

Thursday, December 24, 2009

**LOS ALAMOS**  
**NATIONAL LABORATORY**

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

These Samples are on:  
LANL Request Number: 10-1104  
Per Agreement Number: 126310011  
Project Cost Code: MR3A05529E00

Please analyse the enclosed samples  
according to the schedule indicated:

SHIP DATE: 12/28/2009  
TURNAROUND/REPORT DUE: 1/27/2010  
TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background  
LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:  
Signature:



PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	SW-846:6020	1	RE12-10-9923	W	12/21/2009	
	SW-846:6850	1	RE12-10-9923	W	12/21/2009	
	SW-846:7470A	1	RE12-10-9923	W	12/21/2009	
	SW-846:9012A	1	RE12-10-9923	W	12/21/2009	

Thursday, December 24, 2009

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1104C

**LOS ALAMOS**

REQUEST NUMBER: 10-1104

**NATIONAL LABORATORY**

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 1/27/2010

General Engineering Laboratories, Inc.,  
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE12-10-9923	1	POLY	METALS+U-GEL	Nitric Acid	W
RE12-10-9923	1	POLY	SW-846:6850	Ice	W
RE12-10-9923	1	POLY	TCN	Sodium Hydroxide	W

Relinquished By:

Date

Time

Received By:

Date

Time


 12/28/09 3:00

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: 2486

EVENT NAME: 4th Qtr. FY09 - AOC C-12-001 - Threemile Canyon

SAMPLE ID: RE12-10-9923

WORK ORDER:

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/21/2009	MEDIA:	NA	OK
TIME COLLECTED (HH:MM)		1002	SUB-MEDIA:	OTHER	
PRS ID:		C-12-001	SAMPLE TECH CODE:	DC	
LOCATION ID:	UNK	12-610627	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	Regular	METALS+U-GEL	1 LITER POLY	Nitric Acid	Y	
1		SW-846:6850	250 ML POLY	Ice	Y	
1		TCN	500 ML POLY	Sodium Hydroxide	Y	

SAMPLE DESC: QC Sample of RE 12 -10-7 558

SAMPLE COMMENTS:

Ringate

LOCATION DESC:

1-4

FIELD SCREENING/MEASUREMENT RESULTS:

NA

COLLECTED BY (PRINT)

TL McFarland

REVIEWED BY (PRINT)

Daniel Byers

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) Tracy Z mT	12/22/09	(Printed Name)	12/22/09
(Signature) TL McFarland	1607	(Signature)	1607
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name)		(Printed Name)	
(Signature)		(Signature)	

## DATA VALIDATION COVER SHEET

5121-1

## Data Validation Cover Sheet

Records Use only



## Section I.

REQUEST NUMBER: 10-1104 VALIDATION DATE: 2/4/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Charissa Lewis 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. It should be noted that the MS/MSD analyses were performed on a parent sample from another LANL RN. No sample data were qualified as a result.

Reviewed by: Monica Dymerski Level I Date: 02/04/10


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

Charissa Lewis


DATE: 2/4/10

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 type="checkbox"/>	<input checked="" type="checkbox"/>	1. The Internal Standard (IS) relative retention time has shifted by more than 0.98 to 1.02 seconds.	R, PERC0	J, PERC0
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Required IS retention time documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, PERC0b	R, PERC0b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3. The IS are count is <25% of the expected value.	UJ, PERC1a	J, PERC1a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4. The IS area count is <70% but >25% of the average of that obtained from the calibration standards.	UJ, PERC1b	J, PERC1b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	5. The IS area count is >130% of the average of that obtained from the calibration standards.	UJ, PERC1c	J, PERC1c
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6. Required IS information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, PERC1d	R, PERC1d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. The sample result is $\leq 5X$ 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>	16. The affected analyte is considered not detected because ion abundance ratios did not meet specifications.	N/A	R, PERC8
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17. The ion ratio documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	N/A	R, PERC8a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ PERC9	J-, PERC9
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	19. The holding time was > 2 times the applicable holding time requirement.	R, PERC9a	J-, PERC9a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	20. The LCS percent recovery was <10%. Follow the external laboratory limits.	R, PERC12	J-, PERC12
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	21. The LCS percent recovery was < the Lower Acceptance Limit but >10%. Follow the external laboratory limits.	UJ, PERC12a	J-, PERC12a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	22. The LCS percent recovery was > the Upper Acceptance Limit. Follow the external laboratory limits.	N/A	J+, PERC12b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	23. The LCS documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, PERC12c	R, PERC12c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	24. The MS/MSD percent recovery was <10%	R, PERC12d	R, PERC12d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25. The MS/MSD percent recovery was >10% but <75%	UJ, PERC12e	J, PERC12e
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	26. The MS/MSD percent recovery was >125%.	N/A	J+, PERC12f

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

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

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC  
 Lab Code: GEL  
 Instrument: LCMSMS  
 Method: SW846 6850 Modified  
 Matrix: WATER  
 Extraction Batch ID: 937887  
 Extraction Type: Filter/DAI  
 Client Sample No. RE12-10-9923  
 Date Received: 29-DEC-09  
 GEL Job No (SDG): 10-1104  
 GEL Sample ID: 243631001  
 Date Filtered: 05-JAN-10  
 Injection Volume (uL): 20  
 Sample Volume/Weight: 10.0 mL  
 Concentrated Extract Volume: 10.0

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.050	ug/L	U	1	06-JAN-10 17:23	per0106019a
	Perchlorate Isotope Ratio						1	06-JAN-10 17:23	per0106019a
14797-73-0	Perchlorate-101	.05	.2	0.050	ug/L	U	1	06-JAN-10 17:23	per0106019a
	Perchlorate-O(18)			0.469	ug/L		1	06-JAN-10 17:23	per0106019a

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

CLL  
2/4/10



## DATA VALIDATION COVER SHEET

5118-1

## Data Validation Cover Sheet

Records Use only



## Section I.

REQUEST NUMBER: 10-1104 VALIDATION DATE: 2/4/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Charissa Lewis 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):


1. In the MB, As and Se were detected. The associated sample results were NDs and, thus, were not qualified.
2. In the CCB, Tl was detected. The associated sample result was an ND and, thus, was not qualified.
3. It should be noted that the matrix QC analyses were performed on LANL parent samples from other RNs. No sample data were qualified as a result.

Reviewed by: Monica Dymerski Level I Date: 02/04/10


VALIDATOR'S SIGNATURE:

Charissa Lewis


DATE: 2/4/10

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"/>	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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16. The sample result is $\leq 5X$ the concentration of the related analyte in the method blank.	U, I4	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	17. The affected analytes are considered estimated and biased high because this analyte was identified in the method blank but was $> 5X$ .	N/A	J, I4a
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18. The sample result is $\leq 5X$ the concentration of the related analyte in the instrument blank and continuing calibration blank.	U, I4b	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	19. Continuing calibration blanks were not analyzed at the appropriate method frequency.	UJ, I4c	J, I4c
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	23. The associated matrix spike recovery was $< \text{the LAL}$ 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"/>	24. The associated matrix spike recovery was $> \text{the UAL}$ . Follow the external laboratory limits located within the associated data package.	UJ, I6b	J+, I6b

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

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

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

Yes No N/A (Check One)				Assign Qualifier Listed Below If Criterion = Yes	
				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: 10-1104

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 243631001

BASIS: As Received

DATE COLLECTED 21-DEC-09

CLIENT ID: RE12-10-9923

LEVEL: Low

DATE RECEIVED 29-DEC-09

MATRIX: WATER

%SOLIDS: 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	200	ug/L	U	68	200	200	1	P	HSC	01/12/10 16:58	011210-1	937469
7440-36-0	Antimony	3	ug/L	U	1	3	3	1	MS	BAJ	01/03/10 21:54	100103-2	937496
7440-38-2	Arsenic	30	ug/L	U	5	30	30	1	P	HSC	01/12/10 16:58	011210-1	937469
7440-39-3	Barium	5	ug/L	U	1	5	5	1	P	HSC	01/12/10 16:58	011210-1	937469
7440-41-7	Beryllium	0.50	ug/L	U	0.1	0.5	0.5	1	MS	BAJ	01/03/10 21:54	100103-2	937496
7440-43-9	Cadmium	1	ug/L	U	0.11	1	1	1	MS	BAJ	01/03/10 21:54	100103-2	937496
7440-70-2	Calcium	200	ug/L	U	50	200	200	1	P	HSC	01/12/10 16:58	011210-1	937469
7440-47-3	Chromium	5	ug/L	U	1	5	5	1	P	HSC	01/12/10 16:58	011210-1	937469
7440-48-4	Cobalt	5	ug/L	U	1	5	5	1	P	HSC	01/12/10 16:58	011210-1	937469
7440-50-8	Copper	10	ug/L	U	3	10	10	1	P	HSC	01/12/10 16:58	011210-1	937469
7439-89-6	Iron	100	ug/L	U	30	100	100	1	P	HSC	01/12/10 16:58	011210-1	937469
7439-92-1	Lead	2	ug/L	U	0.5	2	2	1	MS	BAJ	01/03/10 21:54	100103-2	937496
7439-95-4	Magnesium	300	ug/L	U	85	300	300	1	P	HSC	01/12/10 16:58	011210-1	937469
7439-96-5	Manganese	5	ug/L	U	1	5	5	1	MS	BAJ	01/03/10 21:54	100103-2	937496
7439-97-6	Mercury	0.20	ug/L	U	0.066	0.2	0.2	1	AV	JXL1	01/08/10 10:14	010810W1-6	937647
7440-02-0	Nickel	5	ug/L	U	1.5	5	5	1	P	HSC	01/12/10 16:58	011210-1	937469
7440-09-7	Potassium	110	ug/L	J	50	150	150	1	P	HSC	01/12/10 16:58	011210-1	937469
7782-49-2	Selenium	30	ug/L	U	5	30	30	1	P	HSC	01/12/10 16:58	011210-1	937469
7440-22-4	Silver	5	ug/L	U	1	5	5	1	P	HSC	01/12/10 16:58	011210-1	937469
7440-23-5	Sodium	116	ug/L	J	100	300	300	1	P	HSC	01/12/10 16:58	011210-1	937469
7440-28-0	Thallium	1	ug/L	U	0.3	1	1	1	MS	BAJ	01/04/10 05:21	100103-4	937496
7440-61-1	Uranium	0.20	ug/L	U	0.05	0.2	0.2	1	MS	BAJ	01/04/10 17:00	100104-5	937496
7440-62-2	Vanadium	5	ug/L	U	1	5	5	1	P	HSC	01/12/10 16:58	011210-1	937469
7440-66-6	Zinc	10	ug/L	U	3.3	10	10	1	P	HSC	01/12/10 16:58	011210-1	937469

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt/vol.	Units	Final wt/vol.	Units	Date	Analyst
937469	937468	SW846 3005A	50	mL	50	mL	12/31/09	BXA1
937496	937495	SW846 3005A	50	mL	50	mL	12/31/09	BXA1
937647	937646	SW846 7470A Prep	20	mL	20	mL	01/07/10	AXG2

CLL  
2/4/10

## DATA VALIDATION COVER SHEET

5120-1

## Data Validation Cover Sheet

Records Use only



## Section I.

REQUEST NUMBER: 10-1104 VALIDATION DATE: 2/4/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Charissa Lewis 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): Total Cyanide |  |   |  |

## 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. It should be noted that the matrix QC analyses were performed on a parent sample from another LANL RN. No sample data were qualified as a result.

Reviewed by: Monica Dymerski Level I Date: 02/04/10

VALIDATOR'S SIGNATURE:


A handwritten signature in cursive script that reads "Charissa Lewis".

DATE: 2/4/10


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

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



GENERAL CHEMISTRY ANALYTICAL DATA VALIDATION CHECKLIST	
<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 $\leq 5X$ 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"/>	16. Continuing calibration blanks were not analyzed at the appropriate method frequency.	UJ, I4c	J, I4c
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17. The sample result is $\leq 5X$ 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"/>	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: January 6, 2010

Client SDG: 10-1104

Client Sample ID: RE12-10-9923  
Sample ID: 243631001  
Matrix: W  
Collect Date: 21-DEC-09 12:00  
Receive Date: 29-DEC-09  
Collector: Client

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
<b>Flow Injection Analysis</b>											
<i>SW9012A Cyanide, Total "As Received"</i>											
Cyanide, Total	U	ND	1.66	5.00	ug/L	1	AXC2	01/04/10	1050	937245	1

### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/31/09	1507	937244

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

Thursday, December 24, 2009

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1104C

LOS ALAMOS

REQUEST NUMBER: 10-1104

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 1/27/2010

General Engineering Laboratories, Inc.,  
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

243631%


SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE12-10-9923	1	POLY	METALS+U-GEL	Nitric Acid	W
RE12-10-9923	1	POLY	SW-846:6850	Ice	W
RE12-10-9923	1	POLY	TCN	Sodium Hydroxide	W

Relinquished By:

Date Time

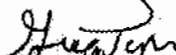
Received By:

Date Time



12/28/09 3:00

Greg Tyler

 12/29/09 0840

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Received for DISPOSAL By:

Date

Time

Remarks:

Printed Name

Signature

Thursday, December 24, 2009

**LOS ALAMOS**  
NATIONAL LABORATORY

ATTN: Valerie Davis

General Engineering Laboratories, Inc., Charleston, SC.

2040 Savage Rd

Charleston, SC 29407

These Samples are on:

LANL Request Number: 10-1104

Per Agreement Number: 126310011

Project Cost Code: MR3A05529E00

Please analyse the enclosed samples  
according to the schedule indicated:

SHIP DATE: 12/28/2009

TURNAROUND/REPORT DUE: 12/27/2010

TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background

LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature:



PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	SW-846-8020	1	RE12-10-9923	W	12/21/2009	
	SW-846-6850	1	RE12-10-9923	W	12/21/2009	
	SW-846-7470A	1	RE12-10-9923	W	12/21/2009	
	SW-846-9012A	1	RE12-10-9923	W	12/21/2009	

Final Page of REQUEST NUMBER 10-1104



January 06, 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 87545Re: LANL ER Project  
Work Order: 243631  
SDG: 10-1104

Dear Ms. Valdez:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on December 29, 2009, and analyzed for General Chemistry, Metals and Perchlorates by LCMSMS. 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 ManagerPurchase Order: 72733-001-09  
Chain of Custody: 10-1104  
Enclosures

**Los Alamos National Laboratory (72733-001-09)**  
**LANL ER Project**  
**Work Order #: 243631**  
**SDG: 10-1104**

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# **Case Narrative**

**Case Narrative for  
Los Alamos National Laboratory (72733-001-09)  
LANL ER Project  
Workorder #: 243631  
SDG # : 10-1104**

**January 06, 2010**

**Laboratory Identification:**

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

**Summary**

**Sample receipt** The sample arrived at GEL Laboratories LLC, Charleston, South Carolina on December 29, 2009 for analysis. The sample was prepared/analyzed within the required holding time. Shipping container temperature was checked, documented, and within specifications. The samples were screened according to GEL Standard Operating Procedure. The sample was delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. Containers were checked for pH, where appropriate, and matched the preservative as documented on the accompanying chain of custody. Shipping container temperature was within specification (0 - 6C).

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

<u>Laboratory ID</u>	<u>Client ID</u>
243631001	RE12-10-9923

**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 and Perchlorates by LCMSMS.

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 06 January 2010**

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

# **Chain of Custody and Supporting Documentation**

Thursday, December 24, 2009

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1104C

**LOS ALAMOS**

REQUEST NUMBER: 10-1104

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 1/27/2010

General Engineering Laboratories, Inc.,  
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

243631%

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
-----------	------	-----------	-------	---------	--------

RE12-10-9923	1	POLY	METALS+U-GEL	Nitric Acid	W
--------------	---	------	--------------	-------------	---

RE12-10-9923	1	POLY	SW-846.6850	Ice	W
--------------	---	------	-------------	-----	---


RE12-10-9923	1	POLY	TCN	Sodium Hydroxide	W
--------------	---	------	-----	------------------	---

Relinquished By:

Date Time

Received By:

Date Time



12/28/09 3:00



12/29/09 0840

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Received for DISPOSAL By:

Date Time

Remarks:

Printed Name

Signature

Thursday, December 24, 2009

**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: 12/28/2009**

**TURNAROUND/REPORT DUE: 1/27/2010**

**TURNAROUND REQ'D: 30 Days**

**RAD SCREENING: Yes, Below Background**

**LAB REQUEST COMMENTS:**

LANL ER SMO CONTACT:

Signature:



These Samples are on:

LANL Request Number: 10-1104

Per Agreement Number: 126310011

Project Cost Code: MR3A05529E00

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	SW-846:6020	1	RE12-10-9923	W	12/21/2009	
	SW-846:6850	1	RE12-10-9923	W	12/21/2009	
	SW-846:7470A	1	RE12-10-9923	W	12/21/2009	
	SW-846:9012A	1	RE12-10-9923	W	12/21/2009	

**Final Page of REQUEST NUMBER 10-1104**

**SAMPLE RECEIPT & REVIEW FORM**

Client: LANL			SDG/ARCOC/Work Order: 10-1104		
Received By: Greg Tyler			Date Received: 12/29/09		
Suspected Hazard Information	Yes	No	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.		
COC/Samples marked as radioactive?		X	Maximum Counts Observed*: 60cpm		
Classified Radioactive II by RSO?		X			
COC/Samples marked containing PCBs?		X			
Shipped as a DOT Hazardous?		X	Hazard Class Shipped: UN#:		
Samples identified as Foreign Soil?		X			

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

Comments:  
 Fed Ex Tracking Numbers:  
 7209 7849 3994 2C    7209 7849 3961 12C  
 7209 7849 3950 2C    7209 7849 3983 12C  
 7209 7849 3972 2C  
 7209 7849 3906 3C  
 7209 7849 3940 5C  
 7209 7849 3891 5C  
 7209 7849 3939 6C  
 7209 7849 3917 9C





ORIGIN ID: SAFA (505)665-9968  
JOYLENE VALDEZ  
05 ALAMOS NATL LAB  
A00 BLDG 1237 DPU 03

SHIP DATE: 28DEC09  
ACTWGT: 58.0 LB MAN  
CAD: 0014176/CAFE2434

BILL SENDER

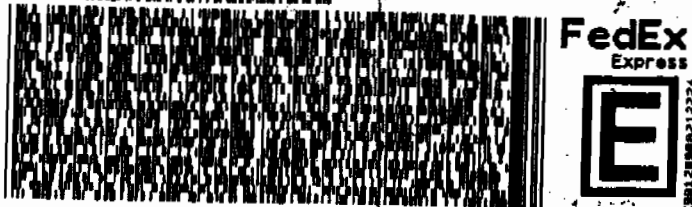
05 ALAMOS, NM 87545  
UNITED STATES US

VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

CHARLESTON SC 29407

(843)556-8171  
REF: 6B010AMR3A056AB800

05 ALAMOS, NM 87545  
UNITED STATES US



3 of 3  
PSN 7209 7849 3940

str# 7209 7849 3928 0201

XX CHSA



ALAMOS NATL LAB  
BLDG 1237 DPU 03

CAD: 0014176/CAFE2434

ALAMOS, NM 87545  
ED STATES US

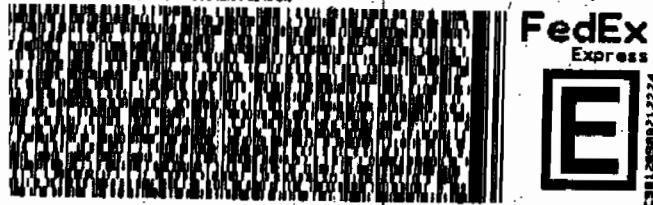
BILL SENDER

VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

CHARLESTON SC 29407

(843)556-8171  
REF: 6B010AMR3A056AB800

05 ALAMOS, NM 87545  
UNITED STATES US



2 of 3  
7209 7849 3939

7209 7849 3928 0201

XX CHSA

05 ALAMOS, NM 87545  
UNITED STATES US

TUE - 29DEC A1  
PRIORITY OVERNIGHT

29407  
SC-US  
CHS

JOYLENE VALDEZ  
LOS ALAMOS NATL LAB  
TA00 BLDG 1237 DPU 03

ACTWGT: 47.0 LB MAN  
CAD: 0014176/CAFE2434

LOS ALAMOS, NM 87545  
UNITED STATES US

BILL SENDER

VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

CHARLESTON SC 29407

(843)556-8171  
REF: 6B010AMR2A054196D0

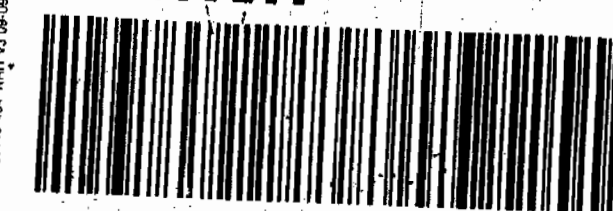
05 ALAMOS, NM 87545  
UNITED STATES US



1 of 3  
TRKH 7209 7849 3891  
0201  
NN MASTER NN

TUE - 29DEC A1  
PRIORITY OVERNIGHT

XX CHSA



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

SHIP DATE: 28DEC09  
ACTWGT: 56.0 LB MAN  
CAD: 0014176/CAFE2434

LOS ALAMOS, NM 87545  
UNITED STATES US

BILL SENDER

VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

CHARLESTON SC 29407

(843)556-8171  
REF: 6B010AMR2A054196D0

05 ALAMOS, NM 87545  
UNITED STATES US



3 of 3  
NPSN 7209 7849 3917  
0263

Nstr# 7209 7849 3891 0201

XX CHSA

05 ALAMOS, NM 87545  
UNITED STATES US

TUE - 29DEC A1  
PRIORITY OVERNIGHT

29407  
SC-US  
CHS

SHIP DATE: 28DEC09  
ACTWGT: 54.0 LB MAN  
CAD: 0014176/CAFE2434

LOS ALAMOS, NM 87545  
UNITED STATES US

**BILL SENDER**

VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

REF: 6B010AMR3A056AB800



**FedEx**  
Express



901219008213224

2 of 2

**MPS# 7209 7849 3961**  
**0263**

**Mstr# 7209 7849 3950 0201**

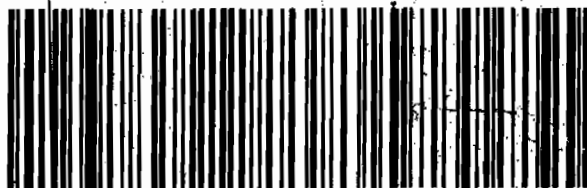
TUE - 29DEC A1  
PRIORITY OVERNIGHT

**29407**

1 SC-US

**CHS**

**XX CHSA**



Part M 156148-434, NRIT.V3 09-09

JOYLENE VALDEZ  
LOS ALAMOS NATL LAB.  
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545  
UNITED STATES US

HGTWGT: 48.0 LB MAN  
CAD: 0014176/CAFE2434

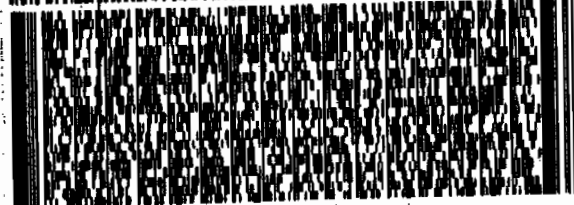
**BILL SENDER**

TO VALERIE DAVIS  
GENERAL ENGINEERING LAB  
2040 SAVAGE RD

CHARLESTON SC 29407

**(843) 556-8171**

REF: 6B010AMR3A05529E00



**FedEx**  
Express



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2 of 2

MPS# 7209 7849 3983  
0263

Matr# 7209 7849 3972 0201

TUE - 29DEC A1  
PRIORITY OVERNIGHT

**29407**

SC-US

**CHS**

**XX CHSA**

# **Data Review Qualifier Flag Definition Sheet**

## Data Review Qualifier Definitions

Qualifier    Explanation

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

# LC/MS/MS PERCHLORATE ANALYSIS

**Perchlorate by LC/MSMS  
Los Alamos National Laboratory (LANL)  
SDG 10-1104**

**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: 937888

Prep Batch Number: 937887

**Sample Analysis**

<b>Sample ID</b>	<b>Client ID</b>
243631001	RE12-10-9923
1202006993	Interference Check Sample (ICS)
1202006989	Method Blank (MB)
1202006990	Laboratory Control Sample (LCS)
1202006991	243632001(RE12-10-7610) Matrix Spike (MS)
1202006992	243632001(RE12-10-7610) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

**Preparation/Analytical Method Verification**

**SOP Reference**

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

**Calibration Information**

**Initial Calibration**

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

10-1104-PERLCMS

Page 1 of 4

**CCV Requirements**

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

**CCB Requirements**

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

**CCV Requirements**

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

**Low Level Standard (CRI) Requirements**

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

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

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

**Interference Check Sample (ICS)**

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

**Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries met the acceptance limits.

**QC Sample Designation**

Client sample 243632001 (RE12-10-7610) from SDG 10-1105 was chosen for matrix spike and matrix spike duplicate analysis. Please see the raw data in the Miscellaneous Section.

**Matrix Spike (MS) Recovery Statement**

The MS recoveries were within the established acceptance limits.

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

The MSD recoveries were within the established acceptance limits.

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

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

**Retention Time Standard Area Acceptance**

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

**Retention Time**

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

## **Technical Information**

### **Holding Time Specifications**

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

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

All procedures were performed as stated in the SOP.

### **Sample Dilutions**

The samples in this SDG did not require dilutions.

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

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

## **Miscellaneous Information**

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

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

### **Manual Integrations**

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

### **Method Comments**

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

### **Additional Comments**

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

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

### **Perchlorate Isotope Ratio**

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



### **System Configuration**

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

### **Chromatographic Columns**

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

Dionex: IonPac AG-16 2 x 50 mm.

### **Certification Statement**

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

### **Review Validation:**

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

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

Reviewer: Heather Mauer Date: 01/15/10

# 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: 937887

Extraction Type: Filter/DAI

Sample Volume/Weight: 10.0 mL

Concentrated Extract Volume: 10.0

Client Sample No.

RE12-10-9923

Date Received: 29-DEC-09

GEL Job No (SDG): 10-1104

GEL Sample ID: 243631001

Date Filtered: 05-JAN-10

Injection Volume (uL): 20

% Solids:

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.050	ug/L	U	1	06-JAN-10 17:23	per0106019a
	Perchlorate Isotope Ratio						1	06-JAN-10 17:23	per0106019a
14797-73-0	Perchlorate-101	.05	.2	0.050	ug/L	U	1	06-JAN-10 17:23	per0106019a
	Perchlorate-O(18)			0.469	ug/L		1	06-JAN-10 17:23	per0106019a

<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): 10-1104

Extract Batch Code: 937887

Date Filtered: 05-JAN-10

Matrix: WATER

Sample ID: 1202006990

Analyte <sup>^</sup>	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	0.200	.195	ug/L	97.6		85 - 115
Perchlorate Isotope Ratio		3.08				-
Perchlorate-101	0.200	.194	ug/L	96.9		85 - 115
Perchlorate-O(18)		.486	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.

Perchlorate Interference Check Sample

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No. (SDG): 10-1104

Extract Batch Code: 937887

Date Filtered: 05-JAN-10

Matrix: WATER

Sample ID: 1202006993

Analyte <sup>^</sup>	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	0.200	.193	ug/L	96.3		70 - 130
Perchlorate Isotope Ratio		2.83				
Perchlorate-101	0.200	.208	ug/L	104		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.

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

Dataset: C:\MassLynx\Perchlorate.PRO\per010610a.qld

Last Altered: Thursday, January 07, 2010 8:49:32 AM Eastern Standard Time  
Printed: Thursday, January 07, 2010 9:05:25 AM Eastern Standard Time

Name: per0106014a

Date: 06-Jan-2010

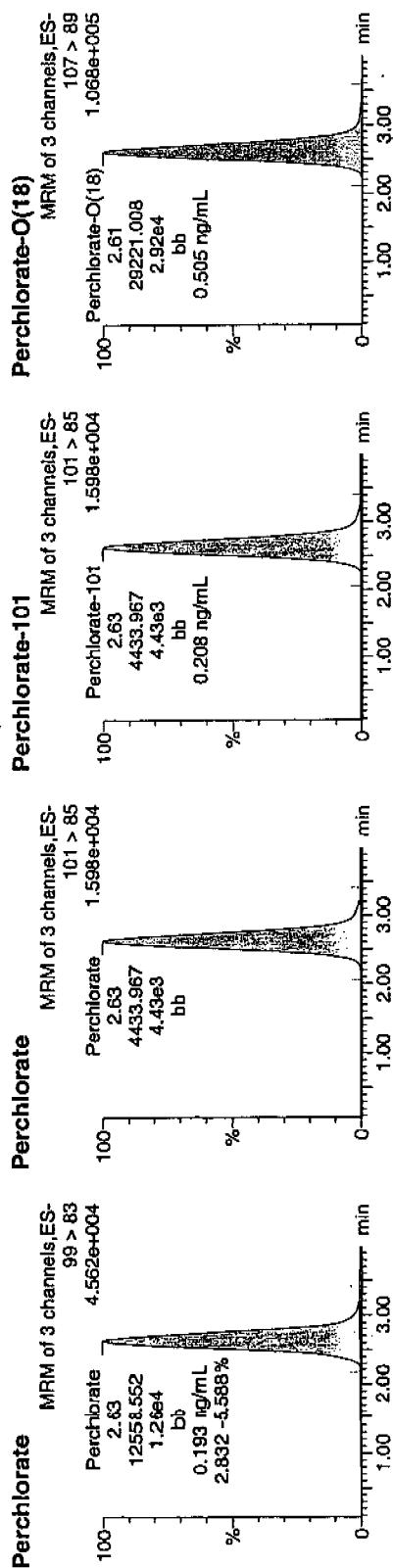
Time: 16:48:29

ID: 1202006993

Vial: 1:3,C

WJ  
01-07-10

1202006993 | 937888 | 1202006993 | 11



ID	Name	Trace	RT	Area	Response	Flags	Mod Date	Mod Time	Conc	Unit	Signal
1202006993	Perchlorate	99 > 83	2.63	12558.552	12558.552	bb			0.1927	96.33	-3.67 1817.4...
1202006993	Perchlorate-101	101 > 85	2.63	4433.967	4433.967	bb			0.2082	104.09	4.09 1026.0...
1202006993	Perchlorate-O(18)	107 > 89	2.61	29221.008	29221.008	bb			0.5054	101.08	1.08 13226....
											2.83

Perchlorate Spike/Spike Duplicate Summary

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No (SDG): 10-1104

Extract Batch Code: 937887

Date Extracted: 05-JAN-10

GEL MS/PS ID: 1202006991

Client ID: RE12-10-7610

GEL MSD/PSD ID: 1202006992

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	0.00139	ug/L	0.196	97.3		.194	96.2		1.16		30	75 - 125
Perchlorate Isotope Ratio	0	0.00		3.08			2.92			0			-
Perchlorate-101	0.200	0.00	ug/L	0.195	97.4		.203	101		4.13		30	75 - 125
Perchlorate-O(18)	0	0.475	ug/L	0.475			.473			.302			-

<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): 10-1104

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	06-JAN-10	per0106001a	IPB001
Perchlorate-101	0.00	0	NA	06-JAN-10	per0106001a	IPB001
Perchlorate	0.00	0	NA	06-JAN-10	per0106002a	IPB001
Perchlorate-101	0.00	0	NA	06-JAN-10	per0106002a	IPB001

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

Dataset: C:\MassLynx\Perchlorate.PRO\per010610a.qld

Last Altered: Thursday, January 07, 2010 8:49:32 AM Eastern Standard Time  
Printed: Thursday, January 07, 2010 9:05:25 AM Eastern Standard Time

Method: C:\MassLynx\Perchlorate.PRO\MethDB\per010610a.mdb 06 Jan 2010 15:03:34  
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per010610a.cdb 07 Jan 2010 08:49:31

Name: per0106001a

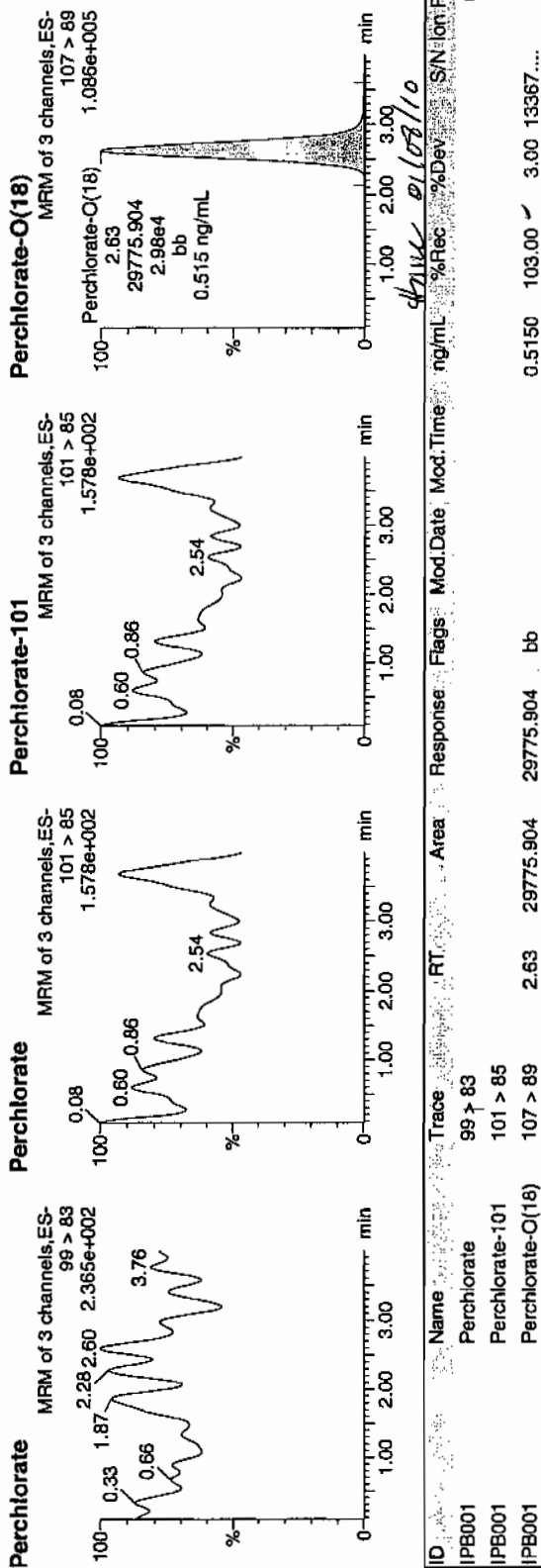
Date: 06-Jan-2010

Time: 15:16:51

ID: IPB001

Vial: 1:1,A

07-03-10



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

Dataset: C:\MassLynx\Perchlorate.PRO\per010610a.qld

Last Altered: Thursday, January 07, 2010 8:49:32 AM Eastern Standard Time  
Printed: Thursday, January 07, 2010 9:05:25 AM Eastern Standard Time

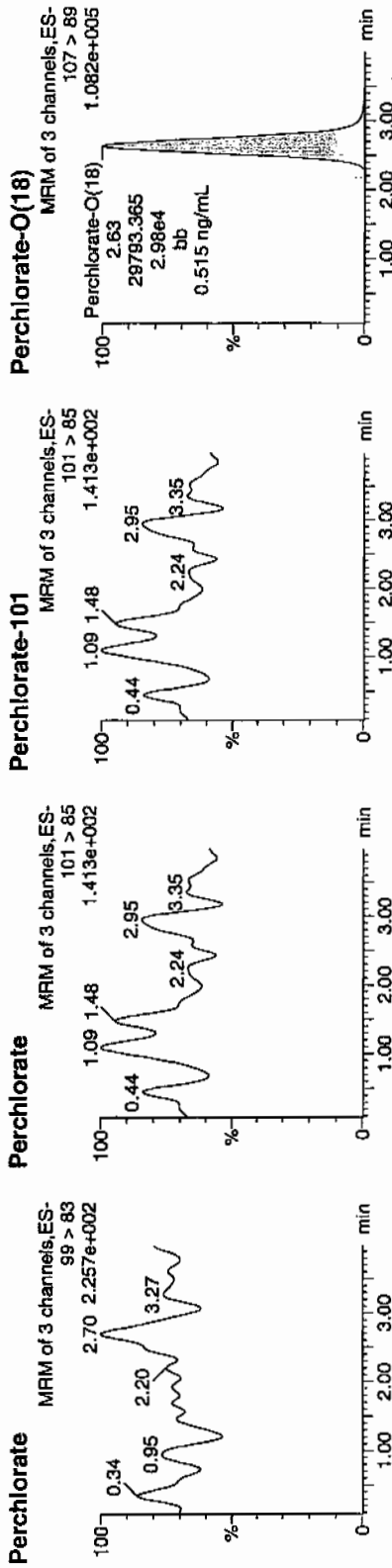
Sample Name: per0106002a

Date: 06-Jan-2010

Time: 15:23:53

ID: IPB001

Vial: 1:1,A



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	2.63	29793.365	29793.365	bb			0.5153	103.06	3.06	20286	....

## Perchlorate Continuing Calibration Blank

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

GEL Job No.(SDG): 10-1104

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	06-JAN-10	per0106008a	IPB002
Perchlorate-101	0.00	0	NA	06-JAN-10	per0106008a	IPB002
Perchlorate	0.00	0	NA	06-JAN-10	per0106010a	IPB003
Perchlorate-101	0.00	0	NA	06-JAN-10	per0106010a	IPB003
Perchlorate	0.00	0	NA	06-JAN-10	per0106021a	IPB004
Perchlorate-101	0.00	0	NA	06-JAN-10	per0106021a	IPB004

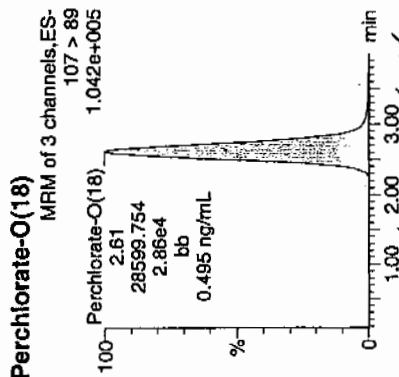
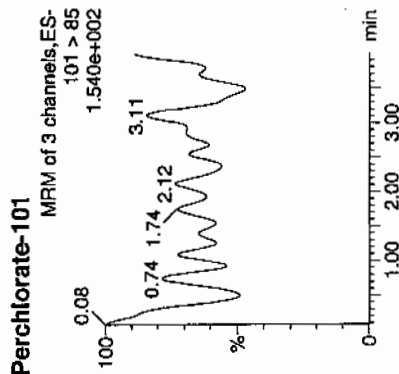
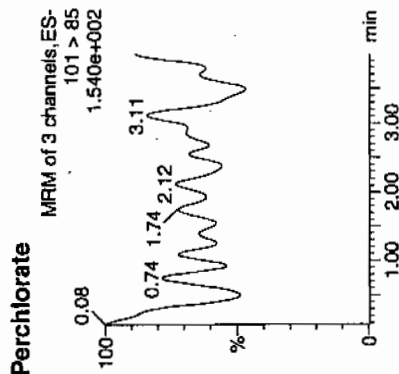
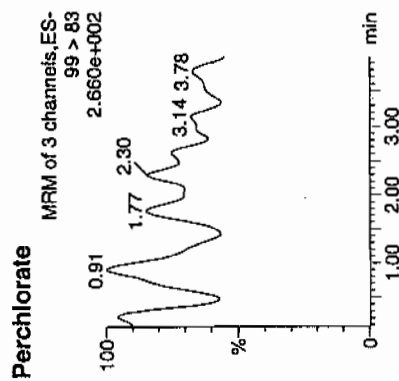
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010610a.qld

Last Altered: Thursday, January 07, 2010 8:49:32 AM Eastern Standard Time  
Printed: Thursday, January 07, 2010 9:05:25 AM Eastern Standard Time

Name: per0106008a  
Date: 06-Jan-2010  
Time: 16:06:01  
ID: IPB002  
Vial: 1:1,A

01-07-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN	Ion Ratio
IPB002	Perchlorate	99 > 83											0.00
IPB002	Perchlorate-101	101 > 85											
IPB002	Perchlorate-O(18)	107 > 89	2.61	28599.754	28599.754	bb			0.4947	98.93	-1.07	2817.8...	

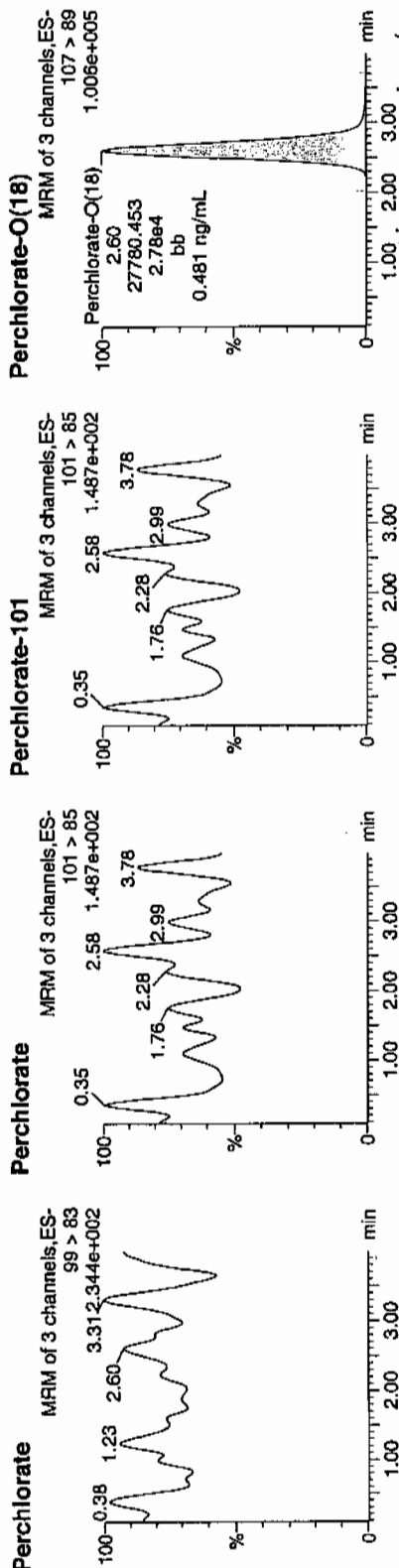
**Quantify Sample Report** MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charles W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010610a.qld

Last Altered: Thursday, January 07, 2010 8:49:32 AM Eastern Standard Time  
Printed: Thursday, January 07, 2010 9:05:25 AM Eastern Standard Time

Name: per0106010a  
Date: 06-Jan-2010  
Time: 16:20:17  
ID: IPB003  
Vial: 1:1A

01-07-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB003	Perchlorate	99 > 83											
IPB003	Perchlorate-101	101 > 85											
IPB003	Perchlorate-O(18)	107 > 89	2.60	27780.453	27780.453	bb			0.4805	96.10	-3.90	9314.4...	

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

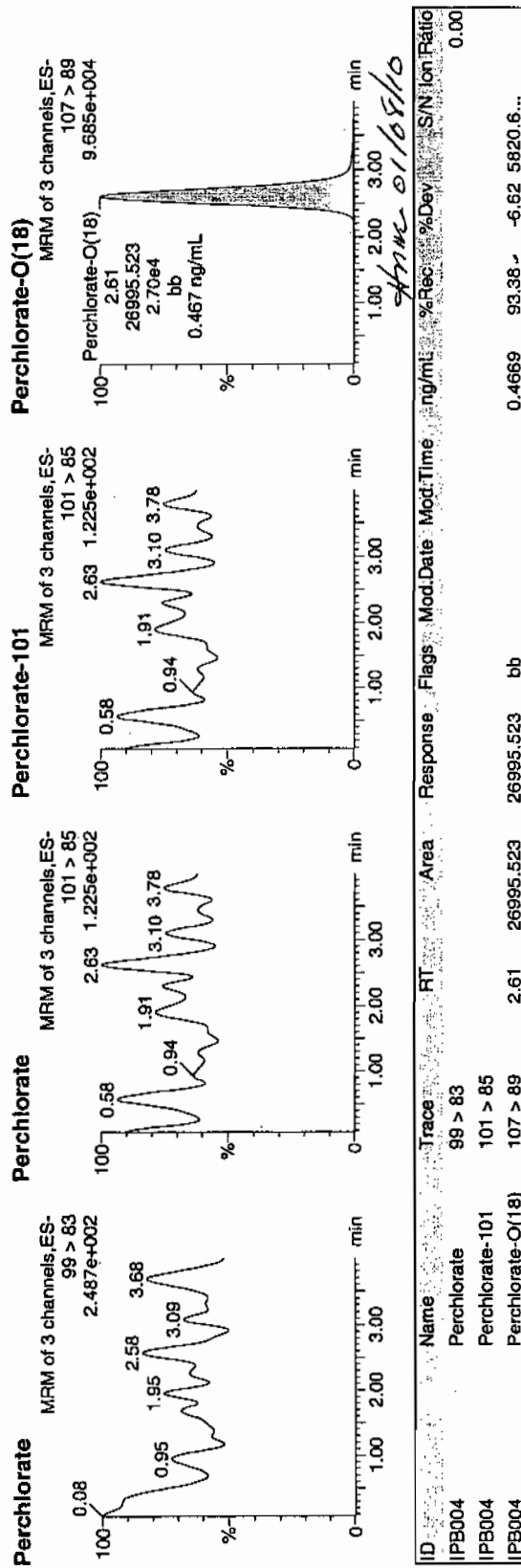
Page 21 of 69

Dataset: C:\MassLynx\Perchlorate.PRO\per010610a.qld

Last Altered: Thursday, January 07, 2010 8:49:32 AM Eastern Standard Time  
Printed: Thursday, January 07, 2010 9:05:25 AM Eastern Standard Time

Name: per0106021a  
Date: 06-Jan-2010  
Time: 17:37:43  
ID: IPB004  
Vial: 1:1,A

01-03-10



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

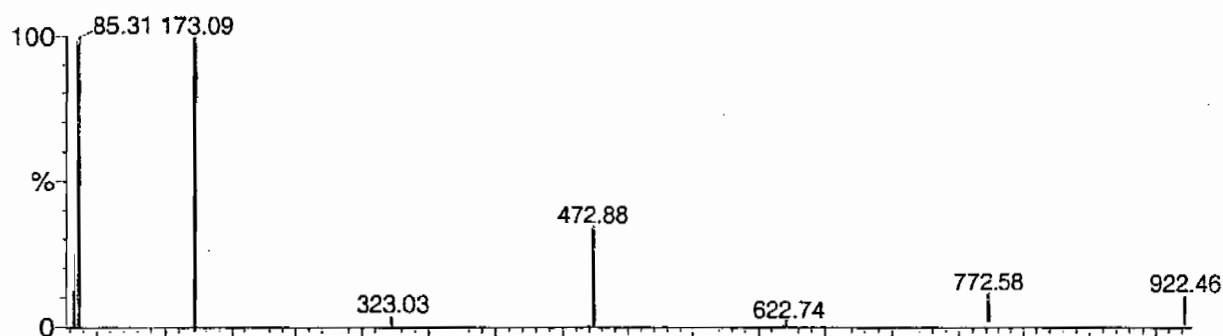
Page 1 of 1

Printed: Tue Jan 08 12:19:12 2008

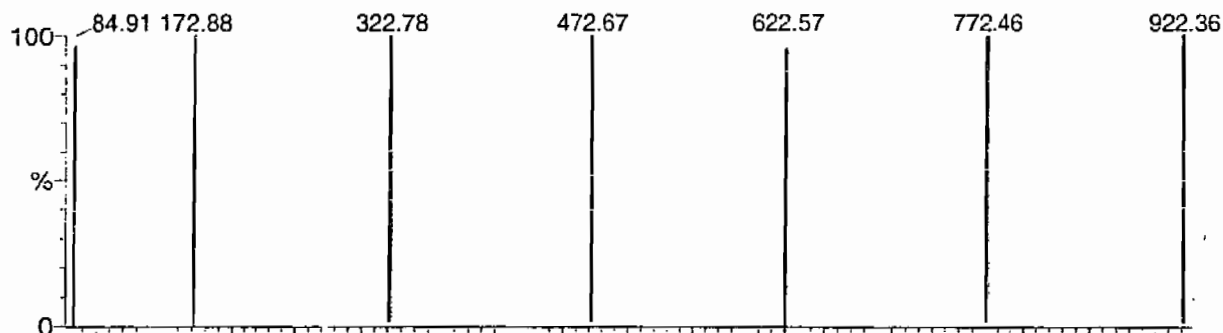
POINTS HIGHLIGHTED BY CURV 01-01-03

Data file: STATMS1 - Uncalibrated

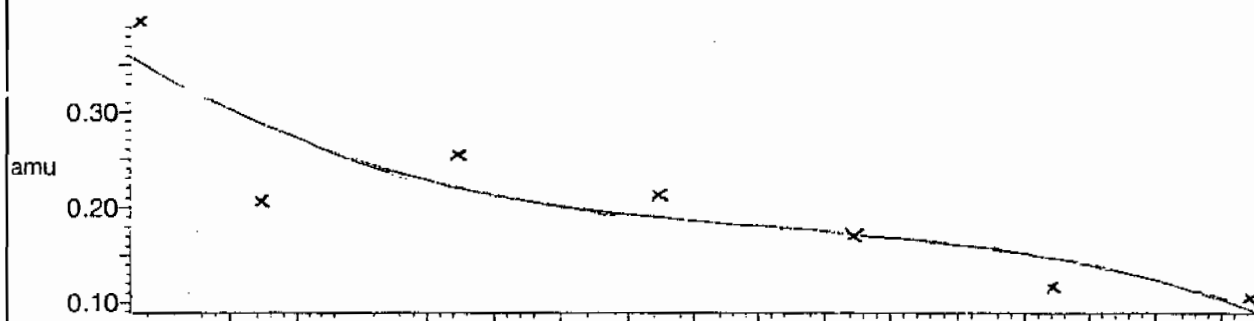
7 matches of 7 tested references



Reference file: Nairb

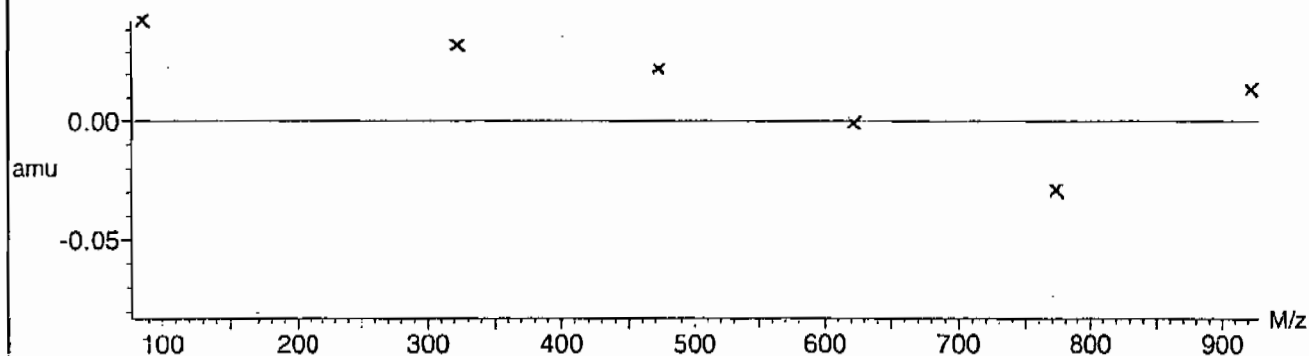


Mass difference (Raw - Ref mass)



Residuals

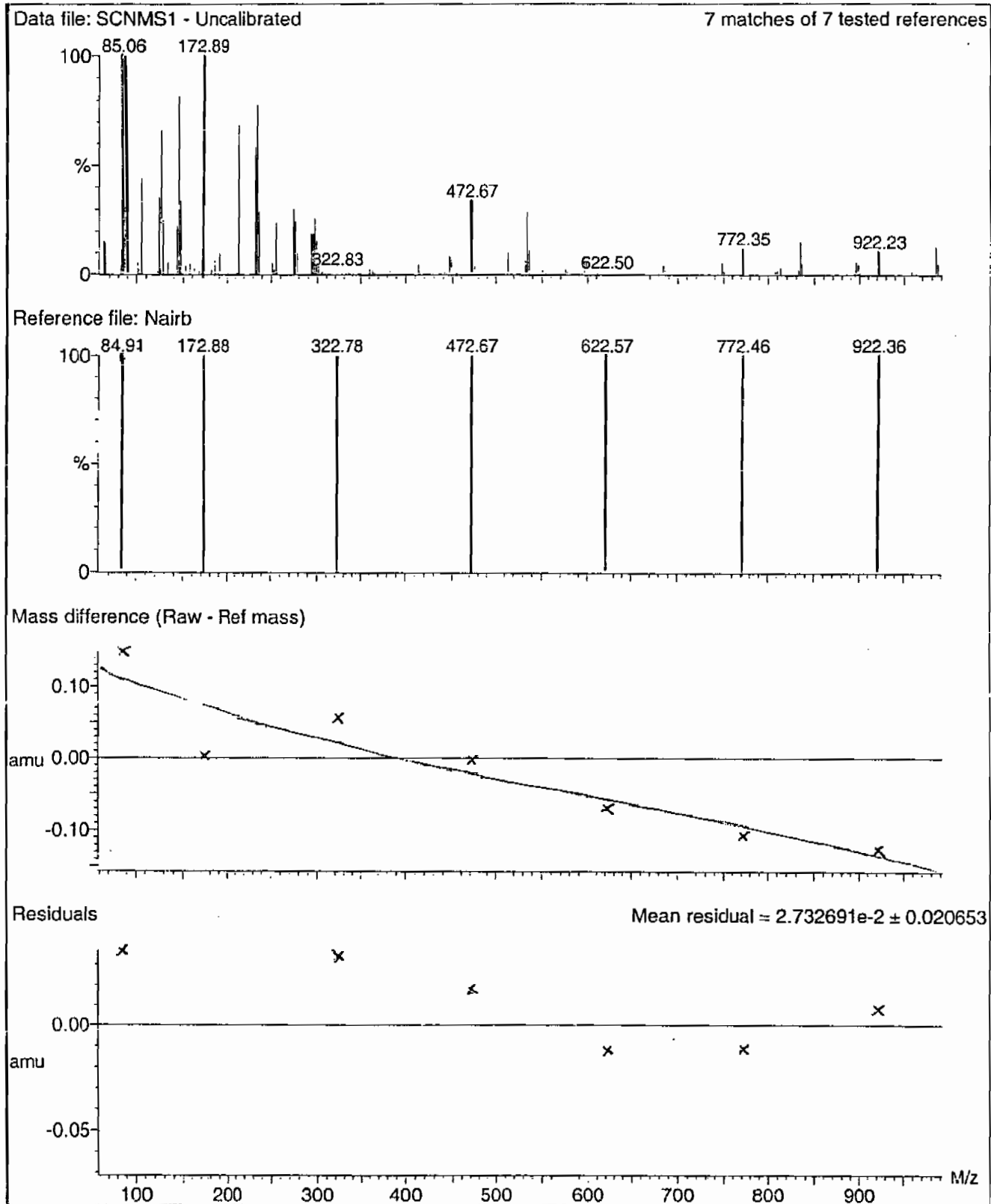
Mean residual =  $3.212012 \times 10^{-2} \pm 0.024108$



Calibration Report - MS1 Scanning

Page 1 of 1

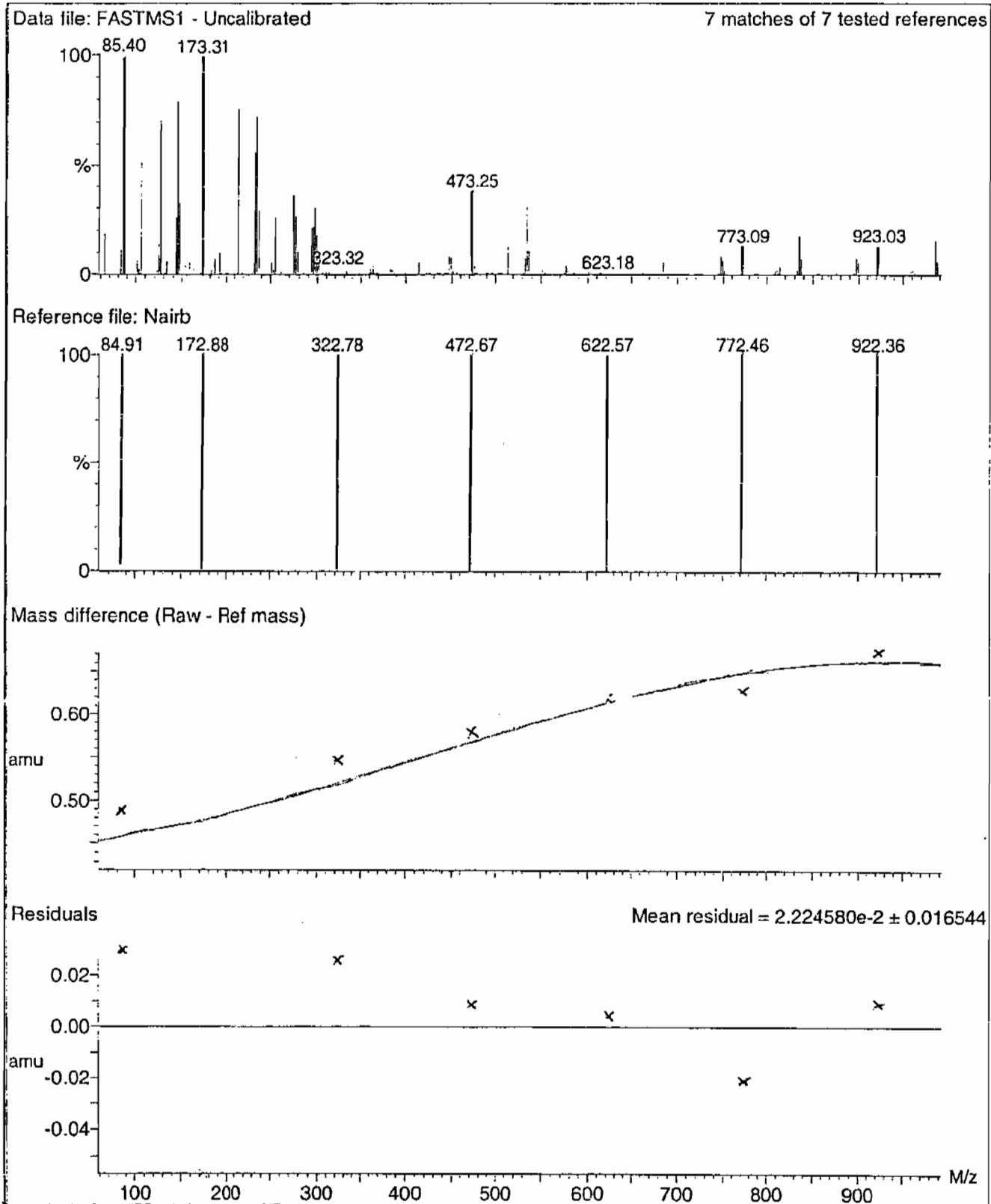
Printed: Tue Jan 08 12:20:09 2008



Calibration Report - MS1 Scan Speed Compensation

Page 1 of 1

Printed: Tue Jan 08 12:21:04 2008

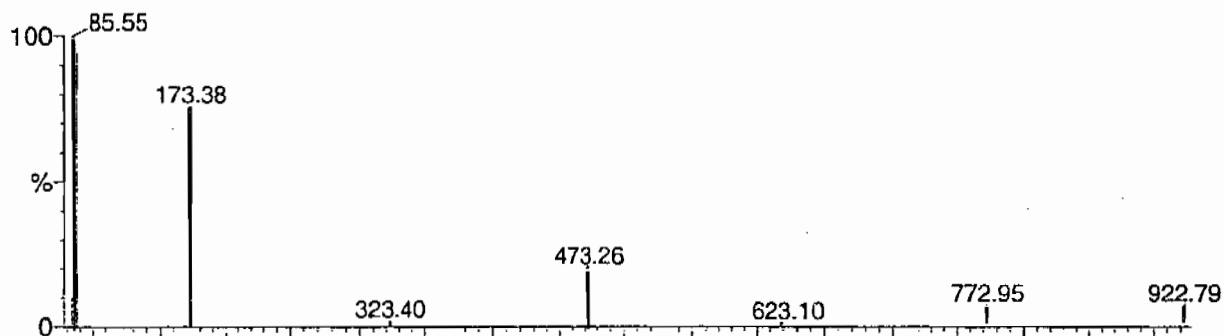


Calibration Report - MS2 Static

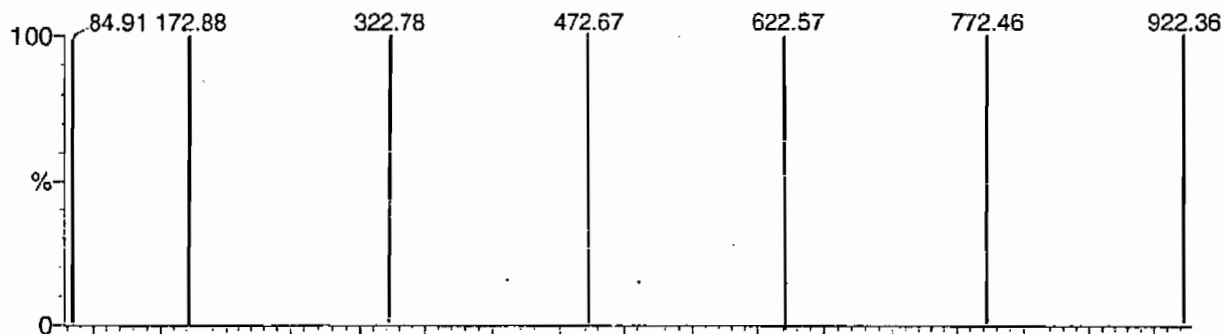
Page 1 of 1

Printed: Tue Jan 08 12:21:59 2008

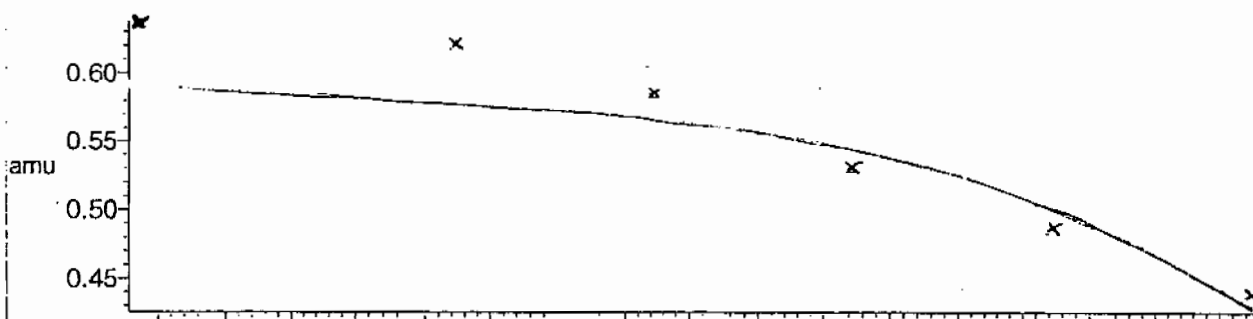
Data file: STATMS2 - Uncalibrated 7 matches of 7 tested references



