	DONE		
248521002	SAMPLE	MXE1	1036	25-MAR-10 18:40	DONE		
248521003	SAMPLE	MXE1	1013	25-MAR-10 20:23	DONE		
248521004	SAMPLE	MXE1	1014	25-MAR-10 20:23	DONE		
248521005	SAMPLE	MXE1	1016	25-MAR-10 20:23	DONE		
248521006	SAMPLE	MXE1	1017	25-MAR-10 20:23	DONE		
248521007	SAMPLE	MXE1	1018	25-MAR-10 20:23	DONE		
248521008	SAMPLE	MXE1	1019	25-MAR-10 20:23	DONE		
248521009	SAMPLE	MXE1	1020	25-MAR-10 20:23	DONE		
248521010	SAMPLE	MXE1	1022	25-MAR-10 20:23	DONE		
248521011	SAMPLE	MXE1	1023	25-MAR-10 20:23	DONE		
248526001	SAMPLE	MXE1	1024	25-MAR-10 20:23	DONE		
1202071664	MB	MXE1	1025	25-MAR-10 20:23	DONE		
1202071665	DUP	MXE1	1026	25-MAR-10 20:23	DONE		
1202071666	LCS	MXE1	1027	25-MAR-10 20:23	DONE		

# Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID:965496

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
248515001	SAMPLE	MXE1	1001	27-MAR-10 13:01	DONE		
248515002	SAMPLE	MXE1	1002	27-MAR-10 13:01	DONE		
248515003	SAMPLE	MXE1	1003	27-MAR-10 13:01	DONE		
248517001	SAMPLE	MXE1	1004	27-MAR-10 13:01	DONE		
248521001	SAMPLE	MXE1	1005	27-MAR-10 13:01	DONE		
248521002	SAMPLE	MXE1	1006	27-MAR-10 13:01	DONE		
248521003	SAMPLE	MXE1	1007	27-MAR-10 13:01	DONE		
248521004	SAMPLE	MXE1	1008	27-MAR-10 13:01	DONE		
248521005	SAMPLE	MXE1	1009	27-MAR-10 13:01	DONE		
248521006	SAMPLE	MXE1	1010	27-MAR-10 13:01	DONE		
248521011	SAMPLE	MXE1	1121	29-MAR-10 12:38	DONE		
248526001	SAMPLE	MXE1	1122	29-MAR-10 12:38	DONE		
1202071667	MB	MXE1	1123	29-MAR-10 12:38	DONE		
1202071668	DUP	MXE1	1124	29-MAR-10 12:38	DONE		
1202071669	LCS	MXE1	1125	29-MAR-10 12:38	DONE		
248521007	SAMPLE	MXE1	1126	29-MAR-10 12:38	DONE		
248521008	SAMPLE	MXE1	1127	29-MAR-10 12:38	DONE		
248521009	SAMPLE	MXE1	1130	29-MAR-10 12:38	DONE		
248521010	SAMPLE	MXE1	1131	29-MAR-10 12:38	DONE		

# Instrument Run Log

**Instrument Type: ALPHA SPECTROMETER**

**Batch ID: 969981**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
248515002	SAMPLE	MXE1	1228	30-MAR-10 14:31	DONE		
248521011	SAMPLE	MXE1	1229	30-MAR-10 14:31	DONE		
1202082742	MB	MXE1	1231	30-MAR-10 14:31	DONE		
1202082743	DUP	MXE1	1232	30-MAR-10 14:31	DONE		
1202082744	LCS	MXE1	1233	30-MAR-10 14:31	DONE		