Reference file: Nairb

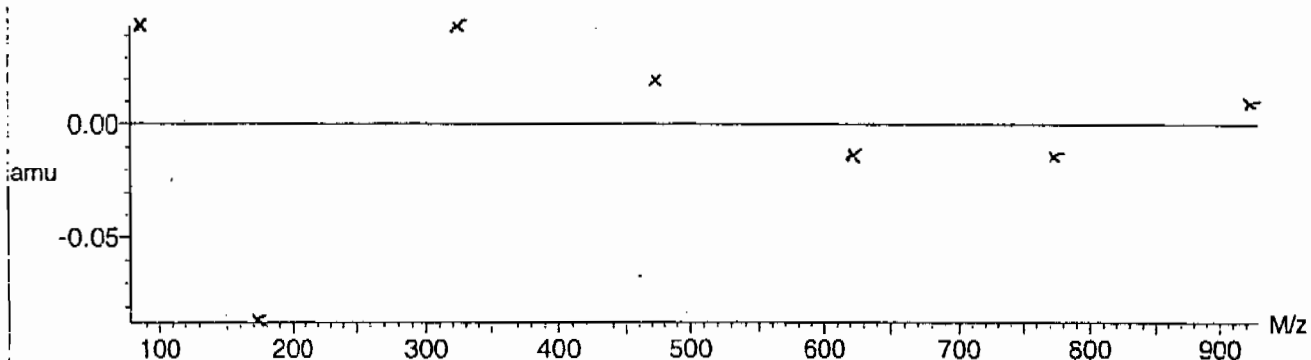


Mass difference (Raw - Ref mass)



Residuals

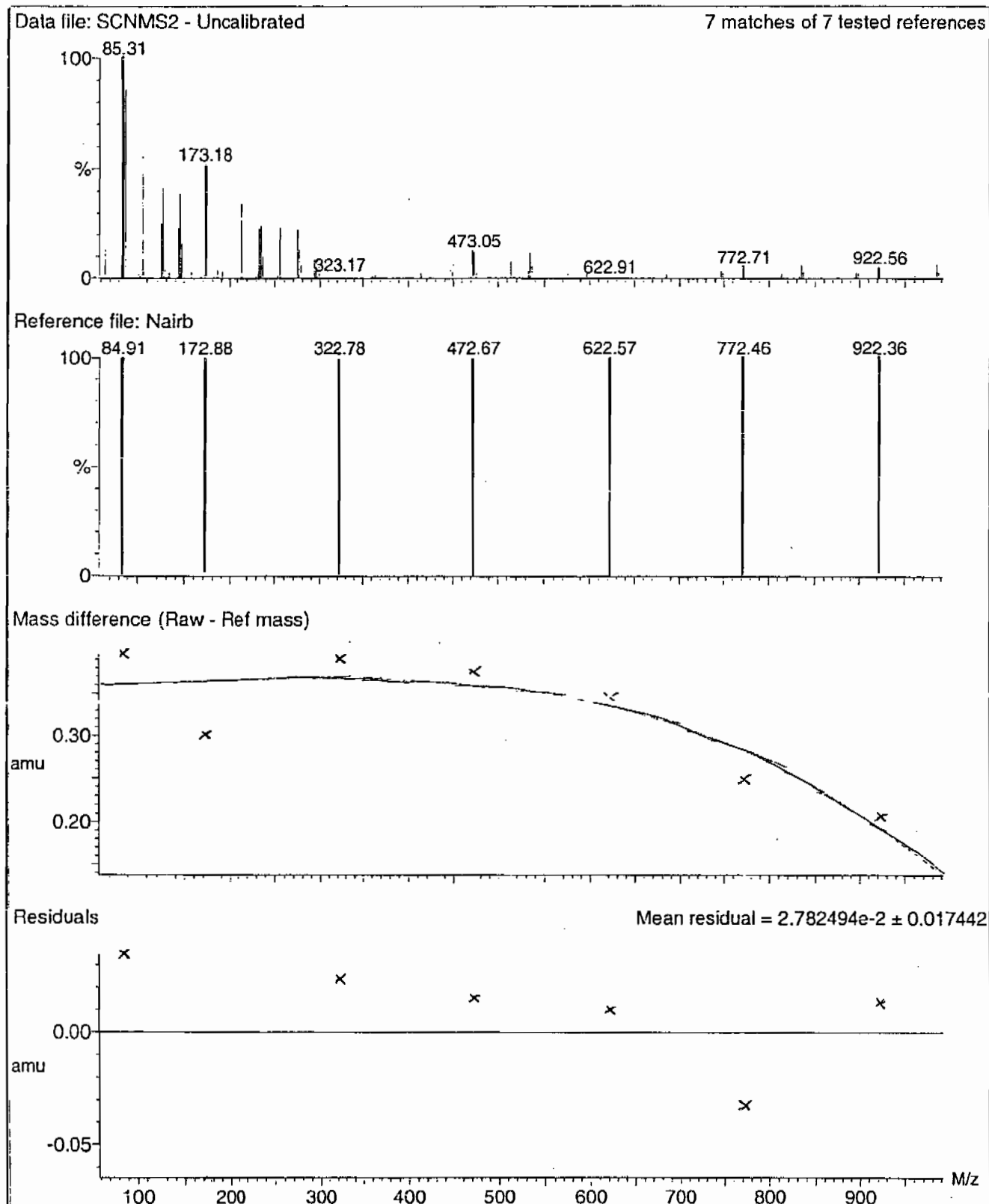
Mean residual =  $3.295980 \times 10^{-2} \pm 0.025603$



Calibration Report - MS2 Scanning

Page 1 of 1

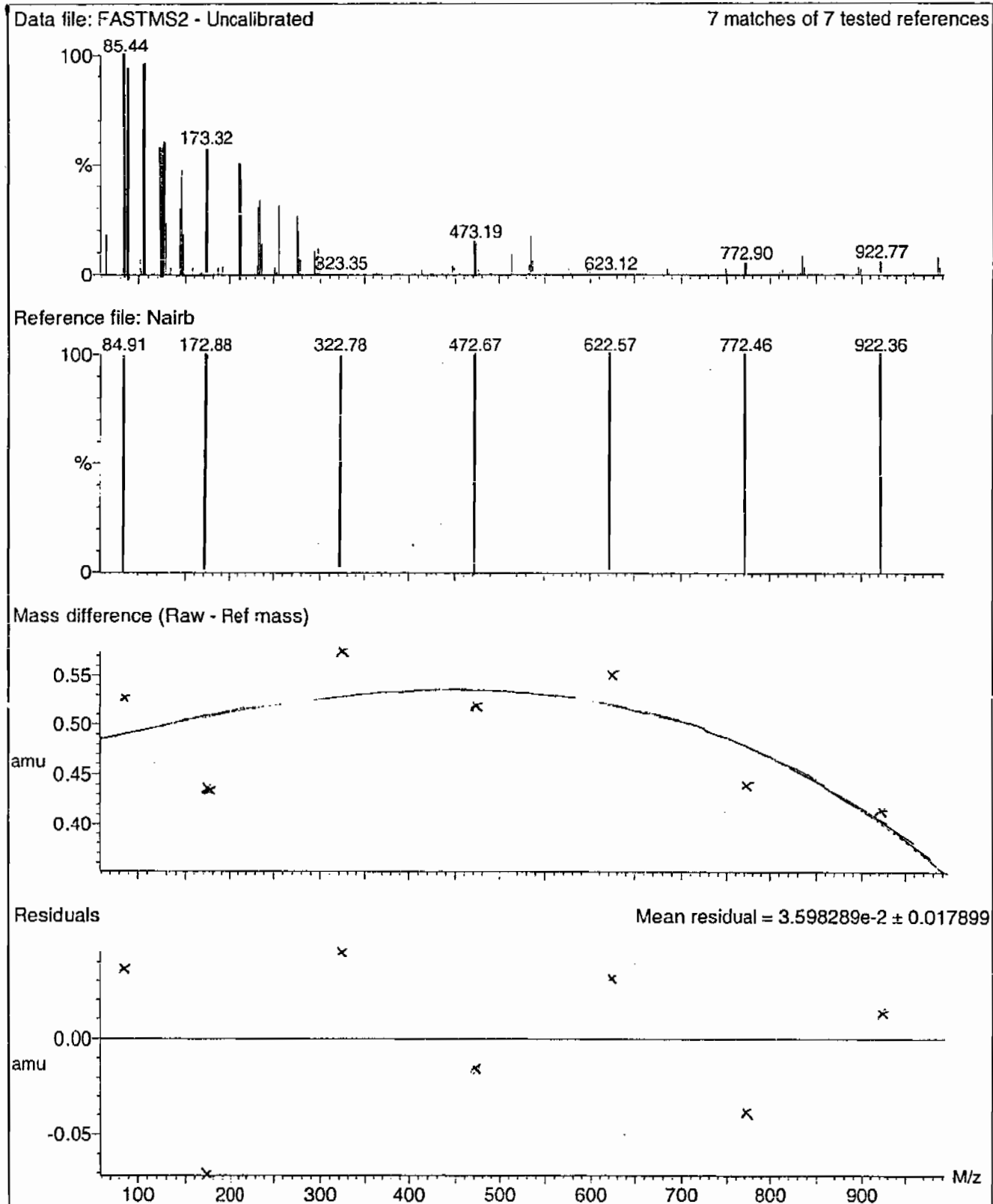
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Calibration Report - MS2 Scan Speed Compensation

Page 1 of 1

Printed: Tue Jan 08 12:23:51 2008



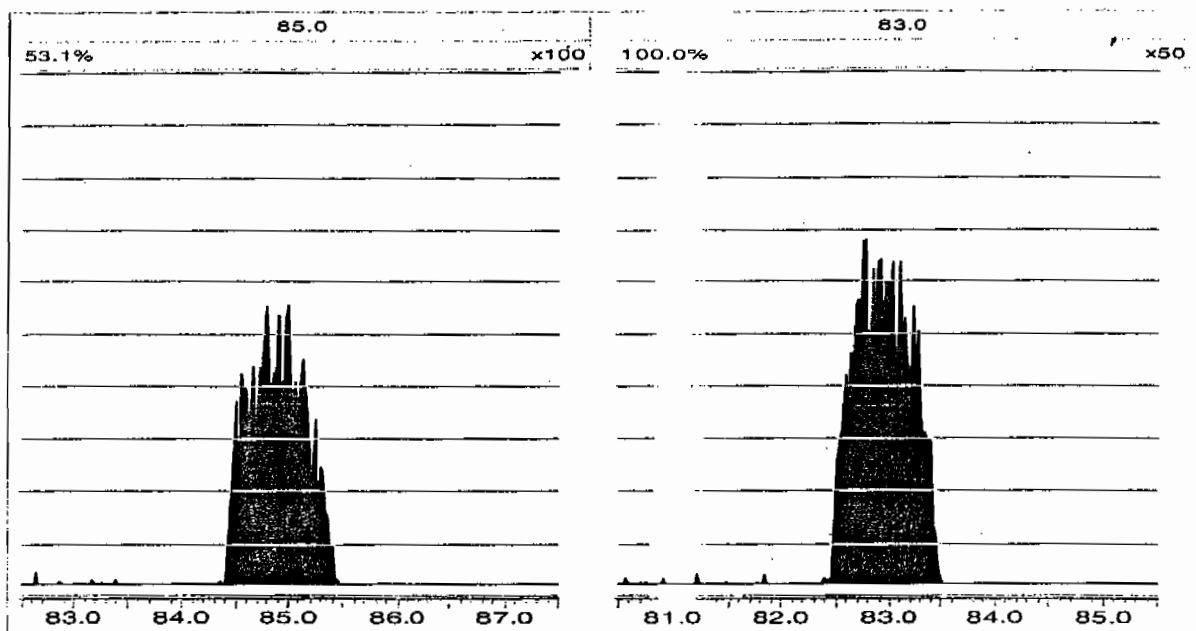
Tune Parameters

MassLynx 4.0 SP4

Page 1 of 1

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

Printed: Wednesday, January 06, 2010 12:30:22 Eastern Standard Time



Perchlorate RT And Area Summary

GEL Job No.(SDG): 10-1104

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	per0106006a	06-JAN-10	29150.6				
Lower Area Limit			14575.3				
Upper Area Limit			58301.2				
1202006989	per0106012a	06-JAN-10 16:34	27892.7	2.61	2.61333	1.001	
1202006990	per0106013a	06-JAN-10 16:41	28121.7	2.6	2.61328	1.005	
1202006993	per0106014a	06-JAN-10 16:48	29221	2.61	2.62568	1.006	
243631001	per0106019a	06-JAN-10 17:23	27117.2	2.61	2.60083	.996	



# SAMPLE DATA

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC  
 Lab Code: GEL  
 Instrument: LCMSMS  
 Method: SW846 6850 Modified  
 Matrix: WATER  
 Extraction Batch ID: 937887  
 Extraction Type: Filter/DAI  
 Sample Volume/Weight: 10.0 mL  
 Concentrated Extract Volume: 10.0  
 Client Sample No. RE12-10-9923  
 Date Received: 29-DEC-09  
 GEL Job No (SDG): 10-1104  
 GEL Sample ID: 243631001  
 Date Filtered: 05-JAN-10  
 Injection Volume (uL): 20  
 %Solids:

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.050	ug/L	U	1	06-JAN-10 17:23	per0106019a
	Perchlorate Isotope Ratio						1	06-JAN-10 17:23	per0106019a
14797-73-0	Perchlorate-101	.05	.2	0.050	ug/L	U	1	06-JAN-10 17:23	per0106019a
	Perchlorate-O(18)			0.469	ug/L		1	06-JAN-10 17:23	per0106019a

<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\per010610a.qld

Last Altered: Thursday, January 07, 2010 8:49:32 AM Eastern Standard Time  
 Printed: Thursday, January 07, 2010 9:05:25 AM Eastern Standard Time

Name: per0106019a

Date: 06-Jan-2010

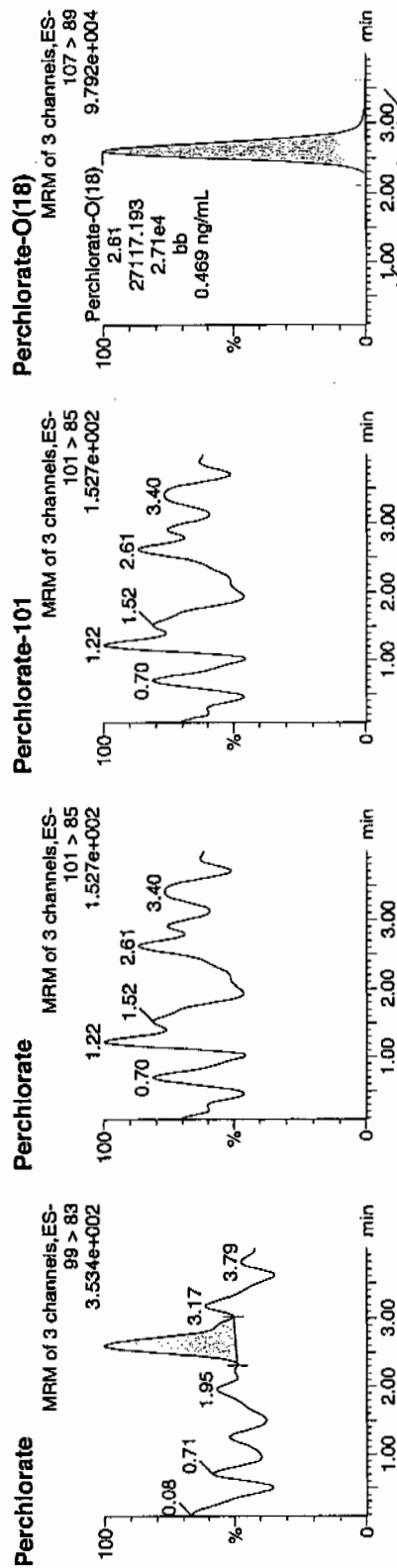
Time: 17:23:38

ID: 243631001

Vial: 1:4,B

01-07-10

12402 | 937388 | 122011



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
243631001	Perchlorate	99 > 83	2.60	51.461	51.461	bb			0.0008			5.264	0.00
243631001	Perchlorate-101	101 > 85											
243631001	Perchlorate-O(18)	107 > 89	2.61	2717.193	2717.193	bb			0.4690	93.81	-6.19	19620	....

# STANDARDS DATA

Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories GEL Job No.(SDG): 10-1104

Lab Code: GEL

Instrument ID: LCMSMS Date Analyzed: 06-JAN-10

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

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

Parname Perchlorate  
 Coefficient of Determination:  
 Calibration Curve: 65186.4  
 Response Type: External Standard  
 Curve Type: RF

Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories GEL Job No.(SDG): 10-1104

Lab Code: GEL

Instrument ID: LCMSMS Date Analyzed: 06-JAN-10

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

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

Parname Perchlorate-101

Coefficient of Determination:

Calibration Curve: 21298.8

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\per010610a.qid

Last Altered: Thursday, January 07, 2010 8:49:32 AM Eastern Standard Time  
Printed: Thursday, January 07, 2010 9:05:25 AM Eastern Standard Time

Method: C:\MassLynx\Perchlorate.PRO\MethDB\per010610a.mdb 06 Jan 2010 15:03:34  
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per010610a.cdb 07 Jan 2010 08:49:31

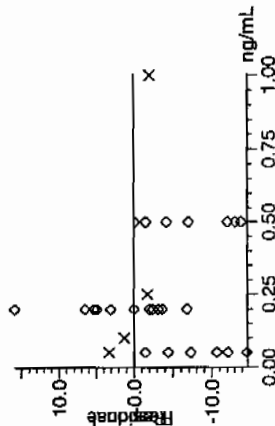
Compound name: Perchlorate

Response Factor: 65186.4

RRF SD: 1462.55, % Relative SD: 2.24364

Response type: External Std, Area

Curve type: RF



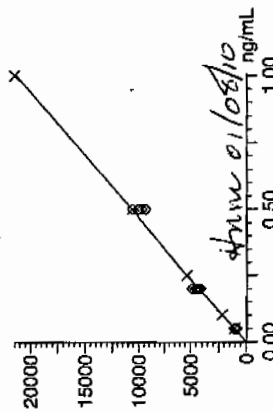
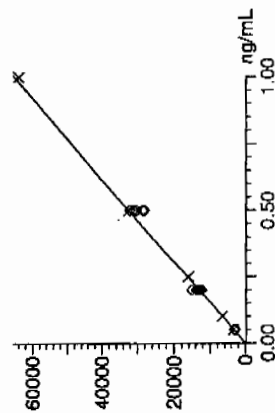
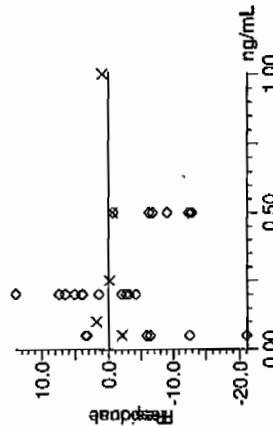
Compound name: Perchlorate-101

Response Factor: 21298.8

RRF SD: 311.518, % Relative SD: 1.46261

Response type: External Std, Area

Curve type: RF



01-07-10

01/08/10

# Quantify Calibration Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010610a.qld

Last Altered: Thursday, January 07, 2010 8:49:32 AM Eastern Standard Time

Printed: Thursday, January 07, 2010 9:05:25 AM Eastern Standard Time

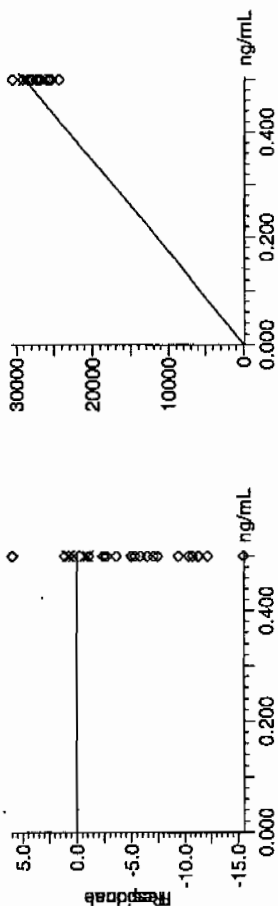
Compound name: Perchlorate-O(18)

Response Factor: 57815.7

RF SD: 487.147, % Relative SD: 0.842587

Response type: External Std, Area

Curve type: RF





Perchlorate Initial Calibration Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1104

Lab Code: GEL

Reporting Units: ug/L

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.49	98.44	06-JAN-10 16:13	per0106009a
Perchlorate Isotope Ratio		3.03		06-JAN-10 16:13	per0106009a
Perchlorate-101	.5	.5	99.33	06-JAN-10 16:13	per0106009a

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

Dataset: C:\MassLynx\Perchlorate.PRO\per010610a.qld

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Printed: Thursday, January 07, 2010 9:05:25 AM Eastern Standard Time

Name: per0106009a

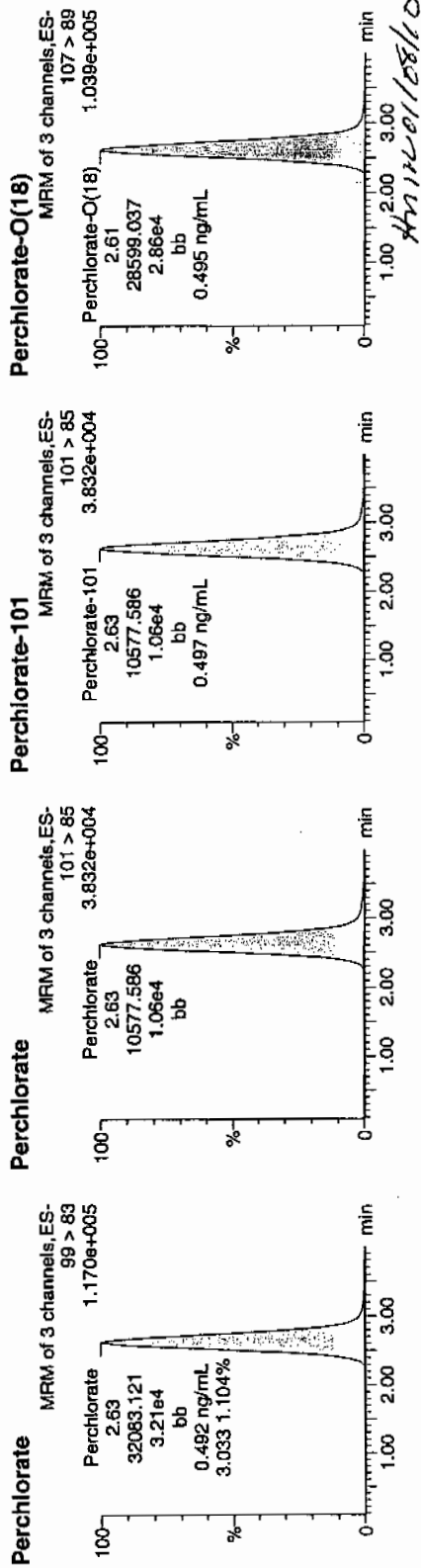
Date: 06-Jan-2010

Time: 16:13:04

ID: WCL100104-06ICV

Vial: 1:2,A

*Run*  
*01-07-10*



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100104-06ICV	Perchlorate	99 > 83	2.63	32083.121	32083.121	bb			0.4922	98.44	-1.56	5870.1...	3.03
WCL100104-06ICV	Perchlorate-101	101 > 85	2.63	10577.586	10577.586	bb			0.4966	99.33	-0.67	1002.3...	
WCL100104-06ICV	Perchlorate-O(18)	107 > 89	2.61	28599.037	28599.037	bb			0.4947	98.93	-1.07	5062.5...	

Perchlorate Continuing Calibration Verification

GEL Job No.(SDG): 10-1104

Lab Name: General Engineering Laboratories

Lab Code: GEL

Reporting Units: ug/L

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.48	95.79	06-JAN-10 17:30	per0106020a
Perchlorate Isotope Ratio		3.13		06-JAN-10 17:30	per0106020a
Perchlorate-101	.5	.47	93.79	06-JAN-10 17:30	per0106020a

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

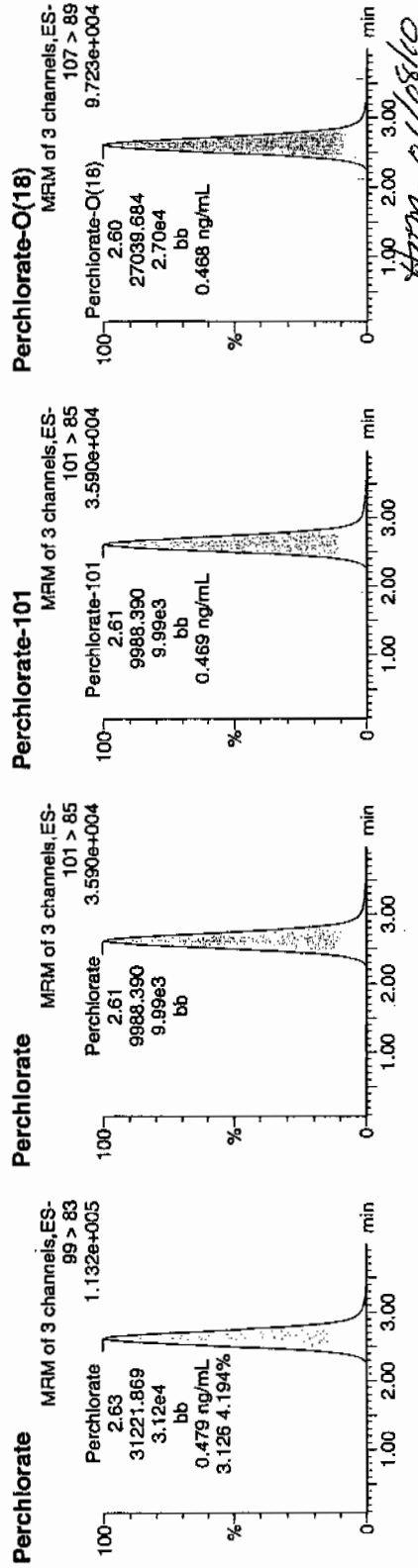
Page 20 of 69

Dataset: C:\MassLynx\Perchlorate.PRO\per010610a.qld

Last Altered: Thursday, January 07, 2010 8:49:32 AM Eastern Standard Time  
Printed: Thursday, January 07, 2010 9:05:25 AM Eastern Standard Time

Name: per0106020a  
Date: 06-Jan-2010  
Time: 17:30:41  
ID: WCL100104-06CCV  
Vial: 1:2.A

*WCL*  
*01-07-10*  
*(WCL)*  
*01-02-10*



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100104-06CCV	Perchlorate	99 > 83	2.63	31221.869	31221.869	bb			0.4790	95.79	-4.21	13705...	3.13
WCL100104-06CCV	Perchlorate-101	101 > 85	2.61	9988.390	9988.390	bb			0.4690	93.79	-6.21	5150.1...	
WCL100104-06CCV	Perchlorate-O(18)	107 > 89	2.60	27039.684	27039.684	bb			0.4677	93.54	-6.46	3564.5...	

Perchlorate MDL Verification

Lab Name: General Engineering Laboratories GEL Job No.(SDG): 10-1104

Lab Code: GEL

Reporting Units: ug/L

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.05	.05	98.55	06-JAN-10 16:27	per0106011a
Perchlorate Isotope Ratio		2.92		06-JAN-10 16:27	per0106011a
Perchlorate-101	.05	.05	103.27	06-JAN-10 16:27	per0106011a
Perchlorate	.05	.05	95.61	06-JAN-10 17:44	per0106022a
Perchlorate Isotope Ratio		3.11		06-JAN-10 17:44	per0106022a
Perchlorate-101	.05	.05	94.14	06-JAN-10 17:44	per0106022a

# Quantify Sample Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

Page 11 of 69

Dataset: C:\MassLynx\Perchlorate.PRO\per010610a.qld

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Printed: Thursday, January 07, 2010 9:05:25 AM Eastern Standard Time

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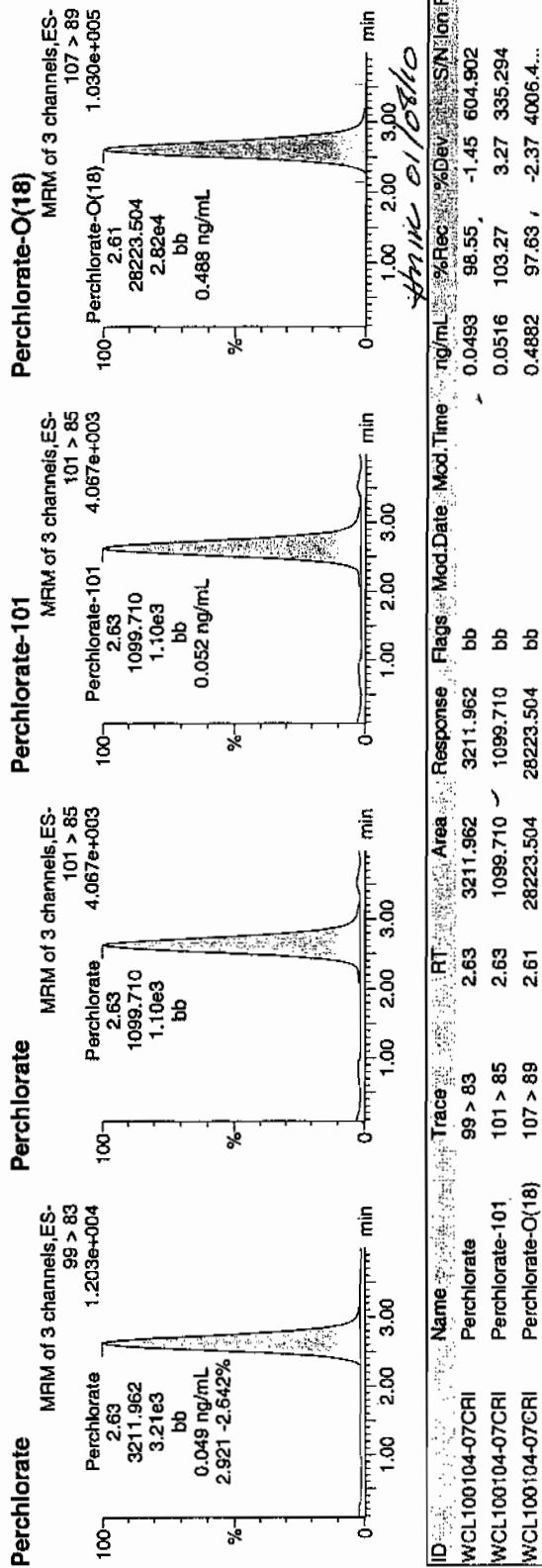
Date: 06-Jan-2010

Time: 16:27:19

ID: WCL100104-07CRI

Vial: 1:2,B

663  
01-07-10



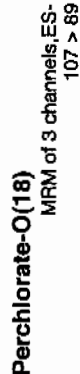
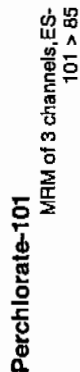
Quantify Sample Report MassLynx 4.0 SP4  
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010610a.qld

Last Altered: Thursday, January 07, 2010 8:49:32 AM Eastern Standard Time  
Printed: Thursday, January 07, 2010 9:05:25 AM Eastern Standard Time

Name: per0106022a  
Date: 06-Jan-2010  
Time: 17:44:45  
ID: WCL100104-07CRI  
Vial: 1;2,B

Pear  
01-07-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100104-07CRI	Perchlorate	99 > 83	2.61	3116.086	3116.086	bb			0.0478	95.61	-4.39	252.584	3.11
WCL100104-07CRI	Perchlorate-101	101 > 85	2.61	1002.543	1002.543	bb			0.0471	94.14	-5.86	346.672	
WCL100104-07CRI	Perchlorate-O(18)	107 > 89	2.60	27227.945	27227.945	bb			0.4709	94.19	-5.81	6823.2...	

# QUALITY CONTROL



Form 1

Perchlorate Analysis Data Sheet

Client Sample No.

MB

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: EPA 6850 Modified

Matrix: WATER

Extraction Batch ID: 937887

Extraction Type: Filter/DAI

Date Received: 05-JAN-10

GEL Job No (SDG): 10-1104

GEL Sample ID: 1202006989

Date Filtered: 05-JAN-10

Injection Volume (uL): 20

%Solids:

Sample Volume/Weight: 10.0 mL

Concentrated Extract Volume: 10.0

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.050	ug/L	U	1	06-JAN-10 16:34	per0106012a
	Perchlorate Isotope Ratio						1	06-JAN-10 16:34	per0106012a
14797-73-0	Perchlorate-101	.05	.2	0.050	ug/L	U	1	06-JAN-10 16:34	per0106012a
	Perchlorate-O(18)			0.482	ug/L		1	06-JAN-10 16:34	per0106012a

<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\per010610a.qld

Last Altered: Thursday, January 07, 2010 8:49:32 AM Eastern Standard Time  
Printed: Thursday, January 07, 2010 9:05:25 AM Eastern Standard Time

Name: per0106012a

Date: 06-Jan-2010

Time: 16:34:23

ID: 1202006989

Vial: 1:3,A

663  
01-07-10

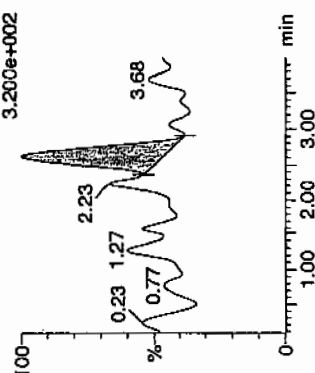
159121937333 | 1202006989 | 11

**Perchlorate**

MRM of 3 channels ES-

99 > 83

3.200e+002

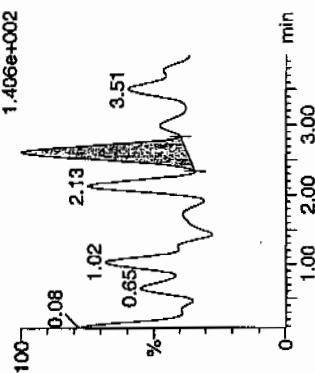


**Perchlorate**

MRM of 3 channels ES-

101 > 85

1.406e+002

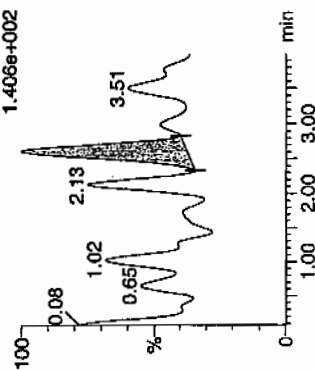


**Perchlorate-101**

MRM of 3 channels ES-

101 > 85

1.406e+002

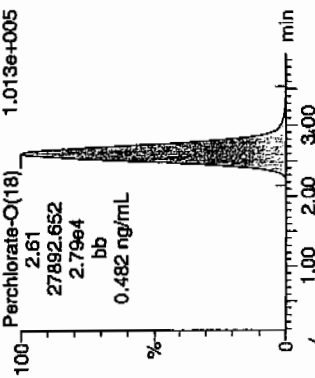


**Perchlorate-O(18)**

MRM of 3 channels ES-

107 > 89

1.013e+005



ID	Name	Retention Time	Area	Response	Flags	Mod	Date	Time	SIN	Ratio
1202006989	Perchlorate	99 > 83	2.61	45.302	bb				0.0007	2.25
1202006989	Perchlorate-101	101 > 85	2.61	20.169	bb				0.0009	4.494
1202006989	Perchlorate-O(18)	107 > 89	2.61	27892.652	bb				0.4824	96.49
									-3.51	1579.5...

Handwritten notes: 2.61, 2.7892.652, 2.79e4, 0.482 ng/mL, and a signature.

Form 1

Perchlorate Analysis Data Sheet

Client Sample No.

LCS

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: EPA 6850 Modified

Matrix: WATER

Extraction Batch ID: 937887

Extraction Type: Filter/DAL

Date Received: 05-JAN-10

GEL Job No (SDG): 10-1104

GEL Sample ID: 1202006990

Date Filtered: 05-JAN-10

Injection Volume (uL): 20

%Solids:

Sample Volume/Weight: 10.0 mL

Concentrated Extract Volume: 10.0

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.195	ug/L	J	1	06-JAN-10 16:41	per0106013a
	Perchlorate Isotope Ratio			3.08			1	06-JAN-10 16:41	per0106013a
14797-73-0	Perchlorate-101	.05	.2	0.194	ug/L	J	1	06-JAN-10 16:41	per0106013a
	Perchlorate-O(18)			0.486	ug/L		1	06-JAN-10 16:41	per0106013a

<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\per010610a.qld

Last Altered: Thursday, January 07, 2010 8:49:32 AM Eastern Standard Time  
Printed: Thursday, January 07, 2010 9:05:25 AM Eastern Standard Time

Sample Name: per0106013a

Date: 06-Jan-2010

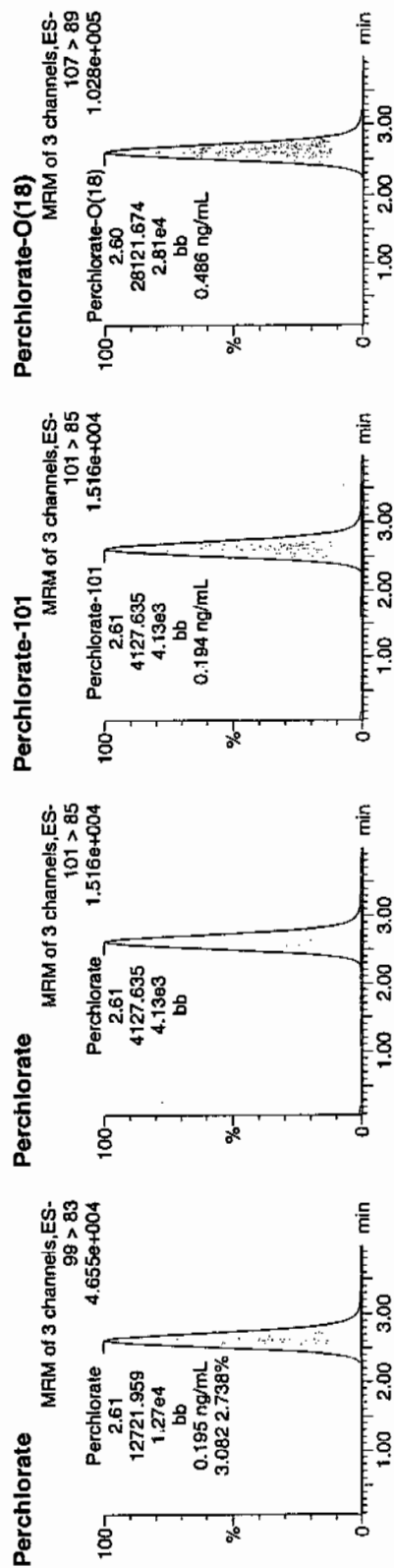
Time: 16:41:26

ID: 1202006990

Vial: 1:3,B

01-07-10

1202006990 | 937333 | L1Q | L1S | 11



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202006990	Perchlorate	99 > 83	2.61	12721.959	12721.959	bb			0.1952	97.58	-2.42	1982.8...	3.08
1202006990	Perchlorate-101	101 > 85	2.61	4127.635	4127.635	bb			0.1938	96.90	-3.10	1379.3...	
1202006990	Perchlorate-O(18)	107 > 89	2.60	28121.674	28121.674	bb			0.4864	97.28	-2.72	3701.4...	

12721.959  
65186.4 = 0.1952  
H11W  
01/08/10

# 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: 937887 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)
1202006989 MB	05-JAN-2010 13:14:57	10	10	1
1202006990 LCS	05-JAN-2010 13:14:57	10	10	1
243608001	05-JAN-2010 13:14:57	10	10	1
243621001	05-JAN-2010 13:14:57	10	10	1
243627001	05-JAN-2010 13:14:57	10	10	1
243629001	05-JAN-2010 13:14:57	10	10	1
243631001	05-JAN-2010 13:14:57	10	10	1
243632001	05-JAN-2010 13:14:57	10	10	1
1202006991 MS (243632001)	05-JAN-2010 13:14:57	10	10	1
1202006992 MSD (243633001)	05-JAN-2010 13:14:57	10	10	1
1202006993 ICS	05-JAN-2010 13:14:57	10	10	1

### Comments:

Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:
ICS	1202006993	10 ug/L ICV/CCV Second Source	UCL091201-01.2	2	mL	Desalting cartridges used: 090403-1-Ba & 091029-1-H
LCS	1202006990	10 ug/L ICV/CCV Second Source	UCL091201-01.2	2	mL	
MS	1202006991	10 ug/L ICV/CCV Second Source	UCL091201-01.2	2	mL	
MSD	1202006992	10 ug/L ICV/CCV Second Source	UCL091201-01.2	2	mL	
RGNT	All	Q2SI HPLC Grade Water	1233976	10	mL	
RGNT	All	500 ppm Carbonate, Bicarbonate, Chloride, Sulfate	1236492	10	mL	

GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS#2

Date: 01/06/10  
 Extr. Injection Volume: 20uL  
 Sequence Number: per010610a  
 Initial Calibration Date: 01/06/10

Method: EPA 6850-Modified  
 Int. Std.: UCL091019-03.2  
 Mobile Phase Lot#: 1233781, 1233976  
 Standard-Samp Reagent Lot#: 1233976

Reviewed BY: *[Signature]*  
 Date: 2/10/10  
 SOP: GL-OA-E-067 Rev.6  
 Alt Check Std. ID: WCL100104-06

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC_Flag
per0106001a	IPB001	CWW	1/6/2010 15:16			1		USE	B
per0106002a	IPB001	CWW	1/6/2010 15:23			1		USE	B
per0106003a	WCLICAL-01	CWW	1/6/2010 15:30			1		USE	I
per0106004a	WCLICAL-02	CWW	1/6/2010 15:37			1		USE	I
per0106005a	WCLICAL-03	CWW	1/6/2010 15:44			1		USE	I
per0106006a	WCLICAL-04	CWW	1/6/2010 15:52			1		USE	I
per0106007a	WCLICAL-05	CWW	1/6/2010 15:59			1		USE	I
per0106008a	IPB002	CWW	1/6/2010 16:06			1		USE	B
per0106009a	WCLICV	CWW	1/6/2010 16:13			1		USE	C
per0106010a	IPB003	CWW	1/6/2010 16:20			1		USE	B
per0106011a	WCLCRI	CWW	1/6/2010 16:27			1		USE	C
per0106012a	1202006989	CWW	1/6/2010 16:34	937888	VARIOUS	1	LANL	USE	S
per0106013a	1202006990	CWW	1/6/2010 16:41	937888	VARIOUS	1	LANL	USE	S
per0106014a	1202006993	CWW	1/6/2010 16:48	937888	VARIOUS	1	LANL	USE	S
per0106015a	243608001	CWW	1/6/2010 16:55	937888	10-1094	1	LANL	USE	S
per0106016a	243621001	CWW	1/6/2010 17:02	937888	10-1099	1	LANL	USE	S
per0106017a	243627001	CWW	1/6/2010 17:09	937888	10-1101-1	1	LANL	USE	S
per0106018a	243629001	CWW	1/6/2010 17:16	937888	10-1103-1	1	LANL	USE	S
per0106019a	243631001	CWW	1/6/2010 17:23	937888	10-1104	1	LANL	USE	S
per0106020a	WCLCCV	CWW	1/6/2010 17:30			1		USE	C
per0106021a	IPB004	CWW	1/6/2010 17:37			1		USE	B
per0106022a	WCLCRI	CWW	1/6/2010 17:44			1		USE	C
per0106023a	243632001	CWW	1/6/2010 17:51	937888	10-1105	1	LANL	USE	S
per0106024a	1202006991	CWW	1/6/2010 17:58	937888	10-1105	1	LANL	USE	S
per0106025a	1202006992	CWW	1/6/2010 18:05	937888	10-1105	1	LANL	USE	S
per0106026a	IPB005	CWW	1/6/2010 18:12			1		USE	B
per0106027a	1202009604	CWW	1/6/2010 18:19	939084	10-1116	1	LANL	USE	S
per0106028a	1202009605	CWW	1/6/2010 18:27	939084	10-1116	1	LANL	USE	S
per0106029a	1202009608	CWW	1/6/2010 18:34	939084	10-1116	1	LANL	USE	S

per0106030a	243819001	CWW	1/6/2010 18:41	939084	10-1116	1	LANL	USE	S
per0106031a	1202009606	CWW	1/6/2010 18:48	939084	10-1116	1	LANL	USE	S
per0106032a	1202009607	CWW	1/6/2010 18:55	939084	10-1116	1	LANL	USE	S
per0106033a	WCLCCV	CWW	1/6/2010 19:02			1		USE	C
per0106034a	IPB006	CWW	1/6/2010 19:09			1		USE	B
per0106035a	WCLCRI	CWW	1/6/2010 19:16			1		USE	C
per0106036a	1202006979	CWW	1/6/2010 19:23	937882	VARIOUS	1	LANL	USE	S
per0106037a	1202006980	CWW	1/6/2010 19:30	937882	VARIOUS	1	LANL	USE	S
per0106038a	1202006983	CWW	1/6/2010 19:37	937882	VARIOUS	1	LANL	USE	S
per0106039a	243623001	CWW	1/6/2010 19:44	937882	10-1099-1	1	LANL	USE	S
per0106040a	243623002	CWW	1/6/2010 19:51	937882	10-1099-1	1	LANL	USE	S
per0106041a	243623003	CWW	1/6/2010 19:58	937882	10-1099-1	1	LANL	USE	S
per0106042a	243623004	CWW	1/6/2010 20:05	937882	10-1099-1	1	LANL	USE	S
per0106043a	243623005	CWW	1/6/2010 20:12	937882	10-1099-1	1	LANL	USE	S
per0106044a	243623006	CWW	1/6/2010 20:19	937882	10-1099-1	1	LANL	USE	S
per0106045a	WCLCCV	CWW	1/6/2010 20:26			1		USE	C
per0106046a	IPB007	CWW	1/6/2010 20:34			1		USE	B
per0106047a	WCLCRI	CWW	1/6/2010 20:41			1		USE	C
per0106048a	243623007	CWW	1/6/2010 20:48	937882	10-1099-1	1	LANL	USE	S
per0106049a	243623008	CWW	1/6/2010 20:55	937882	10-1099-1	1	LANL	USE	S
per0106050a	243623009	CWW	1/6/2010 21:02	937882	10-1099-1	1	LANL	USE	S
per0106051a	243626001	CWW	1/6/2010 21:09	937882	10-1101	1	LANL	USE	S
per0106052a	1202006981	CWW	1/6/2010 21:17	937882	10-1101	1	LANL	USE	S
per0106053a	1202006982	CWW	1/6/2010 21:24	937882	10-1101	1	LANL	USE	S
per0106054a	243626002	CWW	1/6/2010 21:31	937882	10-1101	1	LANL	USE	S
per0106055a	243626003	CWW	1/6/2010 21:38	937882	10-1101	1	LANL	USE	S
per0106056a	WCLCCV	CWW	1/6/2010 21:45			1		USE	C
per0106057a	IPB008	CWW	1/6/2010 21:53			1		USE	B
per0106058a	WCLCRI	CWW	1/6/2010 22:00			1		USE	C
per0106059a	243626004	CWW	1/6/2010 22:07	937882	10-1101	1	LANL	USE	S
per0106060a	243626005	CWW	1/6/2010 22:14	937882	10-1101	1	LANL	USE	S
per0106061a	243626006	CWW	1/6/2010 22:21	937882	10-1101	1	LANL	USE	S
per0106062a	243626007	CWW	1/6/2010 22:28	937882	10-1101	1	LANL	USE	S
per0106063a	243626008	CWW	1/6/2010 22:35	937882	10-1101	1	LANL	USE	S
per0106064a	243626009	CWW	1/6/2010 22:42	937882	10-1101	1	LANL	USE	S
per0106065a	243626010	CWW	1/6/2010 22:49	937882	10-1101	1	LANL	USE	S
per0106066a	243626011	CWW	1/6/2010 22:56	937882	10-1101	1	LANL	USE	S



C B C

USE  
USE  
USE

1  
1  
1

1/6/2010 23:03  
1/6/2010 23:11  
1/6/2010 23:18

CWW  
CWW  
CWW

WCLCCV  
IPB009  
WCLCRI

per0106067a  
per0106068a  
per0106069a

# Quantify Sample Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010610a.qld

Last Altered: Thursday, January 07, 2010 8:49:32 AM Eastern Standard Time  
 Printed: Thursday, January 07, 2010 9:05:25 AM Eastern Standard Time

Name: per0106024a

Date: 06-Jan-2010

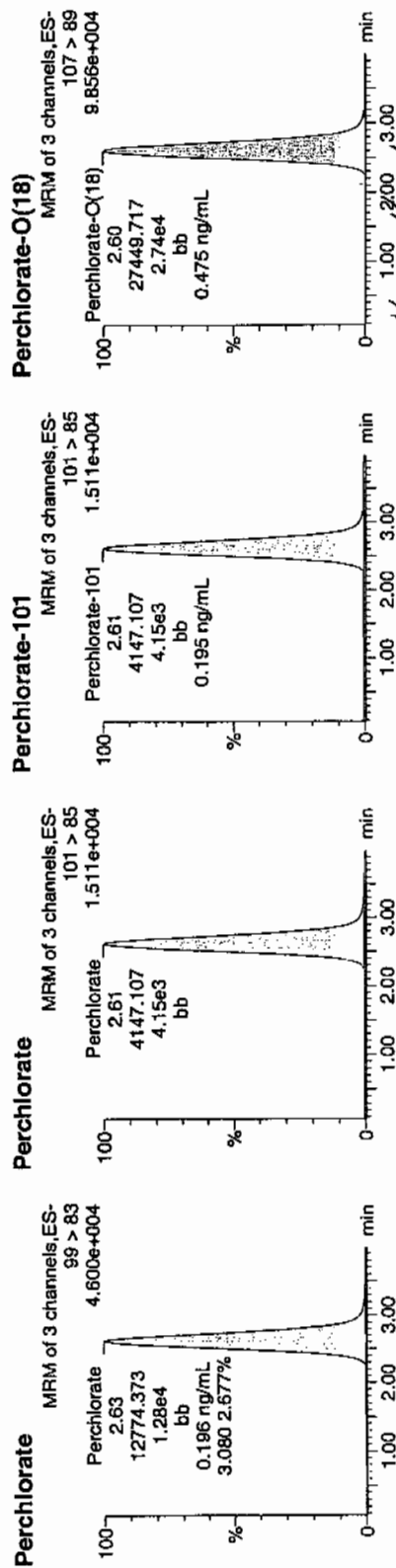
Time: 17:58:51

ID: 1202006991

Val: 1:4,D

01-07-10

LANL 937338 | LZW | MS | 11



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202006991	Perchlorate	99 > 83	2.63	12774.373	12774.373	bb			0.1960	97.98	-2.02	5401.3...	3.08
1202006991	Perchlorate-101	101 > 85	2.61	4147.107	4147.107	bb			0.1947	97.36	-2.64	496.291	
1202006991	Perchlorate-O(18)	107 > 89	2.60	27449.717	27449.717	bb			0.4748	94.96	-5.04	4255.4...	

# Quantify Sample Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

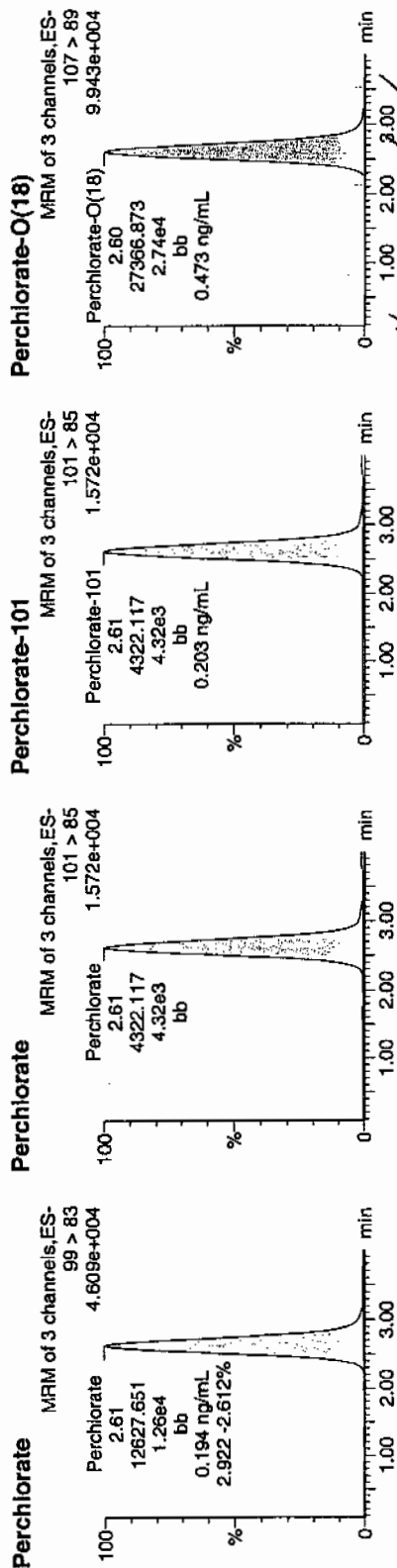
Dataset: C:\MassLynx\Perchlorate.PRO\per010610a.qld

Last Altered: Thursday, January 07, 2010 8:49:32 AM Eastern Standard Time  
 Printed: Thursday, January 07, 2010 9:05:25 AM Eastern Standard Time

Name: per0106025a  
 Date: 06-Jan-2010  
 Time: 18:05:54  
 ID: 1202006992  
 Vial: 1:4,E

01-07-10

LANC 937323 | LZU | MSO | 11



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202006992	Perchlorate	99 > 83	2.61	12627.651	12627.651	bb			0.1937	96.86	-3.14	1582.1...	2.92
1202006992	Perchlorate-101	101 > 85	2.61	4322.117	4322.117	bb			0.2029	101.46	1.46	2070.1...	
1202006992	Perchlorate-O(18)	107 > 89	2.60	27366.873	27366.873	bb			0.4733	94.67	-5.33	10938...	

## 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 10-1104**

**Sample Analysis**

<b>Sample ID</b>	<b>Client ID</b>
243631001	RE12-10-9923
1202006002	Method Blank (MB) ICP
1202006003	Laboratory Control Sample (LCS)
1202006006	243632001(RE12-10-7610L) Serial Dilution (SD)
1202006004	243632001(RE12-10-7610D) Sample Duplicate (DUP)
1202006005	243632001(RE12-10-7610S) Matrix Spike (MS)
1202006053	Method Blank (MB) ICP-MS
1202006054	Laboratory Control Sample (LCS)
1202006057	243608001(RE16-10-372L) Serial Dilution (SD)
1202006055	243608001(RE16-10-372D) Sample Duplicate (DUP)
1202006056	243608001(RE16-10-372S) Matrix Spike (MS)
1202006475	Method Blank (MB) CVAA
1202006479	Laboratory Control Sample (LCS)
1202006477	243627001(RE12-10-7860L) Serial Dilution (SD)
1202006476	243627001(RE12-10-7860D) Sample Duplicate (DUP)
1202006478	243627001(RE12-10-7860S) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

### **Method/Analysis Information**

<b>Analytical Batch:</b>	937469, 937496 and 937647
<b>Prep Batch :</b>	937468, 937495 and 937646
<b>Standard Operating Procedures:</b>	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
<b>Analytical Method:</b>	SW846 3005/6010B, SW846 3005/6020 and SW846 7470A
<b>Prep Method :</b>	SW846 3005A and SW846 7470A Prep

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

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

### **System Configuration**

The Metals analysis-ICP was performed on a P E 5300 Optima radial/axial-viewing inductively coupled plasma atomic emission spectrometer. The instrument is equipped with a Burgener nebulizer, cyclonic spray chamber, and yttrium or scandium internal standard. Operating conditions for the ICP are set at a power level of 1500 watts. The instrument has a peristaltic pump flow rate of 1.4L/min, argon gas flows of 15 L/min and 0.2 L/min for the torch and auxiliary gases, and a flow setting of 0.65L/min for the nebulizer.

The Metals analysis - ICPMS was performed on a Perkin Elmer ELAN 9000 inductively coupled plasma mass spectrometer (ICP-MS). The instrument is equipped with a cross-flow nebulizer, quadrupole mass spectrometer, and dual mode electron multiplier detector. Internal standards of scandium, germanium, indium, tantalum, and/or lutetium were utilized to cover the mass spectrum. Operating conditions are set at 1400W power and combined argon pressures of 360+/- 7 kPa for the plasma and auxiliary gases, and 0.85 L/min carrier gas flow, and an initial lens voltage of 5.2.

The Metals analysis-Mercury was performed on a Perkin-Elmer Flow Injection Mercury System (FIMS-100) automated mercury analyzer. The instrument consists of a cold vapor atomic absorption spectrometer set to detect mercury at a wavelength of 253.7 nm. Sample introduction through the flow injection system is performed via a peristaltic pump at 9 mL/min and nitrogen carrier gas rate of 80 mL/min.

### **Calibration Information**

#### **Instrument Calibration**

All initial calibration requirements have been met for this sample delivery group (SDG).



**CRDL Requirements**

All CRDL standard(s) met the referenced advisory control limits.

**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: 243632001, 243608001 and 243627001.

**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:**

Reviewer: Kristen Parson Date: 1/27/10

# **Sample Data Summary**

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

SDG No: 10-1104

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 243631001

BASIS: As Received

DATE COLLECTED 21-DEC-09

CLIENT ID: RE12-10-9923

LEVEL: Low

DATE RECEIVED 29-DEC-09

MATRIX: WATER

%SOLIDS: 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	200	ug/L	U	68	200	200	1	P	HSC	01/12/10 16:58	011210-1	937469
7440-36-0	Antimony	3	ug/L	U	1	3	3	1	MS	BAJ	01/03/10 21:54	100103-2	937496
7440-38-2	Arsenic	30	ug/L	U	5	30	30	1	P	HSC	01/12/10 16:58	011210-1	937469
7440-39-3	Barium	5	ug/L	U	1	5	5	1	P	HSC	01/12/10 16:58	011210-1	937469
7440-41-7	Beryllium	0.50	ug/L	U	0.1	0.5	0.5	1	MS	BAJ	01/03/10 21:54	100103-2	937496
7440-43-9	Cadmium	1	ug/L	U	0.11	1	1	1	MS	BAJ	01/03/10 21:54	100103-2	937496
7440-70-2	Calcium	200	ug/L	U	50	200	200	1	P	HSC	01/12/10 16:58	011210-1	937469
7440-47-3	Chromium	5	ug/L	U	1	5	5	1	P	HSC	01/12/10 16:58	011210-1	937469
7440-48-4	Cobalt	5	ug/L	U	1	5	5	1	P	HSC	01/12/10 16:58	011210-1	937469
7440-50-8	Copper	10	ug/L	U	3	10	10	1	P	HSC	01/12/10 16:58	011210-1	937469
7439-89-6	Iron	100	ug/L	U	30	100	100	1	P	HSC	01/12/10 16:58	011210-1	937469
7439-92-1	Lead	2	ug/L	U	0.5	2	2	1	MS	BAJ	01/03/10 21:54	100103-2	937496
7439-95-4	Magnesium	300	ug/L	U	85	300	300	1	P	HSC	01/12/10 16:58	011210-1	937469
7439-96-5	Manganese	5	ug/L	U	1	5	5	1	MS	BAJ	01/03/10 21:54	100103-2	937496
7439-97-6	Mercury	0.20	ug/L	U	0.066	0.2	0.2	1	AV	JXL1	01/08/10 10:14	010810W1-6	937647
7440-02-0	Nickel	5	ug/L	U	1.5	5	5	1	P	HSC	01/12/10 16:58	011210-1	937469
7440-09-7	Potassium	110	ug/L	J	50	150	150	1	P	HSC	01/12/10 16:58	011210-1	937469
7782-49-2	Selenium	30	ug/L	U	5	30	30	1	P	HSC	01/12/10 16:58	011210-1	937469
7440-22-4	Silver	5	ug/L	U	1	5	5	1	P	HSC	01/12/10 16:58	011210-1	937469
7440-23-5	Sodium	116	ug/L	J	100	300	300	1	P	HSC	01/12/10 16:58	011210-1	937469
7440-28-0	Thallium	1	ug/L	U	0.3	1	1	1	MS	BAJ	01/04/10 05:21	100103-4	937496
7440-61-1	Uranium	0.20	ug/L	U	0.05	0.2	0.2	1	MS	BAJ	01/04/10 17:00	100104-5	937496
7440-62-2	Vanadium	5	ug/L	U	1	5	5	1	P	HSC	01/12/10 16:58	011210-1	937469
7440-66-6	Zinc	10	ug/L	U	3.3	10	10	1	P	HSC	01/12/10 16:58	011210-1	937469

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
937469	937468	SW846 3005A	50	mL	50	mL	12/31/09	BXA1
937496	937495	SW846 3005A	50	mL	50	mL	12/31/09	BXA1
937647	937646	SW846 7470A Prep	20	mL	20	mL	01/07/10	AXG2

# **Quality Control Summary**

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

SDG No: 10-1104

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,JCPMS5,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
ICV01										
	Antimony	49.7	ug/L	50	ug/L	99.4	90.0 – 110.0	MS	03-JAN-10 18:44	100103-2
	Beryllium	49.9	ug/L	50	ug/L	99.8	90.0 – 110.0	MS	03-JAN-10 18:44	100103-2
	Cadmium	49.2	ug/L	50	ug/L	98.4	90.0 – 110.0	MS	03-JAN-10 18:44	100103-2
	Lead	53	ug/L	50	ug/L	106	90.0 – 110.0	MS	03-JAN-10 18:44	100103-2
	Manganese	51.2	ug/L	50	ug/L	102.3	90.0 – 110.0	MS	03-JAN-10 18:44	100103-2
	Thallium	50.6	ug/L	50	ug/L	101.2	90.0 – 110.0	MS	04-JAN-10 03:14	100103-4
	Uranium	53.6	ug/L	50	ug/L	107.2	90.0 – 110.0	MS	04-JAN-10 16:28	100104-5
	Mercury	5.24	ug/L	5	ug/L	104.7	90.0 – 110.0	AV	08-JAN-10 09:18	010810W1-6
	Aluminum	5060	ug/L	5000	ug/L	101.2	90.0 – 110.0	P	12-JAN-10 13:01	011210-1
	Arsenic	470	ug/L	500	ug/L	94	90.0 – 110.0	P	12-JAN-10 13:01	011210-1
	Barium	505	ug/L	500	ug/L	101.1	90.0 – 110.0	P	12-JAN-10 13:01	011210-1
	Calcium	5020	ug/L	5000	ug/L	100.5	90.0 – 110.0	P	12-JAN-10 13:01	011210-1
	Chromium	484	ug/L	500	ug/L	96.8	90.0 – 110.0	P	12-JAN-10 13:01	011210-1
	Cobalt	498	ug/L	500	ug/L	99.5	90.0 – 110.0	P	12-JAN-10 13:01	011210-1
	Copper	499	ug/L	500	ug/L	99.8	90.0 – 110.0	P	12-JAN-10 13:01	011210-1
	Iron	5130	ug/L	5000	ug/L	102.7	90.0 – 110.0	P	12-JAN-10 13:01	011210-1
	Magnesium	5260	ug/L	5000	ug/L	105.3	90.0 – 110.0	P	12-JAN-10 13:01	011210-1
	Nickel	489	ug/L	500	ug/L	97.8	90.0 – 110.0	P	12-JAN-10 13:01	011210-1
	Potassium	2450	ug/L	2500	ug/L	98	90.0 – 110.0	P	12-JAN-10 13:01	011210-1
	Selenium	2540	ug/L	2500	ug/L	101.6	90.0 – 110.0	P	12-JAN-10 13:01	011210-1
	Silver	259	ug/L	250	ug/L	103.6	90.0 – 110.0	P	12-JAN-10 13:01	011210-1
	Sodium	2480	ug/L	2500	ug/L	99.1	90.0 – 110.0	P	12-JAN-10 13:01	011210-1
	Vanadium	505	ug/L	500	ug/L	100.9	90.0 – 110.0	P	12-JAN-10 13:01	011210-1
	Zinc	499	ug/L	500	ug/L	99.8	90.0 – 110.0	P	12-JAN-10 13:01	011210-1
CCV01										
	Antimony	51	ug/L	50	ug/L	101.9	90.0 – 110.0	MS	03-JAN-10 19:14	100103-2
	Beryllium	52.2	ug/L	50	ug/L	104.3	90.0 – 110.0	MS	03-JAN-10 19:14	100103-2
	Cadmium	50.5	ug/L	50	ug/L	101	90.0 – 110.0	MS	03-JAN-10 19:14	100103-2
	Lead	52.7	ug/L	50	ug/L	105.4	90.0 – 110.0	MS	03-JAN-10 19:14	100103-2
	Manganese	53.7	ug/L	50	ug/L	107.4	90.0 – 110.0	MS	03-JAN-10 19:14	100103-2

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

SDG No: 10-1104

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Thallium	49.9	ug/L	50	ug/L	99.9	90.0 – 110.0	MS	04-JAN-10 03:36	100103-4
	Uranium	52.7	ug/L	50	ug/L	105.4	90.0 – 110.0	MS	04-JAN-10 16:36	100104-5
	Mercury	5.21	ug/L	5	ug/L	104.1	80.0 – 120.0	AV	08-JAN-10 09:23	010810W1-6
	Aluminum	5070	ug/L	5000	ug/L	101.4	90.0 – 110.0	P	12-JAN-10 13:47	011210-1
	Arsenic	520	ug/L	500	ug/L	104	90.0 – 110.0	P	12-JAN-10 13:47	011210-1
	Barium	501	ug/L	500	ug/L	100.1	90.0 – 110.0	P	12-JAN-10 13:47	011210-1
	Calcium	5050	ug/L	5000	ug/L	101	90.0 – 110.0	P	12-JAN-10 13:47	011210-1
	Chromium	499	ug/L	500	ug/L	99.8	90.0 – 110.0	P	12-JAN-10 13:47	011210-1
	Cobalt	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	12-JAN-10 13:47	011210-1
	Copper	495	ug/L	500	ug/L	99	90.0 – 110.0	P	12-JAN-10 13:47	011210-1
	Iron	5040	ug/L	5000	ug/L	100.7	90.0 – 110.0	P	12-JAN-10 13:47	011210-1
	Magnesium	5140	ug/L	5000	ug/L	102.8	90.0 – 110.0	P	12-JAN-10 13:47	011210-1
	Nickel	502	ug/L	500	ug/L	100.4	90.0 – 110.0	P	12-JAN-10 13:47	011210-1
	Potassium	5330	ug/L	5000	ug/L	106.5	90.0 – 110.0	P	12-JAN-10 13:47	011210-1
	Selenium	525	ug/L	500	ug/L	105	90.0 – 110.0	P	12-JAN-10 13:47	011210-1
	Silver	505	ug/L	500	ug/L	101	90.0 – 110.0	P	12-JAN-10 13:47	011210-1
	Sodium	9680	ug/L	10000	ug/L	96.8	90.0 – 110.0	P	12-JAN-10 13:47	011210-1
	Vanadium	503	ug/L	500	ug/L	100.7	90.0 – 110.0	P	12-JAN-10 13:47	011210-1
	Zinc	501	ug/L	500	ug/L	100.2	90.0 – 110.0	P	12-JAN-10 13:47	011210-1
CCV02	Antimony	51.9	ug/L	50	ug/L	103.8	90.0 – 110.0	MS	03-JAN-10 19:33	100103-2
	Beryllium	51.2	ug/L	50	ug/L	102.5	90.0 – 110.0	MS	03-JAN-10 19:33	100103-2
	Cadmium	50.9	ug/L	50	ug/L	101.8	90.0 – 110.0	MS	03-JAN-10 19:33	100103-2
	Lead	53.2	ug/L	50	ug/L	106.4	90.0 – 110.0	MS	03-JAN-10 19:33	100103-2
	Manganese	52.5	ug/L	50	ug/L	105	90.0 – 110.0	MS	03-JAN-10 19:33	100103-2
	Thallium	47.4	ug/L	50	ug/L	94.7	90.0 – 110.0	MS	04-JAN-10 04:17	100103-4
	Uranium	54	ug/L	50	ug/L	108.1	90.0 – 110.0	MS	04-JAN-10 16:51	100104-5
	Mercury	5.2	ug/L	5	ug/L	104.1	80.0 – 120.0	AV	08-JAN-10 09:47	010810W1-6
	Aluminum	5090	ug/L	5000	ug/L	101.8	90.0 – 110.0	P	12-JAN-10 14:19	011210-1
	Arsenic	505	ug/L	500	ug/L	101.1	90.0 – 110.0	P	12-JAN-10 14:19	011210-1



## METALS

-2a-

## Initial and Continuing Calibration Verification

SDG No: 10-1104

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Barium	506	ug/L	500	ug/L	101.3	90.0 - 110.0	P	12-JAN-10 14:19	011210-1
	Calcium	5110	ug/L	5000	ug/L	102.2	90.0 - 110.0	P	12-JAN-10 14:19	011210-1
	Chromium	503	ug/L	500	ug/L	100.7	90.0 - 110.0	P	12-JAN-10 14:19	011210-1
	Cobalt	510	ug/L	500	ug/L	101.9	90.0 - 110.0	P	12-JAN-10 14:19	011210-1
	Copper	503	ug/L	500	ug/L	100.5	90.0 - 110.0	P	12-JAN-10 14:19	011210-1
	Iron	5140	ug/L	5000	ug/L	102.8	90.0 - 110.0	P	12-JAN-10 14:19	011210-1
	Magnesium	5190	ug/L	5000	ug/L	103.8	90.0 - 110.0	P	12-JAN-10 14:19	011210-1
	Nickel	507	ug/L	500	ug/L	101.4	90.0 - 110.0	P	12-JAN-10 14:19	011210-1
	Potassium	4990	ug/L	5000	ug/L	99.9	90.0 - 110.0	P	12-JAN-10 14:19	011210-1
	Selenium	523	ug/L	500	ug/L	104.6	90.0 - 110.0	P	12-JAN-10 14:19	011210-1
	Silver	511	ug/L	500	ug/L	102.3	90.0 - 110.0	P	12-JAN-10 14:19	011210-1
	Sodium	9800	ug/L	10000	ug/L	98	90.0 - 110.0	P	12-JAN-10 14:19	011210-1
	Vanadium	509	ug/L	500	ug/L	101.9	90.0 - 110.0	P	12-JAN-10 14:19	011210-1
	Zinc	505	ug/L	500	ug/L	101	90.0 - 110.0	P	12-JAN-10 14:19	011210-1
CCV03	Antimony	49.9	ug/L	50	ug/L	99.8	90.0 - 110.0	MS	03-JAN-10 20:28	100103-2
	Beryllium	50.3	ug/L	50	ug/L	100.5	90.0 - 110.0	MS	03-JAN-10 20:28	100103-2
	Cadmium	49.4	ug/L	50	ug/L	98.8	90.0 - 110.0	MS	03-JAN-10 20:28	100103-2
	Lead	52.5	ug/L	50	ug/L	105.1	90.0 - 110.0	MS	03-JAN-10 20:28	100103-2
	Manganese	51.5	ug/L	50	ug/L	103	90.0 - 110.0	MS	03-JAN-10 20:28	100103-2
	Thallium	47.2	ug/L	50	ug/L	94.4	90.0 - 110.0	MS	04-JAN-10 04:58	100103-4
	Uranium	53.9	ug/L	50	ug/L	107.7	90.0 - 110.0	MS	04-JAN-10 17:04	100104-5
	Mercury	5.26	ug/L	5	ug/L	105.2	80.0 - 120.0	AV	08-JAN-10 10:10	010810W1-6
	Aluminum	5120	ug/L	5000	ug/L	102.4	90.0 - 110.0	P	12-JAN-10 15:14	011210-1
	Arsenic	509	ug/L	500	ug/L	101.8	90.0 - 110.0	P	12-JAN-10 15:14	011210-1
	Barium	504	ug/L	500	ug/L	100.7	90.0 - 110.0	P	12-JAN-10 15:14	011210-1
	Calcium	5090	ug/L	5000	ug/L	101.9	90.0 - 110.0	P	12-JAN-10 15:14	011210-1
	Chromium	502	ug/L	500	ug/L	100.4	90.0 - 110.0	P	12-JAN-10 15:14	011210-1
	Cobalt	507	ug/L	500	ug/L	101.4	90.0 - 110.0	P	12-JAN-10 15:14	011210-1
	Copper	500	ug/L	500	ug/L	100	90.0 - 110.0	P	12-JAN-10 15:14	011210-1

## METALS

-2a-

## Initial and Continuing Calibration Verification

SDG No: 10-1104

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,JCPMS5,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Iron	4990	ug/L	5000	ug/L	99.8	90.0 - 110.0	P	12-JAN-10 15:14	011210-1
	Magnesium	5080	ug/L	5000	ug/L	101.5	90.0 - 110.0	P	12-JAN-10 15:14	011210-1
	Nickel	505	ug/L	500	ug/L	101	90.0 - 110.0	P	12-JAN-10 15:14	011210-1
	Potassium	4970	ug/L	5000	ug/L	99.3	90.0 - 110.0	P	12-JAN-10 15:14	011210-1
	Selenium	523	ug/L	500	ug/L	104.5	90.0 - 110.0	P	12-JAN-10 15:14	011210-1
	Silver	510	ug/L	500	ug/L	102	90.0 - 110.0	P	12-JAN-10 15:14	011210-1
	Sodium	9310	ug/L	10000	ug/L	93.1	90.0 - 110.0	P	12-JAN-10 15:14	011210-1
	Vanadium	508	ug/L	500	ug/L	101.6	90.0 - 110.0	P	12-JAN-10 15:14	011210-1
	Zinc	503	ug/L	500	ug/L	100.5	90.0 - 110.0	P	12-JAN-10 15:14	011210-1
CCV04										
	Antimony	50.2	ug/L	50	ug/L	100.3	90.0 - 110.0	MS	03-JAN-10 21:23	100103-2
	Beryllium	52.5	ug/L	50	ug/L	105.1	90.0 - 110.0	MS	03-JAN-10 21:23	100103-2
	Cadmium	49.5	ug/L	50	ug/L	98.9	90.0 - 110.0	MS	03-JAN-10 21:23	100103-2
	Lead	51.4	ug/L	50	ug/L	102.8	90.0 - 110.0	MS	03-JAN-10 21:23	100103-2
	Manganese	52.3	ug/L	50	ug/L	104.5	90.0 - 110.0	MS	03-JAN-10 21:23	100103-2
	Thallium	45.1	ug/L	50	ug/L	90.2	90.0 - 110.0	MS	04-JAN-10 05:30	100103-4
	Mercury	5.18	ug/L	5	ug/L	103.6	80.0 - 120.0	AV	08-JAN-10 10:33	010810W1-6
	Aluminum	5160	ug/L	5000	ug/L	103.2	90.0 - 110.0	P	12-JAN-10 16:37	011210-1
	Arsenic	508	ug/L	500	ug/L	101.5	90.0 - 110.0	P	12-JAN-10 16:37	011210-1
	Barium	507	ug/L	500	ug/L	101.3	90.0 - 110.0	P	12-JAN-10 16:37	011210-1
	Calcium	5130	ug/L	5000	ug/L	102.7	90.0 - 110.0	P	12-JAN-10 16:37	011210-1
	Chromium	504	ug/L	500	ug/L	100.9	90.0 - 110.0	P	12-JAN-10 16:37	011210-1
	Cobalt	510	ug/L	500	ug/L	101.9	90.0 - 110.0	P	12-JAN-10 16:37	011210-1
	Copper	504	ug/L	500	ug/L	100.7	90.0 - 110.0	P	12-JAN-10 16:37	011210-1
	Iron	5090	ug/L	5000	ug/L	101.8	90.0 - 110.0	P	12-JAN-10 16:37	011210-1
	Magnesium	5250	ug/L	5000	ug/L	105	90.0 - 110.0	P	12-JAN-10 16:37	011210-1
	Nickel	507	ug/L	500	ug/L	101.4	90.0 - 110.0	P	12-JAN-10 16:37	011210-1
	Potassium	5010	ug/L	5000	ug/L	100.3	90.0 - 110.0	P	12-JAN-10 16:37	011210-1
	Selenium	522	ug/L	500	ug/L	104.5	90.0 - 110.0	P	12-JAN-10 16:37	011210-1
	Silver	513	ug/L	500	ug/L	102.6	90.0 - 110.0	P	12-JAN-10 16:37	011210-1

## METALS

-2a-

## Initial and Continuing Calibration Verification

SDG No: 10-1104

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA3

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
CCV05	Sodium	9530	ug/L	10000	ug/L	95.3	90.0 - 110.0	P	12-JAN-10 16:37	011210-1
	Vanadium	511	ug/L	500	ug/L	102.2	90.0 - 110.0	P	12-JAN-10 16:37	011210-1
	Zinc	506	ug/L	500	ug/L	101.1	90.0 - 110.0	P	12-JAN-10 16:37	011210-1
	Antimony	50.7	ug/L	50	ug/L	101.4	90.0 - 110.0	MS	03-JAN-10 22:07	100103-2
	Beryllium	52.3	ug/L	50	ug/L	104.5	90.0 - 110.0	MS	03-JAN-10 22:07	100103-2
	Cadmium	50.1	ug/L	50	ug/L	100.2	90.0 - 110.0	MS	03-JAN-10 22:07	100103-2
	Lead	52.3	ug/L	50	ug/L	104.5	90.0 - 110.0	MS	03-JAN-10 22:07	100103-2
	Manganese	52.9	ug/L	50	ug/L	105.7	90.0 - 110.0	MS	03-JAN-10 22:07	100103-2
	Aluminum	5180	ug/L	5000	ug/L	103.7	90.0 - 110.0	P	12-JAN-10 17:33	011210-1
	Arsenic	516	ug/L	500	ug/L	103.3	90.0 - 110.0	P	12-JAN-10 17:33	011210-1
	Barium	509	ug/L	500	ug/L	101.9	90.0 - 110.0	P	12-JAN-10 17:33	011210-1
	Calcium	5220	ug/L	5000	ug/L	104.5	90.0 - 110.0	P	12-JAN-10 17:33	011210-1
	Chromium	508	ug/L	500	ug/L	101.7	90.0 - 110.0	P	12-JAN-10 17:33	011210-1
	Cobalt	507	ug/L	500	ug/L	101.4	90.0 - 110.0	P	12-JAN-10 17:33	011210-1
	Copper	510	ug/L	500	ug/L	101.9	90.0 - 110.0	P	12-JAN-10 17:33	011210-1
	Iron	5210	ug/L	5000	ug/L	104.2	90.0 - 110.0	P	12-JAN-10 17:33	011210-1
	Magnesium	5340	ug/L	5000	ug/L	106.7	90.0 - 110.0	P	12-JAN-10 17:33	011210-1
	Nickel	507	ug/L	500	ug/L	101.5	90.0 - 110.0	P	12-JAN-10 17:33	011210-1
	Potassium	4990	ug/L	5000	ug/L	99.8	90.0 - 110.0	P	12-JAN-10 17:33	011210-1
	Selenium	532	ug/L	500	ug/L	106.4	90.0 - 110.0	P	12-JAN-10 17:33	011210-1
	Silver	513	ug/L	500	ug/L	102.7	90.0 - 110.0	P	12-JAN-10 17:33	011210-1
	Sodium	9710	ug/L	10000	ug/L	97.1	90.0 - 110.0	P	12-JAN-10 17:33	011210-1
	Vanadium	514	ug/L	500	ug/L	102.8	90.0 - 110.0	P	12-JAN-10 17:33	011210-1
	Zinc	509	ug/L	500	ug/L	101.7	90.0 - 110.0	P	12-JAN-10 17:33	011210-1

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

SDG No: 10-1104

Contract: LANL01004

Lab Code: GEL

AA CRDL Standard Source: SPEX

ICP CRDL Standard Source Solutions Plus

Instrument ID: HG3,ICPMS5,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Advisory Limits (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
CRDL01										
	Manganese	5.87	ug/L	5	ug/L	117.4	70.0 - 130.0	MS	03-JAN-10 18:56	100103-2
	Lead	2.42	ug/L	2	ug/L	121	70.0 - 130.0	MS	03-JAN-10 18:56	100103-2
	Antimony	3.33	ug/L	3	ug/L	111.1	70.0 - 130.0	MS	03-JAN-10 18:56	100103-2
	Beryllium	.526	ug/L	.5	ug/L	105.2	70.0 - 130.0	MS	03-JAN-10 18:56	100103-2
	Cadmium	1.08	ug/L	1	ug/L	107.5	70.0 - 130.0	MS	03-JAN-10 18:56	100103-2
	Thallium	1.08	ug/L	1	ug/L	107.9	70.0 - 130.0	MS	04-JAN-10 03:23	100103-4
	Uranium	.257	ug/L	.2	ug/L	128.5	70.0 - 130.0	MS	04-JAN-10 16:31	100104-5
	Mercury	.209	ug/L	.2	ug/L	104.5	70.0 - 130.0	AV	08-JAN-10 09:22	010810W1-6
PQL01										
	Aluminum	207	ug/L	200	ug/L	103.5	70.0 - 130.0	P	12-JAN-10 13:15	011210-1
	Iron	92.8	ug/L	100	ug/L	92.8	70.0 - 130.0	P	12-JAN-10 13:15	011210-1
	Magnesium	267	ug/L	300	ug/L	89	70.0 - 130.0	P	12-JAN-10 13:15	011210-1
	Nickel	4.92	ug/L	5	ug/L	98.4	70.0 - 130.0	P	12-JAN-10 13:15	011210-1
	Potassium	150	ug/L	150	ug/L	99.8	70.0 - 130.0	P	12-JAN-10 13:15	011210-1
	Silver	4.91	ug/L	5	ug/L	98.2	70.0 - 130.0	P	12-JAN-10 13:15	011210-1
	Sodium	320	ug/L	300	ug/L	106.6	70.0 - 130.0	P	12-JAN-10 13:15	011210-1
	Arsenic	30.2	ug/L	30	ug/L	100.7	70.0 - 130.0	P	12-JAN-10 13:15	011210-1
	Barium	4.95	ug/L	5	ug/L	99	70.0 - 130.0	P	12-JAN-10 13:15	011210-1
	Chromium	4.69	ug/L	5	ug/L	93.9	70.0 - 130.0	P	12-JAN-10 13:15	011210-1
	Cobalt	4.88	ug/L	5	ug/L	97.6	70.0 - 130.0	P	12-JAN-10 13:15	011210-1
	Copper	9.97	ug/L	10	ug/L	99.7	70.0 - 130.0	P	12-JAN-10 13:15	011210-1
	Vanadium	5.26	ug/L	5	ug/L	105.2	70.0 - 130.0	P	12-JAN-10 13:15	011210-1
	Zinc	10.5	ug/L	10	ug/L	105.2	70.0 - 130.0	P	12-JAN-10 13:15	011210-1
	Calcium	204	ug/L	200	ug/L	102.2	70.0 - 130.0	P	12-JAN-10 13:15	011210-1
	Selenium	29.4	ug/L	30	ug/L	97.9	70.0 - 130.0	P	12-JAN-10 13:15	011210-1

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

SDG No.: 10-1104

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	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	03-JAN-10 18:50	100103-2
	Beryllium	0.1	+/-5	U	0.1	0.5	LIQ	MS	03-JAN-10 18:50	100103-2
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	03-JAN-10 18:50	100103-2
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	03-JAN-10 18:50	100103-2
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	03-JAN-10 18:50	100103-2
	Thallium	0.3	+/-1	U	0.3	1.0	LIQ	MS	04-JAN-10 03:18	100103-4
	Uranium	0.05	+/-2	U	0.05	0.2	LIQ	MS	04-JAN-10 16:29	100104-5
	Mercury	0.066	+/-2	U	0.066	0.2	LIQ	AV	08-JAN-10 09:20	010810W1-6
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	12-JAN-10 13:08	011210-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	12-JAN-10 13:08	011210-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 13:08	011210-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	12-JAN-10 13:08	011210-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 13:08	011210-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 13:08	011210-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	12-JAN-10 13:08	011210-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	12-JAN-10 13:08	011210-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	12-JAN-10 13:08	011210-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	12-JAN-10 13:08	011210-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	12-JAN-10 13:08	011210-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	12-JAN-10 13:08	011210-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 13:08	011210-1
	Sodium	100	+/-300	U	100	300	LIQ	P	12-JAN-10 13:08	011210-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 13:08	011210-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	12-JAN-10 13:08	011210-1
CCB01	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	03-JAN-10 19:20	100103-2
	Beryllium	0.1	+/-5	U	0.1	0.5	LIQ	MS	03-JAN-10 19:20	100103-2
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	03-JAN-10 19:20	100103-2
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	03-JAN-10 19:20	100103-2
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	03-JAN-10 19:20	100103-2
	Thallium	0.3	+/-1	U	0.3	1.0	LIQ	MS	04-JAN-10 03:41	100103-4

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

SDG No.: 10-1104

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>
	Uranium	0.05	+/- .2	U	0.05	0.2	LIQ	MS	04-JAN-10 16:38	100104-5
	Mercury	0.066	+/- .2	U	0.066	0.2	LIQ	AV	08-JAN-10 09:25	010810W1-6
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	12-JAN-10 13:54	011210-1
	Arsenic	12.26	+/-30	J	5.0	30.0	LIQ	P	12-JAN-10 13:54	011210-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 13:54	011210-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	12-JAN-10 13:54	011210-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 13:54	011210-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 13:54	011210-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	12-JAN-10 13:54	011210-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	12-JAN-10 13:54	011210-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	12-JAN-10 13:54	011210-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	12-JAN-10 13:54	011210-1
	Potassium	129.14	+/-150	J	50.0	150	LIQ	P	12-JAN-10 13:54	011210-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	12-JAN-10 13:54	011210-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 13:54	011210-1
	Sodium	100	+/-300	U	100	300	LIQ	P	12-JAN-10 13:54	011210-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 13:54	011210-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	12-JAN-10 13:54	011210-1
<b>CCB02</b>	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	03-JAN-10 19:39	100103-2
	Beryllium	0.1	+/- .5	U	0.1	0.5	LIQ	MS	03-JAN-10 19:39	100103-2
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	03-JAN-10 19:39	100103-2
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	03-JAN-10 19:39	100103-2
	Mangancse	1.0	+/-5	U	1.0	5.0	LIQ	MS	03-JAN-10 19:39	100103-2
	Thallium	0.3	+/-1	U	0.3	1.0	LIQ	MS	04-JAN-10 04:21	100103-4
	Uranium	0.05	+/- .2	U	0.05	0.2	LIQ	MS	04-JAN-10 16:53	100104-5
	Mercury	0.066	+/- .2	U	0.066	0.2	LIQ	AV	08-JAN-10 09:49	010810W1-6
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	12-JAN-10 14:26	011210-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	12-JAN-10 14:26	011210-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 14:26	011210-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	12-JAN-10 14:26	011210-1

Metals  
-3a-  
Initial and Continuing Calibration Blank Summary

SDG No.: 10-1104

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	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 14:26	011210-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 14:26	011210-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	12-JAN-10 14:26	011210-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	12-JAN-10 14:26	011210-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	12-JAN-10 14:26	011210-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	12-JAN-10 14:26	011210-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	12-JAN-10 14:26	011210-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	12-JAN-10 14:26	011210-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 14:26	011210-1
	Sodium	100	+/-300	U	100	300	LIQ	P	12-JAN-10 14:26	011210-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 14:26	011210-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	12-JAN-10 14:26	011210-1
<b>CCB03</b>	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	03-JAN-10 20:34	100103-2
	Beryllium	0.1	+/-5	U	0.1	0.5	LIQ	MS	03-JAN-10 20:34	100103-2
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	03-JAN-10 20:34	100103-2
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	03-JAN-10 20:34	100103-2
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	03-JAN-10 20:34	100103-2
	Thallium	0.327	+/-1	J	0.3	1.0	LIQ	MS	04-JAN-10 05:02	100103-4
	Uranium	0.05	+/-2	U	0.05	0.2	LIQ	MS	04-JAN-10 17:05	100104-5
	Mercury	0.066	+/-2	U	0.066	0.2	LIQ	AV	08-JAN-10 10:12	010810W1-6
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	12-JAN-10 15:21	011210-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	12-JAN-10 15:21	011210-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 15:21	011210-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	12-JAN-10 15:21	011210-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 15:21	011210-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 15:21	011210-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	12-JAN-10 15:21	011210-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	12-JAN-10 15:21	011210-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	12-JAN-10 15:21	011210-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	12-JAN-10 15:21	011210-1

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

SDG No.: 10-1104

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>
CCB04	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	12-JAN-10 15:21	011210-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	12-JAN-10 15:21	011210-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 15:21	011210-1
	Sodium	100	+/-300	U	100	300	LIQ	P	12-JAN-10 15:21	011210-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 15:21	011210-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	12-JAN-10 15:21	011210-1
CCB04	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	03-JAN-10 21:30	100103-2
	Beryllium	0.1	+/-5	U	0.1	0.5	LIQ	MS	03-JAN-10 21:30	100103-2
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	03-JAN-10 21:30	100103-2
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	03-JAN-10 21:30	100103-2
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	03-JAN-10 21:30	100103-2
	Thallium	0.3	+/-1	U	0.3	1.0	LIQ	MS	04-JAN-10 05:34	100103-4
	Mercury	0.066	+/-2	U	0.066	0.2	LIQ	AV	08-JAN-10 10:35	010810W1-6
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	12-JAN-10 16:44	011210-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	12-JAN-10 16:44	011210-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 16:44	011210-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	12-JAN-10 16:44	011210-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 16:44	011210-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 16:44	011210-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	12-JAN-10 16:44	011210-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	12-JAN-10 16:44	011210-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	12-JAN-10 16:44	011210-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	12-JAN-10 16:44	011210-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	12-JAN-10 16:44	011210-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	12-JAN-10 16:44	011210-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 16:44	011210-1
	Sodium	100	+/-300	U	100	300	LIQ	P	12-JAN-10 16:44	011210-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 16:44	011210-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	12-JAN-10 16:44	011210-1



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

SDG No.: 10-1104

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>										
	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	03-JAN-10 22:13	100103-2
	Beryllium	0.1	+/-5	U	0.1	0.5	LIQ	MS	03-JAN-10 22:13	100103-2
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	03-JAN-10 22:13	100103-2
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	03-JAN-10 22:13	100103-2
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	03-JAN-10 22:13	100103-2
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	12-JAN-10 17:40	011210-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	12-JAN-10 17:40	011210-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 17:40	011210-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	12-JAN-10 17:40	011210-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 17:40	011210-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 17:40	011210-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	12-JAN-10 17:40	011210-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	12-JAN-10 17:40	011210-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	12-JAN-10 17:40	011210-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	12-JAN-10 17:40	011210-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	12-JAN-10 17:40	011210-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	12-JAN-10 17:40	011210-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 17:40	011210-1
	Sodium	100	+/-300	U	100	300	LIQ	P	12-JAN-10 17:40	011210-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	12-JAN-10 17:40	011210-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	12-JAN-10 17:40	011210-1

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

SDG NO. 10-1104

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>
1202006002	Aluminum	68	ug/L	+/-200	U	P	68	200
	Arsenic	5.83	ug/L	+/-30	J	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	5.29	ug/L	+/-30	J	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
1202006053	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
1202006475	Mercury	0.066	ug/L	+/-0.2	U	AV	0.066	0.2

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

SDG No: 10-1104

Contract: LANL01004

Lab Code: GEL

ICS: O2Si

Instrument: OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
<b>ICSA01</b>									
	Aluminum	506000	ug/L	500000	ug/L	101	80.0 – 120.0	12-JAN-10 13:22	011210-1
	Arsenic	6.81	ug/L					12-JAN-10 13:22	011210-1
	Barium	1.73	ug/L					12-JAN-10 13:22	011210-1
	Calcium	468000	ug/L	500000	ug/L	93.7	80.0 – 120.0	12-JAN-10 13:22	011210-1
	Chromium	1.44	ug/L					12-JAN-10 13:22	011210-1
	Cobalt	-1.47	ug/L					12-JAN-10 13:22	011210-1
	Copper	4.79	ug/L					12-JAN-10 13:22	011210-1
	Iron	183000	ug/L	200000	ug/L	91.5	80.0 – 120.0	12-JAN-10 13:22	011210-1
	Magnesium	479000	ug/L	500000	ug/L	95.7	80.0 – 120.0	12-JAN-10 13:22	011210-1
	Nickel	3.71	ug/L					12-JAN-10 13:22	011210-1
	Potassium	-151.0	ug/L					12-JAN-10 13:22	011210-1
	Selenium	-8.93	ug/L					12-JAN-10 13:22	011210-1
	Silver	-1.92	ug/L					12-JAN-10 13:22	011210-1
	Sodium	47.0	ug/L					12-JAN-10 13:22	011210-1
	Vanadium	-0.846	ug/L					12-JAN-10 13:22	011210-1
	Zinc	8.33	ug/L					12-JAN-10 13:22	011210-1
<b>ICSAB01</b>									
	Aluminum	536000	ug/L	500000	ug/L	107	80.0 – 120.0	12-JAN-10 13:28	011210-1
	Arsenic	537	ug/L	500	ug/L	107	80.0 – 120.0	12-JAN-10 13:28	011210-1
	Barium	506	ug/L	500	ug/L	101	80.0 – 120.0	12-JAN-10 13:28	011210-1
	Calcium	493000	ug/L	500000	ug/L	98.6	80.0 – 120.0	12-JAN-10 13:28	011210-1
	Chromium	491	ug/L	500	ug/L	98.1	80.0 – 120.0	12-JAN-10 13:28	011210-1
	Cobalt	455	ug/L	500	ug/L	91	80.0 – 120.0	12-JAN-10 13:28	011210-1
	Copper	568	ug/L	500	ug/L	114	80.0 – 120.0	12-JAN-10 13:28	011210-1
	Iron	189000	ug/L	200000	ug/L	94.7	80.0 – 120.0	12-JAN-10 13:28	011210-1
	Magnesium	498000	ug/L	500000	ug/L	99.6	80.0 – 120.0	12-JAN-10 13:28	011210-1
	Nickel	456	ug/L	500	ug/L	91.2	80.0 – 120.0	12-JAN-10 13:28	011210-1
	Potassium	5430	ug/L	5000	ug/L	109	80.0 – 120.0	12-JAN-10 13:28	011210-1
	Selenium	2580	ug/L	2500	ug/L	103	80.0 – 120.0	12-JAN-10 13:28	011210-1

## METALS

-4-

## Interference Check Sample

SDG No: 10-1104

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	278	ug/L	250	ug/L	111	80.0 – 120.0	12-JAN-10 13:28	011210-1
	Sodium	5500	ug/L	5000	ug/L	110	80.0 – 120.0	12-JAN-10 13:28	011210-1
	Vanadium	516	ug/L	500	ug/L	103	80.0 – 120.0	12-JAN-10 13:28	011210-1
	Zinc	509	ug/L	500	ug/L	102	80.0 – 120.0	12-JAN-10 13:28	011210-1

## METALS

-4-

## Interference Check Sample

SDG No: 10-1104

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									
	Antimony	0.065	ug/L					03-JAN-10 19:02	100103-2
	Beryllium	0.077	ug/L					03-JAN-10 19:02	100103-2
	Cadmium	0.395	ug/L					03-JAN-10 19:02	100103-2
	Lead	0.194	ug/L					03-JAN-10 19:02	100103-2
	Manganese	6.26	ug/L					03-JAN-10 19:02	100103-2
ICSAB01									
	Antimony	21.2	ug/L	20.1	ug/L	105	80.0 - 120.0	03-JAN-10 19:08	100103-2
	Beryllium	19.2	ug/L	20	ug/L	96	80.0 - 120.0	03-JAN-10 19:08	100103-2
	Cadmium	19.7	ug/L	20.4	ug/L	96.7	80.0 - 120.0	03-JAN-10 19:08	100103-2
	Lead	21.2	ug/L	20.5	ug/L	103	80.0 - 120.0	03-JAN-10 19:08	100103-2
	Manganese	27.4	ug/L	25.8	ug/L	106	80.0 - 120.0	03-JAN-10 19:08	100103-2

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

SDG No: 10-1104

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	Thallium	0.001	ug/L					04-JAN-10 03:27	100103-4
ICSAB01	Thallium	19.9	ug/L	20	ug/L	99.4	80.0 - 120.0	04-JAN-10 03:32	100103-4

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

SDG No: 10-1104

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	Uranium	-0.017	ug/L					04-JAN-10 16:33	100104-5
ICSAB01	Uranium	23.9	ug/L	20	ug/L	119	80.0 - 120.0	04-JAN-10 16:34	100104-5

## METALS

-5a-

## Matrix Spike Summary

SDG NO. 10-1104

Client ID. RE12-10-7610S

Contract: LANL01004

Level: Low

Matrix: WATER

% Solids:

Sample ID: 243632001

Spike ID: 1202006005

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/L	75-125	5200		68	U	5000	104		P
Arsenic	ug/L	75-125	506		5	U	500	101		P
Barium	ug/L	75-125	516		1	U	500	103		P
Calcium	ug/L	75-125	5180		50	U	5000	103		P
Chromium	ug/L	75-125	504		1	U	500	101		P
Cobalt	ug/L	75-125	498		1	U	500	99.6		P
Copper	ug/L	75-125	515		3	U	500	103		P
Iron	ug/L	75-125	5140		30	U	5000	103		P
Magnesium	ug/L	75-125	5270		85	U	5000	105		P
Nickel	ug/L	75-125	505		1.5	U	500	101		P
Potassium	ug/L	75-125	5090		108	J	5000	99.6		P
Selenium	ug/L	75-125	507		5	U	500	101		P
Silver	ug/L	75-125	506		1	U	500	101		P
Sodium	ug/L	75-125	4930		207	J	5000	94.4		P
Vanadium	ug/L	75-125	515		1	U	500	103		P
Zinc	ug/L	75-125	491		3.3	U	500	98		P



## METALS

-5a-

## Matrix Spike Summary

SDG NO. 10-1104

Client ID RE16-10-372S

Contract: LANL01004

Level: Low

Matrix: WATER

% Solids:

Sample ID: 243608001

Spike ID: 1202006056

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Antimony	ug/L	75-125	195		1	U	200	97.4		MS
Beryllium	ug/L	75-125	51.6		0.1	U	50	103		MS
Cadmium	ug/L	75-125	10.7		0.11	U	10	107		MS
Lead	ug/L	75-125	43		0.5	U	40	107		MS
Manganese	ug/L	75-125	52.3		2.56	J	50	99.5		MS
Thallium	ug/L	75-125	81.7		0.3	U	100	81.7		MS
Uranium	ug/L	75-125	55.4		0.05	U	50	111		MS

## METALS

-5a-

## Matrix Spike Summary

SDG NO. 10-1104

Client ID RE12-10-7860S

Contract: LANL01004

Level: Low

Matrix: WATER

% Solids:

Sample ID: 243627001

Spike ID: 1202006478

<u>Analyte</u>	<u>Units</u>	<u>Acceptance Limit</u>	<u>Spiked Result</u>	<u>C</u>	<u>Sample Result</u>	<u>C</u>	<u>Spike Added</u>	<u>% Recovery</u>	<u>Qual</u>	<u>M</u>
Mercury	ug/L	75-125	2.04		0.066	U	2	101		AV

## Metals

-6-

## Duplicate Sample Summary

SDG No.: 10-1104

Contract: LANL01004

Lab Code: GEL

Matrix: LIQUID

Level: Low

Client ID: RE12-10-7610D

Sample ID: 243632001

Duplicate ID: 1202006004

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	108 J		99.8 J		7.69		P
Selenium	ug/L		5 U		5 U				P
Silver	ug/L		1 U		1 U				P
Sodium	ug/L	+/-300	207 J		146 J		34.2		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.: 10-1104

Contract: LANL01004

Lab Code: GEL

Matrix: LIQUID

Level: Low

Client ID: RE16-10-372D

Sample ID: 243608001

Duplicate ID: 1202006055

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	+/-5	2.56 J		3.17 J		21.1		MS
Thallium	ug/L		0.3 U		0.3 U				MS
Uranium	ug/L		0.05 U		0.05 U				MS

## Metals

-6-

## Duplicate Sample Summary

SDG No.: 10-1104

Contract: LANL01004

Lab Code: GEL

Matrix: LIQUID

Level: Low

Client ID: RE12-10-7860D

Sample ID: 243627001

Duplicate ID: 1202006476

Percent Solids for Dup: N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/L		0.066 U		0.066 U				AV

## METALS

-7-

## Laboratory Control Sample Summary

SDG NO. 10-1104

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>
1202006003								
	Aluminum	ug/L	5000	5140		103	80-120	P
	Arsenic	ug/L	500	505		101	80-120	P
	Barium	ug/L	500	515		103	80-120	P
	Calcium	ug/L	5000	5130		103	80-120	P
	Chromium	ug/L	500	501		100	80-120	P
	Cobalt	ug/L	500	495		98.9	80-120	P
	Copper	ug/L	500	512		102	80-120	P
	Iron	ug/L	5000	5220		104	80-120	P
	Magnesium	ug/L	5000	5260		105	80-120	P
	Nickel	ug/L	500	501		100	80-120	P
	Potassium	ug/L	5000	4990		99.8	80-120	P
	Selenium	ug/L	500	507		101	80-120	P
	Silver	ug/L	500	506		101	80-120	P
	Sodium	ug/L	5000	5160		103	80-120	P
	Vanadium	ug/L	500	512		102	80-120	P
	Zinc	ug/L	500	491		98.2	80-120	P

## METALS

-7-

## Laboratory Control Sample Summary

SDG NO. 10-1104

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>
1202006054								
	Antimony	ug/L	50	50		99.9	80-120	MS
	Beryllium	ug/L	50	51.9		104	80-120	MS
	Cadmium	ug/L	50	49.3		98.6	80-120	MS
	Lead	ug/L	50	51.9		104	80-120	MS
	Manganese	ug/L	50	49.7		99.4	80-120	MS
	Thallium	ug/L	50	43.7		87.4	80-120	MS
	Uranium	ug/L	50	54.4		109	80-120	MS

## METALS

-7-

## Laboratory Control Sample Summary

SDG NO. 10-1104

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>
1202006479	Mercury	ug/L	2	2.03		101	80-120	AV



## METALS

-9-

## Serial Dilution Sample Summary

SDG NO. 10-1104

Client ID RE12-10-7610L

Contract: LANL01004

Matrix: LIQUID

Level: Low

Sample ID: 243632001

Serial Dilution ID: 1202006006

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	108	J	250	U	100			P
Selenium	5	U	25	U				P
Silver	1	U	5	U				P
Sodium	207	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. 10-1104

Client ID RE16-10-372L

Contract: LANL01004

Matrix: LIQUID

Level: Low

Sample ID: 243608001

Serial Dilution ID: 1202006057

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	2.56	J	5	U	100			MS
Thallium	.3	U	3.25	J				MS
Uranium	.05	U	.25	U				MS

## METALS

-9-

## Serial Dilution Sample Summary

SDG NO. 10-1104

Client ID RE12-10-7860L

Contract: LANL01004

Matrix: LIQUID

Level: Low

Sample ID: 243627001

Serial Dilution ID: 1202006477

<u>Analyte</u>	<u>Initial Value ug/L</u>	<u>C</u>	<u>Serial Value ug/L</u>	<u>C</u>	<u>% Difference</u>	<u>Qual</u>	<u>Acceptance Limit</u>	<u>M</u>
Mercury	.066	U	.33	U				AV

---

**METALS**  
**-13-**  
**SAMPLE PREPARATION SUMMARY**

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SDG No: 10-1104

Method Type: P

Contract: LANL01004

Lab Code: GEL

---

<u>Sample ID</u>	<u>Client ID</u>	<u>Sample Type</u>	<u>Matrix</u>	<u>Prep Date</u>	<u>Initial Sample Size</u>	<u>Final Sample Volume</u>	<u>Percent Solids</u>
Batch Number 937468							
1202006002	MB for batch 937468	MB	W	31-DEC-09	50mL	50mL	
1202006003	LCS for batch 937468	LCS	W	31-DEC-09	50mL	50mL	
1202006005	RE12-10-7610S	MS	W	31-DEC-09	50mL	50mL	
1202006004	RE12-10-7610D	DUP	W	31-DEC-09	50mL	50mL	
243631001	RE12-10-9923	SAMPLE	W	31-DEC-09	50mL	50mL	

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SW846

METALS  
-13-  
SAMPLE PREPARATION SUMMARY

SDG No: 10-1104

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	937495						
1202006053	MB for batch 937495	MB	W	31-DEC-09	50mL	50mL	
1202006054	LCS for batch 937495	LCS	W	31-DEC-09	50mL	50mL	
1202006056	RE16-10-372S	MS	W	31-DEC-09	50mL	50mL	
1202006055	RE16-10-372D	DUP	W	31-DEC-09	50mL	50mL	
243631001	RE12-10-9923	SAMPLE	W	31-DEC-09	50mL	50mL	

SW846

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METALS  
-13-  
SAMPLE PREPARATION SUMMARY

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SDG No: 10-1104

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	937646						
1202006475	MB for batch 937646	MB	W	07-JAN-10	20mL	20mL	
1202006479	LCS for batch 937646	LCS	W	07-JAN-10	20mL	20mL	
1202006478	RE12-10-7860S	MS	W	07-JAN-10	20mL	20mL	
1202006476	RE12-10-7860D	DUP	W	07-JAN-10	20mL	20mL	
243631001	RE12-10-9923	SAMPLE	W	07-JAN-10	20mL	20mL	

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SW846

**Metals**  
**-14-**  
**Analysis Run Log**

Contract: LANL01004

Lab Code: GEL

Inst Name: ICPMS5

Start Date: 03-JAN-10

End Date: 04-JAN-10

Client Sdg: 10-1104

Method MS

Data File: 100103-2

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	18:25		X			X	X						X		X										
S10	1	18:32		X			X	X						X		X										
S100	1	18:38		X			X	X						X		X										
ICV01	1	18:44		X			X	X						X		X										
ICB01	1	18:50		X			X	X						X		X										
CRDL01	1	18:56		X			X	X						X		X										
ICSA01	1	19:02		X			X	X						X		X										
ICSAB01	1	19:08		X			X	X						X		X										
CCV01	1	19:14		X			X	X						X		X										
CCB01	1	19:20		X			X	X						X		X										
LR01	1	19:27		X			X	X						X		X										
CCV02	1	19:33		X			X	X						X		X										
CCB02	1	19:39		X			X	X						X		X										
ZZZZZZ	1	19:45																								
ZZZZZZ	1	19:51																								
ZZZZZZ	1	19:57																								
ZZZZZZ	1	20:03																								
ZZZZZZ	1	20:09																								
ZZZZZZ	5	20:16																								
ZZZZZZ	1	20:22																								
CCV03	1	20:28		X			X	X						X		X										
CCB03	1	20:34		X			X	X						X		X										
1202006053	1	20:40		X			X	X						X		X										
1202006054	1	20:46		X			X	X						X		X										
ZZZZZZ	1	20:53																								
ZZZZZZ	1	20:59																								
1202006055	1	21:05		X			X	X						X		X										
1202006056	1	21:11		X			X	X						X		X										
1202006057	5	21:17		X			X	X						X		X										
CCV04	1	21:23		X			X	X						X		X										
CCB04	1	21:30		X			X	X						X		X										
ZZZZZZ	1	21:36																								
ZZZZZZ	1	21:42																								
ZZZZZZ	1	21:48																								
243631001	1	21:54		X			X	X						X		X										
ZZZZZZ	1	22:01																								
CCV05	1	22:07		X			X	X						X		X										
CCB05	1	22:13		X			X	X						X		X										

Metals  
-14-  
Analysis Run Log

Contract: LANL01004

Lab Code: GEL

Inst Name: ICPMS5

Start Date: 03-JAN-10

End Date: 04-JAN-10

Client Sdg: 10-1104

Method MS

Data File: 100103-4

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	03:00																					X			
S10	1	03:05																					X			
S100	1	03:09																					X			
ICV01	1	03:14																					X			
ICB01	1	03:18																					X			
CRDL01	1	03:23																					X			
ICSA01	1	03:27																					X			
ICSAB01	1	03:32																					X			
CCV01	1	03:36																					X			
CCB01	1	03:41																					X			
ZZZZZZ	1	03:45																								
ZZZZZZ	1	03:50																								
ZZZZZZ	1	03:54																								
ZZZZZZ	1	03:59																								
ZZZZZZ	1	04:03																								
ZZZZZZ	5	04:08																								
ZZZZZZ	1	04:12																								
CCV02	1	04:17																					X			
CCB02	1	04:21																					X			
1202006053	1	04:26																					X			
1202006054	1	04:30																					X			
ZZZZZZ	1	04:35																								
ZZZZZZ	1	04:40																								
1202006055	1	04:44																					X			
1202006056	1	04:49																					X			
1202006057	5	04:53																					X			
CCV03	1	04:58																					X			
CCB03	1	05:02																					X			
ZZZZZZ	1	05:07																								
ZZZZZZ	1	05:12																								
ZZZZZZ	1	05:16																								
243631001	1	05:21																					X			
ZZZZZZ	1	05:25																								
CCV04	1	05:30																					X			
CCB04	1	05:34																					X			



**Metals**  
**-14-**  
**Analysis Run Log**

Contract: LANL01004

Lab Code: GEL

Inst Name: ICPMS5

Start Date: 04-JAN-10

End Date: 04-JAN-10

Client Sdg: 10-1104

Method MS

Data File: 100104-5

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	16:23																						X		
S10	1	16:24																						X		
S100	1	16:26																						X		
ICV01	1	16:28																						X		
ICB01	1	16:29																						X		
CRDL01	1	16:31																						X		
ICSA01	1	16:33																						X		
ICSAB01	1	16:34																						X		
CCV01	1	16:36																						X		
CCB01	1	16:38																						X		
1202006053	1	16:39																						X		
1202006054	1	16:41																						X		
ZZZZZZ	1	16:43																								
ZZZZZZ	1	16:45																								
1202006055	1	16:46																						X		
1202006056	1	16:48																						X		
1202006057	5	16:50																						X		
CCV02	1	16:51																						X		
CCB02	1	16:53																						X		
ZZZZZZ	1	16:55																								
ZZZZZZ	1	16:57																								
ZZZZZZ	1	16:58																								
243631001	1	17:00																						X		
ZZZZZZ	1	17:02																								
CCV03	1	17:04																						X		
CCB03	1	17:05																						X		

**Metals**  
**-14-**  
**Analysis Run Log**

Contract: LANL01004

Lab Code: GEL

Inst Name: OPTIMA3

Start Date: 12-JAN-10

End Date: 12-JAN-10

Client Sdg: 10-1104

Method P

Data File: 011210-1

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	12:29	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
S0.1	1	12:36			X	X				X	X	X						X	X	X	X				X	X
S0.5	1	12:42	X		X	X			X	X	X	X			X			X	X	X	X				X	X
SCAL	1	12:49	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
S10	1	12:56	X						X				X		X							X				
ICV01	1	13:01	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ICB01	1	13:08	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
PQL01	1	13:15	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ICSA01	1	13:22	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ICSAB01	1	13:28	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
LR01	1	13:34	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
LR02	1	13:40	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCV01	1	13:47	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB01	1	13:54	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
LR03	1	14:12	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCV02	1	14:19	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB02	1	14:26	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
1202006002	1	14:33	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
1202006003	1	14:40	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ZZZZZZ	1	14:47																								
ZZZZZZ	1	14:54																								
ZZZZZZ	1	15:00																								
ZZZZZZ	1	15:07																								
CCV03	1	15:14	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB03	1	15:21	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ZZZZZZ	1	15:28																								
ZZZZZZ	1	15:35																								
ZZZZZZ	1	15:42																								
ZZZZZZ	1	15:49																								
ZZZZZZ	1	15:56																								
ZZZZZZ	5	16:02																								
ZZZZZZ	1	16:09																								
ZZZZZZ	1	16:16																								
ZZZZZZ	1	16:23																								
CCV04	1	16:37	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB04	1	16:44	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ZZZZZZ	1	16:51																								
243631001	1	16:58	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ZZZZZZ	1	17:05																								
1202006004	1	17:12	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X

Samp No.	D/F	Run Time																								
1202006005	1	17:19	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
1202006006	5	17:26	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCV05	1	17:33	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB05	1	17:40	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X

**Metals**  
**-14-**  
**Analysis Run Log**

Contract: LANL01004

Lab Code: GEL

Inst Name: HG3

Start Date: 08-JAN-10

End Date: 08-JAN-10

Client Sdg: 10-1104

Method AV

Data File: 010810W1-6

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	09:06															X									
S0.2	1	09:08															X									
S0.5	1	09:10															X									
S2.0	1	09:12															X									
S5.0	1	09:14															X									
S10.0	1	09:16															X									
ICV01	1	09:18															X									
ICB01	1	09:20															X									
CRDL01	1	09:22															X									
CCV01	1	09:23															X									
CCB01	1	09:25															X									
ZZZZZZ	1	09:28																								
ZZZZZZ	1	09:30																								
ZZZZZZ	1	09:32																								
ZZZZZZ	1	09:34																								
ZZZZZZ	1	09:36																								
ZZZZZZ	5	09:38																								
ZZZZZZ	1	09:40																								
ZZZZZZ	1	09:42																								
ZZZZZZ	1	09:43																								
ZZZZZZ	1	09:45																								
CCV02	1	09:47															X									
CCB02	1	09:49															X									
ZZZZZZ	1	09:51																								
ZZZZZZ	5	09:53																								
ZZZZZZ	1	09:55																								
1202006475	1	09:57															X									
1202006479	1	09:59															X									
ZZZZZZ	1	10:01																								
1202006476	1	10:03															X									
1202006478	1	10:05															X									
1202006477	5	10:07															X									
ZZZZZZ	1	10:08																								
CCV03	1	10:10															X									
CCB03	1	10:12															X									
243631001	1	10:14															X									
ZZZZZZ	1	10:16																								
ZZZZZZ	1	10:18																								
ZZZZZZ	1	10:20																								
ZZZZZZ	1	10:22																								

Samp No.	D/F	Run Time
ZZZZZZ	1	10:24
ZZZZZZ	1	10:26
ZZZZZZ	5	10:28
ZZZZZZ	1	10:30
ZZZZZZ	1	10:32
CCV04	1	10:33 X
CCB04	1	10:35 X

# Standards

**METALS**  
**-10-**  
**Instrument Detection Limits**

SDG NO. 10-1104

Contract: LANL01004

Lab Code: GEL

MDL Effective Date: 01-JUL-09

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.** 10-1104

**Contract:** LANL01004

**Lab Code:** GEL

**MDL Effective Date:** 01-JUL-09

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	<u>Analyte</u>	<u>Wavelength</u> <u>(nm)</u>	<u>MDL</u> <u>ug/L</u>	<u>RDL</u> <u>ug/L</u>
MERCURY				
LIQUID	Mercury		0.066	.2



**METALS**  
**-10-**  
**Instrument Detection Limits**

SDG NO. 10-1104

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>
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: 10-1104

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: 01-NOV-09

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	0.02738	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	-0.44940	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	-0.22121	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	-0.33886	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	-0.13648	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	-0.05571	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.19671	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	-0.02739	0.00000	0.00000	0.00000	0.00000
Tin	189.927	-0.00058	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	0.00000

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GELGEL Job No: **10-1104**

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: **01-NOV-09**

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	24.5549	0.00000	0.00000
Arsenic	188.979	0.52529	0.00000	-0.67113	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	2.54031	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	0.38952	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	-31.5465	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.78023
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.63859	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	160.41
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	5.22870	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.35099	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	1.93161	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.39273	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	1.19810

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GELGEL Job No: **10-1104**Contract: **LANL01004**Instrument: **OPTIMA3**Effective Dates: **01-NOV-09**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Iron	Lead	Magnesium	Manganese	Molybdenum
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	42.8126
Antimony	206.836	-0.01635	0.00000	0.00000	0.00000	-22.2146
Arsenic	188.979	-0.21271	0.00000	0.00000	0.00000	1.34645
Barium	233.527	-0.03709	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.13266	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.09998	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	-0.01788	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.01425	0.00000	0.00000	0.00000	-2.64232
Copper	324.752	-0.05101	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.09069	0.00000	0.00000	0.00000	-2.44485
Magnesium	279.077	0.85543	0.00000	0.00000	0.00000	-20.2401
Manganese	257.61	-0.09972	0.00000	0.01862	0.00000	0.00000
Molybdenum	202.031	-0.07094	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.80633	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	-0.03176	0.00000	0.01823	12.4291	-3.60863
Selenium	196.026	-3.00009	0.00000	0.00000	0.00000	-3.17982
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	17.4444
Silver	328.068	-0.31825	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	-5.85948	0.00000
Tin	189.927	-0.01337	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.12581	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.15211	0.00000	-0.02256	0.00000	-14.2921
Zinc	213.857	0.09548	0.00000	0.03423	0.00000	0.00000

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GEL

GEL Job No: 10-1104

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: 01-NOV-09

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Nickel	Phosphorous	Potassium	Selenium	Silicon
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	-0.64279	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.44040	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.33191	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	6.38465	0.00000	0.00000	0.00000	0.00000

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GEL

GEL Job No: 10-1104

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: 01-NOV-09

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Silver	Strontium	Sulfur	Thallium	Tin
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	0.00000	-17.4077
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	-13.8713
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	3.10491
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	0.00000

**METALS**  
**-11-**  
**Interelement Correction Factors**

Lab Code: GELGEL Job No: **10-1104**Contract: **LANL01004**Instrument: **OPTIMA3**Effective Dates: **01-NOV-09**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Titanium	Uranium	Vanadium	Zinc
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	2.73145	0.00000	-2.31857	0.00000
Arsenic	188.979	-8.38419	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	-2.24883	0.00000
Beryllium	313.107	-1.96555	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.32181	-1.76281	0.00000
Cobalt	228.616	2.12623	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.85359	-3.92851	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	-7.67419	0.00000	2.18873	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.44145	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	1.10141	-1.94183	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000

**METALS**  
**-12-**  
**Linear Ranges**

SDG NO. 10-1104

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>
Lead	1000	5000	ug/L	01-NOV-09
Magnesium	1	50000	ug/L	01-NOV-09
Manganese	1000	1000	ug/L	01-NOV-09
Nickel	1000	1000	ug/L	01-NOV-09
Potassium	1	50000	ug/L	01-NOV-09
Selenium	1000	500	ug/L	01-NOV-09
Silver	1000	250	ug/L	01-NOV-09
Sodium	1	50000	ug/L	01-NOV-09
Thallium	1000	500	ug/L	01-NOV-09
Uranium	1000	5000	ug/L	01-NOV-09
Vanadium	1000	100	ug/L	01-NOV-09
Zinc	1000	2500	ug/L	01-NOV-09
Iron	500	50000	ug/L	01-NOV-09
Aluminum	1	50000	ug/L	01-NOV-09
Antimony	1000	250	ug/L	01-NOV-09
Arsenic	1000	1000	ug/L	01-NOV-09
Barium	1000	1000	ug/L	01-NOV-09
Beryllium	1000	1000	ug/L	01-NOV-09
Cadmium	1000	1000	ug/L	01-NOV-09
Calcium	500	50000	ug/L	01-NOV-09
Chromium	1000	1000	ug/L	01-NOV-09
Cobalt	1000	1000	ug/L	01-NOV-09
Copper	1000	1000	ug/L	01-NOV-09



**METALS**  
**-12-**  
**Linear Ranges**

SDG NO. 10-1104

Contract: LANL01004

Lab Code: GEL

Instrument ID OPTIMA3

<u>Analyte</u>	<u>Integration Time (sec)</u>	<u>LDR</u>	<u>Units</u>	<u>Effective Date</u>
Aluminum	20	500000	ug/L	01-NOV-09
Antimony	20	10000	ug/L	01-NOV-09
Arsenic	20	10000	ug/L	01-NOV-09
Barium	20	15000	ug/L	01-NOV-09
Beryllium	20	3000	ug/L	01-NOV-09
Cadmium	20	10000	ug/L	01-NOV-09
Calcium	20	500000	ug/L	01-NOV-09
Chromium	20	25000	ug/L	01-NOV-09
Cobalt	20	10000	ug/L	01-NOV-09
Copper	20	20000	ug/L	01-NOV-09
Iron	20	500000	ug/L	01-NOV-09
Lead	20	25000	ug/L	01-NOV-09
Magnesium	20	500000	ug/L	01-NOV-09
Manganese	20	10000	ug/L	01-NOV-09
Nickel	20	10000	ug/L	01-NOV-09
Potassium	20	300000	ug/L	01-NOV-09
Selenium	20	10000	ug/L	01-NOV-09
Silver	20	1000	ug/L	01-NOV-09
Sodium	20	500000	ug/L	01-NOV-09
Thallium	20	10000	ug/L	01-NOV-09
Uranium	20	15000	ug/L	01-NOV-09
Vanadium	20	10000	ug/L	01-NOV-09
Zinc	20	15000	ug/L	01-NOV-09

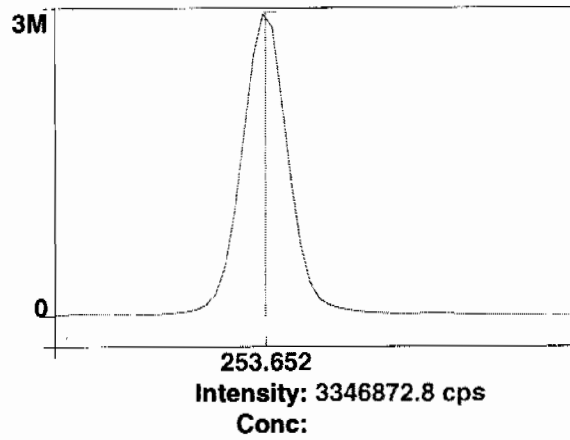
# Raw Data

Method: Hg\_ReAlign  
Result: 011810

Sample ID: Hg\_ReAlign

Hg 253.652

Rep: 1



1

## =====

Analysis Begun

Start Time: 1/12/2010 12:29:17

Plasma On Time: 1/11/2010 06:15:31

Logged In Analyst: Optima3

Technique: ICP Continuous

Spectrometer Model: Optima 5300 DV, S/N 077C7090601

Autosampler Model: S10

Sample Information File: C:\pe\Optima3\Sample Information\011210.sif

Batch ID:

Results Data Set: 011210

Results Library: C:\pe\Optima3\Results\Results.mdb

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Sequence No.: 1

Autosampler Location: 8

Sample ID: S0

Date Collected: 1/12/2010 12:29:19

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

## -----

Replicate Data: S0

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Calib.	Analysis Time
1	Sc Radial	5152.3	5152.3	101 %		12:31:11
1	Y RADIAL	5561.8	5561.8	101.0 %		12:31:11
1	Al 396.153Radial†	-17.4	-17.3	[0.00] ug/L		12:31:11
1	Ca 317.933Radial†	15.9	15.8	[0.00] ug/L		12:31:31
1	Fe 238.204 Radial†	13.1	13.0	[0.00] ug/L		12:31:31
1	K 766.490 Radial†	2487.0	2471.8	[0.00] ug/L		12:31:11
1	Mg 279.077 IEC†	3.5	3.5	[0.00] ug/L		12:31:31
1	Na 589.592 Radial†	-1340.5	-1332.4	[0.00] ug/L		12:31:11
1	Sr 421.552†	43.2	42.9	[0.00] ug/L		12:31:11
1	Sc 361.383	853292.3	853292.3	99.443 %		12:32:28
1	Y 371.029	722139.2	722139.2	99.241 %		12:32:28
1	Ag 328.068†	372.1	374.2	[0.00] ug/L		12:32:28
1	As 188.979†	-22.2	-22.4	[0.00] ug/L		12:32:48
1	B 249.677†	-606.5	-609.9	[0.00] ug/L		12:32:48
1	Ba 233.527†	-17.0	-17.1	[0.00] ug/L		12:32:48
1	Be 313.107†	-4487.2	-4512.3	[0.00] ug/L		12:32:28
1	Cd 226.502†	-210.7	-211.8	[0.00] ug/L		12:32:48
1	Co 228.616†	-79.2	-79.6	[0.00] ug/L		12:32:48
1	Cr 267.716†	79.2	79.7	[0.00] ug/L		12:32:48
1	Cu 324.752†	6369.9	6405.6	[0.00] ug/L		12:32:28
1	Mn 257.610†	444.3	446.8	[0.00] ug/L		12:32:48
1	Mo 202.031†	23.5	23.7	[0.00] ug/L		12:32:48
1	Ni 231.604†	61.4	61.7	[0.00] ug/L		12:32:48
1	P 214.914†	223.8	225.0	[0.00] ug/L		12:32:48
1	Pb 220.353†	-75.1	-75.6	[0.00] ug/L		12:32:48
1	S 181.975 Axial†	44.9	45.2	[0.00] ug/L		12:32:48
1	Sb 206.836†	32.0	32.2	[0.00] ug/L		12:32:48
1	Se 196.026†	-41.9	-42.1	[0.00] ug/L		12:32:48
1	Si 251.611†	467.0	469.6	[0.00] ug/L		12:32:48
1	Sn 189.927†	5.0	5.0	[0.00] ug/L		12:32:48
1	Ti 334.940†	-1279.5	-1286.7	[0.00] ug/L		12:32:28
1	Tl 190.801†	-34.2	-34.4	[0.00] ug/L		12:32:48
1	U 409.014†	-1915.4	-1926.1	[0.00] ug/L		12:32:28
1	V 292.402†	-1335.8	-1343.3	[0.00] ug/L		12:32:28
1	Zn 213.857†	614.5	618.0	[0.00] ug/L		12:32:48
1	SiO2†	454.9	457.5	[0.00] ug/L		12:33:44
2	Sc Radial	5085.0	5085.0	99.3 %		12:31:36
2	Y RADIAL	5464.8	5464.8	99.26 %		12:31:36
2	Al 396.153Radial†	-1.6	-1.6	[0.00] ug/L		12:31:36
2	Ca 317.933Radial†	19.1	19.2	[0.00] ug/L		12:31:56
2	Fe 238.204 Radial†	11.7	11.8	[0.00] ug/L		12:31:56
2	K 766.490 Radial†	2621.8	2640.3	[0.00] ug/L		12:31:36
2	Mg 279.077 IEC†	1.2	1.2	[0.00] ug/L		12:31:56
2	Na 589.592 Radial†	-1287.3	-1296.4	[0.00] ug/L		12:31:36
2	Sr 421.552†	-4.5	-4.5	[0.00] ug/L		12:31:36
2	Sc 361.383	864012.3	864012.3	100.69 %		12:32:53
2	Y 371.029	733392.9	733392.9	100.79 %		12:32:53

2	Ag 328.068†	342.6	340.2	[0.00]	ug/L	12:32:53
2	As 188.979†	-24.3	-24.1	[0.00]	ug/L	12:33:13
2	B 249.677†	-619.9	-615.7	[0.00]	ug/L	12:33:13
2	Ba 233.527†	-8.0	-8.0	[0.00]	ug/L	12:33:13
2	Be 313.107†	-4468.0	-4437.2	[0.00]	ug/L	12:32:53
2	Cd 226.502†	-192.1	-190.8	[0.00]	ug/L	12:33:13
2	Co 228.616†	-76.4	-75.8	[0.00]	ug/L	12:33:13
2	Cr 267.716†	91.9	91.3	[0.00]	ug/L	12:33:13
2	Cu 324.752†	6472.0	6427.5	[0.00]	ug/L	12:32:53
2	Mn 257.610†	426.6	423.7	[0.00]	ug/L	12:33:13
2	Mo 202.031†	19.1	18.9	[0.00]	ug/L	12:33:13
2	Ni 231.604†	65.0	64.5	[0.00]	ug/L	12:33:13
2	P 214.914†	211.9	210.4	[0.00]	ug/L	12:33:13
2	Pb 220.353†	-49.4	-49.0	[0.00]	ug/L	12:33:13
2	S 181.975 Axial†	47.5	47.1	[0.00]	ug/L	12:33:13
2	Sb 206.836†	33.9	33.6	[0.00]	ug/L	12:33:13
2	Se 196.026†	-28.5	-28.3	[0.00]	ug/L	12:33:13
2	Si 251.611†	462.9	459.7	[0.00]	ug/L	12:33:13
2	Sn 189.927†	-2.3	-2.3	[0.00]	ug/L	12:33:13
2	Ti 334.940†	-1341.3	-1332.0	[0.00]	ug/L	12:32:53
2	Tl 190.801†	-36.4	-36.2	[0.00]	ug/L	12:33:13
2	U 409.014†	-1655.6	-1644.2	[0.00]	ug/L	12:32:53
2	V 292.402†	-1351.5	-1342.2	[0.00]	ug/L	12:32:53
2	Zn 213.857†	635.0	630.6	[0.00]	ug/L	12:33:13
2	SiO2†	442.7	439.7	[0.00]	ug/L	12:33:49
3	Sc Radial	5125.5	5125.5	100 %		12:32:01
3	Y RADIAL	5489.7	5489.7	99.71 %		12:32:01
3	Al 396.153Radial†	0.4	0.4	[0.00]	ug/L	12:32:01
3	Ca 317.933Radial†	22.6	22.6	[0.00]	ug/L	12:32:21
3	Fe 238.204 Radial†	9.9	9.9	[0.00]	ug/L	12:32:21
3	K 766.490 Radial†	2424.7	2422.5	[0.00]	ug/L	12:32:01
3	Mg 279.077 IEC†	4.5	4.5	[0.00]	ug/L	12:32:21
3	Na 589.592 Radial†	-1299.1	-1297.9	[0.00]	ug/L	12:32:01
3	Sr 421.552†	-9.2	-9.2	[0.00]	ug/L	12:32:01
3	Sc 361.383	856910.1	856910.1	99.865 %		12:33:19
3	Y 371.029	727459.0	727459.0	99.972 %		12:33:19
3	Ag 328.068†	356.3	356.8	[0.00]	ug/L	12:33:19
3	As 188.979†	-25.3	-25.4	[0.00]	ug/L	12:33:39
3	B 249.677†	-618.9	-619.8	[0.00]	ug/L	12:33:39
3	Ba 233.527†	-0.6	-0.6	[0.00]	ug/L	12:33:39
3	Be 313.107†	-4468.4	-4474.4	[0.00]	ug/L	12:33:19
3	Cd 226.502†	-202.0	-202.3	[0.00]	ug/L	12:33:39
3	Co 228.616†	-76.2	-76.3	[0.00]	ug/L	12:33:39
3	Cr 267.716†	65.8	65.9	[0.00]	ug/L	12:33:39
3	Cu 324.752†	6365.6	6374.2	[0.00]	ug/L	12:33:19
3	Mn 257.610†	418.4	418.9	[0.00]	ug/L	12:33:39
3	Mo 202.031†	22.3	22.3	[0.00]	ug/L	12:33:39
3	Ni 231.604†	74.7	74.8	[0.00]	ug/L	12:33:39
3	P 214.914†	225.2	225.5	[0.00]	ug/L	12:33:39
3	Pb 220.353†	-61.9	-62.0	[0.00]	ug/L	12:33:39
3	S 181.975 Axial†	39.2	39.3	[0.00]	ug/L	12:33:39
3	Sb 206.836†	34.4	34.5	[0.00]	ug/L	12:33:39
3	Se 196.026†	-25.7	-25.7	[0.00]	ug/L	12:33:39
3	Si 251.611†	452.0	452.6	[0.00]	ug/L	12:33:39
3	Sn 189.927†	2.3	2.3	[0.00]	ug/L	12:33:39
3	Ti 334.940†	-1381.8	-1383.7	[0.00]	ug/L	12:33:19
3	Tl 190.801†	-31.6	-31.7	[0.00]	ug/L	12:33:39
3	U 409.014†	-2018.6	-2021.4	[0.00]	ug/L	12:33:19
3	V 292.402†	-1391.8	-1393.7	[0.00]	ug/L	12:33:19
3	Zn 213.857†	624.5	625.4	[0.00]	ug/L	12:33:39
3	SiO2†	479.3	479.9	[0.00]	ug/L	12:33:54

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Mean Data: S0

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
Sc 361.383	858071.5	5453.55	0.64%	100.00 %
Sc Radial	5120.9	33.88	0.66%	100 %
Y 371.029	727663.7	5629.65	0.77%	100.00 %
Y RADIAL	5505.4	50.37	0.91%	100.0 %
Ag 328.068†	357.1	17.00	4.76%	[0.00] ug/L

Al 396.153Radial†	-6.2	9.68	156.59%	[0.00]	ug/L
As 188.979†	-23.9	1.50	6.28%	[0.00]	ug/L
B 249.677†	-615.1	4.97	0.81%	[0.00]	ug/L
Ba 233.527†	-8.6	8.28	96.48%	[0.00]	ug/L
Be 313.107†	-4474.7	37.53	0.84%	[0.00]	ug/L
Ca 317.933Radial†	19.2	3.41	17.76%	[0.00]	ug/L
Cd 226.502†	-201.6	10.55	5.23%	[0.00]	ug/L
Co 228.616†	-77.2	2.06	2.67%	[0.00]	ug/L
Cr 267.716†	79.0	12.72	16.11%	[0.00]	ug/L
Cu 324.752†	6402.4	26.77	0.42%	[0.00]	ug/L
Fe 238.204 Radial†	11.6	1.59	13.77%	[0.00]	ug/L
K 766.490 Radial†	2511.5	114.19	4.55%	[0.00]	ug/L
Mg 279.077 IEC†	3.0	1.70	55.71%	[0.00]	ug/L
Mn 257.610†	429.8	14.89	3.47%	[0.00]	ug/L
Mo 202.031†	21.6	2.44	11.30%	[0.00]	ug/L
Na 589.592 Radial†	-1308.9	20.34	1.55%	[0.00]	ug/L
Ni 231.604†	67.0	6.91	10.31%	[0.00]	ug/L
P 214.914†	220.3	8.56	3.89%	[0.00]	ug/L
Pb 220.353†	-62.2	13.27	21.33%	[0.00]	ug/L
S 181.975 Axial†	43.9	4.08	9.30%	[0.00]	ug/L
Sb 206.836†	33.4	1.15	3.43%	[0.00]	ug/L
Se 196.026†	-32.0	8.83	27.55%	[0.00]	ug/L
Si 251.611†	460.7	8.52	1.85%	[0.00]	ug/L
Sn 189.927†	1.7	3.70	222.98%	[0.00]	ug/L
Sr 421.552†	9.7	28.80	295.48%	[0.00]	ug/L
Ti 334.940†	-1334.1	48.54	3.64%	[0.00]	ug/L
Tl 190.801†	-34.1	2.28	6.69%	[0.00]	ug/L
U 409.014†	-1863.9	196.15	10.52%	[0.00]	ug/L
V 292.402†	-1359.7	29.45	2.17%	[0.00]	ug/L
Zn 213.857†	624.7	6.34	1.01%	[0.00]	ug/L
SiO2†	459.0	20.15	4.39%	[0.00]	ug/L

Sequence No.: 2  
 Sample ID: S0.1  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 2  
 Date Collected: 1/12/2010 12:36:04  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: S0.1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Calib.	Analysis Time
1	Sc Radial	4965.9	4965.9	97.0	%	12:38:02
1	Y RADIAL	5335.2	5335.2	96.91	%	12:38:02
1	K 766.490 Radial†	7941.2	5677.6	[1000]	ug/L	12:37:57
1	Sr 421.552†	14775.2	15226.8	[100]	ug/L	12:38:02
1	Sc 361.383	830675.3	830675.3	96.807	%	12:38:29
1	Y 371.029	701666.3	701666.3	96.427	%	12:38:29
1	Ag 328.068†	21871.2	22235.5	[100]	ug/L	12:38:29
1	As 188.979†	203.3	233.9	[100]	ug/L	12:38:49
1	B 249.677†	3660.8	4396.6	[100]	ug/L	12:38:29
1	Ba 233.527†	12920.1	13354.8	[100]	ug/L	12:38:29
1	Be 313.107†	257874.4	270853.9	[100]	ug/L	12:38:29
1	Cd 226.502†	8881.5	9376.0	[100]	ug/L	12:38:29
1	Co 228.616†	4770.5	5005.1	[100]	ug/L	12:38:49
1	Cr 267.716†	9051.6	9271.1	[100]	ug/L	12:38:29
1	Cu 324.752†	39056.8	33942.5	[100]	ug/L	12:38:29
1	Mn 257.610†	92061.8	94668.3	[100]	ug/L	12:38:29
1	Mo 202.031†	1430.8	1456.4	[100]	ug/L	12:38:49
1	Ni 231.604†	4043.9	4110.2	[100]	ug/L	12:38:49
1	P 214.914†	1031.3	845.0	[500]	ug/L	12:38:49
1	Pb 220.353†	748.0	834.8	[100]	ug/L	12:38:49
1	S 181.975 Axial†	189.8	152.2	[200]	ug/L	12:38:49
1	Sb 206.836†	312.2	289.1	[100]	ug/L	12:38:49
1	Se 196.026†	137.0	173.6	[100]	ug/L	12:38:49
1	Si 251.611†	15797.3	15857.7	[500]	ug/L	12:38:29
1	Sn 189.927†	561.7	578.6	[100]	ug/L	12:38:49
1	Ti 334.940†	59873.1	63181.9	[100]	ug/L	12:38:29
1	Tl 190.801†	292.2	335.9	[100]	ug/L	12:38:49
1	U 409.014†	1586.9	3503.1	[100]	ug/L	12:38:29
1	V 292.402†	13179.8	14974.2	[100]	ug/L	12:38:29
1	Zn 213.857†	11228.2	10973.9	[100]	ug/L	12:38:29
1	SiO2†	16145.6	16219.0	[1069.5]	ug/L	12:39:45
2	Sc Radial	5017.1	5017.1	98.0	%	12:38:12
2	Y RADIAL	5393.8	5393.8	97.97	%	12:38:12
2	K 766.490 Radial†	7968.7	5621.9	[1000]	ug/L	12:38:07
2	Sr 421.552†	14907.3	15205.9	[100]	ug/L	12:38:12
2	Sc 361.383	847146.2	847146.2	98.727	%	12:38:54
2	Y 371.029	713989.1	713989.1	98.121	%	12:38:54
2	Ag 328.068†	22274.2	22204.4	[100]	ug/L	12:38:54
2	As 188.979†	207.4	234.0	[100]	ug/L	12:39:14
2	B 249.677†	3703.9	4366.8	[100]	ug/L	12:38:54
2	Ba 233.527†	13155.6	13333.9	[100]	ug/L	12:38:54
2	Be 313.107†	262797.3	270661.2	[100]	ug/L	12:38:54
2	Cd 226.502†	9031.6	9349.8	[100]	ug/L	12:38:54
2	Co 228.616†	4791.3	4930.3	[100]	ug/L	12:39:14
2	Cr 267.716†	9227.6	9267.6	[100]	ug/L	12:38:54
2	Cu 324.752†	40059.8	34174.0	[100]	ug/L	12:38:54
2	Mn 257.610†	94098.4	94882.2	[100]	ug/L	12:38:54
2	Mo 202.031†	1441.8	1438.8	[100]	ug/L	12:39:14
2	Ni 231.604†	4052.0	4037.2	[100]	ug/L	12:39:14
2	P 214.914†	1038.8	831.9	[500]	ug/L	12:39:14
2	Pb 220.353†	781.5	853.8	[100]	ug/L	12:39:14
2	S 181.975 Axial†	183.5	142.0	[200]	ug/L	12:39:14
2	Sb 206.836†	325.7	296.5	[100]	ug/L	12:39:14
2	Se 196.026†	121.5	155.1	[100]	ug/L	12:39:14
2	Si 251.611†	16155.0	15902.7	[500]	ug/L	12:38:54
2	Sn 189.927†	583.6	589.5	[100]	ug/L	12:39:14
2	Ti 334.940†	61190.2	63313.5	[100]	ug/L	12:38:54
2	Tl 190.801†	288.7	326.5	[100]	ug/L	12:39:14
2	U 409.014†	1747.5	3634.0	[100]	ug/L	12:38:54

2	V 292.402†	13335.0	14866.7	[100] ug/L	12:38:54
2	Zn 213.857†	11395.6	10917.9	[100] ug/L	12:38:54
2	SiO2†	16023.8	15771.4	[1069.5] ug/L	12:39:50
3	Sc Radial	5038.6	5038.6	98.4 %	12:38:22
3	Y RADIAL	5396.6	5396.6	98.02 %	12:38:22
3	K 766.490 Radial†	7896.9	5514.4	[1000] ug/L	12:38:17
3	Sr 421.552†	15115.8	15353.1	[100] ug/L	12:38:22
3	Sc 361.383	839954.8	839954.8	97.889 %	12:39:20
3	Y 371.029	708260.3	708260.3	97.333 %	12:39:20
3	Ag 328.068†	22077.1	22196.2	[100] ug/L	12:39:20
3	As 188.979†	210.6	239.1	[100] ug/L	12:39:40
3	B 249.677†	3716.3	4411.6	[100] ug/L	12:39:20
3	Ba 233.527†	13010.8	13300.0	[100] ug/L	12:39:20
3	Be 313.107†	261053.3	271158.6	[100] ug/L	12:39:20
3	Cd 226.502†	8913.5	9307.4	[100] ug/L	12:39:20
3	Co 228.616†	4825.4	5006.7	[100] ug/L	12:39:40
3	Cr 267.716†	9169.0	9287.8	[100] ug/L	12:39:20
3	Cu 324.752†	39580.7	34032.0	[100] ug/L	12:39:20
3	Mn 257.610†	93356.1	94939.9	[100] ug/L	12:39:20
3	Mo 202.031†	1443.1	1452.6	[100] ug/L	12:39:40
3	Ni 231.604†	4074.4	4095.2	[100] ug/L	12:39:40
3	P 214.914†	1041.6	843.7	[500] ug/L	12:39:40
3	Pb 220.353†	761.2	839.8	[100] ug/L	12:39:40
3	S 181.975 Axial†	185.0	145.1	[200] ug/L	12:39:40
3	Sb 206.836†	315.3	288.6	[100] ug/L	12:39:40
3	Se 196.026†	132.1	167.0	[100] ug/L	12:39:40
3	Si 251.611†	15986.8	15870.9	[500] ug/L	12:39:20
3	Sn 189.927†	572.9	583.6	[100] ug/L	12:39:40
3	Ti 334.940†	60890.5	63538.0	[100] ug/L	12:39:20
3	Tl 190.801†	310.5	351.3	[100] ug/L	12:39:40
3	U 409.014†	1639.2	3538.5	[100] ug/L	12:39:20
3	V 292.402†	13215.0	14859.8	[100] ug/L	12:39:20
3	Zn 213.857†	11325.5	10945.1	[100] ug/L	12:39:20
3	SiO2†	16169.6	16059.3	[1069.5] ug/L	12:39:55

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Mean Data: S0.1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
Sc 361.383	839258.8	8257.45	0.98%	97.808 %
Sc Radial	5007.2	37.35	0.75%	97.8 %
Y 371.029	707971.9	6166.49	0.87%	97.294 %
Y RADIAL	5375.2	34.70	0.65%	97.63 %
Ag 328.068†	22212.0	20.72	0.09%	[100] ug/L
As 188.979†	235.7	2.94	1.25%	[100] ug/L
B 249.677†	4391.7	22.78	0.52%	[100] ug/L
Ba 233.527†	13329.5	27.66	0.21%	[100] ug/L
Be 313.107†	270891.2	250.78	0.09%	[100] ug/L
Cd 226.502†	9344.4	34.62	0.37%	[100] ug/L
Co 228.616†	4980.7	43.63	0.88%	[100] ug/L
Cr 267.716†	9275.5	10.76	0.12%	[100] ug/L
Cu 324.752†	34049.5	116.76	0.34%	[100] ug/L
K 766.490 Radial†	5604.6	82.95	1.48%	[1000] ug/L
Mn 257.610†	94830.1	143.09	0.15%	[100] ug/L
Mo 202.031†	1449.3	9.25	0.64%	[100] ug/L
Ni 231.604†	4080.9	38.55	0.94%	[100] ug/L
P 214.914†	840.2	7.26	0.86%	[500] ug/L
Pb 220.353†	842.8	9.82	1.17%	[100] ug/L
S 181.975 Axial†	146.4	5.23	3.57%	[200] ug/L
Sb 206.836†	291.4	4.42	1.52%	[100] ug/L
Se 196.026†	165.2	9.35	5.66%	[100] ug/L
Si 251.611†	15877.1	23.15	0.15%	[500] ug/L
Sn 189.927†	583.9	5.45	0.93%	[100] ug/L
Sr 421.552†	15261.9	79.65	0.52%	[100] ug/L
Ti 334.940†	63344.5	180.05	0.28%	[100] ug/L
Tl 190.801†	337.9	12.50	3.70%	[100] ug/L
U 409.014†	3558.5	67.70	1.90%	[100] ug/L
V 292.402†	14900.2	64.14	0.43%	[100] ug/L
Zn 213.857†	10945.6	27.98	0.26%	[100] ug/L
SiO2†	16016.6	226.85	1.42%	[1069.5] ug/L



Sequence No.: 3  
 Sample ID: S0.5  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 3  
 Date Collected: 1/12/2010 12:42:06  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: S0.5

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Analysis Time
1	Sc Radial	5024.8	5024.8	98.1 %	12:43:59
1	Y RADIAL	5332.3	5332.3	96.86 %	12:43:59
1	Al 396.153Radial†	6152.3	6276.2	[5000] ug/L	12:43:59
1	Ca 317.933Radial†	3102.1	3142.3	[5000] ug/L	12:44:19
1	K 766.490 Radial†	28813.6	26853.5	[5000] ug/L	12:43:59
1	Mg 279.077 IEC†	158.6	158.5	[5000] ug/L	12:44:19
1	Sr 421.552†	76236.0	77685.3	[500] ug/L	12:43:59
1	Sc 361.383	853673.3	853673.3	99.487 %	12:45:16
1	Y 371.029	710210.0	710210.0	97.601 %	12:45:16
1	Ag 328.068†	108724.9	108928.0	[500] ug/L	12:45:22
1	As 188.979†	1129.2	1159.0	[500] ug/L	12:45:42
1	B 249.677†	21160.4	21884.6	[500] ug/L	12:45:22
1	Ba 233.527†	63662.4	63999.0	[500] ug/L	12:45:22
1	Be 313.107†	1315242.2	1326493.2	[500] ug/L	12:45:16
1	Cd 226.502†	44932.0	45365.1	[500] ug/L	12:45:22
1	Co 228.616†	24426.6	24629.7	[500] ug/L	12:45:22
1	Cr 267.716†	44685.5	44836.8	[500] ug/L	12:45:22
1	Cu 324.752†	170470.9	164946.7	[500] ug/L	12:45:22
1	Mn 257.610†	452541.6	454443.4	[500] ug/L	12:45:16
1	Mo 202.031†	7083.6	7098.5	[500] ug/L	12:45:42
1	Ni 231.604†	20166.3	20203.1	[500] ug/L	12:45:22
1	P 214.914†	4311.5	4113.4	[2500] ug/L	12:45:42
1	Pb 220.353†	4008.6	4091.4	[500] ug/L	12:45:42
1	S 181.975 Axial†	757.4	717.5	[1000] ug/L	12:45:42
1	Sb 206.836†	1460.8	1434.9	[500] ug/L	12:45:42
1	Se 196.026†	766.5	802.5	[500] ug/L	12:45:42
1	Si 251.611†	78914.3	78860.2	[2500] ug/L	12:45:22
1	Sn 189.927†	2840.1	2853.0	[500] ug/L	12:45:42
1	Ti 334.940†	302319.9	305211.7	[500] ug/L	12:45:22
1	Tl 190.801†	1596.1	1638.4	[500] ug/L	12:45:42
1	U 409.014†	15158.5	17100.5	[500] ug/L	12:45:22
1	V 292.402†	71243.7	72970.5	[500] ug/L	12:45:22
1	Zn 213.857†	53644.2	53295.9	[500] ug/L	12:45:22
1	SiO2†	78940.1	78887.7	[5347.5] ug/L	12:46:49
2	Sc Radial	4999.1	4999.1	97.6 %	12:44:24
2	Y RADIAL	5305.7	5305.7	96.37 %	12:44:24
2	Al 396.153Radial†	6184.4	6341.3	[5000] ug/L	12:44:24
2	Ca 317.933Radial†	3089.4	3145.5	[5000] ug/L	12:44:44
2	K 766.490 Radial†	29019.2	27215.0	[5000] ug/L	12:44:24
2	Mg 279.077 IEC†	155.1	155.8	[5000] ug/L	12:44:44
2	Sr 421.552†	75900.9	77741.2	[500] ug/L	12:44:24
2	Sc 361.383	845314.1	845314.1	98.513 %	12:45:47
2	Y 371.029	703393.2	703393.2	96.665 %	12:45:47
2	Ag 328.068†	107544.0	108810.0	[500] ug/L	12:45:53
2	As 188.979†	1121.1	1161.9	[500] ug/L	12:46:13
2	B 249.677†	21048.5	21981.3	[500] ug/L	12:45:53
2	Ba 233.527†	63044.2	64004.3	[500] ug/L	12:45:53
2	Be 313.107†	1305519.1	1329696.6	[500] ug/L	12:45:47
2	Cd 226.502†	44423.7	45295.8	[500] ug/L	12:45:53
2	Co 228.616†	24109.7	24550.8	[500] ug/L	12:45:53
2	Cr 267.716†	44079.0	44665.3	[500] ug/L	12:45:53
2	Cu 324.752†	168419.2	164558.6	[500] ug/L	12:45:53
2	Mn 257.610†	449113.4	455461.6	[500] ug/L	12:45:47
2	Mo 202.031†	7038.5	7123.1	[500] ug/L	12:46:13
2	Ni 231.604†	19903.8	20137.2	[500] ug/L	12:45:53
2	P 214.914†	4276.6	4120.9	[2500] ug/L	12:46:13
2	Pb 220.353†	4002.3	4124.8	[500] ug/L	12:46:13
2	S 181.975 Axial†	748.5	715.9	[1000] ug/L	12:46:13
2	Sb 206.836†	1460.0	1448.6	[500] ug/L	12:46:13

2	Se 196.026†	758.0	801.5	[500]	ug/L	12:46:13
2	Si 251.611†	77838.3	78552.3	[2500]	ug/L	12:45:53
2	Sn 189.927†	2818.7	2859.6	[500]	ug/L	12:46:13
2	Ti 334.940†	299213.6	305063.5	[500]	ug/L	12:45:53
2	Tl 190.801†	1588.3	1646.4	[500]	ug/L	12:46:13
2	U 409.014†	15019.1	17109.6	[500]	ug/L	12:45:53
2	V 292.402†	70419.3	72841.8	[500]	ug/L	12:45:53
2	Zn 213.857†	53069.6	53245.9	[500]	ug/L	12:45:53
2	SiO2†	79601.2	80343.5	[5347.5]	ug/L	12:46:54
3	Sc Radial	4975.7	4975.7	97.2	%	12:44:49
3	Y RADIAL	5287.9	5287.9	96.05	%	12:44:49
3	Al 396.153Radial†	6153.4	6339.1	[5000]	ug/L	12:44:49
3	Ca 317.933Radial†	3107.8	3179.2	[5000]	ug/L	12:45:09
3	K 766.490 Radial†	28709.1	27035.4	[5000]	ug/L	12:44:49
3	Mg 279.077 IEC†	154.2	155.6	[5000]	ug/L	12:45:09
3	Sr 421.552†	75347.5	77536.6	[500]	ug/L	12:44:49
3	Sc 361.383	848277.4	848277.4	98.859	%	12:46:18
3	Y 371.029	706280.3	706280.3	97.061	%	12:46:18
3	Ag 328.068†	109062.4	109964.6	[500]	ug/L	12:46:24
3	As 188.979†	1115.6	1152.4	[500]	ug/L	12:46:44
3	B 249.677†	21335.7	22197.1	[500]	ug/L	12:46:24
3	Ba 233.527†	63826.1	64571.6	[500]	ug/L	12:46:24
3	Be 313.107†	1309469.9	1329063.7	[500]	ug/L	12:46:18
3	Cd 226.502†	44903.5	45623.5	[500]	ug/L	12:46:24
3	Co 228.616†	24436.7	24796.0	[500]	ug/L	12:46:24
3	Cr 267.716†	44771.0	45209.0	[500]	ug/L	12:46:24
3	Cu 324.752†	170788.8	166358.3	[500]	ug/L	12:46:24
3	Mn 257.610†	449789.1	454552.5	[500]	ug/L	12:46:18
3	Mo 202.031†	7050.2	7110.0	[500]	ug/L	12:46:44
3	Ni 231.604†	20173.9	20339.8	[500]	ug/L	12:46:24
3	P 214.914†	4273.1	4102.1	[2500]	ug/L	12:46:44
3	Pb 220.353†	3990.6	4098.9	[500]	ug/L	12:46:44
3	S 181.975 Axial†	756.0	720.8	[1000]	ug/L	12:46:44
3	Sb 206.836†	1465.4	1448.9	[500]	ug/L	12:46:44
3	Se 196.026†	748.4	789.1	[500]	ug/L	12:46:44
3	Si 251.611†	78816.4	79265.7	[2500]	ug/L	12:46:24
3	Sn 189.927†	2819.4	2850.2	[500]	ug/L	12:46:44
3	Ti 334.940†	303078.9	307912.4	[500]	ug/L	12:46:24
3	Tl 190.801†	1587.5	1640.0	[500]	ug/L	12:46:44
3	U 409.014†	15152.5	17191.3	[500]	ug/L	12:46:24
3	V 292.402†	71541.8	73727.6	[500]	ug/L	12:46:24
3	Zn 213.857†	53692.3	53687.6	[500]	ug/L	12:46:24
3	SiO2†	78726.8	79176.7	[5347.5]	ug/L	12:46:59

## Mean Data: S0.5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	849088.2	4238.18	0.50%	98.953	%
Sc Radial	4999.8	24.53	0.49%	97.6	%
Y 371.029	706627.8	3421.65	0.48%	97.109	%
Y RADIAL	5308.6	22.32	0.42%	96.43	%
Ag 328.068†	109234.2	635.28	0.58%	[500]	ug/L
Al 396.153Radial†	6318.9	36.98	0.59%	[5000]	ug/L
As 188.979†	1157.8	4.87	0.42%	[500]	ug/L
B 249.677†	22021.0	160.03	0.73%	[500]	ug/L
Ba 233.527†	64191.6	329.11	0.51%	[500]	ug/L
Be 313.107†	1328417.8	1696.54	0.13%	[500]	ug/L
Ca 317.933Radial†	3155.7	20.48	0.65%	[5000]	ug/L
Cd 226.502†	45428.1	172.75	0.38%	[500]	ug/L
Co 228.616†	24658.8	125.20	0.51%	[500]	ug/L
Cr 267.716†	44903.7	277.97	0.62%	[500]	ug/L
Cu 324.752†	165287.9	947.11	0.57%	[500]	ug/L
K 766.490 Radial†	27034.6	180.76	0.67%	[5000]	ug/L
Mg 279.077 IEC†	156.7	1.63	1.04%	[5000]	ug/L
Mn 257.610†	454819.2	559.06	0.12%	[500]	ug/L
Mo 202.031†	7110.5	12.31	0.17%	[500]	ug/L
Ni 231.604†	20226.7	103.35	0.51%	[500]	ug/L
P 214.914†	4112.1	9.45	0.23%	[2500]	ug/L
Pb 220.353†	4105.1	17.55	0.43%	[500]	ug/L
S 181.975 Axial†	718.1	2.50	0.35%	[1000]	ug/L

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Sb 206.836†	1444.1	7.97	0.55%	[500]	ug/L
Se 196.026†	797.7	7.45	0.93%	[500]	ug/L
Si 251.611†	78892.8	357.79	0.45%	[2500]	ug/L
Sn 189.927†	2854.3	4.81	0.17%	[500]	ug/L
Sr 421.552†	77654.4	105.75	0.14%	[500]	ug/L
Ti 334.940†	306062.5	1603.73	0.52%	[500]	ug/L
Tl 190.801†	1641.6	4.23	0.26%	[500]	ug/L
U 409.014†	17133.8	50.00	0.29%	[500]	ug/L
V 292.402†	73180.0	478.58	0.65%	[500]	ug/L
Zn 213.857†	53409.8	241.86	0.45%	[500]	ug/L
SiO2†	79469.3	770.71	0.97%	[5347.5]	ug/L

Sequence No.: 4  
 Sample ID: SCAL  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 4  
 Date Collected: 1/12/2010 12:49:10  
 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	5073.8	5073.8	99.1 %	12:51:03
1	Y RADIAL	5395.5	5395.5	98.00 %	12:51:03
1	Al 396.153Radial†	12636.1	12759.7	[10000] ug/L	12:51:03
1	Ca 317.933Radial†	6355.5	6395.3	[10000] ug/L	12:51:03
1	Fe 238.204 Radial†	1175.7	1175.1	[10000] ug/L	12:51:23
1	K 766.490 Radial†	56644.9	54659.7	[10000] ug/L	12:51:03
1	Mg 279.077 IEC†	312.7	312.6	[10000] ug/L	12:51:23
1	Na 589.592 Radial†	33015.3	34630.9	[10000] ug/L	12:51:03
1	Sr 421.552†	155081.2	156512.5	[1000] ug/L	12:51:03
1	Sc 361.383	846221.3	846221.3	98.619 %	12:52:22
1	Y 371.029	702372.7	702372.7	96.524 %	12:52:22
1	Ag 328.068†	215472.0	218132.3	[1000] ug/L	12:52:22
1	As 188.979†	2274.9	2330.7	[1000] ug/L	12:52:42
1	B 249.677†	43506.0	44730.3	[1000] ug/L	12:52:22
1	Ba 233.527†	127574.2	129369.3	[1000] ug/L	12:52:22
1	Be 313.107†	2606013.2	2646981.7	[1000] ug/L	12:52:22
1	Cd 226.502†	89753.5	91212.1	[1000] ug/L	12:52:22
1	Co 228.616†	48698.0	49457.2	[1000] ug/L	12:52:22
1	Cr 267.716†	89203.4	90373.6	[1000] ug/L	12:52:22
1	Cu 324.752†	338573.0	336911.8	[1000] ug/L	12:52:22
1	Mn 257.610†	901500.9	913695.5	[1000] ug/L	12:52:22
1	Mo 202.031†	14055.5	14230.7	[1000] ug/L	12:52:42
1	Ni 231.604†	39986.4	40479.3	[1000] ug/L	12:52:22
1	P 214.914†	8392.1	8289.3	[5000] ug/L	12:52:42
1	Pb 220.353†	8032.6	8207.3	[1000] ug/L	12:52:42
1	S 181.975 Axial†	1448.9	1425.4	[2000] ug/L	12:52:42
1	Sb 206.836†	2925.5	2933.1	[1000] ug/L	12:52:42
1	Se 196.026†	1524.3	1577.7	[1000] ug/L	12:52:42
1	Si 251.611†	156650.6	158383.7	[5000] ug/L	12:52:22
1	Sn 189.927†	5628.5	5705.7	[1000] ug/L	12:52:42
1	Ti 334.940†	618431.1	628425.6	[1000] ug/L	12:52:22
1	Tl 190.801†	3215.6	3294.7	[1000] ug/L	12:52:42
1	U 409.014†	31667.8	33975.2	[1000] ug/L	12:52:22
1	V 292.402†	144570.6	147954.9	[1000] ug/L	12:52:22
1	Zn 213.857†	105965.2	106824.5	[1000] ug/L	12:52:22
1	SiO2†	155379.5	157096.4	[10695] ug/L	12:53:43
2	Sc Radial	4988.0	4988.0	97.4 %	12:51:28
2	Y RADIAL	5295.4	5295.4	96.19 %	12:51:28
2	Al 396.153Radial†	12473.8	12812.4	[10000] ug/L	12:51:28
2	Ca 317.933Radial†	6265.5	6413.2	[10000] ug/L	12:51:28
2	Fe 238.204 Radial†	1167.7	1187.2	[10000] ug/L	12:51:48
2	K 766.490 Radial†	56111.6	55095.4	[10000] ug/L	12:51:28
2	Mg 279.077 IEC†	306.0	311.2	[10000] ug/L	12:51:48
2	Na 589.592 Radial†	32315.6	34485.7	[10000] ug/L	12:51:28
2	Sr 421.552†	152761.7	156823.2	[1000] ug/L	12:51:28
2	Sc 361.383	829653.5	829653.5	96.688 %	12:52:50
2	Y 371.029	689200.7	689200.7	94.714 %	12:52:50
2	Ag 328.068†	210949.1	217817.7	[1000] ug/L	12:52:50
2	As 188.979†	2263.1	2364.6	[1000] ug/L	12:53:10
2	B 249.677†	42543.7	44616.1	[1000] ug/L	12:52:50
2	Ba 233.527†	125027.3	129318.4	[1000] ug/L	12:52:50
2	Be 313.107†	2548706.4	2640481.8	[1000] ug/L	12:52:50
2	Cd 226.502†	87671.2	90875.9	[1000] ug/L	12:52:50
2	Co 228.616†	47630.8	49339.6	[1000] ug/L	12:52:50
2	Cr 267.716†	87278.9	90189.5	[1000] ug/L	12:52:50
2	Cu 324.752†	330942.7	335876.0	[1000] ug/L	12:52:50
2	Mn 257.610†	882482.0	912279.8	[1000] ug/L	12:52:50
2	Mo 202.031†	14035.4	14494.5	[1000] ug/L	12:53:10
2	Ni 231.604†	39104.5	40376.9	[1000] ug/L	12:52:50

2	P 214.914†	8354.0	8419.9	[5000]	ug/L	12:53:10
2	Pb 220.353†	8001.6	8337.8	[1000]	ug/L	12:53:10
2	S 181.975 Axial†	1446.5	1452.2	[2000]	ug/L	12:53:10
2	Sb 206.836†	2922.6	2989.3	[1000]	ug/L	12:53:10
2	Se 196.026†	1513.1	1596.9	[1000]	ug/L	12:53:10
2	Si 251.611†	153175.1	157961.2	[5000]	ug/L	12:52:50
2	Sn 189.927†	5598.9	5789.0	[1000]	ug/L	12:53:10
2	Ti 334.940†	605255.5	627321.5	[1000]	ug/L	12:52:50
2	Tl 190.801†	3200.5	3344.2	[1000]	ug/L	12:53:10
2	U 409.014†	30971.9	33896.6	[1000]	ug/L	12:52:50
2	V 292.402†	141521.2	147728.4	[1000]	ug/L	12:52:50
2	Zn 213.857†	103413.8	106331.4	[1000]	ug/L	12:52:50
2	SiO2†	154297.4	159123.5	[10695]	ug/L	12:53:48
3	Sc Radial	4905.8	4905.8	95.8	%	12:51:53
3	Y RADIAL	5231.6	5231.6	95.03	%	12:51:53
3	Al 396.153Radial†	12396.0	12945.8	[10000]	ug/L	12:51:53
3	Ca 317.933Radial†	6210.7	6463.8	[10000]	ug/L	12:51:53
3	Fe 238.204 Radial†	1166.1	1205.7	[10000]	ug/L	12:52:13
3	K 766.490 Radial†	55653.3	55582.2	[10000]	ug/L	12:51:53
3	Mg 279.077 IEC†	307.5	318.0	[10000]	ug/L	12:52:13
3	Na 589.592 Radial†	32040.7	34754.5	[10000]	ug/L	12:51:53
3	Sr 421.552†	151046.8	157660.4	[1000]	ug/L	12:51:53
3	Sc 361.383	837776.7	837776.7	97.635	%	12:53:18
3	Y 371.029	696980.4	696980.4	95.783	%	12:53:18
3	Ag 328.068†	212955.6	217757.3	[1000]	ug/L	12:53:18
3	As 188.979†	2260.5	2339.2	[1000]	ug/L	12:53:38
3	B 249.677†	43056.4	44714.5	[1000]	ug/L	12:53:18
3	Ba 233.527†	125824.6	128881.3	[1000]	ug/L	12:53:18
3	Be 313.107†	2576418.8	2643306.4	[1000]	ug/L	12:53:18
3	Cd 226.502†	88246.5	90585.9	[1000]	ug/L	12:53:18
3	Co 228.616†	47773.6	49008.1	[1000]	ug/L	12:53:18
3	Cr 267.716†	87944.1	89995.6	[1000]	ug/L	12:53:18
3	Cu 324.752†	334486.9	336187.3	[1000]	ug/L	12:53:18
3	Mn 257.610†	889040.1	910147.0	[1000]	ug/L	12:53:18
3	Mo 202.031†	14029.4	14347.6	[1000]	ug/L	12:53:38
3	Ni 231.604†	39438.0	40326.3	[1000]	ug/L	12:53:18
3	P 214.914†	8369.8	8352.2	[5000]	ug/L	12:53:38
3	Pb 220.353†	8025.6	8282.2	[1000]	ug/L	12:53:38
3	S 181.975 Axial†	1442.7	1433.8	[2000]	ug/L	12:53:38
3	Sb 206.836†	2921.0	2958.4	[1000]	ug/L	12:53:38
3	Se 196.026†	1513.0	1581.7	[1000]	ug/L	12:53:38
3	Si 251.611†	154313.1	157590.6	[5000]	ug/L	12:53:18
3	Sn 189.927†	5613.7	5748.0	[1000]	ug/L	12:53:38
3	Ti 334.940†	610672.3	626799.7	[1000]	ug/L	12:53:18
3	Tl 190.801†	3206.3	3318.1	[1000]	ug/L	12:53:38
3	U 409.014†	31143.7	33762.0	[1000]	ug/L	12:53:18
3	V 292.402†	142883.2	147704.2	[1000]	ug/L	12:53:18
3	Zn 213.857†	104218.9	106118.9	[1000]	ug/L	12:53:18
3	SiO2†	155832.1	159148.0	[10695]	ug/L	12:53:54

## Mean Data: SCAL

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
Sc 361.383	837883.8	8284.44	0.99%	97.647 %
Sc Radial	4989.2	83.99	1.68%	97.4 %
Y 371.029	696184.6	6621.96	0.95%	95.674 %
Y RADIAL	5307.5	82.60	1.56%	96.41 %
Ag 328.068†	217902.4	201.37	0.09%	[1000] ug/L
Al 396.153Radial†	12839.3	95.92	0.75%	[10000] ug/L
As 188.979†	2344.8	17.64	0.75%	[1000] ug/L
B 249.677†	44687.0	61.90	0.14%	[1000] ug/L
Ba 233.527†	129189.7	268.30	0.21%	[1000] ug/L
Be 313.107†	2643589.9	3259.21	0.12%	[1000] ug/L
Ca 317.933Radial†	6424.1	35.53	0.55%	[10000] ug/L
Cd 226.502†	90891.3	313.39	0.34%	[1000] ug/L
Co 228.616†	49268.3	232.87	0.47%	[1000] ug/L
Cr 267.716†	90186.2	189.05	0.21%	[1000] ug/L
Cu 324.752†	336325.1	531.46	0.16%	[1000] ug/L
Fe 238.204 Radial†	1189.3	15.40	1.30%	[10000] ug/L
K 766.490 Radial†	55112.4	461.46	0.84%	[10000] ug/L

Mg 279.077 IEC†	313.9	3.59	1.14%	[10000]	ug/L
Mn 257.610†	912040.8	1786.27	0.20%	[1000]	ug/L
Mo 202.031†	14357.6	132.17	0.92%	[1000]	ug/L
Na 589.592 Radial†	34623.7	134.56	0.39%	[10000]	ug/L
Ni 231.604†	40394.2	77.93	0.19%	[1000]	ug/L
P 214.914†	8353.8	65.29	0.78%	[5000]	ug/L
Pb 220.353†	8275.8	65.50	0.79%	[1000]	ug/L
S 181.975 Axial†	1437.1	13.73	0.96%	[2000]	ug/L
Sb 206.836†	2960.2	28.15	0.95%	[1000]	ug/L
Se 196.026†	1585.4	10.17	0.64%	[1000]	ug/L
Si 251.611†	157978.5	396.80	0.25%	[5000]	ug/L
Sn 189.927†	5747.6	41.66	0.72%	[1000]	ug/L
Sr 421.552†	156998.7	593.76	0.38%	[1000]	ug/L
Ti 334.940†	627515.6	830.15	0.13%	[1000]	ug/L
Tl 190.801†	3319.0	24.73	0.75%	[1000]	ug/L
U 409.014†	33877.9	107.82	0.32%	[1000]	ug/L
V 292.402†	147795.8	138.28	0.09%	[1000]	ug/L
Zn 213.857†	106424.9	361.96	0.34%	[1000]	ug/L
Sio2†	158456.0	1177.48	0.74%	[10695]	ug/L

Sequence No.: 5  
 Sample ID: S10  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 5  
 Date Collected: 1/12/2010 12:56:05  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

## Replicate Data: S10

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Analysis Time
1	Sc Radial	4925.6	4925.6	96.2 %	12:58:18
1	Y RADIAL	5219.7	5219.7	94.81 %	12:58:18
1	Al 396.153Radial†	59396.7	61758.0	[50000] ug/L	12:57:58
1	Ca 317.933Radial†	29411.7	30558.7	[50000] ug/L	12:57:58
1	Fe 238.204 Radial†	2264.1	2342.3	[20000] ug/L	12:58:18
1	Mg 279.077 IEC†	1441.9	1496.0	[50000] ug/L	12:58:18
1	Na 589.592 Radial†	65409.6	69311.9	[20000] ug/L	12:57:58
1	Sc 361.383	823484.9	823484.9	95.969 %	12:59:15
1	Y 371.029	680559.9	680559.9	93.527 %	12:59:15
2	Sc Radial	4927.3	4927.3	96.2 %	12:58:43
2	Y RADIAL	5225.0	5225.0	94.91 %	12:58:43
2	Al 396.153Radial†	60710.3	63102.4	[50000] ug/L	12:58:23
2	Ca 317.933Radial†	30130.0	31294.9	[50000] ug/L	12:58:23
2	Fe 238.204 Radial†	2264.9	2342.4	[20000] ug/L	12:58:43
2	Mg 279.077 IEC†	1449.8	1503.8	[50000] ug/L	12:58:43
2	Na 589.592 Radial†	66690.7	70620.6	[20000] ug/L	12:58:23
2	Sc 361.383	822525.3	822525.3	95.857 %	12:59:21
2	Y 371.029	680709.4	680709.4	93.547 %	12:59:21
3	Sc Radial	4863.9	4863.9	95.0 %	12:59:08
3	Y RADIAL	5133.4	5133.4	93.24 %	12:59:08
3	Al 396.153Radial†	59330.4	62471.5	[50000] ug/L	12:58:48
3	Ca 317.933Radial†	29380.1	30913.3	[50000] ug/L	12:58:48
3	Fe 238.204 Radial†	2244.9	2351.9	[20000] ug/L	12:59:08
3	Mg 279.077 IEC†	1435.0	1507.8	[50000] ug/L	12:59:08
3	Na 589.592 Radial†	65029.3	69774.3	[20000] ug/L	12:58:48
3	Sc 361.383	827553.8	827553.8	96.443 %	12:59:27
3	Y 371.029	683978.3	683978.3	93.996 %	12:59:27

## Mean Data: S10

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
Sc 361.383	824521.4	2669.63	0.32%	96.090 %
Sc Radial	4905.6	36.11	0.74%	95.8 %
Y 371.029	681749.2	1931.88	0.28%	93.690 %
Y RADIAL	5192.7	51.42	0.99%	94.32 %
Al 396.153Radial†	62444.0	672.63	1.08%	[50000] ug/L
Ca 317.933Radial†	30922.3	368.21	1.19%	[50000] ug/L
Fe 238.204 Radial†	2345.5	5.54	0.24%	[20000] ug/L
Mg 279.077 IEC†	1502.5	5.98	0.40%	[50000] ug/L
Na 589.592 Radial†	69902.3	663.67	0.95%	[20000] ug/L

## Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	3	Lin Thru 0	0.0	218.0	0.00000	0.999998	
Al 396.153Radial	3	Lin Thru 0	0.0	1.250	0.00000	0.999985	
As 188.979	3	Lin Thru 0	0.0	2.339	0.00000	0.999987	
B 249.677	3	Lin Thru 0	0.0	44.55	0.00000	0.999983	
Ba 233.527	3	Lin Thru 0	0.0	129.1	0.00000	0.999993	
Be 313.107	3	Lin Thru 0	0.0	2647	0.00000	0.999996	
Ca 317.933Radial	3	Lin Thru 0	0.0	0.6195	0.00000	0.999971	
Cd 226.502	3	Lin Thru 0	0.0	90.90	0.00000	0.999997	
Co 228.616	3	Lin Thru 0	0.0	49.28	0.00000	0.999999	
Cr 267.716	3	Lin Thru 0	0.0	90.13	0.00000	0.999995	
Cu 324.752	3	Lin Thru 0	0.0	335.2	0.00000	0.999976	
Fe 238.204 Radia	2	Lin Thru 0	0.0	0.1176	0.00000	0.999984	
K 766.490 Radial	3	Lin Thru 0	0.0	5.491	0.00000	0.999970	

Mg 279.077 IEC	3	Lin Thru 0	0.0	0.0301	0.00000	0.999956
Mn 257.610	3	Lin Thru 0	0.0	911.9	0.00000	0.999993
Mo 202.031	3	Lin Thru 0	0.0	14.33	0.00000	0.999992
Na 589.592 Radia	2	Lin Thru 0	0.0	3.489	0.00000	0.999993
Ni 231.604	3	Lin Thru 0	0.0	40.41	0.00000	0.999999
P 214.914	3	Lin Thru 0	0.0	1.666	0.00000	0.999980
Pb 220.353	3	Lin Thru 0	0.0	8.264	0.00000	0.999993
S 181.975 Axial	3	Lin Thru 0	0.0	0.7186	0.00000	0.999999
Sb 206.836	3	Lin Thru 0	0.0	2.946	0.00000	0.999952
Se 196.026	3	Lin Thru 0	0.0	1.588	0.00000	0.999990
Si 251.611	3	Lin Thru 0	0.0	31.59	0.00000	1.000000
Sn 189.927	3	Lin Thru 0	0.0	5.741	0.00000	0.999995
Sr 421.552	3	Lin Thru 0	0.0	156.6	0.00000	0.999988
Ti 334.940	3	Lin Thru 0	0.0	624.5	0.00000	0.999951
Tl 190.801	3	Lin Thru 0	0.0	3.312	0.00000	0.999989
U 409.014	3	Lin Thru 0	0.0	33.97	0.00000	0.999981
V 292.402	3	Lin Thru 0	0.0	147.5	0.00000	0.999992
Zn 213.857	3	Lin Thru 0	0.0	106.5	0.00000	0.999996
SiO2	3	Lin Thru 0	0.0	14.83	0.00000	0.999999



Sequence No.: 6

Sample ID: ICV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 9

Date Collected: 1/12/2010 13:01:38

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	5010.0	5010.0	97.8 %		13:03:31
1	Y RADIAL	5302.4	5302.4	96.31 %		13:03:31
1	Al 396.153Radial†	6249.1	6393.7	5087.4 ug/L	5087.4 ppb	13:03:31
1	Ca 317.933Radial†	3090.1	3139.4	5067.8 ug/L	5067.8 ppb	13:03:51
1	Fe 238.204 Radial†	603.1	604.9	5158.4 ug/L	5158.4 ppb	13:03:51
1	K 766.490 Radial†	15625.6	13460.2	2447.7 ug/L	2447.7 ppb	13:03:31
1	Mg 279.077 IEC†	159.4	159.9	5309.0 ug/L	5309.0 ppb	13:03:51
1	Na 589.592 Radial†	7188.4	8656.5	2481.4 ug/L	2481.4 ppb	13:03:31
1	Sr 421.552†	79944.0	81704.9	521.61 ug/L	521.61 ppb	13:03:31
1	Sc 361.383	849869.6	849869.6	99.044 %		13:04:49
1	Y 371.029	711496.0	711496.0	97.778 %		13:04:49
1	Ag 328.068†	56675.3	56865.2	264.26 ug/L	264.26 ppb	13:04:49
1	As 188.979†	1071.5	1105.8	476.98 ug/L	476.98 ppb	13:05:09
1	B 249.677†	22366.5	23197.5	518.39 ug/L	518.39 ppb	13:04:49
1	Ba 233.527†	65677.2	66319.6	515.13 ug/L	515.13 ppb	13:04:49
1	Be 313.107†	679307.1	690337.6	261.96 ug/L	261.96 ppb	13:04:49
1	Cd 226.502†	45224.8	45862.9	504.40 ug/L	504.40 ppb	13:04:49
1	Co 228.616†	24639.9	24955.0	506.52 ug/L	506.52 ppb	13:05:09
1	Cr 267.716†	44068.9	44415.2	493.40 ug/L	493.40 ppb	13:04:49
1	Cu 324.752†	175664.4	170957.3	509.98 ug/L	509.98 ppb	13:04:49
1	Mn 257.610†	463792.9	467839.1	513.36 ug/L	513.36 ppb	13:04:49
1	Mo 202.031†	7661.7	7714.0	538.71 ug/L	538.71 ppb	13:05:09
1	Ni 231.604†	20007.9	20134.0	497.95 ug/L	497.95 ppb	13:05:09
1	P 214.914†	4370.8	4192.7	2397.8 ug/L	2397.8 ppb	13:05:09
1	Pb 220.353†	4040.5	4141.7	503.01 ug/L	503.01 ppb	13:05:09
1	S 181.975 Axial†	1809.3	1782.9	2480.3 ug/L	2480.3 ppb	13:05:09
1	Sb 206.836†	1486.2	1467.1	516.63 ug/L	516.63 ppb	13:05:09
1	Se 196.026†	3988.7	4059.3	2573.5 ug/L	2573.5 ppb	13:05:09
1	Si 251.611†	152179.8	153187.8	4842.7 ug/L	4842.7 ppb	13:04:49
1	Sn 189.927†	3059.7	3087.6	538.79 ug/L	538.79 ppb	13:05:09
1	Ti 334.940†	308948.9	313264.6	501.47 ug/L	501.47 ppb	13:04:49
1	Tl 190.801†	1676.3	1726.5	524.68 ug/L	524.68 ppb	13:05:09
1	U 409.014†	15115.1	17124.9	502.45 ug/L	502.45 ppb	13:04:49
1	V 292.402†	72741.6	74803.3	514.59 ug/L	514.59 ppb	13:04:49
1	Zn 213.857†	54741.7	54645.3	508.61 ug/L	508.61 ppb	13:04:49
1	SiO2†	151046.2	152044.9	10241 ug/L	10241 ppb	13:06:06
2	Sc Radial	4856.2	4856.2	94.8 %		13:03:56
2	Y RADIAL	5210.4	5210.4	94.64 %		13:03:56
2	Al 396.153Radial†	6393.7	6748.3	5371.2 ug/L	5371.2 ppb	13:03:56
2	Ca 317.933Radial†	3109.0	3259.3	5261.3 ug/L	5261.3 ppb	13:04:16
2	Fe 238.204 Radial†	609.3	631.0	5380.3 ug/L	5380.3 ppb	13:04:16
2	K 766.490 Radial†	16036.5	14399.0	2618.5 ug/L	2618.5 ppb	13:03:56
2	Mg 279.077 IEC†	159.6	165.2	5487.0 ug/L	5487.0 ppb	13:04:16
2	Na 589.592 Radial†	7358.5	9068.4	2599.5 ug/L	2599.5 ppb	13:03:56
2	Sr 421.552†	81707.1	86150.7	549.99 ug/L	549.99 ppb	13:03:56
2	Sc 361.383	857001.6	857001.6	99.875 %		13:05:15
2	Y 371.029	717341.1	717341.1	98.581 %		13:05:15
2	Ag 328.068†	56911.5	56625.5	263.23 ug/L	263.23 ppb	13:05:15
2	As 188.979†	1072.5	1097.7	473.60 ug/L	473.60 ppb	13:05:35
2	B 249.677†	22569.5	23212.7	518.71 ug/L	518.71 ppb	13:05:15
2	Ba 233.527†	66137.2	66228.4	514.43 ug/L	514.43 ppb	13:05:15
2	Be 313.107†	683745.0	689073.3	261.48 ug/L	261.48 ppb	13:05:15
2	Cd 226.502†	45542.1	45800.6	503.69 ug/L	503.69 ppb	13:05:15
2	Co 228.616†	24634.6	24742.6	502.20 ug/L	502.20 ppb	13:05:35
2	Cr 267.716†	44333.4	44309.8	492.23 ug/L	492.23 ppb	13:05:15
2	Cu 324.752†	176283.6	170101.3	507.44 ug/L	507.44 ppb	13:05:15
2	Mn 257.610†	466933.8	467087.0	512.55 ug/L	512.55 ppb	13:05:15
2	Mo 202.031†	7658.4	7646.4	534.01 ug/L	534.01 ppb	13:05:35
2	Ni 231.604†	20023.8	19981.8	494.18 ug/L	494.18 ppb	13:05:35

2	P 214.914†	4371.1	4156.3	2376.4 ug/L	2376.4 ppb	13:05:35
2	Pb 220.353†	4047.0	4114.2	499.73 ug/L	499.73 ppb	13:05:35
2	S 181.975 Axial†	1824.4	1782.8	2480.0 ug/L	2480.0 ppb	13:05:35
2	Sb 206.836†	1488.1	1456.5	512.87 ug/L	512.87 ppb	13:05:35
2	Se 196.026†	4016.9	4054.0	2570.9 ug/L	2570.9 ppb	13:05:35
2	Si 251.611†	153041.2	152771.6	4829.6 ug/L	4829.6 ppb	13:05:15
2	Sn 189.927†	3060.0	3062.1	534.39 ug/L	534.39 ppb	13:05:35
2	Ti 334.940†	310900.4	312622.7	500.46 ug/L	500.46 ppb	13:05:15
2	Tl 190.801†	1705.2	1741.4	529.17 ug/L	529.17 ppb	13:05:35
2	U 409.014†	15024.8	16907.4	496.02 ug/L	496.02 ppb	13:05:15
2	V 292.402†	73186.5	74637.6	513.36 ug/L	513.36 ppb	13:05:15
2	Zn 213.857†	55101.8	54546.0	507.68 ug/L	507.68 ppb	13:05:15
2	SiO2†	152226.2	151957.2	10235 ug/L	10235 ppb	13:06:12
3	Sc Radial	5354.1	5354.1	105 %		13:04:21
3	Y RADIAL	5682.9	5682.9	103.2 %		13:04:21
3	Al 396.153Radial†	6189.2	5925.8	4714.3 ug/L	4714.3 ppb	13:04:21
3	Ca 317.933Radial†	3090.8	2936.9	4741.0 ug/L	4741.0 ppb	13:04:41
3	Fe 238.204 Radial†	608.0	570.0	4860.8 ug/L	4860.8 ppb	13:04:41
3	K 766.490 Radial†	15736.8	12539.8	2280.3 ug/L	2280.3 ppb	13:04:21
3	Mg 279.077 IEC†	160.5	150.5	4997.9 ug/L	4997.9 ppb	13:04:41
3	Na 589.592 Radial†	7199.1	8194.4	2348.9 ug/L	2348.9 ppb	13:04:21
3	Sr 421.552†	79611.9	76134.7	486.05 ug/L	486.05 ppb	13:04:21
3	Sc 361.383	885353.8	885353.8	103.18 %		13:05:41
3	Y 371.029	740833.6	740833.6	101.81 %		13:05:41
3	Ag 328.068†	55805.0	53728.3	249.68 ug/L	249.68 ppb	13:05:41
3	As 188.979†	1075.8	1066.6	459.96 ug/L	459.96 ppb	13:06:01
3	B 249.677†	22064.4	21999.6	491.62 ug/L	491.62 ppb	13:05:41
3	Ba 233.527†	64638.2	62654.9	486.66 ug/L	486.66 ppb	13:05:41
3	Be 313.107†	666405.7	650344.9	246.79 ug/L	246.79 ppb	13:05:41
3	Cd 226.502†	44523.6	43353.3	476.80 ug/L	476.80 ppb	13:05:41
3	Co 228.616†	24528.8	23850.2	484.12 ug/L	484.12 ppb	13:06:01
3	Cr 267.716†	43335.4	41921.0	465.69 ug/L	465.69 ppb	13:05:41
3	Cu 324.752†	172464.7	160747.8	479.53 ug/L	479.53 ppb	13:05:41
3	Mn 257.610†	456774.6	442269.2	485.30 ug/L	485.30 ppb	13:05:41
3	Mo 202.031†	7633.0	7376.2	515.11 ug/L	515.11 ppb	13:06:01
3	Ni 231.604†	19894.6	19214.5	475.21 ug/L	475.21 ppb	13:06:01
3	P 214.914†	4356.1	4001.5	2290.2 ug/L	2290.2 ppb	13:06:01
3	Pb 220.353†	4037.4	3975.1	482.76 ug/L	482.76 ppb	13:06:01
3	S 181.975 Axial†	1806.7	1707.2	2374.9 ug/L	2374.9 ppb	13:06:01
3	Sb 206.836†	1486.6	1407.3	495.53 ug/L	495.53 ppb	13:06:01
3	Se 196.026†	3998.3	3907.2	2476.8 ug/L	2476.8 ppb	13:06:01
3	Si 251.611†	149921.2	144840.7	4578.8 ug/L	4578.8 ppb	13:05:41
3	Sn 189.927†	3048.2	2952.6	515.21 ug/L	515.21 ppb	13:06:01
3	Ti 334.940†	303449.3	295432.6	472.92 ug/L	472.92 ppb	13:05:41
3	Tl 190.801†	1688.1	1670.2	507.45 ug/L	507.45 ppb	13:06:01
3	U 409.014†	14649.8	16062.2	471.26 ug/L	471.26 ppb	13:05:41
3	V 292.402†	71433.0	70591.5	485.72 ug/L	485.72 ppb	13:05:41
3	Zn 213.857†	53890.4	51605.1	480.28 ug/L	480.28 ppb	13:05:41
3	SiO2†	152938.4	147766.5	9952.6 ug/L	9952.6 ppb	13:06:17

## Mean Data: ICV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	864075.0	100.70 %	2.187			2.17%
Sc Radial	5073.4	99.1 %	4.98			5.02%
Y 371.029	723223.6	99.390 %	2.1340			2.15%
Y RADIAL	5398.6	98.06 %	4.551			4.64%
Ag 328.068†	55739.7	259.06 ug/L	8.137	259.06 ppb	8.137	3.14%
QC value within limits for Ag 328.068 Recovery = 103.62%						
Al 396.153Radial†	6356.0	5057.7 ug/L	329.45	5057.7 ppb	329.45	6.51%
QC value within limits for Al 396.153Radial Recovery = 101.15%						
As 188.979†	1090.0	470.18 ug/L	9.010	470.18 ppb	9.010	1.92%
QC value within limits for As 188.979 Recovery = 94.04%						
B 249.677†	22803.3	509.57 ug/L	15.551	509.57 ppb	15.551	3.05%
QC value within limits for B 249.677 Recovery = 101.91%						
Ba 233.527†	65067.6	505.41 ug/L	16.236	505.41 ppb	16.236	3.21%
QC value within limits for Ba 233.527 Recovery = 101.08%						
Be 313.107†	676585.3	256.75 ug/L	8.626	256.75 ppb	8.626	3.36%
QC value within limits for Be 313.107 Recovery = 102.70%						
Ca 317.933Radial†	3111.9	5023.4 ug/L	263.00	5023.4 ppb	263.00	5.24%

QC value within limits for Ca 317.933 Radial Recovery = 100.47%							
Cd 226.502†	45005.6	494.96 ug/L	15.732	494.96 ppb	15.732	3.18%	
QC value within limits for Cd 226.502 Recovery = 98.99%							
Co 228.616†	24515.9	497.61 ug/L	11.888	497.61 ppb	11.888	2.39%	
QC value within limits for Co 228.616 Recovery = 99.52%							
Cr 267.716†	43548.7	483.78 ug/L	15.671	483.78 ppb	15.671	3.24%	
QC value within limits for Cr 267.716 Recovery = 96.76%							
Cu 324.752†	167268.8	498.98 ug/L	16.898	498.98 ppb	16.898	3.39%	
QC value within limits for Cu 324.752 Recovery = 99.80%							
Fe 238.204 Radial†	602.0	5133.2 ug/L	260.70	5133.2 ppb	260.70	5.08%	
QC value within limits for Fe 238.204 Radial Recovery = 102.66%							
K 766.490 Radial†	13466.3	2448.8 ug/L	169.14	2448.8 ppb	169.14	6.91%	
QC value within limits for K 766.490 Radial Recovery = 97.95%							
Mg 279.077 IEC†	158.5	5264.7 ug/L	247.56	5264.7 ppb	247.56	4.70%	
QC value within limits for Mg 279.077 IEC Recovery = 105.29%							
Mn 257.610†	459065.1	503.73 ug/L	15.971	503.73 ppb	15.971	3.17%	
QC value within limits for Mn 257.610 Recovery = 100.75%							
Mo 202.031†	7578.9	529.28 ug/L	12.491	529.28 ppb	12.491	2.36%	
QC value within limits for Mo 202.031 Recovery = 105.86%							
Na 589.592 Radial†	8639.8	2476.6 ug/L	125.34	2476.6 ppb	125.34	5.06%	
QC value within limits for Na 589.592 Radial Recovery = 99.06%							
Ni 231.604†	19776.8	489.11 ug/L	12.188	489.11 ppb	12.188	2.49%	
QC value within limits for Ni 231.604 Recovery = 97.82%							
P 214.914†	4116.8	2354.8 ug/L	56.95	2354.8 ppb	56.95	2.42%	
QC value within limits for P 214.914 Recovery = 94.19%							
Pb 220.353†	4077.0	495.17 ug/L	10.873	495.17 ppb	10.873	2.20%	
QC value within limits for Pb 220.353 Recovery = 99.03%							
S 181.975 Axial†	1757.6	2445.1 ug/L	60.75	2445.1 ppb	60.75	2.48%	
QC value within limits for S 181.975 Axial Recovery = 97.80%							
Sb 206.836†	1443.6	508.35 ug/L	11.254	508.35 ppb	11.254	2.21%	
QC value within limits for Sb 206.836 Recovery = 101.67%							
Se 196.026†	4006.8	2540.4 ug/L	55.11	2540.4 ppb	55.11	2.17%	
QC value within limits for Se 196.026 Recovery = 101.62%							
Si 251.611†	150266.7	4750.4 ug/L	148.75	4750.4 ppb	148.75	3.13%	
QC value within limits for Si 251.611 Recovery = 95.01%							
Sn 189.927†	3034.1	529.47 ug/L	12.537	529.47 ppb	12.537	2.37%	
QC value within limits for Sn 189.927 Recovery = 105.89%							
Sr 421.552†	81330.1	519.22 ug/L	32.039	519.22 ppb	32.039	6.17%	
QC value within limits for Sr 421.552 Recovery = 103.84%							
Ti 334.940†	307106.7	491.62 ug/L	16.198	491.62 ppb	16.198	3.29%	
QC value within limits for Ti 334.940 Recovery = 98.32%							
Tl 190.801†	1712.7	520.43 ug/L	11.464	520.43 ppb	11.464	2.20%	
QC value within limits for Tl 190.801 Recovery = 104.09%							
U 409.014†	16698.2	489.91 ug/L	16.468	489.91 ppb	16.468	3.36%	
QC value within limits for U 409.014 Recovery = 97.98%							
V 292.402†	73344.1	504.56 ug/L	16.328	504.56 ppb	16.328	3.24%	
QC value within limits for V 292.402 Recovery = 100.91%							
Zn 213.857†	53598.8	498.86 ug/L	16.092	498.86 ppb	16.092	3.23%	
QC value within limits for Zn 213.857 Recovery = 99.77%							
SiO2†	150589.6	10143 ug/L	164.6	10143 ppb	164.6	1.62%	
QC value within limits for SiO2 Recovery = 94.84%							
All analyte(s) passed QC.							

Sequence No.: 7

Sample ID: ICB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 10

Date Collected: 1/12/2010 13:08:27

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	5132.5	5132.5	100 %		13:10:20
1	Y RADIAL	5490.0	5490.0	99.72 %		13:10:20
1	Al 396.153Radial†	-3.5	2.7	2.1297 ug/L	2.1297 ppb	13:10:20
1	Ca 317.933Radial†	10.8	-8.4	-13.622 ug/L	-13.622 ppb	13:10:40
1	Fe 238.204 Radial†	10.5	-1.0	-8.8942 ug/L	-8.8942 ppb	13:10:40
1	K 766.490 Radial†	2595.7	78.3	14.260 ug/L	14.260 ppb	13:10:20
1	Mg 279.077 IEC†	4.0	0.9	30.951 ug/L	30.951 ppb	13:10:40
1	Na 589.592 Radial†	-1229.1	82.6	23.676 ug/L	23.676 ppb	13:10:20
1	Sr 421.552†	35.1	25.3	0.1616 ug/L	0.1616 ppb	13:10:20
1	Sc 361.383	827959.4	827959.4	96.491 %		13:11:37
1	Y 371.029	702033.6	702033.6	96.478 %		13:11:37
1	Ag 328.068†	260.3	-87.3	-0.4028 ug/L	-0.4028 ppb	13:11:37
1	As 188.979†	-19.0	4.2	1.8003 ug/L	1.8003 ppb	13:11:57
1	B 249.677†	-343.4	259.2	5.8194 ug/L	5.8194 ppb	13:11:57
1	Ba 233.527†	-8.2	0.1	0.0009 ug/L	0.0009 ppb	13:11:57
1	Be 313.107†	-4481.6	-169.9	-0.0640 ug/L	-0.0640 ppb	13:11:37
1	Cd 226.502†	-186.7	8.2	0.0916 ug/L	0.0916 ppb	13:11:57
1	Co 228.616†	-83.1	-8.9	-0.1811 ug/L	-0.1811 ppb	13:11:57
1	Cr 267.716†	68.2	-8.3	-0.0919 ug/L	-0.0919 ppb	13:11:57
1	Cu 324.752†	6276.5	102.4	0.3044 ug/L	0.3044 ppb	13:11:37
1	Mn 257.610†	414.4	-0.3	-0.0025 ug/L	-0.0025 ppb	13:11:57
1	Mo 202.031†	21.3	0.4	0.0283 ug/L	0.0283 ppb	13:11:57
1	Ni 231.604†	86.0	22.1	0.5465 ug/L	0.5465 ppb	13:11:57
1	P 214.914†	217.7	5.3	3.1247 ug/L	3.1247 ppb	13:11:57
1	Pb 220.353†	-56.7	3.4	0.4131 ug/L	0.4131 ppb	13:11:57
1	S 181.975 Axial†	52.0	10.0	13.876 ug/L	13.876 ppb	13:11:57
1	Sb 206.836†	43.9	12.0	4.1234 ug/L	4.1234 ppb	13:11:57
1	Se 196.026†	-27.1	3.9	2.4547 ug/L	2.4547 ppb	13:11:57
1	Si 251.611†	493.4	50.7	1.6044 ug/L	1.6044 ppb	13:11:57
1	Sn 189.927†	14.1	13.0	2.2582 ug/L	2.2582 ppb	13:11:57
1	Ti 334.940†	-1235.0	54.2	0.0820 ug/L	0.0820 ppb	13:11:37
1	Tl 190.801†	-40.9	-8.3	-2.5110 ug/L	-2.5110 ppb	13:11:57
1	U 409.014†	-1763.7	36.0	1.0612 ug/L	1.0612 ppb	13:11:37
1	V 292.402†	-1282.3	30.7	0.2129 ug/L	0.2129 ppb	13:11:37
1	Zn 213.857†	628.7	26.9	0.2498 ug/L	0.2498 ppb	13:11:57
1	SiO2†	453.9	11.4	0.7697 ug/L	0.7697 ppb	13:12:53
2	Sc Radial	5004.1	5004.1	97.7 %		13:10:45
2	Y RADIAL	5395.8	5395.8	98.01 %		13:10:45
2	Al 396.153Radial†	-4.0	2.1	1.6928 ug/L	1.6928 ppb	13:10:45
2	Ca 317.933Radial†	14.7	-4.2	-6.7989 ug/L	-6.7989 ppb	13:11:05
2	Fe 238.204 Radial†	13.0	1.7	14.568 ug/L	14.568 ppb	13:11:05
2	K 766.490 Radial†	2582.5	131.3	23.898 ug/L	23.898 ppb	13:10:45
2	Mg 279.077 IEC†	3.9	0.9	30.582 ug/L	30.582 ppb	13:11:05
2	Na 589.592 Radial†	-1207.7	73.0	20.920 ug/L	20.920 ppb	13:10:45
2	Sr 421.552†	18.7	9.3	0.0597 ug/L	0.0597 ppb	13:10:45
2	Sc 361.383	837584.2	837584.2	97.612 %		13:12:02
2	Y 371.029	710200.8	710200.8	97.600 %		13:12:02
2	Ag 328.068†	283.3	-66.9	-0.2968 ug/L	-0.2968 ppb	13:12:02
2	As 188.979†	-26.9	-3.6	-1.5477 ug/L	-1.5477 ppb	13:12:22
2	B 249.677†	-347.9	258.7	5.8054 ug/L	5.8054 ppb	13:12:22
2	Ba 233.527†	-27.8	-19.9	-0.1535 ug/L	-0.1535 ppb	13:12:22
2	Be 313.107†	-4427.1	-60.7	-0.0230 ug/L	-0.0230 ppb	13:12:02
2	Cd 226.502†	-192.5	4.4	0.0456 ug/L	0.0456 ppb	13:12:22
2	Co 228.616†	-78.8	-3.5	-0.0734 ug/L	-0.0734 ppb	13:12:22
2	Cr 267.716†	62.0	-15.5	-0.1692 ug/L	-0.1692 ppb	13:12:22
2	Cu 324.752†	6241.4	-8.4	-0.0212 ug/L	-0.0212 ppb	13:12:02
2	Mn 257.610†	424.2	4.8	0.0054 ug/L	0.0054 ppb	13:12:22
2	Mo 202.031†	9.0	-12.4	-0.8649 ug/L	-0.8649 ppb	13:12:22
2	Ni 231.604†	47.2	-18.7	-0.4626 ug/L	-0.4626 ppb	13:12:22

2	P 214.914†	230.4	15.7	9.4149 ug/L	9.4149 ppb	13:12:22
2	Pb 220.353†	-61.9	-1.2	-0.1500 ug/L	-0.1500 ppb	13:12:22
2	S 181.975 Axial†	49.5	6.9	9.5401 ug/L	9.5401 ppb	13:12:22
2	Sb 206.836†	34.5	1.9	0.6349 ug/L	0.6349 ppb	13:12:22
2	Se 196.026†	-32.2	-1.0	-0.5626 ug/L	-0.5626 ppb	13:12:22
2	Si 251.611†	452.1	2.5	0.0909 ug/L	0.0909 ppb	13:12:22
2	Sn 189.927†	0.9	-0.7	-0.1311 ug/L	-0.1311 ppb	13:12:22
2	Ti 334.940†	-1310.7	-8.6	-0.0147 ug/L	-0.0147 ppb	13:12:02
2	Tl 190.801†	-29.6	3.8	1.1356 ug/L	1.1356 ppb	13:12:22
2	U 409.014†	-2003.2	-188.3	-5.5451 ug/L	-5.5451 ppb	13:12:02
2	V 292.402†	-1310.4	17.3	0.0921 ug/L	0.0921 ppb	13:12:02
2	Zn 213.857†	635.6	26.5	0.2507 ug/L	0.2507 ppb	13:12:22
2	SiO2†	503.0	56.3	3.8213 ug/L	3.8213 ppb	13:12:58
3	Sc Radial	4986.9	4986.9	97.4 %		13:11:10
3	Y RADIAL	5371.2	5371.2	97.56 %		13:11:10
3	Al 396.153Radial†	-13.1	-7.3	-5.8687 ug/L	-5.8687 ppb	13:11:10
3	Ca 317.933Radial†	14.0	-4.9	-7.8391 ug/L	-7.8391 ppb	13:11:30
3	Fe 238.204 Radial†	8.9	-2.4	-20.530 ug/L	-20.530 ppb	13:11:30
3	K 766.490 Radial†	2484.6	39.8	7.2541 ug/L	7.2541 ppb	13:11:10
3	Mg 279.077 IEC†	1.1	-1.9	-63.992 ug/L	-63.992 ppb	13:11:30
3	Na 589.592 Radial†	-1249.6	25.7	7.3714 ug/L	7.3714 ppb	13:11:10
3	Sr 421.552†	20.7	11.5	0.0733 ug/L	0.0733 ppb	13:11:10
3	Sc 361.383	838620.9	838620.9	97.733 %		13:12:28
3	Y 371.029	710266.2	710266.2	97.609 %		13:12:28
3	Ag 328.068†	248.9	-102.4	-0.4763 ug/L	-0.4763 ppb	13:12:28
3	As 188.979†	-17.2	6.3	2.6868 ug/L	2.6868 ppb	13:12:48
3	B 249.677†	-351.7	255.2	5.7327 ug/L	5.7327 ppb	13:12:48
3	Ba 233.527†	-12.0	-3.7	-0.0300 ug/L	-0.0300 ppb	13:12:48
3	Be 313.107†	-4461.9	-90.7	-0.0343 ug/L	-0.0343 ppb	13:12:28
3	Cd 226.502†	-186.4	10.9	0.1216 ug/L	0.1216 ppb	13:12:48
3	Co 228.616†	-83.1	-7.8	-0.1577 ug/L	-0.1577 ppb	13:12:48
3	Cr 267.716†	81.8	4.7	0.0520 ug/L	0.0520 ppb	13:12:48
3	Cu 324.752†	6300.0	43.7	0.1305 ug/L	0.1305 ppb	13:12:28
3	Mn 257.610†	421.6	1.6	0.0023 ug/L	0.0023 ppb	13:12:48
3	Mo 202.031†	27.4	6.4	0.4431 ug/L	0.4431 ppb	13:12:48
3	Ni 231.604†	72.5	7.2	0.1777 ug/L	0.1777 ppb	13:12:48
3	P 214.914†	219.0	3.7	2.2500 ug/L	2.2500 ppb	13:12:48
3	Pb 220.353†	-56.5	4.4	0.5349 ug/L	0.5349 ppb	13:12:48
3	S 181.975 Axial†	48.5	5.7	7.9861 ug/L	7.9861 ppb	13:12:48
3	Sb 206.836†	39.6	7.0	2.4467 ug/L	2.4467 ppb	13:12:48
3	Se 196.026†	-28.0	3.4	2.0664 ug/L	2.0664 ppb	13:12:48
3	Si 251.611†	475.1	25.4	0.7990 ug/L	0.7990 ppb	13:12:48
3	Sn 189.927†	19.4	18.2	3.1682 ug/L	3.1682 ppb	13:12:48
3	Ti 334.940†	-1314.6	-10.9	-0.0123 ug/L	-0.0123 ppb	13:12:28
3	Tl 190.801†	-37.2	-4.0	-1.2004 ug/L	-1.2004 ppb	13:12:48
3	U 409.014†	-1901.7	-81.9	-2.4097 ug/L	-2.4097 ppb	13:12:28
3	V 292.402†	-1398.1	-70.8	-0.4757 ug/L	-0.4757 ppb	13:12:28
3	Zn 213.857†	626.8	16.7	0.1571 ug/L	0.1571 ppb	13:12:48
3	SiO2†	489.0	41.3	2.7732 ug/L	2.7732 ppb	13:13:03

## Mean Data: ICB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	834721.5	97.279 %	0.6851			0.70%
Sc Radial	5041.2	98.4 %	1.55			1.58%
Y 371.029	707500.2	97.229 %	0.6506			0.67%
Y RADIAL	5419.0	98.43 %	1.139			1.16%
Ag 328.068†	-85.5	-0.3920 ug/L	0.09024	-0.3920 ppb	0.09024	23.02%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-0.9	-0.6821 ug/L	4.49703	-0.6821 ppb	4.49703	659.32%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	2.3	0.9798 ug/L	2.23329	0.9798 ppb	2.23329	227.94%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	257.7	5.7858 ug/L	0.04657	5.7858 ppb	0.04657	0.80%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-7.8	-0.0609 ug/L	0.08169	-0.0609 ppb	0.08169	134.22%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-107.1	-0.0404 ug/L	0.02118	-0.0404 ppb	0.02118	52.39%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-5.8	-9.4201 ug/L	3.67624	-9.4201 ppb	3.67624	39.03%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated								
Cd	226.502†	7.8	0.0863 ug/L	0.03831	0.0863 ppb	0.03831	44.41%	
QC value within limits for Cd 226.502 Recovery = Not calculated								
Co	228.616†	-6.8	-0.1374 ug/L	0.05662	-0.1374 ppb	0.05662	41.21%	
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr	267.716†	-6.3	-0.0697 ug/L	0.11226	-0.0697 ppb	0.11226	161.13%	
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu	324.752†	45.9	0.1379 ug/L	0.16295	0.1379 ppb	0.16295	118.17%	
QC value within limits for Cu 324.752 Recovery = Not calculated								
Fe	238.204 Radial†	-0.6	-4.9520 ug/L	17.87815	-4.9520 ppb	17.87815	361.03%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated								
K	766.490 Radial†	83.1	15.137 ug/L	8.3568	15.137 ppb	8.3568	55.21%	
QC value within limits for K 766.490 Radial Recovery = Not calculated								
Mg	279.077 IEC†	-0.0	-0.8197 ug/L	54.70932	-0.8197 ppb	54.70932	>999.9%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated								
Mn	257.610†	2.0	0.0018 ug/L	0.00401	0.0018 ppb	0.00401	227.92%	
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo	202.031†	-1.9	-0.1312 ug/L	0.66844	-0.1312 ppb	0.66844	509.61%	
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na	589.592 Radial†	60.4	17.322 ug/L	8.7273	17.322 ppb	8.7273	50.38%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated								
Ni	231.604†	3.5	0.0872 ug/L	0.51061	0.0872 ppb	0.51061	585.72%	
QC value within limits for Ni 231.604 Recovery = Not calculated								
P	214.914†	8.2	4.9299 ug/L	3.90870	4.9299 ppb	3.90870	79.29%	
QC value within limits for P 214.914 Recovery = Not calculated								
Pb	220.353†	2.2	0.2660 ug/L	0.36539	0.2660 ppb	0.36539	137.36%	
QC value within limits for Pb 220.353 Recovery = Not calculated								
S	181.975 Axial†	7.5	10.467 ug/L	3.0527	10.467 ppb	3.0527	29.16%	
QC value within limits for S 181.975 Axial Recovery = Not calculated								
Sb	206.836†	7.0	2.4017 ug/L	1.74473	2.4017 ppb	1.74473	72.65%	
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se	196.026†	2.1	1.3195 ug/L	1.64149	1.3195 ppb	1.64149	124.40%	
QC value within limits for Se 196.026 Recovery = Not calculated								
Si	251.611†	26.2	0.8314 ug/L	0.75728	0.8314 ppb	0.75728	91.08%	
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn	189.927†	10.1	1.7651 ug/L	1.70403	1.7651 ppb	1.70403	96.54%	
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr	421.552†	15.4	0.0982 ug/L	0.05530	0.0982 ppb	0.05530	56.32%	
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti	334.940†	11.6	0.0183 ug/L	0.05515	0.0183 ppb	0.05515	300.73%	
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl	190.801†	-2.8	-0.8586 ug/L	1.84716	-0.8586 ppb	1.84716	215.14%	
QC value within limits for Tl 190.801 Recovery = Not calculated								
U	409.014†	-78.1	-2.2978 ug/L	3.30458	-2.2978 ppb	3.30458	143.81%	
QC value within limits for U 409.014 Recovery = Not calculated								
V	292.402†	-7.6	-0.0569 ug/L	0.36767	-0.0569 ppb	0.36767	646.20%	
QC value within limits for V 292.402 Recovery = Not calculated								
Zn	213.857†	23.4	0.2192 ug/L	0.05379	0.2192 ppb	0.05379	24.54%	
QC value within limits for Zn 213.857 Recovery = Not calculated								
SiO2†		36.3	2.4548 ug/L	1.55053	2.4548 ppb	1.55053	63.16%	
QC value within limits for SiO2 Recovery = Not calculated								
All analyte(s) passed QC.								

Sequence No.: 8

Sample ID: PQL

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 11

Date Collected: 1/12/2010 13:15:14

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	5072.5	5072.5	99.1 %		13:17:07
1	Y RADIAL	5458.5	5458.5	99.15 %		13:17:07
1	Al 396.153Radial†	261.2	269.9	215.41 ug/L	215.41 ppb	13:17:07
1	Ca 317.933Radial†	152.0	134.2	216.69 ug/L	216.69 ppb	13:17:27
1	Fe 238.204 Radial†	21.9	10.6	90.073 ug/L	90.073 ppb	13:17:27
1	K 766.490 Radial†	3378.5	899.2	163.53 ug/L	163.53 ppb	13:17:07
1	Mg 279.077 IEC†	9.7	6.7	223.91 ug/L	223.91 ppb	13:17:27
1	Na 589.592 Radial†	-206.1	1100.8	315.55 ug/L	315.55 ppb	13:17:07
1	Sr 421.552†	777.9	775.6	4.9502 ug/L	4.9502 ppb	13:17:07
1	Sc 361.383	867851.8	867851.8	101.14 %		13:18:24
1	Y 371.029	732628.4	732628.4	100.68 %		13:18:24
1	Ag 328.068†	1455.1	1081.6	4.9654 ug/L	4.9654 ppb	13:18:29
1	As 188.979†	45.4	68.8	29.453 ug/L	29.453 ppb	13:18:49
1	B 249.677†	1583.3	2180.6	48.915 ug/L	48.915 ppb	13:18:29
1	Ba 233.527†	642.5	643.9	5.0029 ug/L	5.0029 ppb	13:18:49
1	Be 313.107†	8400.4	12780.4	4.8398 ug/L	4.8398 ppb	13:18:29
1	Cd 226.502†	253.8	452.6	4.9829 ug/L	4.9829 ppb	13:18:49
1	Co 228.616†	158.0	233.5	4.7485 ug/L	4.7485 ppb	13:18:49
1	Cr 267.716†	509.0	424.3	4.6951 ug/L	4.6951 ppb	13:18:49
1	Cu 324.752†	9721.0	3209.0	9.5477 ug/L	9.5477 ppb	13:18:29
1	Mn 257.610†	9876.0	9334.9	10.237 ug/L	10.237 ppb	13:18:29
1	Mo 202.031†	159.9	136.5	9.5349 ug/L	9.5349 ppb	13:18:49
1	Ni 231.604†	265.7	195.7	4.8409 ug/L	4.8409 ppb	13:18:49
1	P 214.914†	464.5	238.9	141.23 ug/L	141.23 ppb	13:18:49
1	Pb 220.353†	9.7	71.8	8.7526 ug/L	8.7526 ppb	13:18:49
1	S 181.975 Axial†	122.9	77.6	108.00 ug/L	108.00 ppb	13:18:49
1	Sb 206.836†	63.0	28.8	10.119 ug/L	10.119 ppb	13:18:49
1	Se 196.026†	12.6	44.5	28.330 ug/L	28.330 ppb	13:18:49
1	Si 251.611†	3584.3	3083.3	97.488 ug/L	97.488 ppb	13:18:29
1	Sn 189.927†	58.7	56.4	9.8653 ug/L	9.8653 ppb	13:18:49
1	Ti 334.940†	1725.7	3040.4	4.8541 ug/L	4.8541 ppb	13:18:29
1	Tl 190.801†	39.4	73.1	22.120 ug/L	22.120 ppb	13:18:49
1	U 409.014†	-23.6	1840.5	54.161 ug/L	54.161 ppb	13:18:24
1	V 292.402†	-611.1	755.5	5.3493 ug/L	5.3493 ppb	13:18:29
1	Zn 213.857†	1755.3	1110.9	10.376 ug/L	10.376 ppb	13:18:49
1	SiO2†	3608.3	3108.7	209.41 ug/L	209.41 ppb	13:19:55
2	Sc Radial	5060.1	5060.1	98.8 %		13:17:32
2	Y RADIAL	5452.4	5452.4	99.04 %		13:17:32
2	Al 396.153Radial†	245.7	254.8	203.36 ug/L	203.36 ppb	13:17:32
2	Ca 317.933Radial†	144.1	126.6	204.32 ug/L	204.32 ppb	13:17:52
2	Fe 238.204 Radial†	22.7	11.4	97.409 ug/L	97.409 ppb	13:17:52
2	K 766.490 Radial†	3309.1	837.4	152.28 ug/L	152.28 ppb	13:17:32
2	Mg 279.077 IEC†	12.6	9.7	322.16 ug/L	322.16 ppb	13:17:52
2	Na 589.592 Radial†	-179.5	1127.3	323.13 ug/L	323.13 ppb	13:17:32
2	Sr 421.552†	766.3	765.8	4.8875 ug/L	4.8875 ppb	13:17:32
2	Sc 361.383	857551.6	857551.6	99.939 %		13:18:54
2	Y 371.029	725347.9	725347.9	99.682 %		13:18:54
2	Ag 328.068†	1468.5	1112.3	5.1069 ug/L	5.1069 ppb	13:18:59
2	As 188.979†	41.4	65.4	27.983 ug/L	27.983 ppb	13:19:20
2	B 249.677†	1646.3	2262.4	50.750 ug/L	50.750 ppb	13:18:59
2	Ba 233.527†	627.0	636.0	4.9413 ug/L	4.9413 ppb	13:19:20
2	Be 313.107†	8517.0	12996.9	4.9218 ug/L	4.9218 ppb	13:18:59
2	Cd 226.502†	246.5	448.3	4.9358 ug/L	4.9358 ppb	13:19:20
2	Co 228.616†	166.3	243.7	4.9545 ug/L	4.9545 ppb	13:19:20
2	Cr 267.716†	507.7	429.0	4.7470 ug/L	4.7470 ppb	13:19:20
2	Cu 324.752†	9880.2	3483.8	10.367 ug/L	10.367 ppb	13:18:59
2	Mn 257.610†	9864.5	9440.7	10.350 ug/L	10.350 ppb	13:18:59
2	Mo 202.031†	157.0	135.5	9.4648 ug/L	9.4648 ppb	13:19:20
2	Ni 231.604†	278.8	211.9	5.2417 ug/L	5.2417 ppb	13:19:20

2	P 214.914†	474.0	254.0	150.10 ug/L	150.10 ppb	13:19:20
2	Pb 220.353†	17.2	79.4	9.6676 ug/L	9.6676 ppb	13:19:20
2	S 181.975 Axial†	118.9	75.1	104.50 ug/L	104.50 ppb	13:19:20
2	Sb 206.836†	73.6	40.2	13.978 ug/L	13.978 ppb	13:19:20
2	Se 196.026†	11.2	43.2	27.549 ug/L	27.549 ppb	13:19:20
2	Si 251.611†	3602.3	3143.8	99.405 ug/L	99.405 ppb	13:18:59
2	Sn 189.927†	62.6	61.0	10.654 ug/L	10.654 ppb	13:19:20
2	Ti 334.940†	1773.8	3109.1	4.9540 ug/L	4.9540 ppb	13:18:59
2	Tl 190.801†	28.6	62.7	18.985 ug/L	18.985 ppb	13:19:20
2	U 409.014†	3.3	1867.2	54.945 ug/L	54.945 ppb	13:18:54
2	V 292.402†	-640.2	719.1	5.1041 ug/L	5.1041 ppb	13:18:59
2	Zn 213.857†	1761.7	1138.1	10.627 ug/L	10.627 ppb	13:19:20
2	SiO2†	3588.3	3131.5	210.96 ug/L	210.96 ppb	13:20:00
3	Sc Radial	5313.6	5313.6	104 %		13:17:57
3	Y RADIAL	5695.4	5695.4	103.5 %		13:17:57
3	Al 396.153Radial†	256.2	253.1	201.93 ug/L	201.93 ppb	13:17:57
3	Ca 317.933Radial†	143.5	119.1	192.24 ug/L	192.24 ppb	13:18:18
3	Fe 238.204 Radial†	23.1	10.7	90.971 ug/L	90.971 ppb	13:18:18
3	K 766.490 Radial†	3366.1	732.5	133.19 ug/L	133.19 ppb	13:17:57
3	Mg 279.077 IEC†	11.1	7.7	255.26 ug/L	255.26 ppb	13:18:18
3	Na 589.592 Radial†	-197.0	1119.0	320.76 ug/L	320.76 ppb	13:17:57
3	Sr 421.552†	762.9	725.5	4.6306 ug/L	4.6306 ppb	13:17:57
3	Sc 361.383	855818.5	855818.5	99.737 %		13:19:25
3	Y 371.029	723943.9	723943.9	99.489 %		13:19:25
3	Ag 328.068†	1367.5	1014.0	4.6585 ug/L	4.6585 ppb	13:19:30
3	As 188.979†	53.4	77.5	33.166 ug/L	33.166 ppb	13:19:50
3	B 249.677†	1602.2	2221.5	49.834 ug/L	49.834 ppb	13:19:30
3	Ba 233.527†	621.1	631.3	4.9054 ug/L	4.9054 ppb	13:19:50
3	Be 313.107†	8534.7	13031.8	4.9351 ug/L	4.9351 ppb	13:19:30
3	Cd 226.502†	247.1	449.4	4.9469 ug/L	4.9469 ppb	13:19:50
3	Co 228.616†	165.2	242.9	4.9398 ug/L	4.9398 ppb	13:19:50
3	Cr 267.716†	497.0	419.3	4.6413 ug/L	4.6413 ppb	13:19:50
3	Cu 324.752†	9737.0	3360.2	10.001 ug/L	10.001 ppb	13:19:30
3	Mn 257.610†	9958.5	9554.9	10.477 ug/L	10.477 ppb	13:19:30
3	Mo 202.031†	163.9	142.7	9.9685 ug/L	9.9685 ppb	13:19:50
3	Ni 231.604†	255.4	189.1	4.6763 ug/L	4.6763 ppb	13:19:50
3	P 214.914†	469.5	250.4	148.04 ug/L	148.04 ppb	13:19:50
3	Pb 220.353†	32.4	94.7	11.520 ug/L	11.520 ppb	13:19:50
3	S 181.975 Axial†	111.1	67.5	93.935 ug/L	93.935 ppb	13:19:50
3	Sb 206.836†	61.2	27.9	9.8257 ug/L	9.8257 ppb	13:19:50
3	Se 196.026†	18.7	50.7	32.271 ug/L	32.271 ppb	13:19:50
3	Si 251.611†	3583.7	3132.5	99.041 ug/L	99.041 ppb	13:19:30
3	Sn 189.927†	60.9	59.4	10.379 ug/L	10.379 ppb	13:19:50
3	Ti 334.940†	1792.6	3131.4	4.9954 ug/L	4.9954 ppb	13:19:30
3	Tl 190.801†	21.4	55.5	16.814 ug/L	16.814 ppb	13:19:50
3	U 409.014†	-127.5	1736.0	51.086 ug/L	51.086 ppb	13:19:25
3	V 292.402†	-605.6	752.5	5.3299 ug/L	5.3299 ppb	13:19:30
3	Zn 213.857†	1750.5	1130.4	10.559 ug/L	10.559 ppb	13:19:50
3	SiO2†	3596.2	3146.6	211.96 ug/L	211.96 ppb	13:20:05

## Mean Data: PQL

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	860407.3	100.27 %	0.758			0.76%
Sc Radial	5148.7	101 %	2.8			2.78%
Y 371.029	727306.7	99.951 %	0.6407			0.64%
Y RADIAL	5535.4	100.5 %	2.52			2.50%
Ag 328.068†	1069.3	4.9103 ug/L	0.22926	4.9103 ppb	0.22926	4.67%
QC value within limits for Ag 328.068 Recovery = 98.21%						
Al 396.153Radial†	259.3	206.90 ug/L	7.402	206.90 ppb	7.402	3.58%
QC value within limits for Al 396.153Radial Recovery = 103.45%						
As 188.979†	70.5	30.201 ug/L	2.6710	30.201 ppb	2.6710	8.84%
QC value within limits for As 188.979 Recovery = 100.67%						
B 249.677†	2221.5	49.833 ug/L	0.9173	49.833 ppb	0.9173	1.84%
QC value within limits for B 249.677 Recovery = 99.67%						
Ba 233.527†	637.0	4.9499 ug/L	0.04930	4.9499 ppb	0.04930	1.00%
QC value within limits for Ba 233.527 Recovery = 99.00%						
Be 313.107†	12936.4	4.8989 ug/L	0.05163	4.8989 ppb	0.05163	1.05%
QC value within limits for Be 313.107 Recovery = 97.98%						
Ca 317.933Radial†	126.6	204.42 ug/L	12.226	204.42 ppb	12.226	5.98%



QC value within limits for Ca 317.933 Radial Recovery = 102.21%							
Cd 226.502†	450.1	4.9552 ug/L	0.02461	4.9552 ppb	0.02461	0.50%	
QC value within limits for Cd 226.502 Recovery = 99.10%							
Co 228.616†	240.0	4.8809 ug/L	0.11492	4.8809 ppb	0.11492	2.35%	
QC value within limits for Co 228.616 Recovery = 97.62%							
Cr 267.716†	424.2	4.6945 ug/L	0.05284	4.6945 ppb	0.05284	1.13%	
QC value within limits for Cr 267.716 Recovery = 93.89%							
Cu 324.752†	3351.0	9.9718 ug/L	0.41050	9.9718 ppb	0.41050	4.12%	
QC value within limits for Cu 324.752 Recovery = 99.72%							
Fe 238.204 Radial†	10.9	92.818 ug/L	4.0015	92.818 ppb	4.0015	4.31%	
QC value within limits for Fe 238.204 Radial Recovery = 92.82%							
K 766.490 Radial†	823.0	149.67 ug/L	15.339	149.67 ppb	15.339	10.25%	
QC value within limits for K 766.490 Radial Recovery = 99.78%							
Mg 279.077 IEC†	8.0	267.11 ug/L	50.184	267.11 ppb	50.184	18.79%	
QC value within limits for Mg 279.077 IEC Recovery = 89.04%							
Mn 257.610†	9443.5	10.355 ug/L	0.1201	10.355 ppb	0.1201	1.16%	
QC value within limits for Mn 257.610 Recovery = 103.55%							
Mo 202.031†	138.2	9.6561 ug/L	0.27283	9.6561 ppb	0.27283	2.83%	
QC value within limits for Mo 202.031 Recovery = 96.56%							
Na 589.592 Radial†	1115.7	319.81 ug/L	3.881	319.81 ppb	3.881	1.21%	
QC value within limits for Na 589.592 Radial Recovery = 106.60%							
Ni 231.604†	198.9	4.9196 ug/L	0.29084	4.9196 ppb	0.29084	5.91%	
QC value within limits for Ni 231.604 Recovery = 98.39%							
P 214.914†	247.8	146.46 ug/L	4.638	146.46 ppb	4.638	3.17%	
QC value within limits for P 214.914 Recovery = 97.64%							
Pb 220.353†	82.0	9.9802 ug/L	1.41008	9.9802 ppb	1.41008	14.13%	
QC value within limits for Pb 220.353 Recovery = 99.80%							
S 181.975 Axial†	73.4	102.14 ug/L	7.322	102.14 ppb	7.322	7.17%	
QC value within limits for S 181.975 Axial Recovery = 102.14%							
Sb 206.836†	32.3	11.307 ug/L	2.3171	11.307 ppb	2.3171	20.49%	
QC value within limits for Sb 206.836 Recovery = 113.07%							
Se 196.026†	46.2	29.383 ug/L	2.5306	29.383 ppb	2.5306	8.61%	
QC value within limits for Se 196.026 Recovery = 97.94%							
Si 251.611†	3119.9	98.645 ug/L	1.0184	98.645 ppb	1.0184	1.03%	
QC value within limits for Si 251.611 Recovery = 98.64%							
Sn 189.927†	58.9	10.299 ug/L	0.4003	10.299 ppb	0.4003	3.89%	
QC value within limits for Sn 189.927 Recovery = 102.99%							
Sr 421.552†	755.6	4.8228 ug/L	0.16938	4.8228 ppb	0.16938	3.51%	
QC value within limits for Sr 421.552 Recovery = 96.46%							
Ti 334.940†	3093.6	4.9345 ug/L	0.07263	4.9345 ppb	0.07263	1.47%	
QC value within limits for Ti 334.940 Recovery = 98.69%							
Tl 190.801†	63.8	19.306 ug/L	2.6676	19.306 ppb	2.6676	13.82%	
QC value within limits for Tl 190.801 Recovery = 96.53%							
U 409.014†	1814.6	53.398 ug/L	2.0395	53.398 ppb	2.0395	3.82%	
QC value within limits for U 409.014 Recovery = 106.80%							
V 292.402†	742.4	5.2611 ug/L	0.13633	5.2611 ppb	0.13633	2.59%	
QC value within limits for V 292.402 Recovery = 105.22%							
Zn 213.857†	1126.5	10.521 ug/L	0.1299	10.521 ppb	0.1299	1.23%	
QC value within limits for Zn 213.857 Recovery = 105.21%							
SiO2†	3128.9	210.78 ug/L	1.284	210.78 ppb	1.284	0.61%	
QC value within limits for SiO2 Recovery = 98.96%							
All analyte(s) passed QC.							

Sequence No.: 9  
 Sample ID: ICSA  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 13  
 Date Collected: 1/12/2010 13:22:16  
 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	4817.3	4817.3	94.1 %		13:24:15
1	Y RADIAL	5136.5	5136.5	93.30 %		13:24:15
1	Al 396.153Radial†	573761.5	609935.9	487810 ug/L	487810 ppb	13:24:10
1	Ca 317.933Radial†	263181.8	279752.8	451590 ug/L	451590 ppb	13:24:10
1	Fe 238.204 Radial†	19492.7	20709.9	176090 ug/L	176090 ppb	13:24:15
1	K 766.490 Radial†	2332.2	-32.3	-156.94 ug/L	-156.94 ppb	13:24:15
1	Mg 279.077 IEC†	13027.3	13845.4	459580 ug/L	459580 ppb	13:24:15
1	Na 589.592 Radial†	-1051.6	191.0	54.759 ug/L	54.759 ppb	13:24:15
1	Sr 421.552†	558.9	584.4	0.3588 ug/L	0.3588 ppb	13:24:15
1	Sc 361.383	725568.7	725568.7	84.558 %		13:24:42
1	Y 371.029	596091.4	596091.4	81.919 %		13:24:42
1	Ag 328.068†	-9801.9	-11948.9	-3.8464 ug/L	-3.8464 ppb	13:24:42
1	As 188.979†	-98.7	-92.8	1.4302 ug/L	1.4302 ppb	13:25:02
1	B 249.677†	552.5	1268.5	-0.1280 ug/L	-0.1280 ppb	13:24:42
1	Ba 233.527†	-409.5	-475.7	1.7152 ug/L	1.7152 ppb	13:25:02
1	Be 313.107†	-4390.5	-717.6	-0.3234 ug/L	-0.3234 ppb	13:24:42
1	Cd 226.502†	1262.3	1694.5	0.4589 ug/L	0.4589 ppb	13:25:02
1	Co 228.616†	-7.2	68.7	-1.1464 ug/L	-1.1464 ppb	13:25:02
1	Cr 267.716†	-105.8	-204.0	1.1749 ug/L	1.1749 ppb	13:25:02
1	Cu 324.752†	4073.8	-1584.7	4.5768 ug/L	4.5768 ppb	13:24:42
1	Mn 257.610†	2225.8	2202.4	1.0087 ug/L	1.0087 ppb	13:24:42
1	Mo 202.031†	-210.2	-270.2	0.1861 ug/L	0.1861 ppb	13:25:02
1	Ni 231.604†	178.8	144.5	3.5745 ug/L	3.5745 ppb	13:25:02
1	P 214.914†	175.5	-12.7	-27.404 ug/L	-27.404 ppb	13:25:02
1	Pb 220.353†	-746.8	-821.0	5.8603 ug/L	5.8603 ppb	13:25:02
1	S 181.975 Axial†	88.7	61.0	-6.5613 ug/L	-6.5613 ppb	13:25:02
1	Sb 206.836†	52.2	28.3	-2.6917 ug/L	-2.6917 ppb	13:25:02
1	Se 196.026†	-801.7	-916.1	-28.770 ug/L	-28.770 ppb	13:25:02
1	Si 251.611†	536.8	174.1	5.7445 ug/L	5.7445 ppb	13:25:02
1	Sn 189.927†	-354.7	-421.2	5.4411 ug/L	5.4411 ppb	13:25:02
1	Ti 334.940†	-13276.1	-14366.5	0.7789 ug/L	0.7789 ppb	13:24:42
1	Tl 190.801†	-86.6	-68.3	-20.848 ug/L	-20.848 ppb	13:25:02
1	U 409.014†	-724.9	1006.6	9.5634 ug/L	9.5634 ppb	13:24:42
1	V 292.402†	1329.7	2932.2	-0.0103 ug/L	-0.0103 ppb	13:25:02
1	Zn 213.857†	2869.2	2768.5	8.8907 ug/L	8.8907 ppb	13:25:02
1	SiO2†	553.7	195.7	13.716 ug/L	13.716 ppb	13:25:58
2	Sc Radial	4532.2	4532.2	88.5 %		13:24:25
2	Y RADIAL	4831.5	4831.5	87.76 %		13:24:25
2	Al 396.153Radial†	569974.3	644014.7	515070 ug/L	515070 ppb	13:24:20
2	Ca 317.933Radial†	261076.2	294968.3	476160 ug/L	476160 ppb	13:24:20
2	Fe 238.204 Radial†	19365.5	21869.3	185950 ug/L	185950 ppb	13:24:25
2	K 766.490 Radial†	2347.6	141.0	-133.60 ug/L	-133.60 ppb	13:24:25
2	Mg 279.077 IEC†	13011.0	14698.0	487880 ug/L	487880 ppb	13:24:25
2	Na 589.592 Radial†	-1055.5	116.2	33.320 ug/L	33.320 ppb	13:24:25
2	Sr 421.552†	557.8	620.6	0.4065 ug/L	0.4065 ppb	13:24:25
2	Sc 361.383	725883.6	725883.6	84.595 %		13:25:07
2	Y 371.029	598473.2	598473.2	82.246 %		13:25:07
2	Ag 328.068†	-9770.6	-11907.0	-0.8017 ug/L	-0.8017 ppb	13:25:07
2	As 188.979†	-83.1	-74.3	11.621 ug/L	11.621 ppb	13:25:28
2	B 249.677†	446.6	1143.0	-4.5455 ug/L	-4.5455 ppb	13:25:07
2	Ba 233.527†	-430.3	-500.1	1.8255 ug/L	1.8255 ppb	13:25:28
2	Be 313.107†	-4402.1	-729.1	-0.3275 ug/L	-0.3275 ppb	13:25:07
2	Cd 226.502†	1261.3	1692.7	-0.5778 ug/L	-0.5778 ppb	13:25:28
2	Co 228.616†	-26.5	46.0	-1.7482 ug/L	-1.7482 ppb	13:25:28
2	Cr 267.716†	-106.6	-204.9	1.3539 ug/L	1.3539 ppb	13:25:28
2	Cu 324.752†	4055.2	-1608.8	5.0234 ug/L	5.0234 ppb	13:25:07
2	Mn 257.610†	2147.2	2108.4	0.7218 ug/L	0.7218 ppb	13:25:07
2	Mo 202.031†	-202.6	-261.1	1.8824 ug/L	1.8824 ppb	13:25:28
2	Ni 231.604†	186.3	153.3	3.7922 ug/L	3.7922 ppb	13:25:28

2	P 214.914†	163.3	-27.2	-37.227 ug/L	-37.227 ppb	13:25:28
2	Pb 220.353†	-734.6	-806.2	13.514 ug/L	13.514 ppb	13:25:28
2	S 181.975 Axial†	71.3	40.4	-40.277 ug/L	-40.277 ppb	13:25:28
2	Sb 206.836†	66.0	44.6	2.2667 ug/L	2.2667 ppb	13:25:28
2	Se 196.026†	-790.5	-902.4	10.571 ug/L	10.571 ppb	13:25:28
2	Si 251.611†	513.5	146.3	4.8566 ug/L	4.8566 ppb	13:25:28
2	Sn 189.927†	-345.0	-409.5	11.765 ug/L	11.765 ppb	13:25:28
2	Ti 334.940†	-13222.6	-14296.4	1.9126 ug/L	1.9126 ppb	13:25:07
2	Tl 190.801†	-73.8	-53.2	-16.283 ug/L	-16.283 ppb	13:25:28
2	U 409.014†	-548.8	1215.1	14.578 ug/L	14.578 ppb	13:25:07
2	V 292.402†	1292.1	2887.2	-1.3472 ug/L	-1.3472 ppb	13:25:28
2	Zn 213.857†	2899.3	2802.7	8.2535 ug/L	8.2535 ppb	13:25:28
2	SiO2†	485.3	114.7	8.2324 ug/L	8.2324 ppb	13:26:03
3	Sc Radial	4556.3	4556.3	89.0 %		13:24:35
3	Y RADIAL	4845.5	4845.5	88.01 %		13:24:35
3	Al 396.153Radial†	574684.7	645901.0	516570 ug/L	516570 ppb	13:24:30
3	Ca 317.933Radial†	263299.9	295906.7	477670 ug/L	477670 ppb	13:24:30
3	Fe 238.204 Radial†	19544.2	21954.3	186670 ug/L	186670 ppb	13:24:35
3	K 766.490 Radial†	2223.6	-12.4	-162.04 ug/L	-162.04 ppb	13:24:35
3	Mg 279.077 IEC†	13090.4	14709.4	488260 ug/L	488260 ppb	13:24:35
3	Na 589.592 Radial†	-1000.1	184.9	52.998 ug/L	52.998 ppb	13:24:35
3	Sr 421.552†	533.4	589.7	0.1984 ug/L	0.1984 ppb	13:24:35
3	Sc 361.383	732421.7	732421.7	85.357 %		13:25:33
3	Y 371.029	603682.2	603682.2	82.962 %		13:25:33
3	Ag 328.068†	-9954.9	-12019.7	-1.1058 ug/L	-1.1058 ppb	13:25:33
3	As 188.979†	-92.7	-84.6	7.3885 ug/L	7.3885 ppb	13:25:53
3	B 249.677†	464.1	1158.8	-4.3089 ug/L	-4.3089 ppb	13:25:33
3	Ba 233.527†	-457.7	-527.6	1.6354 ug/L	1.6354 ppb	13:25:53
3	Be 313.107†	-4441.3	-728.6	-0.3266 ug/L	-0.3266 ppb	13:25:33
3	Cd 226.502†	1315.0	1742.3	-0.1065 ug/L	-0.1065 ppb	13:25:53
3	Co 228.616†	-15.9	58.6	-1.5033 ug/L	-1.5033 ppb	13:25:53
3	Cr 267.716†	-75.5	-167.4	1.7832 ug/L	1.7832 ppb	13:25:53
3	Cu 324.752†	4010.8	-1703.6	4.7776 ug/L	4.7776 ppb	13:25:33
3	Mn 257.610†	2194.4	2141.0	0.8135 ug/L	0.8135 ppb	13:25:33
3	Mo 202.031†	-208.3	-265.7	1.6370 ug/L	1.6370 ppb	13:25:53
3	Ni 231.604†	186.8	151.8	3.7565 ug/L	3.7565 ppb	13:25:53
3	P 214.914†	171.5	-19.4	-32.722 ug/L	-32.722 ppb	13:25:53
3	Pb 220.353†	-737.7	-802.1	14.324 ug/L	14.324 ppb	13:25:53
3	S 181.975 Axial†	82.3	52.5	-23.694 ug/L	-23.694 ppb	13:25:53
3	Sb 206.836†	65.5	43.3	1.6863 ug/L	1.6863 ppb	13:25:53
3	Se 196.026†	-826.6	-936.3	-8.5818 ug/L	-8.5818 ppb	13:25:53
3	Si 251.611†	531.4	161.9	5.3548 ug/L	5.3548 ppb	13:25:53
3	Sn 189.927†	-380.4	-447.4	5.4380 ug/L	5.4380 ppb	13:25:53
3	Ti 334.940†	-13186.1	-14114.1	2.3783 ug/L	2.3783 ppb	13:25:33
3	Tl 190.801†	-86.9	-67.7	-20.655 ug/L	-20.655 ppb	13:25:53
3	U 409.014†	-487.0	1293.3	16.797 ug/L	16.797 ppb	13:25:33
3	V 292.402†	1338.7	2928.1	-1.1804 ug/L	-1.1804 ppb	13:25:53
3	Zn 213.857†	2895.0	2767.0	7.8493 ug/L	7.8493 ppb	13:25:53
3	SiO2†	561.9	199.3	13.947 ug/L	13.947 ppb	13:26:08

## Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	727958.0	84.837 %	0.4509			0.53%
Sc Radial	4635.3	90.5 %	3.09			3.41%
Y 371.029	599415.6	82.375 %	0.5335			0.65%
Y RADIAL	4937.9	89.69 %	3.128			3.49%
Ag 328.068†	-11958.6	-1.9180 ug/L	1.67700	-1.9180 ppb	1.67700	87.44%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	633283.9	506480 ug/L	16188.9	506480 ppb	16188.9	3.20%
QC value within limits for Al 396.153Radial Recovery = 101.30%						
As 188.979†	-83.9	6.8132 ug/L	5.11967	6.8132 ppb	5.11967	75.14%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	1190.1	-2.9941 ug/L	2.48497	-2.9941 ppb	2.48497	83.00%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-501.2	1.7254 ug/L	0.09545	1.7254 ppb	0.09545	5.53%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-725.1	-0.3258 ug/L	0.00216	-0.3258 ppb	0.00216	0.66%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	290209.2	468470 ug/L	14637.6	468470 ppb	14637.6	3.12%

QC value within limits for Ca 317.933 Radial Recovery = 93.69%						
Cd 226.502†	1709.8	-0.0751 ug/L	0.51910	-0.0751 ppb	0.51910	690.96%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	57.8	-1.4660 ug/L	0.30261	-1.4660 ppb	0.30261	20.64%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	-192.1	1.4373 ug/L	0.31258	1.4373 ppb	0.31258	21.75%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 324.752†	-1632.3	4.7926 ug/L	0.22368	4.7926 ppb	0.22368	4.67%
QC value within limits for Cu 324.752 Recovery = Not calculated						
Fe 238.204 Radial†	21511.2	182910 ug/L	5911.6	182910 ppb	5911.6	3.23%
QC value within limits for Fe 238.204 Radial Recovery = 91.45%						
K 766.490 Radial†	32.1	-150.86 ug/L	15.165	-150.86 ppb	15.165	10.05%
QC value within limits for K 766.490 Radial Recovery = Not calculated						
Mg 279.077 IEC†	14417.6	478580 ug/L	16449.3	478580 ppb	16449.3	3.44%
QC value within limits for Mg 279.077 IEC Recovery = 95.72%						
Mn 257.610†	2150.6	0.8480 ug/L	0.14657	0.8480 ppb	0.14657	17.28%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	-265.7	1.2352 ug/L	0.91677	1.2352 ppb	0.91677	74.22%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Na 589.592 Radial†	164.1	47.026 ug/L	11.9018	47.026 ppb	11.9018	25.31%
QC value within limits for Na 589.592 Radial Recovery = Not calculated						
Ni 231.604†	149.9	3.7077 ug/L	0.11676	3.7077 ppb	0.11676	3.15%
QC value within limits for Ni 231.604 Recovery = Not calculated						
P 214.914†	-19.8	-32.451 ug/L	4.9171	-32.451 ppb	4.9171	15.15%
QC value within limits for P 214.914 Recovery = Not calculated						
Pb 220.353†	-809.7	11.233 ug/L	4.6703	11.233 ppb	4.6703	41.58%
QC value within limits for Pb 220.353 Recovery = Not calculated						
S 181.975 Axial†	51.3	-23.511 ug/L	16.8587	-23.511 ppb	16.8587	71.71%
QC value within limits for S 181.975 Axial Recovery = Not calculated						
Sb 206.836†	38.8	0.4204 ug/L	2.71073	0.4204 ppb	2.71073	644.73%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-918.3	-8.9269 ug/L	19.67264	-8.9269 ppb	19.67264	220.38%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	160.8	5.3186 ug/L	0.44505	5.3186 ppb	0.44505	8.37%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	-426.0	7.5479 ug/L	3.65171	7.5479 ppb	3.65171	48.38%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Sr 421.552†	598.2	0.3212 ug/L	0.10905	0.3212 ppb	0.10905	33.95%
QC value within limits for Sr 421.552 Recovery = Not calculated						
Ti 334.940†	-14259.0	1.6899 ug/L	0.82264	1.6899 ppb	0.82264	48.68%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-63.1	-19.262 ug/L	2.5816	-19.262 ppb	2.5816	13.40%
QC value within limits for Tl 190.801 Recovery = Not calculated						
U 409.014†	1171.7	13.646 ug/L	3.7058	13.646 ppb	3.7058	27.16%
QC value within limits for U 409.014 Recovery = Not calculated						
V 292.402†	2915.8	-0.8460 ug/L	0.72849	-0.8460 ppb	0.72849	86.11%
QC value within limits for V 292.402 Recovery = Not calculated						
Zn 213.857†	2779.4	8.3312 ug/L	0.52500	8.3312 ppb	0.52500	6.30%
QC value within limits for Zn 213.857 Recovery = Not calculated						
SiO2†	169.9	11.965 ug/L	3.2345	11.965 ppb	3.2345	27.03%
QC value within limits for SiO2 Recovery = Not calculated						
All analyte(s) passed QC.						

Sequence No.: 10

Sample ID: ICSAB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 14

Date Collected: 1/12/2010 13:28:20

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	4483.1	4483.1	87.5 %		13:30:18
1	Y RADIAL	4796.8	4796.8	87.13 %		13:30:18
1	Al 396.153Radial†	588773.8	672553.3	537870 ug/L	537870 ppb	13:30:13
1	Ca 317.933Radial†	267848.1	305939.5	493870 ug/L	493870 ppb	13:30:13
1	Fe 238.204 Radial†	19620.8	22400.9	190480 ug/L	190480 ppb	13:30:18
1	K 766.490 Radial†	29237.9	30886.4	5456.5 ug/L	5456.5 ppb	13:30:13
1	Mg 279.077 IEC†	13218.4	15096.1	501100 ug/L	501100 ppb	13:30:18
1	Na 589.592 Radial†	15704.0	19247.3	5517.2 ug/L	5517.2 ppb	13:30:18
1	Sr 421.552†	70989.9	81080.9	513.98 ug/L	513.98 ppb	13:30:13
1	Sc 361.383	728554.1	728554.1	84.906 %		13:30:46
1	Y 371.029	599175.1	599175.1	82.342 %		13:30:46
1	Ag 328.068†	41297.9	48282.5	278.34 ug/L	278.34 ppb	13:30:46
1	As 188.979†	961.9	1156.8	542.32 ug/L	542.32 ppb	13:31:06
1	B 249.677†	20152.8	24350.5	514.31 ug/L	514.31 ppb	13:30:46
1	Ba 233.527†	54514.4	64214.1	504.50 ug/L	504.50 ppb	13:30:46
1	Be 313.107†	554513.1	657565.3	249.58 ug/L	249.58 ppb	13:30:46
1	Cd 226.502†	38105.3	45081.0	476.64 ug/L	476.64 ppb	13:30:46
1	Co 228.616†	19201.7	22692.4	457.82 ug/L	457.82 ppb	13:31:06
1	Cr 267.716†	37235.8	43776.3	489.93 ug/L	489.93 ppb	13:30:46
1	Cu 324.752†	163863.6	186591.7	566.41 ug/L	566.41 ppb	13:30:46
1	Mn 257.610†	379976.1	447095.8	488.63 ug/L	488.63 ppb	13:30:46
1	Mo 202.031†	5939.3	6973.5	507.24 ug/L	507.24 ppb	13:31:06
1	Ni 231.604†	15803.9	18546.3	458.68 ug/L	458.68 ppb	13:31:06
1	P 214.914†	3851.6	4316.0	2443.3 ug/L	2443.3 ppb	13:31:06
1	Pb 220.353†	2580.7	3101.7	492.55 ug/L	492.55 ppb	13:31:06
1	S 181.975 Axial†	1760.3	2029.3	2723.3 ug/L	2723.3 ppb	13:31:06
1	Sb 206.836†	1398.3	1613.4	551.65 ug/L	551.65 ppb	13:31:06
1	Se 196.026†	2668.6	3175.0	2594.5 ug/L	2594.5 ppb	13:31:06
1	Si 251.611†	144426.4	169640.9	5364.2 ug/L	5364.2 ppb	13:30:46
1	Sn 189.927†	2102.0	2474.1	517.13 ug/L	517.13 ppb	13:31:06
1	Ti 334.940†	263115.4	311224.4	524.08 ug/L	524.08 ppb	13:30:46
1	Tl 190.801†	1244.6	1500.0	456.30 ug/L	456.30 ppb	13:31:06
1	U 409.014†	14047.4	18408.5	519.12 ug/L	519.12 ppb	13:30:46
1	V 292.402†	65105.1	78038.8	515.35 ug/L	515.35 ppb	13:30:46
1	Zn 213.857†	48504.3	56502.4	508.25 ug/L	508.25 ppb	13:30:46
1	SiO2†	145640.3	171072.3	11525 ug/L	11525 ppb	13:32:03
2	Sc Radial	4519.8	4519.8	88.3 %		13:30:28
2	Y RADIAL	4815.9	4815.9	87.47 %		13:30:28
2	Al 396.153Radial†	589213.6	667579.2	533890 ug/L	533890 ppb	13:30:23
2	Ca 317.933Radial†	268892.3	304633.1	491760 ug/L	491760 ppb	13:30:23
2	Fe 238.204 Radial†	19571.4	22162.6	188460 ug/L	188460 ppb	13:30:28
2	K 766.490 Radial†	29239.5	30616.6	5408.1 ug/L	5408.1 ppb	13:30:23
2	Mg 279.077 IEC†	13185.6	14936.1	495790 ug/L	495790 ppb	13:30:28
2	Na 589.592 Radial†	15810.6	19222.2	5510.0 ug/L	5510.0 ppb	13:30:28
2	Sr 421.552†	70914.1	80335.2	509.23 ug/L	509.23 ppb	13:30:23
2	Sc 361.383	733184.3	733184.3	85.446 %		13:31:12
2	Y 371.029	601639.4	601639.4	82.681 %		13:31:12
2	Ag 328.068†	41438.9	48140.3	277.06 ug/L	277.06 ppb	13:31:12
2	As 188.979†	949.7	1135.4	532.71 ug/L	532.71 ppb	13:31:32
2	B 249.677†	20470.6	24572.5	519.63 ug/L	519.63 ppb	13:31:12
2	Ba 233.527†	55046.5	64431.4	506.13 ug/L	506.13 ppb	13:31:12
2	Be 313.107†	558335.9	657914.9	249.71 ug/L	249.71 ppb	13:31:12
2	Cd 226.502†	38347.7	45081.4	476.85 ug/L	476.85 ppb	13:31:12
2	Co 228.616†	19231.3	22584.3	455.65 ug/L	455.65 ppb	13:31:32
2	Cr 267.716†	37544.6	43860.8	490.83 ug/L	490.83 ppb	13:31:12
2	Cu 324.752†	165234.9	186977.8	567.45 ug/L	567.45 ppb	13:31:12
2	Mn 257.610†	383214.3	448059.5	489.71 ug/L	489.71 ppb	13:31:12
2	Mo 202.031†	5957.7	6950.9	505.49 ug/L	505.49 ppb	13:31:32
2	Ni 231.604†	15844.2	18476.0	456.95 ug/L	456.95 ppb	13:31:32

2	P 214.914†	3892.3	4335.0	2455.1 ug/L	2455.1 ppb	13:31:32
2	Pb 220.353†	2577.9	3079.2	489.04 ug/L	489.04 ppb	13:31:32
2	S 181.975 Axial†	1767.4	2024.6	2717.5 ug/L	2717.5 ppb	13:31:32
2	Sb 206.836†	1403.1	1608.7	550.05 ug/L	550.05 ppb	13:31:32
2	Se 196.026†	2681.3	3170.1	2585.2 ug/L	2585.2 ppb	13:31:32
2	Si 251.611†	145779.9	170150.8	5380.4 ug/L	5380.4 ppb	13:31:12
2	Sn 189.927†	2100.2	2456.3	513.65 ug/L	513.65 ppb	13:31:32
2	Ti 334.940†	265327.2	311856.0	525.24 ug/L	525.24 ppb	13:31:12
2	Tl 190.801†	1266.0	1515.7	461.07 ug/L	461.07 ppb	13:31:32
2	U 409.014†	14171.0	18448.7	520.53 ug/L	520.53 ppb	13:31:12
2	V 292.402†	65611.5	78147.2	516.29 ug/L	516.29 ppb	13:31:12
2	Zn 213.857†	48899.9	56604.7	509.42 ug/L	509.42 ppb	13:31:12
2	SiO2†	145779.6	170152.0	11463 ug/L	11463 ppb	13:32:09
3	Sc Radial	4490.9	4490.9	87.7 %		13:30:38
3	Y RADIAL	4789.9	4789.9	87.00 %		13:30:38
3	Al 396.153Radial†	586923.1	669266.9	535240 ug/L	535240 ppb	13:30:33
3	Ca 317.933Radial†	267727.2	305266.7	492780 ug/L	492780 ppb	13:30:33
3	Fe 238.204 Radial†	19497.5	22221.1	188960 ug/L	188960 ppb	13:30:38
3	K 766.490 Radial†	29149.7	30727.5	5427.9 ug/L	5427.9 ppb	13:30:33
3	Mg 279.077 IEC†	13142.9	14983.6	497370 ug/L	497370 ppb	13:30:38
3	Na 589.592 Radial†	15586.7	19082.2	5469.9 ug/L	5469.9 ppb	13:30:38
3	Sr 421.552†	70636.8	80536.5	510.51 ug/L	510.51 ppb	13:30:33
3	Sc 361.383	734264.3	734264.3	85.571 %		13:31:38
3	Y 371.029	603129.9	603129.9	82.886 %		13:31:38
3	Ag 328.068†	41696.1	48369.6	278.27 ug/L	278.27 ppb	13:31:38
3	As 188.979†	955.2	1140.2	534.87 ug/L	534.87 ppb	13:31:58
3	B 249.677†	20625.3	24718.1	522.82 ug/L	522.82 ppb	13:31:38
3	Ba 233.527†	55192.3	64507.1	506.73 ug/L	506.73 ppb	13:31:38
3	Be 313.107†	560643.0	659649.8	250.37 ug/L	250.37 ppb	13:31:38
3	Cd 226.502†	38435.1	45117.4	477.19 ug/L	477.19 ppb	13:31:38
3	Co 228.616†	19090.4	22386.5	451.61 ug/L	451.61 ppb	13:31:58
3	Cr 267.716†	37631.0	43897.2	491.24 ug/L	491.24 ppb	13:31:38
3	Cu 324.752†	166044.4	187639.4	569.46 ug/L	569.46 ppb	13:31:38
3	Mn 257.610†	384387.6	448770.9	490.47 ug/L	490.47 ppb	13:31:38
3	Mo 202.031†	5901.3	6874.7	500.22 ug/L	500.22 ppb	13:31:58
3	Ni 231.604†	15681.5	18258.6	451.57 ug/L	451.57 ppb	13:31:58
3	P 214.914†	3816.0	4239.1	2396.9 ug/L	2396.9 ppb	13:31:58
3	Pb 220.353†	2552.5	3045.0	485.18 ug/L	485.18 ppb	13:31:58
3	S 181.975 Axial†	1730.8	1978.7	2653.4 ug/L	2653.4 ppb	13:31:58
3	Sb 206.836†	1402.5	1605.6	548.81 ug/L	548.81 ppb	13:31:58
3	Se 196.026†	2658.5	3138.9	2567.0 ug/L	2567.0 ppb	13:31:58
3	Si 251.611†	146215.5	170408.8	5388.6 ug/L	5388.6 ppb	13:31:38
3	Sn 189.927†	2091.6	2442.6	511.43 ug/L	511.43 ppb	13:31:58
3	Ti 334.940†	266337.0	312579.2	526.41 ug/L	526.41 ppb	13:31:38
3	Tl 190.801†	1227.9	1469.0	447.00 ug/L	447.00 ppb	13:31:58
3	U 409.014†	14160.0	18411.5	519.38 ug/L	519.38 ppb	13:31:38
3	V 292.402†	65764.9	78213.5	516.60 ug/L	516.60 ppb	13:31:38
3	Zn 213.857†	49091.7	56744.5	510.71 ug/L	510.71 ppb	13:31:38
3	SiO2†	146206.7	170400.2	11480 ug/L	11480 ppb	13:32:14

## Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	732000.9	85.308 %	0.3535			0.41%
Sc Radial	4497.9	87.8 %	0.38			0.43%
Y 371.029	601314.8	82.636 %	0.2745			0.33%
Y RADIAL	4800.9	87.20 %	0.244			0.28%
Ag 328.068†	48264.1	277.89 ug/L	0.717	277.89 ppb	0.717	0.26%
QC value within limits for Ag 328.068 Recovery = 111.16%						
Al 396.153Radial†	669799.8	535660 ug/L	2022.9	535660 ppb	2022.9	0.38%
QC value within limits for Al 396.153Radial Recovery = 107.13%						
As 188.979†	1144.1	536.63 ug/L	5.044	536.63 ppb	5.044	0.94%
QC value within limits for As 188.979 Recovery = 107.33%						
B 249.677†	24547.1	518.92 ug/L	4.302	518.92 ppb	4.302	0.83%
QC value within limits for B 249.677 Recovery = 103.78%						
Ba 233.527†	64384.2	505.79 ug/L	1.151	505.79 ppb	1.151	0.23%
QC value within limits for Ba 233.527 Recovery = 101.16%						
Be 313.107†	658376.7	249.88 ug/L	0.424	249.88 ppb	0.424	0.17%
QC value within limits for Be 313.107 Recovery = 99.95%						
Ca 317.933Radial†	305279.8	492800 ug/L	1054.6	492800 ppb	1054.6	0.21%

QC value within limits for Ca 317.933 Radial Recovery = 98.56%							
Cd 226.502†	45093.2	476.89 ug/L	0.279	476.89 ppb	0.279	0.06%	
QC value within limits for Cd 226.502 Recovery = 95.38%							
Co 228.616†	22554.4	455.03 ug/L	3.149	455.03 ppb	3.149	0.69%	
QC value within limits for Co 228.616 Recovery = 91.01%							
Cr 267.716†	43844.8	490.67 ug/L	0.671	490.67 ppb	0.671	0.14%	
QC value within limits for Cr 267.716 Recovery = 98.13%							
Cu 324.752†	187069.6	567.77 ug/L	1.547	567.77 ppb	1.547	0.27%	
QC value within limits for Cu 324.752 Recovery = 113.55%							
Fe 238.204 Radial†	22261.6	189300 ug/L	1056.1	189300 ppb	1056.1	0.56%	
QC value within limits for Fe 238.204 Radial Recovery = 94.65%							
K 766.490 Radial†	30743.5	5430.8 ug/L	24.35	5430.8 ppb	24.35	0.45%	
QC value within limits for K 766.490 Radial Recovery = 108.62%							
Mg 279.077 IEC†	15005.3	498090 ug/L	2727.0	498090 ppb	2727.0	0.55%	
QC value within limits for Mg 279.077 IEC Recovery = 99.62%							
Mn 257.610†	447975.4	489.60 ug/L	0.924	489.60 ppb	0.924	0.19%	
QC value within limits for Mn 257.610 Recovery = 97.92%							
Mo 202.031†	6933.0	504.32 ug/L	3.653	504.32 ppb	3.653	0.72%	
QC value within limits for Mo 202.031 Recovery = 100.86%							
Na 589.592 Radial†	19183.9	5499.1 ug/L	25.50	5499.1 ppb	25.50	0.46%	
QC value within limits for Na 589.592 Radial Recovery = 109.98%							
Ni 231.604†	18427.0	455.73 ug/L	3.711	455.73 ppb	3.711	0.81%	
QC value within limits for Ni 231.604 Recovery = 91.15%							
P 214.914†	4296.7	2431.7 ug/L	30.76	2431.7 ppb	30.76	1.27%	
QC value within limits for P 214.914 Recovery = 97.27%							
Pb 220.353†	3075.3	488.92 ug/L	3.684	488.92 ppb	3.684	0.75%	
QC value within limits for Pb 220.353 Recovery = 97.78%							
S 181.975 Axial†	2010.9	2698.1 ug/L	38.79	2698.1 ppb	38.79	1.44%	
QC value within limits for S 181.975 Axial Recovery = 107.92%							
Sb 206.836†	1609.3	550.17 ug/L	1.425	550.17 ppb	1.425	0.26%	
QC value within limits for Sb 206.836 Recovery = 110.03%							
Se 196.026†	3161.3	2582.2 ug/L	13.96	2582.2 ppb	13.96	0.54%	
QC value within limits for Se 196.026 Recovery = 103.29%							
Si 251.611†	170066.8	5377.7 ug/L	12.41	5377.7 ppb	12.41	0.23%	
QC value within limits for Si 251.611 Recovery = 107.55%							
Sn 189.927†	2457.7	514.07 ug/L	2.871	514.07 ppb	2.871	0.56%	
QC value within limits for Sn 189.927 Recovery = 102.81%							
Sr 421.552†	80650.9	511.24 ug/L	2.456	511.24 ppb	2.456	0.48%	
QC value within limits for Sr 421.552 Recovery = 102.25%							
Ti 334.940†	311886.5	525.24 ug/L	1.163	525.24 ppb	1.163	0.22%	
QC value within limits for Ti 334.940 Recovery = 105.05%							
Tl 190.801†	1494.9	454.79 ug/L	7.156	454.79 ppb	7.156	1.57%	
QC value within limits for Tl 190.801 Recovery = 90.96%							
U 409.014†	18422.9	519.68 ug/L	0.751	519.68 ppb	0.751	0.14%	
QC value within limits for U 409.014 Recovery = 103.94%							
V 292.402†	78133.2	516.08 ug/L	0.653	516.08 ppb	0.653	0.13%	
QC value within limits for V 292.402 Recovery = 103.22%							
Zn 213.857†	56617.2	509.46 ug/L	1.232	509.46 ppb	1.232	0.24%	
QC value within limits for Zn 213.857 Recovery = 101.89%							
SiO2†	170541.5	11490 ug/L	32.1	11490 ppb	32.1	0.28%	
QC value within limits for SiO2 Recovery = 107.43%							
All analyte(s) passed QC.							

Sequence No.: 11

Sample ID: LR1

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 15

Date Collected: 1/12/2010 13:34:24

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	4464.7	4464.7	87.2 %		13:36:22
1	Y RADIAL	4798.4	4798.4	87.16 %		13:36:22
1	Al 396.153Radial†	556865.1	638718.0	510830 ug/L	510830 ppb	13:36:17
1	Ca 317.933Radial†	254440.1	291817.9	471070 ug/L	471070 ppb	13:36:17
1	Fe 238.204 Radial†	45321.3	51971.0	441900 ug/L	441900 ppb	13:36:22
1	K 766.490 Radial†	2855.7	763.9	-211.40 ug/L	-211.40 ppb	13:36:17
1	Mg 279.077 IEC†	12918.2	14813.8	491460 ug/L	491460 ppb	13:36:22
1	Na 589.592 Radial†	1503666.2	1725980.3	494750 ug/L	494750 ppb	13:36:17
1	Sr 421.552†	783.4	888.8	2.1573 ug/L	2.1573 ppb	13:36:22
1	Sc 361.383	711484.0	711484.0	82.917 %		13:36:50
1	Y 371.029	586561.8	586561.8	80.609 %		13:36:50
1	Ag 328.068†	-22744.9	-27788.2	-2.8534 ug/L	-2.8534 ppb	13:36:50
1	As 188.979†	-190.9	-206.3	15.228 ug/L	15.228 ppb	13:37:10
1	B 249.677†	1770.1	2749.9	-10.056 ug/L	-10.056 ppb	13:36:50
1	Ba 233.527†	-1228.4	-1472.9	2.1142 ug/L	2.1142 ppb	13:37:10
1	Be 313.107†	-11159.1	-8983.6	-3.4478 ug/L	-3.4478 ppb	13:36:50
1	Cd 226.502†	3288.9	4168.1	3.1407 ug/L	3.1407 ppb	13:37:10
1	Co 228.616†	178.2	292.1	-0.5092 ug/L	-0.5092 ppb	13:37:10
1	Cr 267.716†	-46.2	-134.7	1.1808 ug/L	1.1808 ppb	13:37:10
1	Cu 324.752†	1406.3	-4706.3	1.0193 ug/L	1.0193 ppb	13:36:50
1	Mn 257.610†	-17768.8	-21859.6	-0.4414 ug/L	-0.4414 ppb	13:36:50
1	Mo 202.031†	-483.9	-605.2	-2.3204 ug/L	-2.3204 ppb	13:37:10
1	Ni 231.604†	244.3	227.7	5.6305 ug/L	5.6305 ppb	13:37:10
1	P 214.914†	530.6	419.6	25.974 ug/L	25.974 ppb	13:37:10
1	Pb 220.353†	-535.1	-583.2	14.911 ug/L	14.911 ppb	13:37:10
1	S 181.975 Axial†	108.6	87.1	25.489 ug/L	25.489 ppb	13:37:10
1	Sb 206.836†	55.6	33.6	1.3220 ug/L	1.3220 ppb	13:37:10
1	Se 196.026†	-1843.4	-2191.2	-41.309 ug/L	-41.309 ppb	13:37:10
1	Si 251.611†	-324.8	-852.4	-26.465 ug/L	-26.465 ppb	13:37:10
1	Sn 189.927†	-371.7	-450.0	8.1703 ug/L	8.1703 ppb	13:37:10
1	Ti 334.940†	-13324.4	-14735.5	-6.3885 ug/L	-6.3885 ppb	13:36:50
1	Tl 190.801†	-103.1	-90.2	-27.648 ug/L	-27.648 ppb	13:37:10
1	U 409.014†	422307.1	511179.2	14998 ug/L	14998 ppb	13:36:50
1	V 292.402†	3420.1	5484.4	3.1854 ug/L	3.1854 ppb	13:37:10
1	Zn 213.857†	5572.3	6095.7	14.338 ug/L	14.338 ppb	13:37:10
1	SiO2†	-237.5	-745.4	-49.127 ug/L	-49.127 ppb	13:38:07
2	Sc Radial	4409.0	4409.0	86.1 %		13:36:32
2	Y RADIAL	4715.4	4715.4	85.65 %		13:36:32
2	Al 396.153Radial†	566394.5	657857.3	526140 ug/L	526140 ppb	13:36:27
2	Ca 317.933Radial†	258654.0	300400.0	484920 ug/L	484920 ppb	13:36:27
2	Fe 238.204 Radial†	44605.9	51796.9	440420 ug/L	440420 ppb	13:36:32
2	K 766.490 Radial†	2767.4	702.7	-232.49 ug/L	-232.49 ppb	13:36:27
2	Mg 279.077 IEC†	12686.9	14732.5	488760 ug/L	488760 ppb	13:36:32
2	Na 589.592 Radial†	1525827.1	1773513.9	508380 ug/L	508380 ppb	13:36:27
2	Sr 421.552†	730.7	839.0	1.7355 ug/L	1.7355 ppb	13:36:32
2	Sc 361.383	719543.3	719543.3	83.856 %		13:37:16
2	Y 371.029	593151.9	593151.9	81.515 %		13:37:16
2	Ag 328.068†	-23042.1	-27835.2	-3.7792 ug/L	-3.7792 ppb	13:37:16
2	As 188.979†	-183.0	-194.4	19.979 ug/L	19.979 ppb	13:37:36
2	B 249.677†	1835.7	2804.2	-8.5991 ug/L	-8.5991 ppb	13:37:16
2	Ba 233.527†	-1336.1	-1584.8	1.2023 ug/L	1.2023 ppb	13:37:36
2	Be 313.107†	-11191.8	-8871.9	-3.4040 ug/L	-3.4040 ppb	13:37:16
2	Cd 226.502†	3260.0	4089.3	2.4363 ug/L	2.4363 ppb	13:37:36
2	Co 228.616†	215.3	334.0	0.3626 ug/L	0.3626 ppb	13:37:36
2	Cr 267.716†	-117.7	-219.3	0.1922 ug/L	0.1922 ppb	13:37:36
2	Cu 324.752†	1283.4	-4871.9	0.4186 ug/L	0.4186 ppb	13:37:16
2	Mn 257.610†	-18335.1	-22294.9	-0.9546 ug/L	-0.9546 ppb	13:37:16
2	Mo 202.031†	-484.1	-599.0	-1.8333 ug/L	-1.8333 ppb	13:37:36
2	Ni 231.604†	249.5	230.5	5.6999 ug/L	5.6999 ppb	13:37:36



2	P 214.914†	555.8	442.5	44.828 ug/L	44.828 ppb	13:37:36
2	Pb 220.353†	-510.9	-547.1	23.241 ug/L	23.241 ppb	13:37:36
2	S 181.975 Axial†	91.5	65.3	-7.7785 ug/L	-7.7785 ppb	13:37:36
2	Sb 206.836†	58.2	36.0	1.6658 ug/L	1.6658 ppb	13:37:36
2	Se 196.026†	-1884.9	-2215.7	-60.376 ug/L	-60.376 ppb	13:37:36
2	Si 251.611†	-341.0	-867.3	-26.942 ug/L	-26.942 ppb	13:37:36
2	Sn 189.927†	-388.7	-465.2	7.8128 ug/L	7.8128 ppb	13:37:36
2	Ti 334.940†	-13119.9	-14311.7	-3.6294 ug/L	-3.6294 ppb	13:37:16
2	Tl 190.801†	-95.2	-79.5	-24.405 ug/L	-24.405 ppb	13:37:36
2	U 409.014†	428548.5	512917.6	15049 ug/L	15049 ppb	13:37:16
2	V 292.402†	3449.2	5472.9	3.3994 ug/L	3.3994 ppb	13:37:36
2	Zn 213.857†	5608.9	6064.0	14.185 ug/L	14.185 ppb	13:37:36
2	SiO2†	-365.3	-894.6	-59.204 ug/L	-59.204 ppb	13:38:12
3	Sc Radial	4450.5	4450.5	86.9 %		13:36:43
3	Y RADIAL	4751.9	4751.9	86.31 %		13:36:43
3	Al 396.153Radial†	571201.7	657256.8	525660 ug/L	525660 ppb	13:36:38
3	Ca 317.933Radial†	259752.4	298863.7	482440 ug/L	482440 ppb	13:36:38
3	Fe 238.204 Radial†	44822.5	51563.2	438430 ug/L	438430 ppb	13:36:43
3	K 766.490 Radial†	2810.0	721.7	-227.83 ug/L	-227.83 ppb	13:36:38
3	Mg 279.077 IEC†	12795.3	14719.9	488350 ug/L	488350 ppb	13:36:43
3	Na 589.592 Radial†	1537296.0	1770191.5	507430 ug/L	507430 ppb	13:36:38
3	Sr 421.552†	748.6	851.6	1.8346 ug/L	1.8346 ppb	13:36:43
3	Sc 361.383	715943.4	715943.4	83.436 %		13:37:41
3	Y 371.029	590304.5	590304.5	81.123 %		13:37:41
3	Ag 328.068†	-23205.4	-28169.2	-5.9238 ug/L	-5.9238 ppb	13:37:41
3	As 188.979†	-195.0	-209.8	12.899 ug/L	12.899 ppb	13:38:02
3	B 249.677†	1931.3	2929.8	-5.4572 ug/L	-5.4572 ppb	13:37:41
3	Ba 233.527†	-1316.3	-1569.1	1.2654 ug/L	1.2654 ppb	13:38:02
3	Be 313.107†	-11292.7	-9059.9	-3.4760 ug/L	-3.4760 ppb	13:37:41
3	Cd 226.502†	3298.2	4154.6	3.3612 ug/L	3.3612 ppb	13:38:02
3	Co 228.616†	206.7	325.0	0.2132 ug/L	0.2132 ppb	13:38:02
3	Cr 267.716†	-56.0	-146.1	0.9636 ug/L	0.9636 ppb	13:38:02
3	Cu 324.752†	1308.1	-4834.7	0.4197 ug/L	0.4197 ppb	13:37:41
3	Mn 257.610†	-18005.6	-22009.8	-0.8210 ug/L	-0.8210 ppb	13:37:41
3	Mo 202.031†	-460.9	-574.0	-0.2765 ug/L	-0.2765 ppb	13:38:02
3	Ni 231.604†	242.8	223.9	5.5378 ug/L	5.5378 ppb	13:38:02
3	P 214.914†	563.3	454.9	53.677 ug/L	53.677 ppb	13:38:02
3	Pb 220.353†	-503.3	-541.1	24.009 ug/L	24.009 ppb	13:38:02
3	S 181.975 Axial†	114.3	93.1	31.104 ug/L	31.104 ppb	13:38:02
3	Sb 206.836†	46.6	22.4	-2.9306 ug/L	-2.9306 ppb	13:38:02
3	Se 196.026†	-1872.1	-2211.8	-63.781 ug/L	-63.781 ppb	13:38:02
3	Si 251.611†	-302.7	-823.5	-25.576 ug/L	-25.576 ppb	13:38:02
3	Sn 189.927†	-390.8	-470.0	6.5217 ug/L	6.5217 ppb	13:38:02
3	Ti 334.940†	-13264.5	-14563.6	-4.3396 ug/L	-4.3396 ppb	13:37:41
3	Tl 190.801†	-122.8	-113.1	-34.545 ug/L	-34.545 ppb	13:38:02
3	U 409.014†	426654.0	513216.7	15058 ug/L	15058 ppb	13:37:41
3	V 292.402†	3536.6	5598.4	4.6073 ug/L	4.6073 ppb	13:38:02
3	Zn 213.857†	5622.9	6114.5	14.853 ug/L	14.853 ppb	13:38:02
3	SiO2†	-318.5	-840.7	-55.615 ug/L	-55.615 ppb	13:38:17

## Mean Data: LRI

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	715656.9	83.403 %	0.4705			0.56%
Sc Radial	4441.4	86.7 %	0.57			0.65%
Y 371.029	590006.1	81.082 %	0.4542			0.56%
Y RADIAL	4755.2	86.37 %	0.756			0.88%
Ag 328.068†	-27930.9	-4.1855 ug/L	1.57501	-4.1855 ppb	1.57501	37.63%
Al 396.153Radial†	651277.4	520880 ug/L	8702.2	520880 ppb	8702.2	1.67%
QC value within limits for Al 396.153Radial Recovery = 104.18%						
As 188.979†	-203.5	16.036 ug/L	3.6084	16.036 ppb	3.6084	22.50%
B 249.677†	2828.0	-8.0375 ug/L	2.35037	-8.0375 ppb	2.35037	29.24%
Ba 233.527†	-1542.2	1.5273 ug/L	0.50926	1.5273 ppb	0.50926	33.34%
Be 313.107†	-8971.8	-3.4426 ug/L	0.03626	-3.4426 ppb	0.03626	1.05%
Ca 317.933Radial†	297027.2	479480 ug/L	7387.4	479480 ppb	7387.4	1.54%
QC value within limits for Ca 317.933Radial Recovery = 95.90%						
Cd 226.502†	4137.3	2.9794 ug/L	0.48309	2.9794 ppb	0.48309	16.21%
Co 228.616†	317.0	0.0222 ug/L	0.46625	0.0222 ppb	0.46625	>999.9%
Cr 267.716†	-166.7	0.7789 ug/L	0.51955	0.7789 ppb	0.51955	66.71%
Cu 324.752†	-4804.3	0.6192 ug/L	0.34648	0.6192 ppb	0.34648	55.95%

Fe 238.204 Radial†	51777.0	440250 ug/L	1739.6	440250 ppb	1739.6	0.40%
QC value less than the lower limit for Fe 238.204 Radial Recovery = 88.05%						
K 766.490 Radial†	729.5	-223.91 ug/L	11.080	-223.91 ppb	11.080	4.95%
Mg 279.077 IEC†	14755.4	489520 ug/L	1692.1	489520 ppb	1692.1	0.35%
QC value within limits for Mg 279.077 IEC Recovery = 97.90%						
Mn 257.610†	-22054.8	-0.7390 ug/L	0.26623	-0.7390 ppb	0.26623	36.03%
Mo 202.031†	-592.7	-1.4768 ug/L	1.06758	-1.4768 ppb	1.06758	72.29%
Na 589.592 Radial†	1756561.9	503520 ug/L	7606.7	503520 ppb	7606.7	1.51%
QC value within limits for Na 589.592 Radial Recovery = 100.70%						
Ni 231.604†	227.4	5.6227 ug/L	0.08130	5.6227 ppb	0.08130	1.45%
P 214.914†	439.0	41.493 ug/L	14.1492	41.493 ppb	14.1492	34.10%
Pb 220.353†	-557.1	20.721 ug/L	5.0461	20.721 ppb	5.0461	24.35%
S 181.975 Axial†	81.8	16.271 ug/L	21.0162	16.271 ppb	21.0162	129.16%
Sb 206.836†	30.6	0.0191 ug/L	2.56025	0.0191 ppb	2.56025	>999.9%
Se 196.026†	-2206.2	-55.156 ug/L	12.1116	-55.156 ppb	12.1116	21.96%
Si 251.611†	-847.8	-26.328 ug/L	0.6934	-26.328 ppb	0.6934	2.63%
Sn 189.927†	-461.7	7.5016 ug/L	0.86723	7.5016 ppb	0.86723	11.56%
Sr 421.552†	859.8	1.9091 ug/L	0.22055	1.9091 ppb	0.22055	11.55%
Ti 334.940†	-14536.9	-4.7859 ug/L	1.43264	-4.7859 ppb	1.43264	29.93%
Tl 190.801†	-94.3	-28.866 ug/L	5.1786	-28.866 ppb	5.1786	17.94%
U 409.014†	512437.8	15035 ug/L	32.6	15035 ppb	32.6	0.22%
QC value within limits for U 409.014 Recovery = 100.24%						
V 292.402†	5518.6	3.7307 ug/L	0.76667	3.7307 ppb	0.76667	20.55%
Zn 213.857†	6091.4	14.459 ug/L	0.3497	14.459 ppb	0.3497	2.42%
SiO2†	-826.9	-54.649 ug/L	5.1080	-54.649 ppb	5.1080	9.35%

QC Failed. Continue with analysis.

Sequence No.: 12  
 Sample ID: LR2  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 16  
 Date Collected: 1/12/2010 13:40:26  
 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	5006.2	5006.2	97.8 %		13:42:24
1	Y RADIAL	5292.0	5292.0	96.12 %		13:42:24
1	Al 396.153Radial†	588.5	608.2	10.130 ug/L	10.130 ppb	13:42:24
1	Ca 317.933Radial†	27.5	8.9	14.403 ug/L	14.403 ppb	13:42:44
1	Fe 238.204 Radial†	-21.1	-33.2	10.434 ug/L	10.434 ppb	13:42:44
1	K 766.490 Radial†	1587709.7	1621579.2	295280 ug/L	295280 ppb	13:42:19
1	Mg 279.077 IEC†	-6.1	-9.3	-205.20 ug/L	-205.20 ppb	13:42:44
1	Na 589.592 Radial†	-76.6	1230.5	352.73 ug/L	352.73 ppb	13:42:24
1	Sr 421.552†	1478874.0	1512751.4	9658.2 ug/L	9658.2 ppb	13:42:19
1	Sc 361.383	833594.2	833594.2	97.147 %		13:44:02
1	Y 371.029	684561.0	684561.0	94.077 %		13:44:02
1	Ag 328.068†	-8495.5	-9102.0	3.5744 ug/L	3.5744 ppb	13:44:07
1	As 188.979†	22899.7	23596.0	10150 ug/L	10150 ppb	13:44:07
1	B 249.677†	218747.3	225785.6	5040.0 ug/L	5040.0 ppb	13:44:02
1	Ba 233.527†	1769898.7	1821877.9	14138 ug/L	14138 ppb	13:44:02
1	Be 313.107†	7464541.6	7688202.3	2927.3 ug/L	2927.3 ppb	13:43:55
1	Cd 226.502†	860248.9	885710.6	9749.6 ug/L	9749.6 ppb	13:44:02
1	Co 228.616†	467767.9	481580.5	9770.1 ug/L	9770.1 ppb	13:44:02
1	Cr 267.716†	2112081.6	2174021.0	24135 ug/L	24135 ppb	13:44:02
1	Cu 324.752†	6548134.3	6734009.0	20088 ug/L	20088 ppb	13:43:55
1	Mn 257.610†	8350987.4	8595772.9	9426.7 ug/L	9426.7 ppb	13:43:55
1	Mo 202.031†	136763.1	140757.4	9821.5 ug/L	9821.5 ppb	13:44:07
1	Ni 231.604†	386673.4	397960.5	9842.4 ug/L	9842.4 ppb	13:44:02
1	P 214.914†	31467.2	32170.9	14628 ug/L	14628 ppb	13:44:07
1	Pb 220.353†	194857.3	200641.2	24292 ug/L	24292 ppb	13:44:07
1	S 181.975 Axial†	36484.1	37511.5	52203 ug/L	52203 ppb	13:44:07
1	Sb 206.836†	30011.9	30859.7	10827 ug/L	10827 ppb	13:44:07
1	Se 196.026†	15639.3	16130.5	10188 ug/L	10188 ppb	13:44:07
1	Si 251.611†	1500256.3	1543848.6	48752 ug/L	48752 ppb	13:44:02
1	Sn 189.927†	58479.8	60195.3	10486 ug/L	10486 ppb	13:44:07
1	Ti 334.940†	6004470.7	6182118.0	9890.5 ug/L	9890.5 ppb	13:43:55
1	Tl 190.801†	31031.1	31976.4	9719.0 ug/L	9719.0 ppb	13:44:07
1	U 409.014†	-610.0	1236.0	-17.559 ug/L	-17.559 ppb	13:44:07
1	V 292.402†	1443166.5	1486902.8	10206 ug/L	10206 ppb	13:44:02
1	Zn 213.857†	1471504.9	1514089.0	14123 ug/L	14123 ppb	13:44:02
1	SiO2†	1521551.2	1565770.5	105340 ug/L	105340 ppb	13:44:54
2	Sc Radial	4972.9	4972.9	97.1 %		13:42:54
2	Y RADIAL	5231.2	5231.2	95.02 %		13:42:54
2	Al 396.153Radial†	568.3	591.4	-10.105 ug/L	-10.105 ppb	13:42:54
2	Ca 317.933Radial†	27.3	8.9	14.308 ug/L	14.308 ppb	13:43:14
2	Fe 238.204 Radial†	-22.6	-34.9	-3.0238 ug/L	-3.0238 ppb	13:43:14
2	K 766.490 Radial†	1583874.0	1628517.4	296550 ug/L	296550 ppb	13:42:49
2	Mg 279.077 IEC†	-5.9	-9.1	-196.57 ug/L	-196.57 ppb	13:43:14
2	Na 589.592 Radial†	-125.8	1179.3	338.06 ug/L	338.06 ppb	13:42:54
2	Sr 421.552†	1474713.4	1518608.6	9695.6 ug/L	9695.6 ppb	13:42:49
2	Sc 361.383	823486.6	823486.6	95.969 %		13:44:21
2	Y 371.029	676051.6	676051.6	92.907 %		13:44:21
2	Ag 328.068†	-8718.4	-9441.6	2.1097 ug/L	2.1097 ppb	13:44:27
2	As 188.979†	23013.1	24003.6	10325 ug/L	10325 ppb	13:44:27
2	B 249.677†	215907.9	225590.8	5035.5 ug/L	5035.5 ppb	13:44:21
2	Ba 233.527†	1757527.0	1831348.6	14212 ug/L	14212 ppb	13:44:21
2	Be 313.107†	7514387.8	7834453.6	2983.0 ug/L	2983.0 ppb	13:44:15
2	Cd 226.502†	854150.1	890224.5	9799.3 ug/L	9799.3 ppb	13:44:21
2	Co 228.616†	463831.9	483389.2	9806.7 ug/L	9806.7 ppb	13:44:21
2	Cr 267.716†	2095736.6	2183674.9	24242 ug/L	24242 ppb	13:44:21
2	Cu 324.752†	6596230.7	6866858.4	20485 ug/L	20485 ppb	13:44:15
2	Mn 257.610†	8410772.6	8763580.4	9610.7 ug/L	9610.7 ppb	13:44:15
2	Mo 202.031†	137039.0	142772.8	9962.1 ug/L	9962.1 ppb	13:44:27
2	Ni 231.604†	383734.9	399784.0	9887.5 ug/L	9887.5 ppb	13:44:21

2	P 214.914†	31725.4	32837.5	14936 ug/L	14936 ppb	13:44:27
2	Pb 220.353†	195069.0	203323.8	24617 ug/L	24617 ppb	13:44:27
2	S 181.975 Axial†	36587.1	38079.8	52994 ug/L	52994 ppb	13:44:27
2	Sb 206.836†	30179.3	31413.3	11020 ug/L	11020 ppb	13:44:27
2	Se 196.026†	15684.9	16375.7	10342 ug/L	10342 ppb	13:44:27
2	Si 251.611†	1482853.4	1544669.9	48776 ug/L	48776 ppb	13:44:21
2	Sn 189.927†	58669.8	61132.2	10649 ug/L	10649 ppb	13:44:27
2	Ti 334.940†	6049254.2	6304646.3	10087 ug/L	10087 ppb	13:44:15
2	Tl 190.801†	31134.0	32475.6	9872.1 ug/L	9872.1 ppb	13:44:27
2	U 409.014†	-515.5	1326.7	-15.126 ug/L	-15.126 ppb	13:44:27
2	V 292.402†	1428802.1	1490169.0	10230 ug/L	10230 ppb	13:44:21
2	Zn 213.857†	1460915.1	1521646.3	14193 ug/L	14193 ppb	13:44:21
2	SiO2†	1535905.2	1599951.5	107640 ug/L	107640 ppb	13:45:01
3	Sc Radial	4910.6	4910.6	95.9 %		13:43:25
3	Y RADIAL	5187.9	5187.9	94.23 %		13:43:25
3	Al 396.153Radial†	561.3	591.5	-7.2377 ug/L	-7.2377 ppb	13:43:25
3	Ca 317.933Radial†	23.2	5.0	8.0876 ug/L	8.0876 ppb	13:43:45
3	Fe 238.204 Radial†	-20.0	-32.4	17.627 ug/L	17.627 ppb	13:43:45
3	K 766.490 Radial†	1580271.0	1645440.6	299630 ug/L	299630 ppb	13:43:20
3	Mg 279.077 IEC†	-5.2	-8.4	-175.73 ug/L	-175.73 ppb	13:43:45
3	Na 589.592 Radial†	-142.1	1160.7	332.71 ug/L	332.71 ppb	13:43:25
3	Sr 421.552†	1472610.5	1535670.9	9804.5 ug/L	9804.5 ppb	13:43:20
3	Sc 361.383	835061.6	835061.6	97.318 %		13:44:41
3	Y 371.029	686100.8	686100.8	94.288 %		13:44:41
3	Ag 328.068†	-8790.5	-9389.8	2.3599 ug/L	2.3599 ppb	13:44:47
3	As 188.979†	23204.8	23868.1	10267 ug/L	10267 ppb	13:44:47
3	B 249.677†	220158.3	226839.9	5063.5 ug/L	5063.5 ppb	13:44:41
3	Ba 233.527†	1778069.6	1827072.5	14179 ug/L	14179 ppb	13:44:41
3	Be 313.107†	7580665.1	7794023.5	2967.6 ug/L	2967.6 ppb	13:44:35
3	Cd 226.502†	864042.9	888053.1	9775.4 ug/L	9775.4 ppb	13:44:41
3	Co 228.616†	469681.3	482700.5	9792.7 ug/L	9792.7 ppb	13:44:41
3	Cr 267.716†	2120105.2	2178445.3	24184 ug/L	24184 ppb	13:44:41
3	Cu 324.752†	6666298.4	6843584.5	20415 ug/L	20415 ppb	13:44:35
3	Mn 257.610†	8485289.8	8718670.5	9561.5 ug/L	9561.5 ppb	13:44:35
3	Mo 202.031†	138163.1	141948.5	9904.6 ug/L	9904.6 ppb	13:44:47
3	Ni 231.604†	388508.7	399146.9	9871.7 ug/L	9871.7 ppb	13:44:41
3	P 214.914†	32007.5	32669.1	14850 ug/L	14850 ppb	13:44:47
3	Pb 220.353†	196807.3	202292.5	24492 ug/L	24492 ppb	13:44:47
3	S 181.975 Axial†	36966.2	37941.0	52800 ug/L	52800 ppb	13:44:47
3	Sb 206.836†	30379.5	31183.1	10940 ug/L	10940 ppb	13:44:47
3	Se 196.026†	15797.8	16265.2	10273 ug/L	10273 ppb	13:44:47
3	Si 251.611†	1506806.7	1547865.8	48878 ug/L	48878 ppb	13:44:41
3	Sn 189.927†	59214.1	60844.1	10599 ug/L	10599 ppb	13:44:47
3	Ti 334.940†	6105556.4	6275127.9	10039 ug/L	10039 ppb	13:44:35
3	Tl 190.801†	31428.3	32328.4	9827.1 ug/L	9827.1 ppb	13:44:47
3	U 409.014†	-536.5	1312.6	-15.415 ug/L	-15.415 ppb	13:44:47
3	V 292.402†	1449052.6	1490340.6	10230 ug/L	10230 ppb	13:44:41
3	Zn 213.857†	1477927.9	1518027.3	14160 ug/L	14160 ppb	13:44:41
3	SiO2†	1526967.6	1568583.9	105530 ug/L	105530 ppb	13:45:09

## Mean Data: LR2

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	830714.1	96.812 %	0.7344			0.76%
Sc Radial	4963.2	96.9 %	0.95			0.98%
Y 371.029	682237.8	93.757 %	0.7438			0.79%
Y RADIAL	5237.0	95.13 %	0.950			1.00%
Ag 328.068†	-9311.2	2.6813 ug/L	0.78349	2.6813 ppb	0.78349	29.22%
Al 396.153Radial†	597.0	-2.4041 ug/L	10.94916	-2.4041 ppb	10.94916	455.44%
As 188.979†	23822.6	10247 ug/L	89.5	10247 ppb	89.5	0.87%
QC value within limits for As 188.979 Recovery = 102.47%						
B 249.677†	226072.1	5046.3 ug/L	15.08	5046.3 ppb	15.08	0.30%
QC value within limits for B 249.677 Recovery = 100.93%						
Ba 233.527†	1826766.3	14176 ug/L	36.8	14176 ppb	36.8	0.26%
QC value within limits for Ba 233.527 Recovery = 94.51%						
Be 313.107†	7772226.5	2959.3 ug/L	28.77	2959.3 ppb	28.77	0.97%
QC value within limits for Be 313.107 Recovery = 98.64%						
Ca 317.933Radial†	7.6	12.266 ug/L	3.6192	12.266 ppb	3.6192	29.51%
Cd 226.502†	887996.1	9774.8 ug/L	24.85	9774.8 ppb	24.85	0.25%
QC value within limits for Cd 226.502 Recovery = 97.75%						

Co 228.616†	482556.8	9789.8 ug/L	18.47	9789.8 ppb	18.47	0.19%
QC value within limits for Co 228.616 Recovery = 97.90%						
Cr 267.716†	2178713.8	24187 ug/L	53.6	24187 ppb	53.6	0.22%
QC value within limits for Cr 267.716 Recovery = 96.75%						
Cu 324.752†	6814817.3	20330 ug/L	211.6	20330 ppb	211.6	1.04%
QC value within limits for Cu 324.752 Recovery = 101.65%						
Fe 238.204 Radial†	-33.5	8.3456 ug/L	10.48241	8.3456 ppb	10.48241	125.60%
K 766.490 Radial†	1631845.7	297150 ug/L	2235.1	297150 ppb	2235.1	0.75%
QC value within limits for K 766.490 Radial Recovery = 99.05%						
Mg 279.077 IEC†	-8.9	-192.50 ug/L	15.153	-192.50 ppb	15.153	7.87%
Mn 257.610†	8692674.6	9533.0 ug/L	95.27	9533.0 ppb	95.27	1.00%
QC value within limits for Mn 257.610 Recovery = 95.33%						
Mo 202.031†	141826.2	9896.0 ug/L	70.70	9896.0 ppb	70.70	0.71%
QC value within limits for Mo 202.031 Recovery = 98.96%						
Na 589.592 Radial†	1190.2	341.17 ug/L	10.369	341.17 ppb	10.369	3.04%
Ni 231.604†	398963.8	9867.2 ug/L	22.89	9867.2 ppb	22.89	0.23%
QC value within limits for Ni 231.604 Recovery = 98.67%						
P 214.914†	32559.2	14805 ug/L	158.7	14805 ppb	158.7	1.07%
QC value within limits for P 214.914 Recovery = 98.70%						
Pb 220.353†	202085.8	24467 ug/L	163.8	24467 ppb	163.8	0.67%
QC value within limits for Pb 220.353 Recovery = 97.87%						
S 181.975 Axial†	37844.1	52666 ug/L	412.3	52666 ppb	412.3	0.78%
QC value within limits for S 181.975 Axial Recovery = 105.33%						
Sb 206.836†	31152.1	10929 ug/L	96.8	10929 ppb	96.8	0.89%
QC value within limits for Sb 206.836 Recovery = 109.29%						
Se 196.026†	16257.1	10268 ug/L	77.5	10268 ppb	77.5	0.75%
QC value within limits for Se 196.026 Recovery = 102.68%						
Si 251.611†	1545461.4	48802 ug/L	66.9	48802 ppb	66.9	0.14%
QC value within limits for Si 251.611 Recovery = 97.60%						
Sn 189.927†	60723.9	10578 ug/L	83.6	10578 ppb	83.6	0.79%
QC value within limits for Sn 189.927 Recovery = 105.78%						
Sr 421.552†	1522343.6	9719.4 ug/L	76.02	9719.4 ppb	76.02	0.78%
QC value within limits for Sr 421.552 Recovery = 97.19%						
Ti 334.940†	6253964.1	10005 ug/L	102.4	10005 ppb	102.4	1.02%
QC value within limits for Ti 334.940 Recovery = 100.05%						
Tl 190.801†	32260.1	9806.1 ug/L	78.65	9806.1 ppb	78.65	0.80%
QC value within limits for Tl 190.801 Recovery = 98.06%						
U 409.014†	1291.8	-16.033 ug/L	1.3293	-16.033 ppb	1.3293	8.29%
V 292.402†	1489137.5	10222 ug/L	14.0	10222 ppb	14.0	0.14%
QC value within limits for V 292.402 Recovery = 102.22%						
Zn 213.857†	1517920.8	14159 ug/L	35.1	14159 ppb	35.1	0.25%
QC value within limits for Zn 213.857 Recovery = 94.39%						
SiO2†	1578101.9	106170 ug/L	1278.2	106170 ppb	1278.2	1.20%
QC value within limits for SiO2 Recovery = 99.23%						
All analyte(s) passed QC.						

Sequence No.: 13  
 Sample ID: CCV  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 7  
 Date Collected: 1/12/2010 13:47:18  
 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	5177.0	5177.0	101 %		13:49:10
1	Y RADIAL	5491.9	5491.9	99.75 %		13:49:10
1	Al 396.153Radial†	6429.9	6366.4	5067.5 ug/L	5067.5 ppb	13:49:10
1	Ca 317.933Radial†	3189.4	3135.7	5061.8 ug/L	5061.8 ppb	13:49:30
1	Fe 238.204 Radial†	612.7	594.5	5069.6 ug/L	5069.6 ppb	13:49:30
1	K 766.490 Radial†	32445.2	29582.2	5380.8 ug/L	5380.8 ppb	13:49:10
1	Mg 279.077 IEC†	160.4	155.6	5166.8 ug/L	5166.8 ppb	13:49:30
1	Na 589.592 Radial†	33017.2	33968.4	9737.1 ug/L	9737.1 ppb	13:49:10
1	Sr 421.552†	77720.7	76868.9	490.73 ug/L	490.73 ppb	13:49:10
1	Sc 361.383	868006.0	868006.0	101.16 %		13:50:28
1	Y 371.029	719503.4	719503.4	98.879 %		13:50:28
1	Ag 328.068†	110283.0	108663.7	501.73 ug/L	501.73 ppb	13:50:33
1	As 188.979†	1206.4	1216.6	524.31 ug/L	524.31 ppb	13:50:53
1	B 249.677†	22879.4	23232.6	519.21 ug/L	519.21 ppb	13:50:33
1	Ba 233.527†	64660.3	63928.8	496.57 ug/L	496.57 ppb	13:50:33
1	Be 313.107†	1334592.0	1323792.1	501.27 ug/L	501.27 ppb	13:50:28
1	Cd 226.502†	45743.9	45422.0	499.56 ug/L	499.56 ppb	13:50:33
1	Co 228.616†	24816.8	24610.0	499.45 ug/L	499.45 ppb	13:50:33
1	Cr 267.716†	45137.2	44541.7	494.78 ug/L	494.78 ppb	13:50:33
1	Cu 324.752†	173290.2	164904.5	491.92 ug/L	491.92 ppb	13:50:33
1	Mn 257.610†	461133.5	455425.9	499.74 ug/L	499.74 ppb	13:50:28
1	Mo 202.031†	7263.1	7158.3	499.93 ug/L	499.93 ppb	13:50:53
1	Ni 231.604†	20382.2	20081.9	496.66 ug/L	496.66 ppb	13:50:33
1	P 214.914†	4438.4	4167.2	2386.6 ug/L	2386.6 ppb	13:50:53
1	Pb 220.353†	4126.8	4141.7	502.94 ug/L	502.94 ppb	13:50:53
1	S 181.975 Axial†	790.6	737.7	1025.7 ug/L	1025.7 ppb	13:50:53
1	Sb 206.836†	1551.2	1500.0	526.51 ug/L	526.51 ppb	13:50:53
1	Se 196.026†	785.3	808.3	525.85 ug/L	525.85 ppb	13:50:53
1	Si 251.611†	80367.7	78987.2	2494.3 ug/L	2494.3 ppb	13:50:33
1	Sn 189.927†	2918.6	2883.5	503.24 ug/L	503.24 ppb	13:50:53
1	Ti 334.940†	307172.1	304990.6	488.24 ug/L	488.24 ppb	13:50:33
1	Tl 190.801†	1654.0	1669.2	507.24 ug/L	507.24 ppb	13:50:53
1	U 409.014†	15380.6	17068.5	500.79 ug/L	500.79 ppb	13:50:33
1	V 292.402†	72145.6	72679.6	499.64 ug/L	499.64 ppb	13:50:33
1	Zn 213.857†	54676.8	53426.3	497.21 ug/L	497.21 ppb	13:50:33
1	SiO2†	79766.5	78394.6	5274.0 ug/L	5274.0 ppb	13:52:00
2	Sc Radial	5246.9	5246.9	102 %		13:49:36
2	Y RADIAL	5550.3	5550.3	100.8 %		13:49:36
2	Al 396.153Radial†	6503.6	6353.7	5057.4 ug/L	5057.4 ppb	13:49:36
2	Ca 317.933Radial†	3182.1	3086.5	4982.4 ug/L	4982.4 ppb	13:49:56
2	Fe 238.204 Radial†	609.3	583.1	4972.9 ug/L	4972.9 ppb	13:49:56
2	K 766.490 Radial†	32524.2	29232.0	5317.1 ug/L	5317.1 ppb	13:49:36
2	Mg 279.077 IEC†	157.8	150.9	5012.1 ug/L	5012.1 ppb	13:49:56
2	Na 589.592 Radial†	33169.4	33682.2	9655.0 ug/L	9655.0 ppb	13:49:36
2	Sr 421.552†	78280.3	76391.7	487.69 ug/L	487.69 ppb	13:49:36
2	Sc 361.383	873768.5	873768.5	101.83 %		13:50:59
2	Y 371.029	726636.0	726636.0	99.859 %		13:50:59
2	Ag 328.068†	112260.1	109886.3	507.33 ug/L	507.33 ppb	13:51:04
2	As 188.979†	1204.6	1206.9	520.20 ug/L	520.20 ppb	13:51:24
2	B 249.677†	23422.9	23617.3	527.84 ug/L	527.84 ppb	13:51:04
2	Ba 233.527†	66029.4	64851.8	503.74 ug/L	503.74 ppb	13:51:04
2	Be 313.107†	1350630.0	1330841.1	503.95 ug/L	503.95 ppb	13:50:59
2	Cd 226.502†	46798.8	46159.7	507.69 ug/L	507.69 ppb	13:51:04
2	Co 228.616†	25366.3	24987.8	507.10 ug/L	507.10 ppb	13:51:04
2	Cr 267.716†	46167.2	45258.8	502.74 ug/L	502.74 ppb	13:51:04
2	Cu 324.752†	176530.6	166956.9	498.04 ug/L	498.04 ppb	13:51:04
2	Mn 257.610†	464653.6	455876.5	500.23 ug/L	500.23 ppb	13:50:59
2	Mo 202.031†	7288.2	7135.6	498.34 ug/L	498.34 ppb	13:51:24
2	Ni 231.604†	20903.5	20461.0	506.04 ug/L	506.04 ppb	13:51:04

2	P 214.914†	4454.2	4153.9	2377.1 ug/L	2377.1 ppb	13:51:24
2	Pb 220.353†	4149.5	4137.2	502.38 ug/L	502.38 ppb	13:51:24
2	S 181.975 Axial†	788.2	730.2	1015.2 ug/L	1015.2 ppb	13:51:24
2	Sb 206.836†	1572.0	1510.3	529.94 ug/L	529.94 ppb	13:51:24
2	Se 196.026†	782.6	800.6	520.67 ug/L	520.67 ppb	13:51:24
2	Si 251.611†	81994.6	80061.0	2528.3 ug/L	2528.3 ppb	13:51:04
2	Sn 189.927†	2924.6	2870.4	500.94 ug/L	500.94 ppb	13:51:24
2	Ti 334.940†	313457.4	309160.4	494.91 ug/L	494.91 ppb	13:51:04
2	Tl 190.801†	1659.7	1664.0	505.68 ug/L	505.68 ppb	13:51:24
2	U 409.014†	15766.7	17347.3	509.00 ug/L	509.00 ppb	13:51:04
2	V 292.402†	73683.6	73719.6	506.69 ug/L	506.69 ppb	13:51:04
2	Zn 213.857†	55806.5	54179.3	504.22 ug/L	504.22 ppb	13:51:04
2	SiO2†	80255.5	78354.8	5271.4 ug/L	5271.4 ppb	13:52:06
3	Sc Radial	5130.0	5130.0	100 %		13:50:01
3	Y RADIAL	5423.6	5423.6	98.51 %		13:50:01
3	Al 396.153Radial†	6390.8	6385.7	5083.1 ug/L	5083.1 ppb	13:50:01
3	Ca 317.933Radial†	3186.0	3161.1	5102.9 ug/L	5102.9 ppb	13:50:21
3	Fe 238.204 Radial†	607.0	594.4	5069.1 ug/L	5069.1 ppb	13:50:21
3	K 766.490 Radial†	31597.0	29029.5	5280.2 ug/L	5280.2 ppb	13:50:01
3	Mg 279.077 IEC†	160.9	157.6	5233.5 ug/L	5233.5 ppb	13:50:21
3	Na 589.592 Radial†	32421.8	33673.3	9652.5 ug/L	9652.5 ppb	13:50:01
3	Sr 421.552†	76645.0	76499.5	488.38 ug/L	488.38 ppb	13:50:01
3	Sc 361.383	868771.5	868771.5	101.25 %		13:51:30
3	Y 371.029	720865.1	720865.1	99.066 %		13:51:30
3	Ag 328.068†	111191.5	109465.0	505.41 ug/L	505.41 ppb	13:51:35
3	As 188.979†	1187.7	1197.0	515.99 ug/L	515.99 ppb	13:51:55
3	B 249.677†	23084.9	23415.7	523.31 ug/L	523.31 ppb	13:51:35
3	Ba 233.527†	65402.3	64605.4	501.82 ug/L	501.82 ppb	13:51:35
3	Be 313.107†	1336110.4	1324129.2	501.41 ug/L	501.41 ppb	13:51:30
3	Cd 226.502†	46413.6	46043.6	506.40 ug/L	506.40 ppb	13:51:35
3	Co 228.616†	25140.8	24908.4	505.49 ug/L	505.49 ppb	13:51:35
3	Cr 267.716†	45601.4	44960.8	499.43 ug/L	499.43 ppb	13:51:35
3	Cu 324.752†	174463.8	165912.6	494.93 ug/L	494.93 ppb	13:51:35
3	Mn 257.610†	462230.6	456107.9	500.48 ug/L	500.48 ppb	13:51:30
3	Mo 202.031†	7205.2	7094.8	495.50 ug/L	495.50 ppb	13:51:55
3	Ni 231.604†	20662.1	20340.6	503.06 ug/L	503.06 ppb	13:51:35
3	P 214.914†	4407.1	4132.5	2365.0 ug/L	2365.0 ppb	13:51:55
3	Pb 220.353†	4122.2	4133.6	501.94 ug/L	501.94 ppb	13:51:55
3	S 181.975 Axial†	779.2	725.7	1008.9 ug/L	1008.9 ppb	13:51:55
3	Sb 206.836†	1537.6	1485.2	521.36 ug/L	521.36 ppb	13:51:55
3	Se 196.026†	789.4	811.7	527.97 ug/L	527.97 ppb	13:51:55
3	Si 251.611†	81240.0	79778.8	2519.4 ug/L	2519.4 ppb	13:51:35
3	Sn 189.927†	2902.8	2865.4	500.09 ug/L	500.09 ppb	13:51:55
3	Ti 334.940†	309892.7	307410.1	492.10 ug/L	492.10 ppb	13:51:35
3	Tl 190.801†	1655.0	1668.7	507.09 ug/L	507.09 ppb	13:51:55
3	U 409.014†	15673.8	17344.6	508.91 ug/L	508.91 ppb	13:51:35
3	V 292.402†	72819.4	73282.2	503.67 ug/L	503.67 ppb	13:51:35
3	Zn 213.857†	55205.1	53900.5	501.61 ug/L	501.61 ppb	13:51:35
3	SiO2†	80144.5	78698.4	5294.6 ug/L	5294.6 ppb	13:52:11

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	870182.0	101.41 %	0.365			0.36%
Sc Radial	5184.6	101 %	1.1			1.13%
Y 371.029	722334.8	99.268 %	0.5204			0.52%
Y RADIAL	5488.6	99.69 %	1.152			1.16%
Ag 328.068†	109338.3	504.82 ug/L	2.847	504.82 ppb	2.847	0.56%
QC value within limits for Ag 328.068 Recovery = 100.96%						
Al 396.153Radial†	6368.6	5069.3 ug/L	12.97	5069.3 ppb	12.97	0.26%
QC value within limits for Al 396.153Radial Recovery = 101.39%						
As 188.979†	1206.8	520.17 ug/L	4.158	520.17 ppb	4.158	0.80%
QC value within limits for As 188.979 Recovery = 104.03%						
B 249.677†	23421.9	523.45 ug/L	4.316	523.45 ppb	4.316	0.82%
QC value within limits for B 249.677 Recovery = 104.69%						
Ba 233.527†	64462.0	500.71 ug/L	3.709	500.71 ppb	3.709	0.74%
QC value within limits for Ba 233.527 Recovery = 100.14%						
Be 313.107†	1326254.1	502.21 ug/L	1.509	502.21 ppb	1.509	0.30%
QC value within limits for Be 313.107 Recovery = 100.44%						
Ca 317.933Radial†	3127.8	5049.0 ug/L	61.26	5049.0 ppb	61.26	1.21%

QC value within limits for Ca 317.933 Radial Recovery = 100.98%							
Cd 226.502†	45875.1	504.55 ug/L	4.371	504.55 ppb	4.371	0.87%	
QC value within limits for Cd 226.502 Recovery = 100.91%							
Co 228.616†	24835.4	504.02 ug/L	4.033	504.02 ppb	4.033	0.80%	
QC value within limits for Co 228.616 Recovery = 100.80%							
Cr 267.716†	44920.4	498.99 ug/L	4.000	498.99 ppb	4.000	0.80%	
QC value within limits for Cr 267.716 Recovery = 99.80%							
Cu 324.752†	165924.7	494.96 ug/L	3.057	494.96 ppb	3.057	0.62%	
QC value within limits for Cu 324.752 Recovery = 98.99%							
Fe 238.204 Radial†	590.6	5037.2 ug/L	55.64	5037.2 ppb	55.64	1.10%	
QC value within limits for Fe 238.204 Radial Recovery = 100.74%							
K 766.490 Radial†	29281.2	5326.1 ug/L	50.90	5326.1 ppb	50.90	0.96%	
QC value within limits for K 766.490 Radial Recovery = 106.52%							
Mg 279.077 IEC†	154.7	5137.5 ug/L	113.61	5137.5 ppb	113.61	2.21%	
QC value within limits for Mg 279.077 IEC Recovery = 102.75%							
Mn 257.610†	455803.4	500.15 ug/L	0.379	500.15 ppb	0.379	0.08%	
QC value within limits for Mn 257.610 Recovery = 100.03%							
Mo 202.031†	7129.6	497.92 ug/L	2.244	497.92 ppb	2.244	0.45%	
QC value within limits for Mo 202.031 Recovery = 99.58%							
Na 589.592 Radial†	33774.6	9681.5 ug/L	48.12	9681.5 ppb	48.12	0.50%	
QC value within limits for Na 589.592 Radial Recovery = 96.82%							
Ni 231.604†	20294.5	501.92 ug/L	4.791	501.92 ppb	4.791	0.95%	
QC value within limits for Ni 231.604 Recovery = 100.38%							
P 214.914†	4151.2	2376.2 ug/L	10.82	2376.2 ppb	10.82	0.46%	
QC value within limits for P 214.914 Recovery = 95.05%							
Pb 220.353†	4137.5	502.42 ug/L	0.499	502.42 ppb	0.499	0.10%	
QC value within limits for Pb 220.353 Recovery = 100.48%							
S 181.975 Axial†	731.2	1016.6 ug/L	8.47	1016.6 ppb	8.47	0.83%	
QC value within limits for S 181.975 Axial Recovery = 101.66%							
Sb 206.836†	1498.5	525.94 ug/L	4.316	525.94 ppb	4.316	0.82%	
QC value within limits for Sb 206.836 Recovery = 105.19%							
Se 196.026†	806.9	524.83 ug/L	3.758	524.83 ppb	3.758	0.72%	
QC value within limits for Se 196.026 Recovery = 104.97%							
Si 251.611†	79609.0	2514.0 ug/L	17.64	2514.0 ppb	17.64	0.70%	
QC value within limits for Si 251.611 Recovery = 100.56%							
Sn 189.927†	2873.1	501.42 ug/L	1.628	501.42 ppb	1.628	0.32%	
QC value within limits for Sn 189.927 Recovery = 100.28%							
Sr 421.552†	76586.7	488.93 ug/L	1.597	488.93 ppb	1.597	0.33%	
QC value within limits for Sr 421.552 Recovery = 97.79%							
Ti 334.940†	307187.1	491.75 ug/L	3.350	491.75 ppb	3.350	0.68%	
QC value within limits for Ti 334.940 Recovery = 98.35%							
Tl 190.801†	1667.3	506.67 ug/L	0.861	506.67 ppb	0.861	0.17%	
QC value within limits for Tl 190.801 Recovery = 101.33%							
U 409.014†	17253.5	506.23 ug/L	4.711	506.23 ppb	4.711	0.93%	
QC value within limits for U 409.014 Recovery = 101.25%							
V 292.402†	73227.1	503.34 ug/L	3.535	503.34 ppb	3.535	0.70%	
QC value within limits for V 292.402 Recovery = 100.67%							
Zn 213.857†	53835.4	501.01 ug/L	3.543	501.01 ppb	3.543	0.71%	
QC value within limits for Zn 213.857 Recovery = 100.20%							
SiO2†	78482.6	5280.0 ug/L	12.73	5280.0 ppb	12.73	0.24%	
QC value within limits for SiO2 Recovery = 98.74%							
All analyte(s) passed QC.							



Sequence No.: 14  
 Sample ID: CCB  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 8  
 Date Collected: 1/12/2010 13:54:20  
 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	5283.0	5283.0	103 %		13:56:13
1	Y RADIAL	5629.2	5629.2	102.2 %		13:56:13
1	Al 396.153Radial†	-0.8	5.4	4.3122 ug/L	4.3122 ppb	13:56:13
1	Ca 317.933Radial†	19.3	-0.5	-0.8525 ug/L	-0.8525 ppb	13:56:33
1	Fe 238.204 Radial†	10.3	-1.6	-13.552 ug/L	-13.552 ppb	13:56:33
1	K 766.490 Radial†	3375.3	760.2	138.41 ug/L	138.41 ppb	13:56:13
1	Mg 279.077 IEC†	3.5	0.3	10.291 ug/L	10.291 ppb	13:56:33
1	Na 589.592 Radial†	-1042.0	298.8	85.664 ug/L	85.664 ppb	13:56:13
1	Sr 421.552†	12.0	1.9	0.0120 ug/L	0.0120 ppb	13:56:13
1	Sc 361.383	878242.6	878242.6	102.35 %		13:57:30
1	Y 371.029	742332.4	742332.4	102.02 %		13:57:30
1	Ag 328.068†	249.8	-113.0	-0.5251 ug/L	-0.5251 ppb	13:57:35
1	As 188.979†	6.4	30.2	12.903 ug/L	12.903 ppb	13:57:55
1	B 249.677†	250.5	859.8	19.301 ug/L	19.301 ppb	13:57:55
1	Ba 233.527†	-33.5	-24.2	-0.1875 ug/L	-0.1875 ppb	13:57:55
1	Be 313.107†	-4604.1	-23.7	-0.0087 ug/L	-0.0087 ppb	13:57:35
1	Cd 226.502†	-126.3	78.2	0.8624 ug/L	0.8624 ppb	13:57:55
1	Co 228.616†	-73.4	5.5	0.1130 ug/L	0.1130 ppb	13:57:55
1	Cr 267.716†	105.7	24.3	0.2685 ug/L	0.2685 ppb	13:57:55
1	Cu 324.752†	6522.3	-29.9	-0.0918 ug/L	-0.0918 ppb	13:57:35
1	Mn 257.610†	444.3	4.3	0.0030 ug/L	0.0030 ppb	13:57:55
1	Mo 202.031†	29.2	6.9	0.4816 ug/L	0.4816 ppb	13:57:55
1	Ni 231.604†	49.0	-19.2	-0.4742 ug/L	-0.4742 ppb	13:57:55
1	P 214.914†	243.3	17.4	10.501 ug/L	10.501 ppb	13:57:55
1	Pb 220.353†	-42.3	20.9	2.5313 ug/L	2.5313 ppb	13:57:55
1	S 181.975 Axial†	53.2	8.1	11.227 ug/L	11.227 ppb	13:57:55
1	Sb 206.836†	52.2	17.5	6.0162 ug/L	6.0162 ppb	13:57:55
1	Se 196.026†	-32.5	0.3	0.1206 ug/L	0.1206 ppb	13:57:55
1	Si 251.611†	615.9	141.1	4.4605 ug/L	4.4605 ppb	13:57:55
1	Sn 189.927†	20.8	18.7	3.2497 ug/L	3.2497 ppb	13:57:55
1	Ti 334.940†	-1286.4	77.3	0.1214 ug/L	0.1214 ppb	13:57:35
1	Tl 190.801†	-29.2	5.5	1.6651 ug/L	1.6651 ppb	13:57:55
1	U 409.014†	-1797.5	107.7	3.1713 ug/L	3.1713 ppb	13:57:30
1	V 292.402†	-1381.9	9.5	0.0801 ug/L	0.0801 ppb	13:57:35
1	Zn 213.857†	774.8	132.3	1.2465 ug/L	1.2465 ppb	13:57:55
1	SiO2†	573.2	101.0	6.7985 ug/L	6.7985 ppb	13:59:01
2	Sc Radial	5251.1	5251.1	103 %		13:56:38
2	Y RADIAL	5580.4	5580.4	101.4 %		13:56:38
2	Al 396.153Radial†	-16.7	-10.1	-8.0961 ug/L	-8.0961 ppb	13:56:38
2	Ca 317.933Radial†	19.3	-0.4	-0.6202 ug/L	-0.6202 ppb	13:56:58
2	Fe 238.204 Radial†	8.8	-2.9	-24.849 ug/L	-24.849 ppb	13:56:58
2	K 766.490 Radial†	3309.8	716.2	130.39 ug/L	130.39 ppb	13:56:38
2	Mg 279.077 IEC†	4.8	1.7	54.846 ug/L	54.846 ppb	13:56:58
2	Na 589.592 Radial†	-1004.2	329.6	94.482 ug/L	94.482 ppb	13:56:38
2	Sr 421.552†	2.6	-7.2	-0.0459 ug/L	-0.0459 ppb	13:56:38
2	Sc 361.383	880232.0	880232.0	102.58 %		13:58:00
2	Y 371.029	742313.3	742313.3	102.01 %		13:58:00
2	Ag 328.068†	307.0	-57.8	-0.2741 ug/L	-0.2741 ppb	13:58:05
2	As 188.979†	3.5	27.3	11.683 ug/L	11.683 ppb	13:58:25
2	B 249.677†	224.8	834.2	18.729 ug/L	18.729 ppb	13:58:25
2	Ba 233.527†	-11.7	-2.8	-0.0221 ug/L	-0.0221 ppb	13:58:25
2	Be 313.107†	-4573.0	16.8	0.0066 ug/L	0.0066 ppb	13:58:05
2	Cd 226.502†	-153.0	52.5	0.5798 ug/L	0.5798 ppb	13:58:25
2	Co 228.616†	-79.5	-0.3	-0.0051 ug/L	-0.0051 ppb	13:58:25
2	Cr 267.716†	99.7	18.2	0.2008 ug/L	0.2008 ppb	13:58:25
2	Cu 324.752†	6327.1	-234.6	-0.7026 ug/L	-0.7026 ppb	13:58:05
2	Mn 257.610†	433.7	-7.0	-0.0124 ug/L	-0.0124 ppb	13:58:25
2	Mo 202.031†	24.0	1.8	0.1234 ug/L	0.1234 ppb	13:58:25
2	Ni 231.604†	48.1	-20.2	-0.4988 ug/L	-0.4988 ppb	13:58:25

2	P 214.914†	232.7	6.5	4.1244 ug/L	4.1244 ppb	13:58:25
2	Pb 220.353†	-37.8	25.4	3.0706 ug/L	3.0706 ppb	13:58:25
2	S 181.975 Axial†	55.0	9.8	13.600 ug/L	13.600 ppb	13:58:25
2	Sb 206.836†	53.8	19.0	6.4880 ug/L	6.4880 ppb	13:58:25
2	Se 196.026†	-28.1	4.7	2.8759 ug/L	2.8759 ppb	13:58:25
2	Si 251.611†	591.1	115.5	3.6560 ug/L	3.6560 ppb	13:58:25
2	Sn 189.927†	17.4	15.3	2.6675 ug/L	2.6675 ppb	13:58:25
2	Ti 334.940†	-1298.0	68.8	0.1043 ug/L	0.1043 ppb	13:58:05
2	Tl 190.801†	-19.4	15.2	4.5912 ug/L	4.5912 ppb	13:58:25
2	U 409.014†	-1818.5	91.1	2.6848 ug/L	2.6848 ppb	13:58:00
2	V 292.402†	-1358.4	35.5	0.2527 ug/L	0.2527 ppb	13:58:05
2	Zn 213.857†	776.8	132.6	1.2514 ug/L	1.2514 ppb	13:58:25
2	SiO2†	615.2	140.7	9.4841 ug/L	9.4841 ppb	13:59:06
3	Sc Radial	5285.5	5285.5	103 %		13:57:03
3	Y RADIAL	5655.6	5655.6	102.7 %		13:57:03
3	Al 396.153Radial†	-0.4	5.8	4.6244 ug/L	4.6244 ppb	13:57:03
3	Ca 317.933Radial†	17.1	-2.7	-4.2842 ug/L	-4.2842 ppb	13:57:23
3	Fe 238.204 Radial†	11.0	-0.9	-7.4570 ug/L	-7.4570 ppb	13:57:23
3	K 766.490 Radial†	3264.7	651.5	118.61 ug/L	118.61 ppb	13:57:03
3	Mg 279.077 IEC†	0.8	-2.2	-74.102 ug/L	-74.102 ppb	13:57:23
3	Na 589.592 Radial†	-1042.1	299.2	85.770 ug/L	85.770 ppb	13:57:03
3	Sr 421.552†	-0.5	-10.3	-0.0654 ug/L	-0.0654 ppb	13:57:03
3	Sc 361.383	878888.4	878888.4	102.43 %		13:58:30
3	Y 371.029	740439.6	740439.6	101.76 %		13:58:30
3	Ag 328.068†	243.5	-119.3	-0.5482 ug/L	-0.5482 ppb	13:58:35
3	As 188.979†	4.7	28.5	12.191 ug/L	12.191 ppb	13:58:55
3	B 249.677†	233.2	842.8	18.917 ug/L	18.917 ppb	13:58:55
3	Ba 233.527†	-22.6	-13.5	-0.1039 ug/L	-0.1039 ppb	13:58:55
3	Be 313.107†	-4601.2	-17.6	-0.0063 ug/L	-0.0063 ppb	13:58:35
3	Cd 226.502†	-131.2	73.5	0.8093 ug/L	0.8093 ppb	13:58:55
3	Co 228.616†	-75.2	3.8	0.0776 ug/L	0.0776 ppb	13:58:55
3	Cr 267.716†	98.8	17.5	0.1941 ug/L	0.1941 ppb	13:58:55
3	Cu 324.752†	6531.5	-25.6	-0.0770 ug/L	-0.0770 ppb	13:58:35
3	Mn 257.610†	426.8	-13.1	-0.0121 ug/L	-0.0121 ppb	13:58:55
3	Mo 202.031†	24.2	2.0	0.1384 ug/L	0.1384 ppb	13:58:55
3	Ni 231.604†	42.7	-25.3	-0.6259 ug/L	-0.6259 ppb	13:58:55
3	P 214.914†	232.2	6.4	3.8779 ug/L	3.8779 ppb	13:58:55
3	Pb 220.353†	-43.2	20.0	2.4241 ug/L	2.4241 ppb	13:58:55
3	S 181.975 Axial†	49.6	4.5	6.3006 ug/L	6.3006 ppb	13:58:55
3	Sb 206.836†	57.0	22.2	7.5469 ug/L	7.5469 ppb	13:58:55
3	Se 196.026†	-33.7	-0.9	-0.5866 ug/L	-0.5866 ppb	13:58:55
3	Si 251.611†	595.0	120.3	3.8053 ug/L	3.8053 ppb	13:58:55
3	Sn 189.927†	4.9	3.1	0.5458 ug/L	0.5458 ppb	13:58:55
3	Ti 334.940†	-1282.1	82.4	0.1372 ug/L	0.1372 ppb	13:58:35
3	Tl 190.801†	-35.0	-0.0	-0.0140 ug/L	-0.0140 ppb	13:58:55
3	U 409.014†	-1900.6	8.3	0.2443 ug/L	0.2443 ppb	13:58:30
3	V 292.402†	-1337.5	53.9	0.3673 ug/L	0.3673 ppb	13:58:35
3	Zn 213.857†	758.0	115.4	1.0877 ug/L	1.0877 ppb	13:58:55
3	SiO2†	608.6	135.1	9.1111 ug/L	9.1111 ppb	13:59:11

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	879121.0	102.45 %		0.118			0.12%
Sc Radial	5273.2	103 %		0.4			0.36%
Y 371.029	741695.1	101.93 %		0.149			0.15%
Y RADIAL	5621.7	102.1 %		0.69			0.68%
Ag 328.068†	-96.7	-0.4492 ug/L		0.15202	-0.4492 ppb	0.15202	33.85%
QC value within limits for Ag 328.068 Recovery = Not calculated							
Al 396.153Radial†	0.4	0.2802 ug/L		7.25575	0.2802 ppb	7.25575	>999.9%
QC value within limits for Al 396.153Radial Recovery = Not calculated							
As 188.979†	28.7	12.259 ug/L		0.6130	12.259 ppb	0.6130	5.00%
QC value within limits for As 188.979 Recovery = Not calculated							
B 249.677†	845.6	18.982 ug/L		0.2918	18.982 ppb	0.2918	1.54%
QC value within limits for B 249.677 Recovery = Not calculated							
Ba 233.527†	-13.5	-0.1045 ug/L		0.08270	-0.1045 ppb	0.08270	79.12%
QC value within limits for Ba 233.527 Recovery = Not calculated							
Be 313.107†	-8.2	-0.0028 ug/L		0.00822	-0.0028 ppb	0.00822	292.64%
QC value within limits for Be 313.107 Recovery = Not calculated							
Ca 317.933Radial†	-1.2	-1.9190 ug/L		2.05161	-1.9190 ppb	2.05161	106.91%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated							
Cd 226.502†	68.1	0.7505 ug/L	0.15017	0.7505 ppb	0.15017	20.01%	
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	3.0	0.0618 ug/L	0.06064	0.0618 ppb	0.06064	98.06%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	20.0	0.2211 ug/L	0.04116	0.2211 ppb	0.04116	18.61%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-96.7	-0.2905 ug/L	0.35699	-0.2905 ppb	0.35699	122.90%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	-1.8	-15.286 ug/L	8.8246	-15.286 ppb	8.8246	57.73%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	709.3	129.14 ug/L	9.961	129.14 ppb	9.961	7.71%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	-0.1	-2.9882 ug/L	65.49156	-2.9882 ppb	65.49156	>999.9%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	-5.3	-0.0072 ug/L	0.00878	-0.0072 ppb	0.00878	122.67%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	3.6	0.2478 ug/L	0.20261	0.2478 ppb	0.20261	81.75%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	309.2	88.638 ug/L	5.0607	88.638 ppb	5.0607	5.71%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	-21.5	-0.5330 ug/L	0.08142	-0.5330 ppb	0.08142	15.28%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	10.1	6.1677 ug/L	3.75446	6.1677 ppb	3.75446	60.87%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	22.1	2.6754 ug/L	0.34648	2.6754 ppb	0.34648	12.95%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	7.5	10.376 ug/L	3.7236	10.376 ppb	3.7236	35.89%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	19.6	6.6837 ug/L	0.78389	6.6837 ppb	0.78389	11.73%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	1.3	0.8033 ug/L	1.82941	0.8033 ppb	1.82941	227.73%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	125.6	3.9739 ug/L	0.42791	3.9739 ppb	0.42791	10.77%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	12.4	2.1543 ug/L	1.42313	2.1543 ppb	1.42313	66.06%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	-5.2	-0.0331 ug/L	0.04025	-0.0331 ppb	0.04025	121.54%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	76.2	0.1210 ug/L	0.01644	0.1210 ppb	0.01644	13.59%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	6.9	2.0808 ug/L	2.33055	2.0808 ppb	2.33055	112.00%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	69.0	2.0334 ug/L	1.56845	2.0334 ppb	1.56845	77.13%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	33.0	0.2334 ug/L	0.14458	0.2334 ppb	0.14458	61.95%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	126.8	1.1952 ug/L	0.09315	1.1952 ppb	0.09315	7.79%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
SiO2†	125.6	8.4646 ug/L	1.45487	8.4646 ppb	1.45487	17.19%	
QC value within limits for SiO2 Recovery = Not calculated							

All analyte(s) passed QC.

=====  
Analysis Begun

Start Time: 1/12/2010 14:12:32

Plasma On Time: 1/11/2010 06:15:31

Logged In Analyst: Optima3

Technique: ICP Continuous

Spectrometer Model: Optima 5300 DV, S/N 077C7090601Autosampler Model: S10

Sample Information File: C:\pe\Optima3\Sample Information\011210.sif

Batch ID:

Results Data Set: 011210

Results Library: C:\pe\Optima3\Results\Results.mdb

=====  
Method Loaded

Method Name: General Eng.2AX

Method Last Saved: 1/12/2010 12:24:47

IEC File: 011110.iec

MSF File:

Method Description:

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Al 396.153Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
B 249.677	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Be 313.107	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ca 317.933Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	No
Cd 226.502	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cr 267.716	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Fe 238.204 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
K 766.490 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Mg 279.077 IEC	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Mn 257.610	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Na 589.592 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	No
Ni 231.604	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
P 214.914	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
S 181.975 Axial	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sb 206.836	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sc 361.383	Lin Thru 0	Peak Area	Axial	n/a	n/a
Sc Radial	Lin, Calc Int	Peak Area	Radial	n/a	n/a
Se 196.026	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Si 251.611	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sn 189.927	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Ti 334.940	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
U 409.014	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y 371.029	Lin, Calc Int	Peak Area	Axial	n/a	n/a
Zn 213.857	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y RADIAL	Lin, Calc Int	Peak Area	Radial	n/a	n/a
SiO2	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes

=====  
Sequence No.: 1

Autosampler Location: 37

Sample ID: LR1

Date Collected: 1/12/2010 14:12:33

Analyst: HSC

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

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Replicate Data: LR1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5074.5	5074.5	99.1 %		14:14:26
1	Y RADIAL	5421.9	5421.9	98.48 %		14:14:26
1	Al 396.153Radial†	-7.4	-1.3	0.2854 ug/L	0.2854 ppb	14:14:26

1	Ca 317.933Radial†	-1.8	-21.0	-33.907 ug/L	-33.907 ppb	14:14:46
1	Fe 238.204 Radial†	43162.5	43546.1	370260 ug/L	370260 ppb	14:14:26
1	K 766.490 Radial†	2462.1	-26.9	-4.8692 ug/L	-4.8692 ppb	14:14:26
1	Mg 279.077 IEC†	13.5	10.6	-35.738 ug/L	-35.738 ppb	14:14:46
1	Na 589.592 Radial†	-1085.9	213.1	61.073 ug/L	61.073 ppb	14:14:26
1	Sr 421.552†	97.4	88.5	0.5655 ug/L	0.5655 ppb	14:14:26
1	Sc 361.383	854254.0	854254.0	99.555 %		14:15:44
1	Y 371.029	713373.9	713373.9	98.036 %		14:15:44
1	Ag 328.068†	-25544.9	-26016.2	0.8293 ug/L	0.8293 ppb	14:15:49
1	As 188.979†	-221.5	-198.5	1.9262 ug/L	1.9262 ppb	14:16:09
1	B 249.677†	2578.1	3204.8	11.788 ug/L	11.788 ppb	14:15:49
1	Ba 233.527†	-1448.6	-1446.5	0.1950 ug/L	0.1950 ppb	14:15:49
1	Be 313.107†	-4462.5	-7.8	-0.0030 ug/L	-0.0030 ppb	14:15:49
1	Cd 226.502†	3176.1	3391.9	-0.9192 ug/L	-0.9192 ppb	14:15:49
1	Co 228.616†	178.5	256.6	-0.2074 ug/L	-0.2074 ppb	14:16:09
1	Cr 267.716†	-519.1	-600.4	0.5994 ug/L	0.5994 ppb	14:15:49
1	Cu 324.752†	1222.0	-5175.0	4.1274 ug/L	4.1274 ppb	14:15:49
1	Mn 257.610†	-30129.3	-30693.7	2.8943 ug/L	2.8943 ppb	14:15:44
1	Mo 202.031†	-367.4	-390.6	1.4871 ug/L	1.4871 ppb	14:15:49
1	Ni 231.604†	157.6	91.3	2.2553 ug/L	2.2553 ppb	14:16:09
1	P 214.914†	676.4	459.1	-18.926 ug/L	-18.926 ppb	14:16:09
1	Pb 220.353†	222.3	285.5	-0.8845 ug/L	-0.8845 ppb	14:16:09
1	S 181.975 Axial†	75.1	31.6	43.983 ug/L	43.983 ppb	14:16:09
1	Sb 206.836†	16.1	-17.3	-1.6388 ug/L	-1.6388 ppb	14:16:09
1	Se 196.026†	-1580.6	-1555.6	119.76 ug/L	119.76 ppb	14:16:09
1	Si 251.611†	-557.3	-1020.4	-31.967 ug/L	-31.967 ppb	14:15:49
1	Sn 189.927†	-15.4	-17.1	3.2478 ug/L	3.2478 ppb	14:16:09
1	Ti 334.940†	-1330.4	-2.2	-0.0607 ug/L	-0.0607 ppb	14:15:49
1	Tl 190.801†	-50.1	-16.2	-5.1893 ug/L	-5.1893 ppb	14:16:09
1	U 409.014†	170.4	2035.0	17.713 ug/L	17.713 ppb	14:15:49
1	V 292.402†	7826.5	9221.2	2.1578 ug/L	2.1578 ppb	14:15:49
1	Zn 213.857†	4456.4	3851.7	0.2457 ug/L	0.2457 ppb	14:16:09
1	SiO2†	-599.1	-1060.8	-70.810 ug/L	-70.810 ppb	14:17:16
2	Sc Radial	5138.4	5138.4	100 %		14:14:52
2	Y RADIAL	5462.3	5462.3	99.22 %		14:14:52
2	Al 396.153Radial†	-24.7	-18.4	-13.356 ug/L	-13.356 ppb	14:14:52
2	Ca 317.933Radial†	4.9	-14.3	-23.082 ug/L	-23.082 ppb	14:15:12
2	Fe 238.204 Radial†	43610.8	43451.2	369460 ug/L	369460 ppb	14:14:52
2	K 766.490 Radial†	2573.8	53.6	9.7821 ug/L	9.7821 ppb	14:14:52
2	Mg 279.077 IEC†	12.8	9.7	-64.148 ug/L	-64.148 ppb	14:15:12
2	Na 589.592 Radial†	-1091.4	221.2	63.413 ug/L	63.413 ppb	14:14:52
2	Sr 421.552†	87.6	77.5	0.4951 ug/L	0.4951 ppb	14:14:52
2	Sc 361.383	846726.6	846726.6	98.678 %		14:16:14
2	Y 371.029	707416.3	707416.3	97.217 %		14:16:14
2	Ag 328.068†	-25218.0	-25913.0	1.0481 ug/L	1.0481 ppb	14:16:20
2	As 188.979†	-214.2	-193.2	4.0317 ug/L	4.0317 ppb	14:16:40
2	B 249.677†	2551.6	3200.9	11.833 ug/L	11.833 ppb	14:16:20
2	Ba 233.527†	-1597.3	-1610.1	-1.0961 ug/L	-1.0961 ppb	14:16:20
2	Be 313.107†	-4564.0	-150.5	-0.0571 ug/L	-0.0571 ppb	14:16:20
2	Cd 226.502†	3225.4	3470.3	0.0243 ug/L	0.0243 ppb	14:16:20
2	Co 228.616†	174.4	254.0	-0.2510 ug/L	-0.2510 ppb	14:16:40
2	Cr 267.716†	-558.5	-644.9	0.0925 ug/L	0.0925 ppb	14:16:20
2	Cu 324.752†	1226.5	-5159.5	4.1337 ug/L	4.1337 ppb	14:16:20
2	Mn 257.610†	-30006.5	-30838.3	2.6572 ug/L	2.6572 ppb	14:16:14
2	Mo 202.031†	-381.0	-407.8	0.2287 ug/L	0.2287 ppb	14:16:20
2	Ni 231.604†	114.0	48.5	1.1978 ug/L	1.1978 ppb	14:16:40
2	P 214.914†	655.5	444.0	-27.424 ug/L	-27.424 ppb	14:16:40
2	Pb 220.353†	214.4	279.4	-1.5520 ug/L	-1.5520 ppb	14:16:40
2	S 181.975 Axial†	73.7	30.9	42.955 ug/L	42.955 ppb	14:16:40
2	Sb 206.836†	27.7	-5.3	2.3549 ug/L	2.3549 ppb	14:16:40
2	Se 196.026†	-1563.9	-1552.8	119.15 ug/L	119.15 ppb	14:16:40
2	Si 251.611†	-562.6	-1030.8	-32.280 ug/L	-32.280 ppb	14:16:20
2	Sn 189.927†	-27.8	-29.8	1.0217 ug/L	1.0217 ppb	14:16:40
2	Ti 334.940†	-1374.2	-58.4	-0.1444 ug/L	-0.1444 ppb	14:16:20
2	Tl 190.801†	-57.8	-24.5	-7.6951 ug/L	-7.6951 ppb	14:16:40
2	U 409.014†	-13.9	1849.8	12.354 ug/L	12.354 ppb	14:16:20
2	V 292.402†	7838.6	9303.4	2.8174 ug/L	2.8174 ppb	14:16:20
2	Zn 213.857†	4486.9	3922.4	0.9945 ug/L	0.9945 ppb	14:16:40
2	SiO2†	-616.6	-1083.9	-72.332 ug/L	-72.332 ppb	14:17:21
3	Sc Radial	5205.1	5205.1	102 %		14:15:17
3	Y RADIAL	5566.3	5566.3	101.1 %		14:15:17

3	Al 396.153Radial†	-34.5	-27.7	-20.785 ug/L	-20.785 ppb	14:15:17
3	Ca 317.933Radial†	1.3	-17.9	-28.926 ug/L	-28.926 ppb	14:15:37
3	Fe 238.204 Radial†	44301.7	43574.0	370500 ug/L	370500 ppb	14:15:17
3	K 766.490 Radial†	2530.3	-22.2	-4.0066 ug/L	-4.0066 ppb	14:15:17
3	Mg 279.077 IEC†	8.9	5.7	-197.49 ug/L	-197.49 ppb	14:15:37
3	Na 589.592 Radial†	-1098.0	228.6	65.538 ug/L	65.538 ppb	14:15:17
3	Sr 421.552†	76.3	65.3	0.4170 ug/L	0.4170 ppb	14:15:17
3	Sc 361.383	851438.2	851438.2	99.227 %		14:16:45
3	Y 371.029	711617.7	711617.7	97.795 %		14:16:45
3	Ag 328.068†	-25779.9	-26337.8	-0.5610 ug/L	-0.5610 ppb	14:16:50
3	As 188.979†	-216.8	-194.5	3.7008 ug/L	3.7008 ppb	14:17:10
3	B 249.677†	2425.0	3059.0	8.4786 ug/L	8.4786 ppb	14:16:50
3	Ba 233.527†	-1514.5	-1517.7	-0.3466 ug/L	-0.3466 ppb	14:16:50
3	Be 313.107†	-4531.9	-92.5	-0.0348 ug/L	-0.0348 ppb	14:16:50
3	Cd 226.502†	3232.7	3459.5	-0.2017 ug/L	-0.2017 ppb	14:16:50
3	Co 228.616†	165.1	243.6	-0.4778 ug/L	-0.4778 ppb	14:17:10
3	Cr 267.716†	-471.7	-554.4	1.1176 ug/L	1.1176 ppb	14:16:50
3	Cu 324.752†	1362.1	-5029.7	4.5752 ug/L	4.5752 ppb	14:16:50
3	Mn 257.610†	-30208.1	-30873.3	2.7275 ug/L	2.7275 ppb	14:16:45
3	Mo 202.031†	-388.5	-413.1	-0.0632 ug/L	-0.0632 ppb	14:16:50
3	Ni 231.604†	124.4	58.3	1.4398 ug/L	1.4398 ppb	14:17:10
3	P 214.914†	675.6	460.6	-18.390 ug/L	-18.390 ppb	14:17:10
3	Pb 220.353†	240.5	304.6	1.3852 ug/L	1.3852 ppb	14:17:10
3	S 181.975 Axial†	72.0	28.7	39.984 ug/L	39.984 ppb	14:17:10
3	Sb 206.836†	21.9	-11.4	0.3161 ug/L	0.3161 ppb	14:17:10
3	Se 196.026†	-1567.7	-1547.9	125.34 ug/L	125.34 ppb	14:17:10
3	Si 251.611†	-632.9	-1098.5	-34.420 ug/L	-34.420 ppb	14:16:50
3	Sn 189.927†	-25.0	-26.8	1.5547 ug/L	1.5547 ppb	14:17:10
3	Ti 334.940†	-1285.8	38.4	0.0193 ug/L	0.0193 ppb	14:16:50
3	Tl 190.801†	-43.9	-10.2	-3.3811 ug/L	-3.3811 ppb	14:17:10
3	U 409.014†	57.6	1921.9	14.355 ug/L	14.355 ppb	14:16:50
3	V 292.402†	7971.9	9393.7	3.2556 ug/L	3.2556 ppb	14:16:50
3	Zn 213.857†	4489.8	3900.1	0.6823 ug/L	0.6823 ppb	14:17:10
3	SiO2†	-640.0	-1104.0	-73.676 ug/L	-73.676 ppb	14:17:26

## Mean Data: LR1

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	850806.3	99.153 %	%	0.4432			0.45%
Sc Radial	5139.3	100 %	%	1.3			1.27%
Y 371.029	710802.6	97.683 %	%	0.4207			0.43%
Y RADIAL	5483.5	99.60 %	%	1.353			1.36%
Ag 328.068†	-26089.0	0.4388 ug/L	ug/L	0.87277	0.4388 ppb	0.87277	198.90%
Al 396.153Radial†	-15.8	-11.285 ug/L	ug/L	10.6869	-11.285 ppb	10.6869	94.70%
As 188.979†	-195.4	3.2196 ug/L	ug/L	1.13219	3.2196 ppb	1.13219	35.17%
B 249.677†	3154.9	10.700 ug/L	ug/L	1.9236	10.700 ppb	1.9236	17.98%
Ba 233.527†	-1524.8	-0.4159 ug/L	ug/L	0.64837	-0.4159 ppb	0.64837	155.90%
Be 313.107†	-83.6	-0.0316 ug/L	ug/L	0.02720	-0.0316 ppb	0.02720	86.01%
Ca 317.933Radial†	-17.7	-28.638 ug/L	ug/L	5.4181	-28.638 ppb	5.4181	18.92%
Cd 226.502†	3440.6	-0.3655 ug/L	ug/L	0.49262	-0.3655 ppb	0.49262	134.76%
Co 228.616†	251.4	-0.3121 ug/L	ug/L	0.14514	-0.3121 ppb	0.14514	46.51%
Cr 267.716†	-599.9	0.6032 ug/L	ug/L	0.51258	0.6032 ppb	0.51258	84.98%
Cu 324.752†	-5121.4	4.2787 ug/L	ug/L	0.25673	4.2787 ppb	0.25673	6.00%
Fe 238.204 Radial†	43523.8	370070 ug/L	ug/L	547.5	370070 ppb	547.5	0.15%
K 766.490 Radial†	1.5	0.3021 ug/L	ug/L	8.22123	0.3021 ppb	8.22123	>999.9%
Mg 279.077 IEC†	8.7	-99.127 ug/L	ug/L	86.3640	-99.127 ppb	86.3640	87.13%
Mn 257.610†	-30801.8	2.7597 ug/L	ug/L	0.12178	2.7597 ppb	0.12178	4.41%
Mo 202.031†	-403.8	0.5509 ug/L	ug/L	0.82384	0.5509 ppb	0.82384	149.55%
Na 589.592 Radial†	221.0	63.341 ug/L	ug/L	2.2332	63.341 ppb	2.2332	3.53%
Ni 231.604†	66.0	1.6310 ug/L	ug/L	0.55406	1.6310 ppb	0.55406	33.97%
P 214.914†	454.6	-21.580 ug/L	ug/L	5.0680	-21.580 ppb	5.0680	23.48%
Pb 220.353†	289.8	-0.3504 ug/L	ug/L	1.53974	-0.3504 ppb	1.53974	439.41%
S 181.975 Axial†	30.4	42.307 ug/L	ug/L	2.0767	42.307 ppb	2.0767	4.91%
Sb 206.836†	-11.3	0.3441 ug/L	ug/L	1.99699	0.3441 ppb	1.99699	580.43%
Se 196.026†	-1552.1	121.42 ug/L	ug/L	3.411	121.42 ppb	3.411	2.81%
Si 251.611†	-1049.9	-32.889 ug/L	ug/L	1.3350	-32.889 ppb	1.3350	4.06%
Sn 189.927†	-24.6	1.9414 ug/L	ug/L	1.16232	1.9414 ppb	1.16232	59.87%
Sr 421.552†	77.1	0.4926 ug/L	ug/L	0.07431	0.4926 ppb	0.07431	15.09%
Ti 334.940†	-7.4	-0.0619 ug/L	ug/L	0.08186	-0.0619 ppb	0.08186	132.21%
Tl 190.801†	-17.0	-5.4218 ug/L	ug/L	2.16637	-5.4218 ppb	2.16637	39.96%

U 409.014†	1935.6	14.807 ug/L	2.7081	14.807 ppb	2.7081	18.29%
V 292.402†	9306.1	2.7436 ug/L	0.55260	2.7436 ppb	0.55260	20.14%
Zn 213.857†	3891.4	0.6408 ug/L	0.37610	0.6408 ppb	0.37610	58.69%
SiO2†	-1082.9	-72.273 ug/L	1.4337	-72.273 ppb	1.4337	1.98%

Sequence No.: 2  
 Sample ID: CCV  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 7  
 Date Collected: 1/12/2010 14:19:37  
 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	5165.4	5165.4	101 %		14:21:29
1	Y RADIAL	5478.9	5478.9	99.52 %		14:21:29
1	Al 396.153Radial†	6456.0	6406.7	5099.9 ug/L	5099.9 ppb	14:21:29
1	Ca 317.933Radial†	3227.6	3180.6	5134.3 ug/L	5134.3 ppb	14:21:49
1	Fe 238.204 Radial†	622.3	605.4	5162.8 ug/L	5162.8 ppb	14:21:49
1	K 766.490 Radial†	30275.6	27503.5	5002.2 ug/L	5002.2 ppb	14:21:29
1	Mg 279.077 IEC†	160.5	156.1	5184.0 ug/L	5184.0 ppb	14:21:49
1	Na 589.592 Radial†	33325.2	34347.2	9845.7 ug/L	9845.7 ppb	14:21:29
1	Sr 421.552†	78740.1	78052.7	498.29 ug/L	498.29 ppb	14:21:29
1	Sc 361.383	873197.0	873197.0	101.76 %		14:22:47
1	Y 371.029	724713.7	724713.7	99.595 %		14:22:47
1	Ag 328.068†	112194.1	109893.6	507.41 ug/L	507.41 ppb	14:22:52
1	As 188.979†	1158.8	1162.7	501.48 ug/L	501.48 ppb	14:23:12
1	B 249.677†	22232.7	22462.7	501.90 ug/L	501.90 ppb	14:22:52
1	Ba 233.527†	65881.7	64749.1	502.94 ug/L	502.94 ppb	14:22:52
1	Be 313.107†	1353056.5	1334093.6	505.20 ug/L	505.20 ppb	14:22:47
1	Cd 226.502†	46324.7	45724.0	502.88 ug/L	502.88 ppb	14:22:52
1	Co 228.616†	25275.2	24914.7	505.58 ug/L	505.58 ppb	14:22:52
1	Cr 267.716†	45862.6	44989.2	499.75 ug/L	499.75 ppb	14:22:52
1	Cu 324.752†	176966.9	167499.1	499.66 ug/L	499.66 ppb	14:22:52
1	Mn 257.610†	467219.8	458696.9	503.34 ug/L	503.34 ppb	14:22:47
1	Mo 202.031†	7236.7	7089.7	495.15 ug/L	495.15 ppb	14:23:12
1	Ni 231.604†	20743.8	20317.5	502.49 ug/L	502.49 ppb	14:22:52
1	P 214.914†	4417.3	4120.5	2356.5 ug/L	2356.5 ppb	14:23:12
1	Pb 220.353†	4087.9	4079.2	495.36 ug/L	495.36 ppb	14:23:12
1	S 181.975 Axial†	778.0	720.6	1001.9 ug/L	1001.9 ppb	14:23:12
1	Sb 206.836†	1517.6	1457.8	511.97 ug/L	511.97 ppb	14:23:12
1	Se 196.026†	773.5	792.1	515.93 ug/L	515.93 ppb	14:23:12
1	Si 251.611†	81655.9	79780.8	2519.5 ug/L	2519.5 ppb	14:22:52
1	Sn 189.927†	2903.1	2851.1	497.61 ug/L	497.61 ppb	14:23:12
1	Ti 334.940†	321063.2	316835.9	507.20 ug/L	507.20 ppb	14:22:47
1	Tl 190.801†	1634.0	1639.8	498.50 ug/L	498.50 ppb	14:23:12
1	U 409.014†	15852.9	17442.2	511.77 ug/L	511.77 ppb	14:22:52
1	V 292.402†	73503.8	73590.3	505.73 ug/L	505.73 ppb	14:22:52
1	Zn 213.857†	55427.3	53842.5	501.06 ug/L	501.06 ppb	14:22:52
1	SiO2†	81180.7	79315.4	5336.2 ug/L	5336.2 ppb	14:24:20
2	Sc Radial	5176.4	5176.4	101 %		14:21:54
2	Y RADIAL	5452.2	5452.2	99.03 %		14:21:54
2	Al 396.153Radial†	6456.1	6393.1	5088.7 ug/L	5088.7 ppb	14:21:54
2	Ca 317.933Radial†	3211.5	3157.8	5097.6 ug/L	5097.6 ppb	14:22:14
2	Fe 238.204 Radial†	618.6	600.4	5120.6 ug/L	5120.6 ppb	14:22:14
2	K 766.490 Radial†	30174.4	27339.2	4972.3 ug/L	4972.3 ppb	14:21:54
2	Mg 279.077 IEC†	159.7	155.0	5145.5 ug/L	5145.5 ppb	14:22:14
2	Na 589.592 Radial†	33142.9	34096.3	9773.7 ug/L	9773.7 ppb	14:21:54
2	Sr 421.552†	78439.6	77588.5	495.33 ug/L	495.33 ppb	14:21:54
2	Sc 361.383	867072.7	867072.7	101.05 %		14:23:18
2	Y 371.029	719981.4	719981.4	98.944 %		14:23:18
2	Ag 328.068†	111601.1	110085.4	508.28 ug/L	508.28 ppb	14:23:23
2	As 188.979†	1162.1	1174.0	506.28 ug/L	506.28 ppb	14:23:43
2	B 249.677†	22148.6	22533.8	503.50 ug/L	503.50 ppb	14:23:23
2	Ba 233.527†	65520.9	64849.4	503.72 ug/L	503.72 ppb	14:23:23
2	Be 313.107†	1344931.5	1335444.3	505.72 ug/L	505.72 ppb	14:23:18
2	Cd 226.502†	46147.6	45870.2	504.49 ug/L	504.49 ppb	14:23:23
2	Co 228.616†	25163.1	24979.1	506.91 ug/L	506.91 ppb	14:23:23
2	Cr 267.716†	45730.3	45176.6	501.83 ug/L	501.83 ppb	14:23:23
2	Cu 324.752†	175475.6	167251.6	498.92 ug/L	498.92 ppb	14:23:23
2	Mn 257.610†	465509.3	460247.0	505.03 ug/L	505.03 ppb	14:23:18
2	Mo 202.031†	7285.4	7188.1	502.02 ug/L	502.02 ppb	14:23:43
2	Ni 231.604†	20654.9	20373.4	503.87 ug/L	503.87 ppb	14:23:23



2	P 214.914†	4458.4	4191.8	2399.6 ug/L	2399.6 ppb	14:23:43
2	Pb 220.353†	4131.6	4150.9	504.04 ug/L	504.04 ppb	14:23:43
2	S 181.975 Axial†	783.6	731.6	1017.2 ug/L	1017.2 ppb	14:23:43
2	Sb 206.836†	1524.6	1475.3	518.18 ug/L	518.18 ppb	14:23:43
2	Se 196.026†	788.4	812.2	528.48 ug/L	528.48 ppb	14:23:43
2	Si 251.611†	81229.7	79925.8	2524.0 ug/L	2524.0 ppb	14:23:23
2	Sn 189.927†	2938.6	2906.4	507.24 ug/L	507.24 ppb	14:23:43
2	Ti 334.940†	319463.0	317480.8	508.23 ug/L	508.23 ppb	14:23:18
2	Tl 190.801†	1646.9	1663.9	505.81 ug/L	505.81 ppb	14:23:43
2	U 409.014†	15835.4	17534.9	514.50 ug/L	514.50 ppb	14:23:23
2	V 292.402†	73065.7	73666.9	506.36 ug/L	506.36 ppb	14:23:23
2	Zn 213.857†	55154.7	53957.5	502.13 ug/L	502.13 ppb	14:23:23
2	SiO2†	81481.7	80176.8	5394.1 ug/L	5394.1 ppb	14:24:25
3	Sc Radial	5144.3	5144.3	100 %		14:22:19
3	Y RADIAL	5481.7	5481.7	99.57 %		14:22:19
3	Al 396.153Radial†	6414.1	6391.2	5087.1 ug/L	5087.1 ppb	14:22:19
3	Ca 317.933Radial†	3193.9	3160.2	5101.4 ug/L	5101.4 ppb	14:22:39
3	Fe 238.204 Radial†	617.3	602.9	5142.1 ug/L	5142.1 ppb	14:22:39
3	K 766.490 Radial†	30188.8	27540.3	5009.0 ug/L	5009.0 ppb	14:22:19
3	Mg 279.077 IEC†	161.4	157.6	5234.9 ug/L	5234.9 ppb	14:22:39
3	Na 589.592 Radial†	32996.6	34155.8	9790.8 ug/L	9790.8 ppb	14:22:19
3	Sr 421.552†	78218.4	77853.9	497.02 ug/L	497.02 ppb	14:22:19
3	Sc 361.383	861996.1	861996.1	100.46 %		14:23:49
3	Y 371.029	715819.1	715819.1	98.372 %		14:23:49
3	Ag 328.068†	113080.8	112208.9	518.06 ug/L	518.06 ppb	14:23:54
3	As 188.979†	1160.3	1179.0	508.41 ug/L	508.41 ppb	14:24:14
3	B 249.677†	22511.2	23023.8	514.47 ug/L	514.47 ppb	14:23:54
3	Ba 233.527†	66297.4	66004.1	512.69 ug/L	512.69 ppb	14:23:54
3	Be 313.107†	1335323.4	1333718.5	505.06 ug/L	505.06 ppb	14:23:49
3	Cd 226.502†	46770.0	46758.7	514.27 ug/L	514.27 ppb	14:23:54
3	Co 228.616†	25469.5	25430.8	516.08 ug/L	516.08 ppb	14:23:54
3	Cr 267.716†	46078.3	45789.6	508.64 ug/L	508.64 ppb	14:23:54
3	Cu 324.752†	177871.1	170658.9	509.08 ug/L	509.08 ppb	14:23:54
3	Mn 257.610†	462603.6	460067.6	504.83 ug/L	504.83 ppb	14:23:49
3	Mo 202.031†	7271.2	7216.4	503.99 ug/L	503.99 ppb	14:24:14
3	Ni 231.604†	20978.9	20816.4	514.83 ug/L	514.83 ppb	14:23:54
3	P 214.914†	4432.9	4192.4	2397.5 ug/L	2397.5 ppb	14:24:14
3	Pb 220.353†	4121.4	4164.9	505.73 ug/L	505.73 ppb	14:24:14
3	S 181.975 Axial†	778.2	730.8	1016.1 ug/L	1016.1 ppb	14:24:14
3	Sb 206.836†	1531.7	1491.3	523.67 ug/L	523.67 ppb	14:24:14
3	Se 196.026†	776.2	804.7	523.81 ug/L	523.81 ppb	14:24:14
3	Si 251.611†	82138.0	81303.4	2567.6 ug/L	2567.6 ppb	14:23:54
3	Sn 189.927†	2916.9	2901.9	506.46 ug/L	506.46 ppb	14:24:14
3	Ti 334.940†	317265.8	317155.5	507.70 ug/L	507.70 ppb	14:23:49
3	Tl 190.801†	1629.8	1656.5	503.50 ug/L	503.50 ppb	14:24:14
3	U 409.014†	15980.1	17771.2	521.44 ug/L	521.44 ppb	14:23:54
3	V 292.402†	74033.3	75056.0	515.82 ug/L	515.82 ppb	14:23:54
3	Zn 213.857†	55830.3	54951.5	511.38 ug/L	511.38 ppb	14:23:54
3	SiO2†	82582.4	81747.4	5500.0 ug/L	5500.0 ppb	14:24:30

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	867421.9	101.09 %	0.654			0.65%
Sc Radial	5162.0	101 %	0.3			0.32%
Y 371.029	720171.4	98.970 %	0.6116			0.62%
Y RADIAL	5470.9	99.37 %	0.296			0.30%
Ag 328.068†	110729.3	511.25 ug/L	5.914	511.25 ppb	5.914	1.16%
QC value within limits for Ag 328.068 Recovery = 102.25%						
Al 396.153Radial†	6397.0	5091.9 ug/L	6.99	5091.9 ppb	6.99	0.14%
QC value within limits for Al 396.153Radial Recovery = 101.84%						
As 188.979†	1171.9	505.39 ug/L	3.553	505.39 ppb	3.553	0.70%
QC value within limits for As 188.979 Recovery = 101.08%						
B 249.677†	22673.4	506.62 ug/L	6.842	506.62 ppb	6.842	1.35%
QC value within limits for B 249.677 Recovery = 101.32%						
Ba 233.527†	65200.8	506.45 ug/L	5.416	506.45 ppb	5.416	1.07%
QC value within limits for Ba 233.527 Recovery = 101.29%						
Be 313.107†	1334418.8	505.33 ug/L	0.344	505.33 ppb	0.344	0.07%
QC value within limits for Be 313.107 Recovery = 101.07%						
Ca 317.933Radial†	3166.2	5111.1 ug/L	20.17	5111.1 ppb	20.17	0.39%

QC value within limits for Ca 317.933 Radial Recovery = 102.22%							
Cd 226.502†	46117.6	507.21 ug/L	6.166	507.21 ppb	6.166	1.22%	
QC value within limits for Cd 226.502 Recovery = 101.44%							
Co 228.616†	25108.2	509.52 ug/L	5.716	509.52 ppb	5.716	1.12%	
QC value within limits for Co 228.616 Recovery = 101.90%							
Cr 267.716†	45318.5	503.41 ug/L	4.650	503.41 ppb	4.650	0.92%	
QC value within limits for Cr 267.716 Recovery = 100.68%							
Cu 324.752†	168469.9	502.55 ug/L	5.665	502.55 ppb	5.665	1.13%	
QC value within limits for Cu 324.752 Recovery = 100.51%							
Fe 238.204 Radial†	602.9	5141.8 ug/L	21.12	5141.8 ppb	21.12	0.41%	
QC value within limits for Fe 238.204 Radial Recovery = 102.84%							
K 766.490 Radial†	27461.0	4994.5 ug/L	19.50	4994.5 ppb	19.50	0.39%	
QC value within limits for K 766.490 Radial Recovery = 99.89%							
Mg 279.077 IEC†	156.2	5188.1 ug/L	44.84	5188.1 ppb	44.84	0.86%	
QC value within limits for Mg 279.077 IEC Recovery = 103.76%							
Mn 257.610†	459670.5	504.40 ug/L	0.928	504.40 ppb	0.928	0.18%	
QC value within limits for Mn 257.610 Recovery = 100.88%							
Mo 202.031†	7164.8	500.39 ug/L	4.640	500.39 ppb	4.640	0.93%	
QC value within limits for Mo 202.031 Recovery = 100.08%							
Na 589.592 Radial†	34199.8	9803.4 ug/L	37.58	9803.4 ppb	37.58	0.38%	
QC value within limits for Na 589.592 Radial Recovery = 98.03%							
Ni 231.604†	20502.4	507.06 ug/L	6.761	507.06 ppb	6.761	1.33%	
QC value within limits for Ni 231.604 Recovery = 101.41%							
P 214.914†	4168.2	2384.5 ug/L	24.31	2384.5 ppb	24.31	1.02%	
QC value within limits for P 214.914 Recovery = 95.38%							
Pb 220.353†	4131.7	501.71 ug/L	5.568	501.71 ppb	5.568	1.11%	
QC value within limits for Pb 220.353 Recovery = 100.34%							
S 181.975 Axial†	727.7	1011.7 ug/L	8.55	1011.7 ppb	8.55	0.84%	
QC value within limits for S 181.975 Axial Recovery = 101.17%							
Sb 206.836†	1474.8	517.94 ug/L	5.850	517.94 ppb	5.850	1.13%	
QC value within limits for Sb 206.836 Recovery = 103.59%							
Se 196.026†	803.0	522.74 ug/L	6.344	522.74 ppb	6.344	1.21%	
QC value within limits for Se 196.026 Recovery = 104.55%							
Si 251.611†	80336.7	2537.0 ug/L	26.56	2537.0 ppb	26.56	1.05%	
QC value within limits for Si 251.611 Recovery = 101.48%							
Sn 189.927†	2886.5	503.77 ug/L	5.345	503.77 ppb	5.345	1.06%	
QC value within limits for Sn 189.927 Recovery = 100.75%							
Sr 421.552†	77831.7	496.88 ug/L	1.487	496.88 ppb	1.487	0.30%	
QC value within limits for Sr 421.552 Recovery = 99.38%							
Ti 334.940†	317157.4	507.71 ug/L	0.515	507.71 ppb	0.515	0.10%	
QC value within limits for Ti 334.940 Recovery = 101.54%							
Tl 190.801†	1653.4	502.60 ug/L	3.736	502.60 ppb	3.736	0.74%	
QC value within limits for Tl 190.801 Recovery = 100.52%							
U 409.014†	17582.8	515.91 ug/L	4.985	515.91 ppb	4.985	0.97%	
QC value within limits for U 409.014 Recovery = 103.18%							
V 292.402†	74104.4	509.30 ug/L	5.650	509.30 ppb	5.650	1.11%	
QC value within limits for V 292.402 Recovery = 101.86%							
Zn 213.857†	54250.5	504.85 ug/L	5.674	504.85 ppb	5.674	1.12%	
QC value within limits for Zn 213.857 Recovery = 100.97%							
SiO2†	80413.2	5410.1 ug/L	83.06	5410.1 ppb	83.06	1.54%	
QC value within limits for SiO2 Recovery = 101.17%							

All analyte(s) passed QC.

Sequence No.: 3  
 Sample ID: CCB  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 8  
 Date Collected: 1/12/2010 14:26:39  
 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	5299.8	5299.8	103 %		14:28:32
1	Y RADIAL	5679.7	5679.7	103.2 %		14:28:32
1	Al 396.153Radial†	11.9	17.6	14.098 ug/L	14.098 ppb	14:28:32
1	Ca 317.933Radial†	21.5	1.6	2.5893 ug/L	2.5893 ppb	14:28:52
1	Fe 238.204 Radial†	10.3	-1.6	-13.893 ug/L	-13.893 ppb	14:28:52
1	K 766.490 Radial†	2753.6	149.1	27.129 ug/L	27.129 ppb	14:28:32
1	Mg 279.077 IEC†	2.9	-0.3	-8.9269 ug/L	-8.9269 ppb	14:28:52
1	Na 589.592 Radial†	-1156.5	191.4	54.864 ug/L	54.864 ppb	14:28:32
1	Sr 421.552†	-7.5	-17.0	-0.1085 ug/L	-0.1085 ppb	14:28:32
1	Sc 361.383	888071.5	888071.5	103.50 %		14:29:49
1	Y 371.029	748407.4	748407.4	102.85 %		14:29:49
1	Ag 328.068†	283.3	-83.3	-0.3822 ug/L	-0.3822 ppb	14:29:54
1	As 188.979†	-13.7	10.7	4.5805 ug/L	4.5805 ppb	14:30:14
1	B 249.677†	-271.8	352.5	7.9130 ug/L	7.9130 ppb	14:30:14
1	Ba 233.527†	-23.5	-14.2	-0.1079 ug/L	-0.1079 ppb	14:30:14
1	Be 313.107†	-4601.7	28.4	0.0111 ug/L	0.0111 ppb	14:29:54
1	Cd 226.502†	-175.9	31.7	0.3497 ug/L	0.3497 ppb	14:30:14
1	Co 228.616†	-65.3	14.2	0.2878 ug/L	0.2878 ppb	14:30:14
1	Cr 267.716†	87.2	5.3	0.0598 ug/L	0.0598 ppb	14:30:14
1	Cu 324.752†	6455.3	-165.2	-0.4938 ug/L	-0.4938 ppb	14:29:54
1	Mn 257.610†	426.6	-17.6	-0.0203 ug/L	-0.0203 ppb	14:30:14
1	Mo 202.031†	23.0	0.6	0.0397 ug/L	0.0397 ppb	14:30:14
1	Ni 231.604†	63.0	-6.1	-0.1515 ug/L	-0.1515 ppb	14:30:14
1	P 214.914†	242.3	13.8	8.4286 ug/L	8.4286 ppb	14:30:14
1	Pb 220.353†	-48.9	15.0	1.8164 ug/L	1.8164 ppb	14:30:14
1	S 181.975 Axial†	40.9	-4.3	-6.0330 ug/L	-6.0330 ppb	14:30:14
1	Sb 206.836†	54.2	19.0	6.4705 ug/L	6.4705 ppb	14:30:14
1	Se 196.026†	-25.2	7.7	4.8146 ug/L	4.8146 ppb	14:30:14
1	Si 251.611†	496.7	19.2	0.6084 ug/L	0.6084 ppb	14:30:14
1	Sn 189.927†	13.9	11.8	2.0503 ug/L	2.0503 ppb	14:30:14
1	Ti 334.940†	-1261.8	115.0	0.1850 ug/L	0.1850 ppb	14:29:54
1	Tl 190.801†	-37.6	-2.3	-0.6916 ug/L	-0.6916 ppb	14:30:14
1	U 409.014†	-1918.5	10.2	0.3024 ug/L	0.3024 ppb	14:29:49
1	V 292.402†	-1248.6	153.3	1.0425 ug/L	1.0425 ppb	14:29:54
1	Zn 213.857†	659.1	12.2	0.1171 ug/L	0.1171 ppb	14:30:14
1	SiO2†	516.6	40.2	2.7077 ug/L	2.7077 ppb	14:31:20
2	Sc Radial	4945.9	4945.9	96.6 %		14:28:57
2	Y RADIAL	5290.9	5290.9	96.10 %		14:28:57
2	Al 396.153Radial†	-35.8	-30.8	-24.671 ug/L	-24.671 ppb	14:28:57
2	Ca 317.933Radial†	15.9	-2.7	-4.3682 ug/L	-4.3682 ppb	14:29:17
2	Fe 238.204 Radial†	11.3	0.2	1.7015 ug/L	1.7015 ppb	14:29:17
2	K 766.490 Radial†	2731.1	316.2	57.575 ug/L	57.575 ppb	14:28:57
2	Mg 279.077 IEC†	-1.3	-4.4	-145.00 ug/L	-145.00 ppb	14:29:17
2	Na 589.592 Radial†	-1145.4	123.0	35.258 ug/L	35.258 ppb	14:28:57
2	Sr 421.552†	9.2	-0.2	-0.0011 ug/L	-0.0011 ppb	14:28:57
2	Sc 361.383	873629.9	873629.9	101.81 %		14:30:19
2	Y 371.029	737481.5	737481.5	101.35 %		14:30:19
2	Ag 328.068†	309.4	-53.2	-0.2409 ug/L	-0.2409 ppb	14:30:24
2	As 188.979†	-17.3	7.0	2.9863 ug/L	2.9863 ppb	14:30:44
2	B 249.677†	-280.2	339.9	7.6283 ug/L	7.6283 ppb	14:30:44
2	Ba 233.527†	-6.4	2.3	0.0197 ug/L	0.0197 ppb	14:30:44
2	Be 313.107†	-4742.9	-183.8	-0.0691 ug/L	-0.0691 ppb	14:30:24
2	Cd 226.502†	-165.9	38.7	0.4254 ug/L	0.4254 ppb	14:30:44
2	Co 228.616†	-67.1	11.4	0.2303 ug/L	0.2303 ppb	14:30:44
2	Cr 267.716†	101.9	21.1	0.2345 ug/L	0.2345 ppb	14:30:44
2	Cu 324.752†	6518.0	-0.5	-0.0021 ug/L	-0.0021 ppb	14:30:24
2	Mn 257.610†	382.2	-54.5	-0.0536 ug/L	-0.0536 ppb	14:30:44
2	Mo 202.031†	22.3	0.3	0.0219 ug/L	0.0219 ppb	14:30:44
2	Ni 231.604†	46.0	-21.9	-0.5412 ug/L	-0.5412 ppb	14:30:44

2	P 214.914†	233.7	9.2	5.5331 ug/L	5.5331 ppb	14:30:44
2	Pb 220.353†	-52.7	10.4	1.2581 ug/L	1.2581 ppb	14:30:44
2	S 181.975 Axial†	53.4	8.6	11.966 ug/L	11.966 ppb	14:30:44
2	Sb 206.836†	50.5	16.2	5.5171 ug/L	5.5171 ppb	14:30:44
2	Se 196.026†	-37.1	-4.4	-2.7470 ug/L	-2.7470 ppb	14:30:44
2	Si 251.611†	494.9	25.4	0.8047 ug/L	0.8047 ppb	14:30:44
2	Sn 189.927†	12.7	10.8	1.8755 ug/L	1.8755 ppb	14:30:44
2	Ti 334.940†	-1260.3	96.3	0.1648 ug/L	0.1648 ppb	14:30:24
2	Tl 190.801†	-42.0	-7.2	-2.1661 ug/L	-2.1661 ppb	14:30:44
2	U 409.014†	-1848.9	47.9	1.4087 ug/L	1.4087 ppb	14:30:19
2	V 292.402†	-1262.5	119.7	0.8110 ug/L	0.8110 ppb	14:30:24
2	Zn 213.857†	658.4	22.0	0.2100 ug/L	0.2100 ppb	14:30:44
2	SiO2†	528.1	59.6	4.0211 ug/L	4.0211 ppb	14:31:25
3	Sc Radial	5301.5	5301.5	104 %		14:29:22
3	Y RADIAL	5668.5	5668.5	103.0 %		14:29:22
3	Al 396.153Radial†	4.5	10.5	8.4290 ug/L	8.4290 ppb	14:29:22
3	Ca 317.933Radial†	18.3	-1.5	-2.4806 ug/L	-2.4806 ppb	14:29:42
3	Fe 238.204 Radial†	8.9	-3.0	-25.270 ug/L	-25.270 ppb	14:29:42
3	K 766.490 Radial†	2809.8	202.6	36.868 ug/L	36.868 ppb	14:29:22
3	Mg 279.077 IEC†	2.2	-0.9	-31.388 ug/L	-31.388 ppb	14:29:42
3	Na 589.592 Radial†	-1149.7	198.3	56.846 ug/L	56.846 ppb	14:29:22
3	Sr 421.552†	3.4	-6.5	-0.0414 ug/L	-0.0414 ppb	14:29:22
3	Sc 361.383	861442.9	861442.9	100.39 %		14:30:49
3	Y 371.029	727136.0	727136.0	99.927 %		14:30:49
3	Ag 328.068†	239.3	-118.7	-0.5519 ug/L	-0.5519 ppb	14:30:54
3	As 188.979†	-23.2	0.8	0.3533 ug/L	0.3533 ppb	14:31:14
3	B 249.677†	-300.6	315.7	7.0900 ug/L	7.0900 ppb	14:31:14
3	Ba 233.527†	-16.0	-7.3	-0.0565 ug/L	-0.0565 ppb	14:31:14
3	Be 313.107†	-4683.0	-190.0	-0.0716 ug/L	-0.0716 ppb	14:30:54
3	Cd 226.502†	-171.9	30.4	0.3374 ug/L	0.3374 ppb	14:31:14
3	Co 228.616†	-79.1	-1.5	-0.0317 ug/L	-0.0317 ppb	14:31:14
3	Cr 267.716†	75.5	-3.8	-0.0424 ug/L	-0.0424 ppb	14:31:14
3	Cu 324.752†	6394.5	-32.9	-0.1005 ug/L	-0.1005 ppb	14:30:54
3	Mn 257.610†	399.7	-31.6	-0.0359 ug/L	-0.0359 ppb	14:31:14
3	Mo 202.031†	15.0	-6.7	-0.4685 ug/L	-0.4685 ppb	14:31:14
3	Ni 231.604†	42.2	-25.0	-0.6176 ug/L	-0.6176 ppb	14:31:14
3	P 214.914†	224.6	3.5	2.1308 ug/L	2.1308 ppb	14:31:14
3	Pb 220.353†	-49.6	12.8	1.5557 ug/L	1.5557 ppb	14:31:14
3	S 181.975 Axial†	53.6	9.5	13.225 ug/L	13.225 ppb	14:31:14
3	Sb 206.836†	43.1	9.5	3.2170 ug/L	3.2170 ppb	14:31:14
3	Se 196.026†	-35.2	-3.0	-1.9765 ug/L	-1.9765 ppb	14:31:14
3	Si 251.611†	509.2	46.6	1.4796 ug/L	1.4796 ppb	14:31:14
3	Sn 189.927†	7.1	5.4	0.9433 ug/L	0.9433 ppb	14:31:14
3	Ti 334.940†	-1276.6	62.6	0.1017 ug/L	0.1017 ppb	14:30:54
3	Tl 190.801†	-39.9	-5.7	-1.7167 ug/L	-1.7167 ppb	14:31:14
3	U 409.014†	-1812.7	58.2	1.7173 ug/L	1.7173 ppb	14:30:49
3	V 292.402†	-1303.5	61.4	0.4158 ug/L	0.4158 ppb	14:30:54
3	Zn 213.857†	664.8	37.6	0.3592 ug/L	0.3592 ppb	14:31:14
3	SiO2†	531.3	70.2	4.7488 ug/L	4.7488 ppb	14:31:30

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	874381.4	101.90 %	1.554			1.52%
Sc Radial	5182.4	101 %	4.0			3.95%
Y 371.029	737674.9	101.38 %	1.462			1.44%
Y RADIAL	5546.4	100.7 %	4.02			3.99%
Ag 328.068†	-85.1	-0.3917 ug/L	0.15572	-0.3917 ppb	0.15572	39.75%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-0.9	-0.7148 ug/L	20.93968	-0.7148 ppb	20.93968	>999.9%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	6.2	2.6400 ug/L	2.13479	2.6400 ppb	2.13479	80.86%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	336.0	7.5437 ug/L	0.41796	7.5437 ppb	0.41796	5.54%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-6.4	-0.0482 ug/L	0.06422	-0.0482 ppb	0.06422	133.16%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-115.1	-0.0432 ug/L	0.04705	-0.0432 ppb	0.04705	108.99%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-0.9	-1.4198 ug/L	3.59799	-1.4198 ppb	3.59799	253.41%

QC value within limits for Ca 317.933 Radial	Recovery = Not calculated		
Cd 226.502†	33.6 0.3708 ug/L	0.04764 0.3708 ppb	0.04764 12.85%
QC value within limits for Cd 226.502	Recovery = Not calculated		
Co 228.616†	8.0 0.1621 ug/L	0.17032 0.1621 ppb	0.17032 105.06%
QC value within limits for Co 228.616	Recovery = Not calculated		
Cr 267.716†	7.5 0.0840 ug/L	0.14005 0.0840 ppb	0.14005 166.78%
QC value within limits for Cr 267.716	Recovery = Not calculated		
Cu 324.752†	-66.2 -0.1988 ug/L	0.26015 -0.1988 ppb	0.26015 130.86%
QC value within limits for Cu 324.752	Recovery = Not calculated		
Fe 238.204 Radial†	-1.5 -12.487 ug/L	13.5407 -12.487 ppb	13.5407 108.44%
QC value within limits for Fe 238.204 Radial	Recovery = Not calculated		
K 766.490 Radial†	222.6 40.524 ug/L	15.5489 40.524 ppb	15.5489 38.37%
QC value within limits for K 766.490 Radial	Recovery = Not calculated		
Mg 279.077 IEC†	-1.9 -61.771 ug/L	72.9468 -61.771 ppb	72.9468 118.09%
QC value within limits for Mg 279.077 IEC	Recovery = Not calculated		
Mn 257.610†	-34.6 -0.0366 ug/L	0.01667 -0.0366 ppb	0.01667 45.54%
QC value within limits for Mn 257.610	Recovery = Not calculated		
Mo 202.031†	-1.9 -0.1356 ug/L	0.28845 -0.1356 ppb	0.28845 212.66%
QC value within limits for Mo 202.031	Recovery = Not calculated		
Na 589.592 Radial†	170.9 48.989 ug/L	11.9330 48.989 ppb	11.9330 24.36%
QC value within limits for Na 589.592 Radial	Recovery = Not calculated		
Ni 231.604†	-17.6 -0.4368 ug/L	0.24997 -0.4368 ppb	0.24997 57.23%
QC value within limits for Ni 231.604	Recovery = Not calculated		
P 214.914†	8.8 5.3642 ug/L	3.15228 5.3642 ppb	3.15228 58.77%
QC value within limits for P 214.914	Recovery = Not calculated		
Pb 220.353†	12.7 1.5434 ug/L	0.27931 1.5434 ppb	0.27931 18.10%
QC value within limits for Pb 220.353	Recovery = Not calculated		
S 181.975 Axial†	4.6 6.3861 ug/L	10.77363 6.3861 ppb	10.77363 168.71%
QC value within limits for S 181.975 Axial	Recovery = Not calculated		
Sb 206.836†	14.9 5.0682 ug/L	1.67253 5.0682 ppb	1.67253 33.00%
QC value within limits for Sb 206.836	Recovery = Not calculated		
Se 196.026†	0.1 0.0303 ug/L	4.16112 0.0303 ppb	4.16112 >999.9%
QC value within limits for Se 196.026	Recovery = Not calculated		
Si 251.611†	30.4 0.9642 ug/L	0.45699 0.9642 ppb	0.45699 47.40%
QC value within limits for Si 251.611	Recovery = Not calculated		
Sn 189.927†	9.3 1.6230 ug/L	0.59509 1.6230 ppb	0.59509 36.67%
QC value within limits for Sn 189.927	Recovery = Not calculated		
Sr 421.552†	-7.9 -0.0503 ug/L	0.05425 -0.0503 ppb	0.05425 107.78%
QC value within limits for Sr 421.552	Recovery = Not calculated		
Ti 334.940†	91.3 0.1505 ug/L	0.04345 0.1505 ppb	0.04345 28.87%
QC value within limits for Ti 334.940	Recovery = Not calculated		
Tl 190.801†	-5.0 -1.5248 ug/L	0.75574 -1.5248 ppb	0.75574 49.56%
QC value within limits for Tl 190.801	Recovery = Not calculated		
U 409.014†	38.8 1.1428 ug/L	0.74398 1.1428 ppb	0.74398 65.10%
QC value within limits for U 409.014	Recovery = Not calculated		
V 292.402†	111.5 0.7564 ug/L	0.31689 0.7564 ppb	0.31689 41.89%
QC value within limits for V 292.402	Recovery = Not calculated		
Zn 213.857†	23.9 0.2288 ug/L	0.12214 0.2288 ppb	0.12214 53.40%
QC value within limits for Zn 213.857	Recovery = Not calculated		
SiO2†	56.7 3.8258 ug/L	1.03448 3.8258 ppb	1.03448 27.04%
QC value within limits for SiO2	Recovery = Not calculated		

All analyte(s) passed QC.

Sequence No.: 4  
 Sample ID: 1202006002|937469|1  
 Analyst: HSC  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 38  
 Date Collected: 1/12/2010 14:33:40  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

Replicate Data: 1202006002|937469|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5383.4	5383.4	105 %		14:35:33
1	Y RADIAL	5725.6	5725.6	104.0 %		14:35:33
1	Al 396.153Radial†	-1.2	5.0	4.0078 ug/L	4.0078 ppb	14:35:33
1	Ca 317.933Radial†	15.3	-4.7	-7.5575 ug/L	-7.5575 ppb	14:35:53
1	Fe 238.204 Radial†	10.2	-1.8	-15.522 ug/L	-15.522 ppb	14:35:53
1	K 766.490 Radial†	2650.7	9.9	1.7826 ug/L	1.7826 ppb	14:35:33
1	Mg 279.077 IEC†	1.8	-1.3	-44.083 ug/L	-44.083 ppb	14:35:53
1	Na 589.592 Radial†	-1089.6	272.5	78.103 ug/L	78.103 ppb	14:35:33
1	Sr 421.552†	-5.2	-14.7	-0.0940 ug/L	-0.0940 ppb	14:35:33
1	Sc 361.383	866412.3	866412.3	100.97 %		14:36:50
1	Y 371.029	730578.7	730578.7	100.40 %		14:36:50
1	Ag 328.068†	234.4	-124.9	-0.5781 ug/L	-0.5781 ppb	14:36:50
1	As 188.979†	-7.7	16.3	6.9630 ug/L	6.9630 ppb	14:37:10
1	B 249.677†	-378.3	240.4	5.3999 ug/L	5.3999 ppb	14:37:10
1	Ba 233.527†	2.7	11.2	0.0877 ug/L	0.0877 ppb	14:37:10
1	Be 313.107†	-4660.5	-141.0	-0.0525 ug/L	-0.0525 ppb	14:36:50
1	Cd 226.502†	-199.4	4.1	0.0478 ug/L	0.0478 ppb	14:37:10
1	Co 228.616†	-94.9	-16.7	-0.3388 ug/L	-0.3388 ppb	14:37:10
1	Cr 267.716†	92.9	13.0	0.1437 ug/L	0.1437 ppb	14:37:10
1	Cu 324.752†	6451.5	-13.0	-0.0415 ug/L	-0.0415 ppb	14:36:50
1	Mn 257.610†	454.4	20.2	0.0225 ug/L	0.0225 ppb	14:37:10
1	Mo 202.031†	25.5	3.6	0.2499 ug/L	0.2499 ppb	14:37:10
1	Ni 231.604†	75.3	7.5	0.1860 ug/L	0.1860 ppb	14:37:10
1	P 214.914†	241.2	18.5	11.164 ug/L	11.164 ppb	14:37:10
1	Pb 220.353†	-58.1	4.6	0.5611 ug/L	0.5611 ppb	14:37:10
1	S 181.975 Axial†	56.4	12.0	16.692 ug/L	16.692 ppb	14:37:10
1	Sb 206.836†	66.9	32.9	11.185 ug/L	11.185 ppb	14:37:10
1	Se 196.026†	-29.4	2.9	1.8034 ug/L	1.8034 ppb	14:37:10
1	Si 251.611†	885.1	416.0	13.164 ug/L	13.164 ppb	14:37:10
1	Sn 189.927†	11.5	9.8	1.7016 ug/L	1.7016 ppb	14:37:10
1	Ti 334.940†	-1146.7	198.5	0.3188 ug/L	0.3188 ppb	14:36:50
1	Tl 190.801†	-39.4	-5.0	-1.5021 ug/L	-1.5021 ppb	14:37:10
1	U 409.014†	-1766.0	114.9	3.3829 ug/L	3.3829 ppb	14:36:50
1	V 292.402†	-1289.5	82.7	0.5719 ug/L	0.5719 ppb	14:36:50
1	Zn 213.857†	727.6	95.9	0.9009 ug/L	0.9009 ppb	14:37:10
1	SiO2†	864.5	397.2	26.781 ug/L	26.781 ppb	14:38:06
2	Sc Radial	5404.4	5404.4	106 %		14:35:58
2	Y RADIAL	5776.1	5776.1	104.9 %		14:35:58
2	Al 396.153Radial†	0.5	6.7	5.3648 ug/L	5.3648 ppb	14:35:58
2	Ca 317.933Radial†	15.1	-4.9	-7.9004 ug/L	-7.9004 ppb	14:36:18
2	Fe 238.204 Radial†	8.8	-3.3	-27.654 ug/L	-27.654 ppb	14:36:18
2	K 766.490 Radial†	2647.0	-3.4	-0.6403 ug/L	-0.6403 ppb	14:35:58
2	Mg 279.077 IEC†	1.8	-1.3	-43.639 ug/L	-43.639 ppb	14:36:18
2	Na 589.592 Radial†	-1123.8	244.1	69.957 ug/L	69.957 ppb	14:35:58
2	Sr 421.552†	35.4	23.8	0.1519 ug/L	0.1519 ppb	14:35:58
2	Sc 361.383	865037.1	865037.1	100.81 %		14:37:15
2	Y 371.029	729112.0	729112.0	100.20 %		14:37:15
2	Ag 328.068†	214.3	-144.5	-0.6787 ug/L	-0.6787 ppb	14:37:15
2	As 188.979†	-14.2	9.9	4.2280 ug/L	4.2280 ppb	14:37:35
2	B 249.677†	-357.8	260.2	5.8449 ug/L	5.8449 ppb	14:37:35
2	Ba 233.527†	-18.6	-9.9	-0.0786 ug/L	-0.0786 ppb	14:37:35
2	Be 313.107†	-4673.4	-161.1	-0.0603 ug/L	-0.0603 ppb	14:37:15
2	Cd 226.502†	-189.4	13.8	0.1554 ug/L	0.1554 ppb	14:37:35
2	Co 228.616†	-79.4	-1.5	-0.0321 ug/L	-0.0321 ppb	14:37:35
2	Cr 267.716†	82.1	2.5	0.0242 ug/L	0.0242 ppb	14:37:35
2	Cu 324.752†	6463.1	8.6	0.0209 ug/L	0.0209 ppb	14:37:15
2	Mn 257.610†	445.5	12.1	0.0123 ug/L	0.0123 ppb	14:37:35
2	Mo 202.031†	16.9	-4.9	-0.3435 ug/L	-0.3435 ppb	14:37:35
2	Ni 231.604†	64.7	-2.9	-0.0711 ug/L	-0.0711 ppb	14:37:35

2	P 214.914†	233.9	11.7	7.0354 ug/L	7.0354 ppb	14:37:35
2	Pb 220.353†	-52.0	10.6	1.2878 ug/L	1.2878 ppb	14:37:35
2	S 181.975 Axial†	44.8	0.6	0.8170 ug/L	0.8170 ppb	14:37:35
2	Sb 206.836†	66.8	32.8	11.149 ug/L	11.149 ppb	14:37:35
2	Se 196.026†	-16.6	15.6	9.7122 ug/L	9.7122 ppb	14:37:35
2	Si 251.611†	908.3	440.4	13.945 ug/L	13.945 ppb	14:37:35
2	Sn 189.927†	8.2	6.5	1.1282 ug/L	1.1282 ppb	14:37:35
2	Ti 334.940†	-1191.0	152.7	0.2443 ug/L	0.2443 ppb	14:37:15
2	Tl 190.801†	-33.9	0.4	0.1286 ug/L	0.1286 ppb	14:37:35
2	U 409.014†	-1667.0	210.3	6.1941 ug/L	6.1941 ppb	14:37:15
2	V 292.402†	-1441.9	-70.5	-0.4678 ug/L	-0.4678 ppb	14:37:15
2	Zn 213.857†	743.0	112.3	1.0577 ug/L	1.0577 ppb	14:37:35
2	SiO2†	914.5	448.1	30.231 ug/L	30.231 ppb	14:38:11
3	Sc Radial	5337.3	5337.3	104 %		14:36:23
3	Y RADIAL	5725.0	5725.0	104.0 %		14:36:23
3	Al 396.153Radial†	7.5	13.4	10.712 ug/L	10.712 ppb	14:36:23
3	Ca 317.933Radial†	23.8	3.6	5.8464 ug/L	5.8464 ppb	14:36:43
3	Fe 238.204 Radial†	9.7	-2.3	-19.426 ug/L	-19.426 ppb	14:36:43
3	K 766.490 Radial†	2888.0	259.4	47.209 ug/L	47.209 ppb	14:36:23
3	Mg 279.077 IEC†	2.4	-0.8	-25.565 ug/L	-25.565 ppb	14:36:43
3	Na 589.592 Radial†	-1112.3	241.7	69.284 ug/L	69.284 ppb	14:36:23
3	Sr 421.552†	34.5	23.3	0.1490 ug/L	0.1490 ppb	14:36:23
3	Sc 361.383	873649.9	873649.9	101.82 %		14:37:40
3	Y 371.029	737752.3	737752.3	101.39 %		14:37:40
3	Ag 328.068†	217.8	-143.1	-0.6619 ug/L	-0.6619 ppb	14:37:40
3	As 188.979†	-9.4	14.7	6.2999 ug/L	6.2999 ppb	14:38:00
3	B 249.677†	-375.0	246.8	5.5426 ug/L	5.5426 ppb	14:38:00
3	Ba 233.527†	-16.3	-7.4	-0.0580 ug/L	-0.0580 ppb	14:38:00
3	Be 313.107†	-4658.6	-100.9	-0.0375 ug/L	-0.0375 ppb	14:37:40
3	Cd 226.502†	-175.8	29.0	0.3204 ug/L	0.3204 ppb	14:38:00
3	Co 228.616†	-72.5	6.0	0.1218 ug/L	0.1218 ppb	14:38:00
3	Cr 267.716†	77.3	-3.1	-0.0341 ug/L	-0.0341 ppb	14:38:00
3	Cu 324.752†	6424.5	-92.5	-0.2768 ug/L	-0.2768 ppb	14:37:40
3	Mn 257.610†	434.1	-3.5	-0.0047 ug/L	-0.0047 ppb	14:38:00
3	Mo 202.031†	21.5	-0.5	-0.0366 ug/L	-0.0366 ppb	14:38:00
3	Ni 231.604†	59.2	-8.8	-0.2190 ug/L	-0.2190 ppb	14:38:00
3	P 214.914†	237.4	12.8	7.7981 ug/L	7.7981 ppb	14:38:00
3	Pb 220.353†	-68.8	-5.4	-0.6515 ug/L	-0.6515 ppb	14:38:00
3	S 181.975 Axial†	51.1	6.4	8.8412 ug/L	8.8412 ppb	14:38:00
3	Sb 206.836†	52.8	18.4	6.2868 ug/L	6.2868 ppb	14:38:00
3	Se 196.026†	-25.5	7.0	4.3539 ug/L	4.3539 ppb	14:38:00
3	Si 251.611†	887.3	410.8	13.005 ug/L	13.005 ppb	14:38:00
3	Sn 189.927†	13.7	11.8	2.0583 ug/L	2.0583 ppb	14:38:00
3	Ti 334.940†	-1174.5	180.6	0.2922 ug/L	0.2922 ppb	14:37:40
3	Tl 190.801†	-36.4	-1.7	-0.4996 ug/L	-0.4996 ppb	14:38:00
3	U 409.014†	-1911.4	-13.4	-0.3921 ug/L	-0.3921 ppb	14:37:40
3	V 292.402†	-1363.5	20.5	0.1403 ug/L	0.1403 ppb	14:37:40
3	Zn 213.857†	732.7	95.0	0.8956 ug/L	0.8956 ppb	14:38:00
3	SiO2†	878.7	404.0	27.248 ug/L	27.248 ppb	14:38:16

Mean Data: 1202006002|937469|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	868366.4	101.20 %	0.539			0.53%
Sc Radial	5375.1	105 %	0.7			0.64%
Y 371.029	732481.0	100.66 %	0.635			0.63%
Y RADIAL	5742.2	104.3 %	0.53			0.51%
Ag 328.068†	-137.5	-0.6396 ug/L	0.05387	-0.6396 ppb	0.05387	8.42%
Al 396.153Radial†	8.4	6.6949 ug/L	3.54456	6.6949 ppb	3.54456	52.94%
As 188.979†	13.6	5.8303 ug/L	1.42668	5.8303 ppb	1.42668	24.47%
B 249.677†	249.1	5.5958 ug/L	0.22724	5.5958 ppb	0.22724	4.06%
Ba 233.527†	-2.0	-0.0163 ug/L	0.09061	-0.0163 ppb	0.09061	556.01%
Be 313.107†	-134.3	-0.0501 ug/L	0.01161	-0.0501 ppb	0.01161	23.17%
Ca 317.933Radial†	-2.0	-3.2038 ug/L	7.83957	-3.2038 ppb	7.83957	244.69%
Cd 226.502†	15.6	0.1745 ug/L	0.13732	0.1745 ppb	0.13732	78.67%
Co 228.616†	-4.1	-0.0830 ug/L	0.23452	-0.0830 ppb	0.23452	282.42%
Cr 267.716†	4.2	0.0446 ug/L	0.09066	0.0446 ppb	0.09066	203.32%
Cu 324.752†	-32.3	-0.0991 ug/L	0.15698	-0.0991 ppb	0.15698	158.35%
Fe 238.204 Radial†	-2.5	-20.867 ug/L	6.1929	-20.867 ppb	6.1929	29.68%
K 766.490 Radial†	88.7	16.117 ug/L	26.9535	16.117 ppb	26.9535	167.24%

Mg 279.077 IEC†	-1.1	-37.762 ug/L	10.5658	-37.762 ppb	10.5658	27.98%
Mn 257.610†	9.6	0.0100 ug/L	0.01371	0.0100 ppb	0.01371	136.69%
Mo 202.031†	-0.6	-0.0434 ug/L	0.29677	-0.0434 ppb	0.29677	683.48%
Na 589.592 Radial†	252.7	72.448 ug/L	4.9092	72.448 ppb	4.9092	6.78%
Ni 231.604†	-1.4	-0.0347 ug/L	0.20495	-0.0347 ppb	0.20495	590.79%
P 214.914†	14.3	8.6657 ug/L	2.19663	8.6657 ppb	2.19663	25.35%
Pb 220.353†	3.3	0.3992 ug/L	0.97976	0.3992 ppb	0.97976	245.46%
S 181.975 Axial†	6.3	8.7834 ug/L	7.93772	8.7834 ppb	7.93772	90.37%
Sb 206.836†	28.0	9.5402 ug/L	2.81762	9.5402 ppb	2.81762	29.53%
Se 196.026†	8.5	5.2898 ug/L	4.03664	5.2898 ppb	4.03664	76.31%
Si 251.611†	422.4	13.371 ug/L	0.5031	13.371 ppb	0.5031	3.76%
Sn 189.927†	9.4	1.6294 ug/L	0.46925	1.6294 ppb	0.46925	28.80%
Sr 421.552†	10.8	0.0689 ug/L	0.14110	0.0689 ppb	0.14110	204.64%
Ti 334.940†	177.2	0.2851 ug/L	0.03778	0.2851 ppb	0.03778	13.25%
Tl 190.801†	-2.1	-0.6243 ug/L	0.82247	-0.6243 ppb	0.82247	131.74%
U 409.014†	103.9	3.0616 ug/L	3.30480	3.0616 ppb	3.30480	107.94%
V 292.402†	10.9	0.0814 ug/L	0.52235	0.0814 ppb	0.52235	641.38%
Zn 213.857†	101.1	0.9514 ug/L	0.09211	0.9514 ppb	0.09211	9.68%
SiO2†	416.4	28.086 ug/L	1.8714	28.086 ppb	1.8714	6.66%



Sequence No.: 5  
 Sample ID: 1202006003|937469|1  
 Analyst: HSC  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 39  
 Date Collected: 1/12/2010 14:40:26  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

Replicate Data: 1202006003|937469|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5335.7	5335.7	104 %		14:42:19
1	Y RADIAL	5592.4	5592.4	101.6 %		14:42:19
1	Al 396.153Radial†	6663.6	6401.5	5095.5 ug/L	5095.5 ppb	14:42:19
1	Ca 317.933Radial†	3322.7	3169.7	5116.7 ug/L	5116.7 ppb	14:42:39
1	Fe 238.204 Radial†	646.2	608.6	5189.6 ug/L	5189.6 ppb	14:42:39
1	K 766.490 Radial†	30854.2	27100.5	4930.7 ug/L	4930.7 ppb	14:42:19
1	Mg 279.077 IEC†	169.0	159.2	5286.1 ug/L	5286.1 ppb	14:42:39
1	Na 589.592 Radial†	17385.3	17994.3	5158.1 ug/L	5158.1 ppb	14:42:19
1	Sr 421.552†	82889.1	79542.2	507.80 ug/L	507.80 ppb	14:42:19
1	Sc 361.383	880752.0	880752.0	102.64 %		14:43:38
1	Y 371.029	731741.5	731741.5	100.56 %		14:43:38
1	Ag 328.068†	112822.3	109559.9	505.92 ug/L	505.92 ppb	14:43:38
1	As 188.979†	1182.7	1176.2	507.32 ug/L	507.32 ppb	14:43:58
1	B 249.677†	22361.7	22401.0	500.54 ug/L	500.54 ppb	14:43:38
1	Ba 233.527†	68229.7	66481.3	516.38 ug/L	516.38 ppb	14:43:38
1	Be 313.107†	1379264.0	1348220.8	510.56 ug/L	510.56 ppb	14:43:38
1	Cd 226.502†	46562.8	45565.4	501.13 ug/L	501.13 ppb	14:43:38
1	Co 228.616†	25047.5	24479.7	496.76 ug/L	496.76 ppb	14:43:58
1	Cr 267.716†	46415.8	45141.5	501.45 ug/L	501.45 ppb	14:43:38
1	Cu 324.752†	182834.9	171724.3	512.26 ug/L	512.26 ppb	14:43:38
1	Mn 257.610†	478744.6	465986.5	511.33 ug/L	511.33 ppb	14:43:38
1	Mo 202.031†	7378.3	7166.7	500.52 ug/L	500.52 ppb	14:43:58
1	Ni 231.604†	20961.7	20354.8	503.42 ug/L	503.42 ppb	14:43:58
1	P 214.914†	1265.0	1012.1	487.58 ug/L	487.58 ppb	14:43:58
1	Pb 220.353†	4221.9	4175.4	506.99 ug/L	506.99 ppb	14:43:58
1	S 181.975 Axial†	3818.3	3676.1	5114.9 ug/L	5114.9 ppb	14:43:58
1	Sb 206.836†	1597.3	1522.7	534.44 ug/L	534.44 ppb	14:43:58
1	Se 196.026†	763.7	776.0	505.88 ug/L	505.88 ppb	14:43:58
1	Si 251.611†	163572.4	158899.5	5024.0 ug/L	5024.0 ppb	14:43:38
1	Sn 189.927†	3060.6	2980.1	520.07 ug/L	520.07 ppb	14:43:58
1	Ti 334.940†	328862.9	321728.4	515.02 ug/L	515.02 ppb	14:43:38
1	Tl 190.801†	1683.4	1674.2	509.02 ug/L	509.02 ppb	14:43:58
1	U 409.014†	16228.7	17674.7	518.61 ug/L	518.61 ppb	14:43:38
1	V 292.402†	75241.9	74664.0	513.09 ug/L	513.09 ppb	14:43:38
1	Zn 213.857†	54926.3	52887.2	492.06 ug/L	492.06 ppb	14:43:38
1	SiO2†	164098.4	159413.6	10739 ug/L	10739 ppb	14:44:58
2	Sc Radial	5338.0	5338.0	104 %		14:42:44
2	Y RADIAL	5672.6	5672.6	103.0 %		14:42:44
2	Al 396.153Radial†	6771.1	6501.9	5175.8 ug/L	5175.8 ppb	14:42:44
2	Ca 317.933Radial†	3327.4	3172.9	5121.9 ug/L	5121.9 ppb	14:43:04
2	Fe 238.204 Radial†	647.2	609.3	5195.6 ug/L	5195.6 ppb	14:43:04
2	K 766.490 Radial†	31353.5	27567.0	5015.6 ug/L	5015.6 ppb	14:42:44
2	Mg 279.077 IEC†	165.5	155.7	5169.9 ug/L	5169.9 ppb	14:43:04
2	Na 589.592 Radial†	17479.6	18077.7	5182.0 ug/L	5182.0 ppb	14:42:44
2	Sr 421.552†	83817.4	80399.3	513.27 ug/L	513.27 ppb	14:42:44
2	Sc 361.383	884738.7	884738.7	103.11 %		14:44:05
2	Y 371.029	735003.8	735003.8	101.01 %		14:44:05
2	Ag 328.068†	113171.1	109402.9	505.19 ug/L	505.19 ppb	14:44:05
2	As 188.979†	1184.2	1172.5	505.71 ug/L	505.71 ppb	14:44:25
2	B 249.677†	22344.7	22286.3	497.97 ug/L	497.97 ppb	14:44:05
2	Ba 233.527†	68108.3	66064.0	513.15 ug/L	513.15 ppb	14:44:05
2	Be 313.107†	1381159.1	1344003.9	508.96 ug/L	508.96 ppb	14:44:05
2	Cd 226.502†	46606.9	45403.8	499.35 ug/L	499.35 ppb	14:44:05
2	Co 228.616†	25042.0	24364.4	494.42 ug/L	494.42 ppb	14:44:25
2	Cr 267.716†	46489.5	45009.3	499.98 ug/L	499.98 ppb	14:44:05
2	Cu 324.752†	183601.6	171665.2	512.08 ug/L	512.08 ppb	14:44:05
2	Mn 257.610†	479037.8	464169.2	509.34 ug/L	509.34 ppb	14:44:05
2	Mo 202.031†	7397.3	7152.7	499.55 ug/L	499.55 ppb	14:44:25
2	Ni 231.604†	20948.0	20249.6	500.81 ug/L	500.81 ppb	14:44:25

2	P 214.914†	1273.3	1014.6	489.14 ug/L	489.14 ppb	14:44:25
2	Pb 220.353†	4235.8	4170.4	506.40 ug/L	506.40 ppb	14:44:25
2	S 181.975 Axial†	3804.5	3646.0	5073.0 ug/L	5073.0 ppb	14:44:25
2	Sb 206.836†	1595.4	1513.9	531.43 ug/L	531.43 ppb	14:44:25
2	Se 196.026†	769.2	778.1	507.19 ug/L	507.19 ppb	14:44:25
2	Si 251.611†	163616.0	158223.8	5002.6 ug/L	5002.6 ppb	14:44:05
2	Sn 189.927†	3078.3	2983.8	520.72 ug/L	520.72 ppb	14:44:25
2	Ti 334.940†	329713.8	321110.0	514.04 ug/L	514.04 ppb	14:44:05
2	Tl 190.801†	1686.0	1669.2	507.52 ug/L	507.52 ppb	14:44:25
2	U 409.014†	16624.8	17987.5	527.82 ug/L	527.82 ppb	14:44:05
2	V 292.402†	75429.8	74516.0	512.09 ug/L	512.09 ppb	14:44:05
2	Zn 213.857†	55013.4	52730.6	490.61 ug/L	490.61 ppb	14:44:05
2	SiO2†	162403.4	157049.3	10579 ug/L	10579 ppb	14:45:04
3	Sc Radial	5284.0	5284.0	103 %		14:43:09
3	Y RADIAL	5616.0	5616.0	102.0 %		14:43:09
3	Al 396.153Radial†	6680.7	6480.7	5158.9 ug/L	5158.9 ppb	14:43:09
3	Ca 317.933Radial†	3317.9	3196.3	5159.6 ug/L	5159.6 ppb	14:43:29
3	Fe 238.204 Radial†	649.2	617.6	5266.0 ug/L	5266.0 ppb	14:43:29
3	K 766.490 Radial†	31075.7	27605.1	5022.6 ug/L	5022.6 ppb	14:43:09
3	Mg 279.077 IEC†	168.8	160.5	5330.9 ug/L	5330.9 ppb	14:43:29
3	Na 589.592 Radial†	17103.8	17884.9	5126.7 ug/L	5126.7 ppb	14:43:09
3	Sr 421.552†	82928.4	80359.4	513.02 ug/L	513.02 ppb	14:43:09
3	Sc 361.383	883269.7	883269.7	102.94 %		14:44:33
3	Y 371.029	733423.4	733423.4	100.79 %		14:44:33
3	Ag 328.068†	113090.6	109507.3	505.69 ug/L	505.69 ppb	14:44:33
3	As 188.979†	1173.8	1164.3	502.22 ug/L	502.22 ppb	14:44:53
3	B 249.677†	22365.9	22342.9	499.23 ug/L	499.23 ppb	14:44:33
3	Ba 233.527†	68238.6	66300.5	514.98 ug/L	514.98 ppb	14:44:33
3	Be 313.107†	1381407.3	1346472.8	509.90 ug/L	509.90 ppb	14:44:33
3	Cd 226.502†	46498.4	45373.5	499.01 ug/L	499.01 ppb	14:44:33
3	Co 228.616†	24927.1	24293.2	492.97 ug/L	492.97 ppb	14:44:53
3	Cr 267.716†	46490.8	45085.6	500.83 ug/L	500.83 ppb	14:44:33
3	Cu 324.752†	183399.7	171765.2	512.39 ug/L	512.39 ppb	14:44:33
3	Mn 257.610†	479111.3	465013.3	510.27 ug/L	510.27 ppb	14:44:33
3	Mo 202.031†	7382.9	7150.6	499.41 ug/L	499.41 ppb	14:44:53
3	Ni 231.604†	20814.1	20153.3	498.43 ug/L	498.43 ppb	14:44:53
3	P 214.914†	1243.5	987.8	472.87 ug/L	472.87 ppb	14:44:53
3	Pb 220.353†	4215.5	4157.4	504.83 ug/L	504.83 ppb	14:44:53
3	S 181.975 Axial†	3794.1	3642.0	5067.4 ug/L	5067.4 ppb	14:44:53
3	Sb 206.836†	1583.8	1505.1	528.41 ug/L	528.41 ppb	14:44:53
3	Se 196.026†	769.3	779.3	508.19 ug/L	508.19 ppb	14:44:53
3	Si 251.611†	163802.8	158669.2	5016.7 ug/L	5016.7 ppb	14:44:33
3	Sn 189.927†	3052.4	2963.7	517.22 ug/L	517.22 ppb	14:44:53
3	Ti 334.940†	329454.4	321389.8	514.48 ug/L	514.48 ppb	14:44:33
3	Tl 190.801†	1654.5	1641.4	499.13 ug/L	499.13 ppb	14:44:53
3	U 409.014†	16439.5	17834.4	523.31 ug/L	523.31 ppb	14:44:33
3	V 292.402†	75268.0	74480.5	511.83 ug/L	511.83 ppb	14:44:33
3	Zn 213.857†	54824.6	52635.9	489.73 ug/L	489.73 ppb	14:44:33
3	SiO2†	162482.6	157388.2	10602 ug/L	10602 ppb	14:45:09

Mean Data: 1202006003|937469|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	882920.1	102.90 %	0.235			0.23%
Sc Radial	5319.2	104 %	0.6			0.57%
Y 371.029	733389.6	100.79 %	0.224			0.22%
Y RADIAL	5627.0	102.2 %	0.75			0.73%
Ag 328.068†	109490.0	505.60 ug/L	0.374	505.60 ppb	0.374	0.07%
Al 396.153Radial†	6461.4	5143.4 ug/L	42.37	5143.4 ppb	42.37	0.82%
As 188.979†	1171.0	505.08 ug/L	2.606	505.08 ppb	2.606	0.52%
B 249.677†	22343.4	499.25 ug/L	1.284	499.25 ppb	1.284	0.26%
Ba 233.527†	66281.9	514.84 ug/L	1.622	514.84 ppb	1.622	0.32%
Be 313.107†	1346232.5	509.81 ug/L	0.802	509.81 ppb	0.802	0.16%
Ca 317.933Radial†	3179.6	5132.7 ug/L	23.43	5132.7 ppb	23.43	0.46%
Cd 226.502†	45447.6	499.83 ug/L	1.139	499.83 ppb	1.139	0.23%
Co 228.616†	24379.1	494.72 ug/L	1.911	494.72 ppb	1.911	0.39%
Cr 267.716†	45078.8	500.75 ug/L	0.739	500.75 ppb	0.739	0.15%
Cu 324.752†	171718.2	512.24 ug/L	0.153	512.24 ppb	0.153	0.03%
Fe 238.204 Radial†	611.8	5217.1 ug/L	42.46	5217.1 ppb	42.46	0.81%
K 766.490 Radial†	27424.2	4989.6 ug/L	51.17	4989.6 ppb	51.17	1.03%

Mg 279.077 IEC†	158.5	5262.3 ug/L	83.07	5262.3 ppb	83.07	1.58%
Mn 257.610†	465056.3	510.31 ug/L	0.995	510.31 ppb	0.995	0.19%
Mo 202.031†	7156.6	499.83 ug/L	0.607	499.83 ppb	0.607	0.12%
Na 589.592 Radial†	17985.6	5155.6 ug/L	27.71	5155.6 ppb	27.71	0.54%
Ni 231.604†	20252.6	500.89 ug/L	2.494	500.89 ppb	2.494	0.50%
P 214.914†	1004.8	483.20 ug/L	8.978	483.20 ppb	8.978	1.86%
Pb 220.353†	4167.7	506.07 ug/L	1.119	506.07 ppb	1.119	0.22%
S 181.975 Axial†	3654.7	5085.1 ug/L	25.94	5085.1 ppb	25.94	0.51%
Sb 206.836†	1513.9	531.42 ug/L	3.015	531.42 ppb	3.015	0.57%
Se 196.026†	777.8	507.09 ug/L	1.161	507.09 ppb	1.161	0.23%
Si 251.611†	158597.5	5014.5 ug/L	10.87	5014.5 ppb	10.87	0.22%
Sn 189.927†	2975.9	519.34 ug/L	1.863	519.34 ppb	1.863	0.36%
Sr 421.552†	80100.3	511.36 ug/L	3.088	511.36 ppb	3.088	0.60%
Ti 334.940†	321409.4	514.52 ug/L	0.493	514.52 ppb	0.493	0.10%
Tl 190.801†	1661.6	505.22 ug/L	5.332	505.22 ppb	5.332	1.06%
U 409.014†	17832.2	523.25 ug/L	4.606	523.25 ppb	4.606	0.88%
V 292.402†	74553.5	512.34 ug/L	0.667	512.34 ppb	0.667	0.13%
Zn 213.857†	52751.2	490.80 ug/L	1.179	490.80 ppb	1.179	0.24%
SiO2†	157950.4	10640 ug/L	86.2	10640 ppb	86.2	0.81%

Sequence No.: 10  
 Sample ID: CCV  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 7  
 Date Collected: 1/12/2010 15:14:38  
 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	5193.4	5193.4	101 %		15:16:30
1	Y RADIAL	5506.6	5506.6	100.0 %		15:16:30
1	Al 396.153Radial†	6511.4	6426.7	5115.7 ug/L	5115.7 ppb	15:16:30
1	Ca 317.933Radial†	3214.2	3150.1	5085.1 ug/L	5085.1 ppb	15:16:50
1	Fe 238.204 Radial†	605.9	585.9	4997.2 ug/L	4997.2 ppb	15:16:50
1	K 766.490 Radial†	30155.5	27223.3	4951.4 ug/L	4951.4 ppb	15:16:30
1	Mg 279.077 IEC†	160.0	154.7	5137.8 ug/L	5137.8 ppb	15:16:50
1	Na 589.592 Radial†	31762.7	32628.4	9353.0 ug/L	9353.0 ppb	15:16:30
1	Sr 421.552†	77289.6	76201.5	486.47 ug/L	486.47 ppb	15:16:30
1	Sc 361.383	877787.4	877787.4	102.30 %		15:17:48
1	Y 371.029	728223.0	728223.0	100.08 %		15:17:48
1	Ag 328.068†	111870.4	109000.7	503.25 ug/L	503.25 ppb	15:17:53
1	As 188.979†	1179.5	1177.0	507.38 ug/L	507.38 ppb	15:18:13
1	B 249.677†	21861.0	21985.1	491.22 ug/L	491.22 ppb	15:17:53
1	Ba 233.527†	65659.7	64193.5	498.63 ug/L	498.63 ppb	15:17:53
1	Be 313.107†	1364615.8	1338440.0	506.81 ug/L	506.81 ppb	15:17:48
1	Cd 226.502†	46341.1	45501.8	500.45 ug/L	500.45 ppb	15:17:53
1	Co 228.616†	25289.1	24798.3	503.27 ug/L	503.27 ppb	15:17:53
1	Cr 267.716†	45819.2	44711.1	496.66 ug/L	496.66 ppb	15:17:53
1	Cu 324.752†	175354.6	165013.5	492.24 ug/L	492.24 ppb	15:17:53
1	Mn 257.610†	470655.3	459654.2	504.37 ug/L	504.37 ppb	15:17:48
1	Mo 202.031†	7329.4	7143.2	498.87 ug/L	498.87 ppb	15:18:13
1	Ni 231.604†	20712.3	20180.0	499.09 ug/L	499.09 ppb	15:17:53
1	P 214.914†	4470.6	4149.9	2376.1 ug/L	2376.1 ppb	15:18:13
1	Pb 220.353†	4133.2	4102.6	498.22 ug/L	498.22 ppb	15:18:13
1	S 181.975 Axial†	785.5	724.0	1006.6 ug/L	1006.6 ppb	15:18:13
1	Sb 206.836†	1532.7	1464.9	514.51 ug/L	514.51 ppb	15:18:13
1	Se 196.026†	776.9	791.4	515.01 ug/L	515.01 ppb	15:18:13
1	Si 251.611†	81234.7	78949.5	2493.1 ug/L	2493.1 ppb	15:17:53
1	Sn 189.927†	2930.4	2862.9	499.66 ug/L	499.66 ppb	15:18:13
1	Ti 334.940†	311732.9	306065.2	489.96 ug/L	489.96 ppb	15:17:53
1	Tl 190.801†	1650.6	1647.6	500.75 ug/L	500.75 ppb	15:18:13
1	U 409.014†	15768.5	17278.2	506.97 ug/L	506.97 ppb	15:17:53
1	V 292.402†	73366.6	73078.5	502.35 ug/L	502.35 ppb	15:17:53
1	Zn 213.857†	55345.3	53477.5	497.68 ug/L	497.68 ppb	15:17:53
1	SiO2†	82654.2	80338.7	5405.2 ug/L	5405.2 ppb	15:19:20
2	Sc Radial	5225.6	5225.6	102 %		15:16:55
2	Y RADIAL	5583.3	5583.3	101.4 %		15:16:55
2	Al 396.153Radial†	6554.1	6428.9	5117.3 ug/L	5117.3 ppb	15:16:55
2	Ca 317.933Radial†	3217.1	3133.4	5058.2 ug/L	5058.2 ppb	15:17:16
2	Fe 238.204 Radial†	603.0	579.3	4941.1 ug/L	4941.1 ppb	15:17:16
2	K 766.490 Radial†	30410.5	27289.5	4963.5 ug/L	4963.5 ppb	15:16:55
2	Mg 279.077 IEC†	157.2	151.0	5015.2 ug/L	5015.2 ppb	15:17:16
2	Na 589.592 Radial†	31839.1	32509.9	9319.0 ug/L	9319.0 ppb	15:16:55
2	Sr 421.552†	77672.3	76106.1	485.86 ug/L	485.86 ppb	15:16:55
2	Sc 361.383	866360.1	866360.1	100.97 %		15:18:19
2	Y 371.029	719535.7	719535.7	98.883 %		15:18:19
2	Ag 328.068†	112791.3	111355.1	514.07 ug/L	514.07 ppb	15:18:24
2	As 188.979†	1175.8	1188.5	512.38 ug/L	512.38 ppb	15:18:44
2	B 249.677†	22120.8	22524.2	503.30 ug/L	503.30 ppb	15:18:24
2	Ba 233.527†	65959.9	65337.5	507.51 ug/L	507.51 ppb	15:18:24
2	Be 313.107†	1346864.3	1338453.4	506.84 ug/L	506.84 ppb	15:18:19
2	Cd 226.502†	46341.8	46100.0	507.04 ug/L	507.04 ppb	15:18:24
2	Co 228.616†	25331.9	25166.8	510.73 ug/L	510.73 ppb	15:18:24
2	Cr 267.716†	45971.5	45452.7	504.90 ug/L	504.90 ppb	15:18:24
2	Cu 324.752†	177492.9	169392.4	505.29 ug/L	505.29 ppb	15:18:24
2	Mn 257.610†	463891.5	459023.5	503.68 ug/L	503.68 ppb	15:18:19
2	Mo 202.031†	7285.5	7194.2	502.43 ug/L	502.43 ppb	15:18:44
2	Ni 231.604†	20835.5	20569.1	508.71 ug/L	508.71 ppb	15:18:24

2	P 214.914†	4423.0	4160.4	2379.4 ug/L	2379.4 ppb	15:18:44
2	Pb 220.353†	4144.4	4167.0	506.02 ug/L	506.02 ppb	15:18:44
2	S 181.975 Axial†	793.0	741.5	1031.0 ug/L	1031.0 ppb	15:18:44
2	Sb 206.836†	1526.8	1478.7	519.34 ug/L	519.34 ppb	15:18:44
2	Se 196.026†	781.1	805.7	523.82 ug/L	523.82 ppb	15:18:44
2	Si 251.611†	81849.7	80606.0	2545.5 ug/L	2545.5 ppb	15:18:24
2	Sn 189.927†	2919.8	2890.2	504.40 ug/L	504.40 ppb	15:18:44
2	Ti 334.940†	314573.8	312898.4	500.90 ug/L	500.90 ppb	15:18:24
2	Tl 190.801†	1636.3	1654.7	502.93 ug/L	502.93 ppb	15:18:44
2	U 409.014†	16018.0	17728.6	520.22 ug/L	520.22 ppb	15:18:24
2	V 292.402†	73775.3	74429.2	511.58 ug/L	511.58 ppb	15:18:24
2	Zn 213.857†	55513.5	54357.8	505.87 ug/L	505.87 ppb	15:18:24
2	SiO2†	80893.1	79660.1	5359.3 ug/L	5359.3 ppb	15:19:26
3	Sc Radial	5118.3	5118.3	99.9 %		15:17:21
3	Y RADIAL	5448.8	5448.8	98.97 %		15:17:21
3	Al 396.153Radial†	6423.9	6433.4	5120.9 ug/L	5120.9 ppb	15:17:21
3	Ca 317.933Radial†	3198.7	3181.2	5135.3 ug/L	5135.3 ppb	15:17:41
3	Fe 238.204 Radial†	600.3	589.1	5024.0 ug/L	5024.0 ppb	15:17:41
3	K 766.490 Radial†	29894.3	27398.3	4983.3 ug/L	4983.3 ppb	15:17:21
3	Mg 279.077 IEC†	155.8	152.9	5076.2 ug/L	5076.2 ppb	15:17:41
3	Na 589.592 Radial†	31015.0	32340.0	9270.3 ug/L	9270.3 ppb	15:17:21
3	Sr 421.552†	76128.5	76158.3	486.20 ug/L	486.20 ppb	15:17:21
3	Sc 361.383	864224.7	864224.7	100.72 %		15:18:50
3	Y 371.029	719577.7	719577.7	98.889 %		15:18:50
3	Ag 328.068†	112050.0	110895.2	511.98 ug/L	511.98 ppb	15:18:55
3	As 188.979†	1161.9	1177.6	507.72 ug/L	507.72 ppb	15:19:15
3	B 249.677†	21944.1	22403.0	500.58 ug/L	500.58 ppb	15:18:55
3	Ba 233.527†	65436.9	64979.6	504.74 ug/L	504.74 ppb	15:18:55
3	Be 313.107†	1345836.3	1340728.7	507.69 ug/L	507.69 ppb	15:18:50
3	Cd 226.502†	46114.4	45987.7	505.79 ug/L	505.79 ppb	15:18:55
3	Co 228.616†	25109.0	25007.4	507.51 ug/L	507.51 ppb	15:18:55
3	Cr 267.716†	45792.0	45387.0	504.17 ug/L	504.17 ppb	15:18:55
3	Cu 324.752†	176227.0	168569.9	502.85 ug/L	502.85 ppb	15:18:55
3	Mn 257.610†	461897.1	458178.6	502.76 ug/L	502.76 ppb	15:18:50
3	Mo 202.031†	7278.1	7204.6	503.16 ug/L	503.16 ppb	15:19:15
3	Ni 231.604†	20690.0	20475.6	506.40 ug/L	506.40 ppb	15:18:55
3	P 214.914†	4418.4	4166.6	2383.6 ug/L	2383.6 ppb	15:19:15
3	Pb 220.353†	4126.1	4158.9	505.03 ug/L	505.03 ppb	15:19:15
3	S 181.975 Axial†	769.2	719.8	1000.8 ug/L	1000.8 ppb	15:19:15
3	Sb 206.836†	1521.6	1477.3	518.87 ug/L	518.87 ppb	15:19:15
3	Se 196.026†	786.8	813.2	528.81 ug/L	528.81 ppb	15:19:15
3	Si 251.611†	81077.3	80039.4	2527.6 ug/L	2527.6 ppb	15:18:55
3	Sn 189.927†	2903.6	2881.3	502.86 ug/L	502.86 ppb	15:19:15
3	Ti 334.940†	311984.9	311097.7	498.02 ug/L	498.02 ppb	15:18:55
3	Tl 190.801†	1634.0	1656.5	503.46 ug/L	503.46 ppb	15:19:15
3	U 409.014†	15699.9	17452.0	512.07 ug/L	512.07 ppb	15:18:55
3	V 292.402†	73424.9	74261.8	510.43 ug/L	510.43 ppb	15:18:55
3	Zn 213.857†	55210.1	54192.4	504.32 ug/L	504.32 ppb	15:18:55
3	SiO2†	81597.1	80557.1	5419.8 ug/L	5419.8 ppb	15:19:31

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	869457.4	101.33 %	0.850			0.84%
Sc Radial	5179.1	101 %	1.1			1.06%
Y 371.029	722445.5	99.283 %	0.6876			0.69%
Y RADIAL	5512.9	100.1 %	1.23			1.22%
Ag 328.068†	110417.0	509.77 ug/L	5.736	509.77 ppb	5.736	1.13%
QC value within limits for Ag 328.068 Recovery = 101.95%						
Al 396.153Radial†	6429.7	5118.0 ug/L	2.65	5118.0 ppb	2.65	0.05%
QC value within limits for Al 396.153Radial Recovery = 102.36%						
As 188.979†	1181.0	509.16 ug/L	2.794	509.16 ppb	2.794	0.55%
QC value within limits for As 188.979 Recovery = 101.83%						
B 249.677†	22304.1	498.37 ug/L	6.341	498.37 ppb	6.341	1.27%
QC value within limits for B 249.677 Recovery = 99.67%						
Ba 233.527†	64836.8	503.62 ug/L	4.544	503.62 ppb	4.544	0.90%
QC value within limits for Ba 233.527 Recovery = 100.72%						
Be 313.107†	1339207.4	507.11 ug/L	0.501	507.11 ppb	0.501	0.10%
QC value within limits for Be 313.107 Recovery = 101.42%						
Ca 317.933Radial†	3154.9	5092.9 ug/L	39.11	5092.9 ppb	39.11	0.77%

QC value within limits for Ca 317.933 Radial Recovery = 101.86%								
Cd	226.502†	45863.2	504.43 ug/L	3.504	504.43 ppb	3.504	0.69%	
QC value within limits for Cd 226.502 Recovery = 100.89%								
Co	228.616†	24990.8	507.17 ug/L	3.744	507.17 ppb	3.744	0.74%	
QC value within limits for Co 228.616 Recovery = 101.43%								
Cr	267.716†	45183.6	501.91 ug/L	4.559	501.91 ppb	4.559	0.91%	
QC value within limits for Cr 267.716 Recovery = 100.38%								
Cu	324.752†	167658.6	500.13 ug/L	6.939	500.13 ppb	6.939	1.39%	
QC value within limits for Cu 324.752 Recovery = 100.03%								
Fe	238.204 Radial†	584.8	4987.4 ug/L	42.32	4987.4 ppb	42.32	0.85%	
QC value within limits for Fe 238.204 Radial Recovery = 99.75%								
K	766.490 Radial†	27303.7	4966.1 ug/L	16.09	4966.1 ppb	16.09	0.32%	
QC value within limits for K 766.490 Radial Recovery = 99.32%								
Mg	279.077 IEC†	152.9	5076.4 ug/L	61.32	5076.4 ppb	61.32	1.21%	
QC value within limits for Mg 279.077 IEC Recovery = 101.53%								
Mn	257.610†	458952.1	503.60 ug/L	0.809	503.60 ppb	0.809	0.16%	
QC value within limits for Mn 257.610 Recovery = 100.72%								
Mo	202.031†	7180.7	501.48 ug/L	2.295	501.48 ppb	2.295	0.46%	
QC value within limits for Mo 202.031 Recovery = 100.30%								
Na	589.592 Radial†	32492.8	9314.1 ug/L	41.56	9314.1 ppb	41.56	0.45%	
QC value within limits for Na 589.592 Radial Recovery = 93.14%								
Ni	231.604†	20408.3	504.73 ug/L	5.024	504.73 ppb	5.024	1.00%	
QC value within limits for Ni 231.604 Recovery = 100.95%								
P	214.914†	4159.0	2379.7 ug/L	3.77	2379.7 ppb	3.77	0.16%	
QC value within limits for P 214.914 Recovery = 95.19%								
Pb	220.353†	4142.8	503.09 ug/L	4.248	503.09 ppb	4.248	0.84%	
QC value within limits for Pb 220.353 Recovery = 100.62%								
S	181.975 Axial†	728.5	1012.8 ug/L	16.02	1012.8 ppb	16.02	1.58%	
QC value within limits for S 181.975 Axial Recovery = 101.28%								
Sb	206.836†	1473.6	517.57 ug/L	2.665	517.57 ppb	2.665	0.51%	
QC value within limits for Sb 206.836 Recovery = 103.51%								
Se	196.026†	803.4	522.54 ug/L	6.987	522.54 ppb	6.987	1.34%	
QC value within limits for Se 196.026 Recovery = 104.51%								
Si	251.611†	79864.9	2522.1 ug/L	26.63	2522.1 ppb	26.63	1.06%	
QC value within limits for Si 251.611 Recovery = 100.88%								
Sn	189.927†	2878.1	502.31 ug/L	2.421	502.31 ppb	2.421	0.48%	
QC value within limits for Sn 189.927 Recovery = 100.46%								
Sr	421.552†	76155.3	486.18 ug/L	0.305	486.18 ppb	0.305	0.06%	
QC value within limits for Sr 421.552 Recovery = 97.24%								
Ti	334.940†	310020.4	496.29 ug/L	5.671	496.29 ppb	5.671	1.14%	
QC value within limits for Ti 334.940 Recovery = 99.26%								
Tl	190.801†	1652.9	502.38 ug/L	1.434	502.38 ppb	1.434	0.29%	
QC value within limits for Tl 190.801 Recovery = 100.48%								
U	409.014†	17486.3	513.09 ug/L	6.683	513.09 ppb	6.683	1.30%	
QC value within limits for U 409.014 Recovery = 102.62%								
V	292.402†	73923.2	508.12 ug/L	5.028	508.12 ppb	5.028	0.99%	
QC value within limits for V 292.402 Recovery = 101.62%								
Zn	213.857†	54009.2	502.62 ug/L	4.352	502.62 ppb	4.352	0.87%	
QC value within limits for Zn 213.857 Recovery = 100.52%								
SiO2†		80185.3	5394.7 ug/L	31.56	5394.7 ppb	31.56	0.58%	
QC value within limits for SiO2 Recovery = 100.88%								
All analyte(s) passed QC.								

Sequence No.: 11  
 Sample ID: CCB  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 8  
 Date Collected: 1/12/2010 15:21:40  
 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	5225.1	5225.1	102 %		15:23:33
1	Y RADIAL	5612.5	5612.5	101.9 %		15:23:33
1	Al 396.153Radial†	-25.9	-19.2	-15.409 ug/L	-15.409 ppb	15:23:33
1	Ca 317.933Radial†	16.8	-2.8	-4.5010 ug/L	-4.5010 ppb	15:23:53
1	Fe 238.204 Radial†	9.1	-2.6	-22.389 ug/L	-22.389 ppb	15:23:53
1	K 766.490 Radial†	2708.5	143.0	26.029 ug/L	26.029 ppb	15:23:33
1	Mg 279.077 IEC†	2.0	-1.1	-35.396 ug/L	-35.396 ppb	15:23:53
1	Na 589.592 Radial†	-1201.7	131.2	37.603 ug/L	37.603 ppb	15:23:33
1	Sr 421.552†	4.3	-5.5	-0.0350 ug/L	-0.0350 ppb	15:23:33
1	Sc 361.383	865424.8	865424.8	100.86 %		15:24:50
1	Y 371.029	731274.2	731274.2	100.50 %		15:24:50
1	Ag 328.068†	328.4	-31.4	-0.1542 ug/L	-0.1542 ppb	15:24:50
1	As 188.979†	-19.4	4.7	2.0057 ug/L	2.0057 ppb	15:25:10
1	B 249.677†	-414.5	204.1	4.5852 ug/L	4.5852 ppb	15:25:10
1	Ba 233.527†	-21.1	-12.3	-0.0968 ug/L	-0.0968 ppb	15:25:10
1	Be 313.107†	-4537.2	-24.0	-0.0088 ug/L	-0.0088 ppb	15:24:50
1	Cd 226.502†	-195.1	8.2	0.0924 ug/L	0.0924 ppb	15:25:10
1	Co 228.616†	-80.4	-2.5	-0.0495 ug/L	-0.0495 ppb	15:25:10
1	Cr 267.716†	81.9	2.2	0.0228 ug/L	0.0228 ppb	15:25:10
1	Cu 324.752†	6375.2	-81.4	-0.2450 ug/L	-0.2450 ppb	15:24:50
1	Mn 257.610†	429.6	-3.9	-0.0050 ug/L	-0.0050 ppb	15:25:10
1	Mo 202.031†	27.5	5.7	0.3945 ug/L	0.3945 ppb	15:25:10
1	Ni 231.604†	41.8	-25.6	-0.6330 ug/L	-0.6330 ppb	15:25:10
1	P 214.914†	243.2	20.8	12.564 ug/L	12.564 ppb	15:25:10
1	Pb 220.353†	-55.2	7.4	0.8971 ug/L	0.8971 ppb	15:25:10
1	S 181.975 Axial†	46.8	2.6	3.5656 ug/L	3.5656 ppb	15:25:10
1	Sb 206.836†	48.7	14.9	5.0648 ug/L	5.0648 ppb	15:25:10
1	Se 196.026†	-31.3	1.0	0.5652 ug/L	0.5652 ppb	15:25:10
1	Si 251.611†	510.2	45.2	1.4269 ug/L	1.4269 ppb	15:25:10
1	Sn 189.927†	3.5	1.8	0.3058 ug/L	0.3058 ppb	15:25:10
1	Ti 334.940†	-1275.3	69.7	0.1130 ug/L	0.1130 ppb	15:24:50
1	Tl 190.801†	-37.6	-3.2	-0.9622 ug/L	-0.9622 ppb	15:25:10
1	U 409.014†	-1813.3	66.0	1.9458 ug/L	1.9458 ppb	15:24:50
1	V 292.402†	-1418.0	-46.2	-0.3009 ug/L	-0.3009 ppb	15:24:50
1	Zn 213.857†	654.6	24.4	0.2357 ug/L	0.2357 ppb	15:25:10
1	SiO2†	526.9	63.4	4.2625 ug/L	4.2625 ppb	15:26:06
2	Sc Radial	5271.6	5271.6	103 %		15:23:58
2	Y RADIAL	5661.6	5661.6	102.8 %		15:23:58
2	Al 396.153Radial†	-14.3	-7.7	-6.1236 ug/L	-6.1236 ppb	15:23:58
2	Ca 317.933Radial†	23.1	3.2	5.1629 ug/L	5.1629 ppb	15:24:18
2	Fe 238.204 Radial†	10.8	-1.0	-8.9072 ug/L	-8.9072 ppb	15:24:18
2	K 766.490 Radial†	2785.2	194.0	35.318 ug/L	35.318 ppb	15:23:58
2	Mg 279.077 IEC†	0.7	-2.4	-79.125 ug/L	-79.125 ppb	15:24:18
2	Na 589.592 Radial†	-1211.8	131.7	37.761 ug/L	37.761 ppb	15:23:58
2	Sr 421.552†	26.7	16.2	0.1034 ug/L	0.1034 ppb	15:23:58
2	Sc 361.383	855398.2	855398.2	99.688 %		15:25:15
2	Y 371.029	723767.5	723767.5	99.465 %		15:25:15
2	Ag 328.068†	277.6	-78.6	-0.3648 ug/L	-0.3648 ppb	15:25:15
2	As 188.979†	-17.8	6.0	2.5823 ug/L	2.5823 ppb	15:25:35
2	B 249.677†	-414.5	199.3	4.4755 ug/L	4.4755 ppb	15:25:35
2	Ba 233.527†	-12.1	-3.5	-0.0272 ug/L	-0.0272 ppb	15:25:35
2	Be 313.107†	-4541.2	-80.7	-0.0302 ug/L	-0.0302 ppb	15:25:15
2	Cd 226.502†	-201.4	-0.4	-0.0026 ug/L	-0.0026 ppb	15:25:35
2	Co 228.616†	-84.0	-7.0	-0.1424 ug/L	-0.1424 ppb	15:25:35
2	Cr 267.716†	76.8	-1.9	-0.0223 ug/L	-0.0223 ppb	15:25:35
2	Cu 324.752†	6442.1	59.8	0.1760 ug/L	0.1760 ppb	15:25:15
2	Mn 257.610†	434.3	5.9	0.0088 ug/L	0.0088 ppb	15:25:35
2	Mo 202.031†	19.7	-1.8	-0.1297 ug/L	-0.1297 ppb	15:25:35
2	Ni 231.604†	71.1	4.3	0.1058 ug/L	0.1058 ppb	15:25:35

2	P 214.914†	221.2	1.6	0.9527 ug/L	0.9527 ppb	15:25:35
2	Pb 220.353†	-55.9	6.1	0.7424 ug/L	0.7424 ppb	15:25:35
2	S 181.975 Axial†	53.0	9.3	12.889 ug/L	12.889 ppb	15:25:35
2	Sb 206.836†	42.5	9.2	3.1497 ug/L	3.1497 ppb	15:25:35
2	Se 196.026†	-34.7	-2.7	-1.7422 ug/L	-1.7422 ppb	15:25:35
2	Si 251.611†	503.9	44.8	1.4194 ug/L	1.4194 ppb	15:25:35
2	Sn 189.927†	10.2	8.6	1.5005 ug/L	1.5005 ppb	15:25:35
2	Ti 334.940†	-1254.2	76.0	0.1274 ug/L	0.1274 ppb	15:25:15
2	Tl 190.801†	-33.0	1.0	0.3115 ug/L	0.3115 ppb	15:25:35
2	U 409.014†	-1743.8	114.7	3.3769 ug/L	3.3769 ppb	15:25:15
2	V 292.402†	-1316.9	38.7	0.2666 ug/L	0.2666 ppb	15:25:15
2	Zn 213.857†	649.0	26.4	0.2477 ug/L	0.2477 ppb	15:25:35
2	SiO2†	518.6	61.2	4.1335 ug/L	4.1335 ppb	15:26:11
3	Sc Radial	5255.9	5255.9	103 %		15:24:23
3	Y RADIAL	5633.2	5633.2	102.3 %		15:24:23
3	Al 396.153Radial†	-2.5	3.7	2.9903 ug/L	2.9903 ppb	15:24:23
3	Ca 317.933Radial†	20.0	0.3	0.5165 ug/L	0.5165 ppb	15:24:43
3	Fe 238.204 Radial†	8.7	-3.1	-26.062 ug/L	-26.062 ppb	15:24:43
3	K 766.490 Radial†	2510.2	-65.8	-11.994 ug/L	-11.994 ppb	15:24:23
3	Mg 279.077 IEC†	2.6	-0.5	-17.894 ug/L	-17.894 ppb	15:24:43
3	Na 589.592 Radial†	-1219.7	120.5	34.536 ug/L	34.536 ppb	15:24:23
3	Sr 421.552†	-9.4	-18.9	-0.1206 ug/L	-0.1206 ppb	15:24:23
3	Sc 361.383	862318.6	862318.6	100.49 %		15:25:40
3	Y 371.029	729727.8	729727.8	100.28 %		15:25:40
3	Ag 328.068†	287.5	-71.0	-0.3321 ug/L	-0.3321 ppb	15:25:40
3	As 188.979†	-12.8	11.2	4.7880 ug/L	4.7880 ppb	15:26:00
3	B 249.677†	-412.2	204.9	4.6044 ug/L	4.6044 ppb	15:26:00
3	Ba 233.527†	-11.7	-3.1	-0.0241 ug/L	-0.0241 ppb	15:26:00
3	Be 313.107†	-4481.2	15.5	0.0062 ug/L	0.0062 ppb	15:25:40
3	Cd 226.502†	-176.4	26.1	0.2893 ug/L	0.2893 ppb	15:26:00
3	Co 228.616†	-97.3	-19.5	-0.3972 ug/L	-0.3972 ppb	15:26:00
3	Cr 267.716†	53.8	-25.4	-0.2820 ug/L	-0.2820 ppb	15:26:00
3	Cu 324.752†	6383.3	-50.5	-0.1516 ug/L	-0.1516 ppb	15:25:40
3	Mn 257.610†	375.9	-55.7	-0.0629 ug/L	-0.0629 ppb	15:26:00
3	Mo 202.031†	16.1	-5.6	-0.3907 ug/L	-0.3907 ppb	15:26:00
3	Ni 231.604†	64.9	-2.5	-0.0609 ug/L	-0.0609 ppb	15:26:00
3	P 214.914†	226.5	5.1	3.1275 ug/L	3.1275 ppb	15:26:00
3	Pb 220.353†	-92.1	-29.4	-3.5611 ug/L	-3.5611 ppb	15:26:00
3	S 181.975 Axial†	45.3	1.2	1.6618 ug/L	1.6618 ppb	15:26:00
3	Sb 206.836†	45.6	11.9	4.0527 ug/L	4.0527 ppb	15:26:00
3	Se 196.026†	-35.9	-3.7	-2.3981 ug/L	-2.3981 ppb	15:26:00
3	Si 251.611†	511.1	47.9	1.5203 ug/L	1.5203 ppb	15:26:00
3	Sn 189.927†	4.0	2.3	0.4073 ug/L	0.4073 ppb	15:26:00
3	Ti 334.940†	-1250.0	90.3	0.1467 ug/L	0.1467 ppb	15:25:40
3	Tl 190.801†	-34.4	-0.2	-0.0530 ug/L	-0.0530 ppb	15:26:00
3	U 409.014†	-1911.0	-37.7	-1.1054 ug/L	-1.1054 ppb	15:25:40
3	V 292.402†	-1331.2	35.1	0.2338 ug/L	0.2338 ppb	15:25:40
3	Zn 213.857†	645.5	17.7	0.1688 ug/L	0.1688 ppb	15:26:00
3	SiO2†	516.9	55.3	3.7420 ug/L	3.7420 ppb	15:26:16

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	861047.2	100.35 %	0.598			0.60%
Sc Radial	5250.9	103 %	0.5			0.45%
Y 371.029	728256.5	100.08 %	0.545			0.54%
Y RADIAL	5635.8	102.4 %	0.45			0.44%
Ag 328.068†	-60.3	-0.2837 ug/L	0.11332	-0.2837 ppb	0.11332	39.94%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-7.7	-6.1809 ug/L	9.19995	-6.1809 ppb	9.19995	148.84%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	7.3	3.1253 ug/L	1.46853	3.1253 ppb	1.46853	46.99%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	202.8	4.5550 ug/L	0.06955	4.5550 ppb	0.06955	1.53%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-6.3	-0.0494 ug/L	0.04113	-0.0494 ppb	0.04113	83.32%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-29.7	-0.0110 ug/L	0.01830	-0.0110 ppb	0.01830	167.06%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	0.2	0.3928 ug/L	4.83315	0.3928 ppb	4.83315	>999.9%



QC value within limits for Ca 317.933 Radial Recovery = Not calculated						
Cd 226.502†	11.3	0.1264 ug/L	0.14887	0.1264 ppb	0.14887	117.81%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	-9.7	-0.1964 ug/L	0.17999	-0.1964 ppb	0.17999	91.66%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	-8.4	-0.0938 ug/L	0.16455	-0.0938 ppb	0.16455	175.38%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 324.752†	-24.0	-0.0735 ug/L	0.22107	-0.0735 ppb	0.22107	300.67%
QC value within limits for Cu 324.752 Recovery = Not calculated						
Fe 238.204 Radial†	-2.2	-19.119 ug/L	9.0325	-19.119 ppb	9.0325	47.24%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated						
K 766.490 Radial†	90.4	16.451 ug/L	25.0682	16.451 ppb	25.0682	152.38%
QC value within limits for K 766.490 Radial Recovery = Not calculated						
Mg 279.077 IEC†	-1.3	-44.138 ug/L	31.5381	-44.138 ppb	31.5381	71.45%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated						
Mn 257.610†	-17.9	-0.0197 ug/L	0.03805	-0.0197 ppb	0.03805	192.83%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	-0.6	-0.0420 ug/L	0.39988	-0.0420 ppb	0.39988	953.22%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Na 589.592 Radial†	127.8	36.633 ug/L	1.8180	36.633 ppb	1.8180	4.96%
QC value within limits for Na 589.592 Radial Recovery = Not calculated						
Ni 231.604†	-7.9	-0.1961 ug/L	0.38750	-0.1961 ppb	0.38750	197.64%
QC value within limits for Ni 231.604 Recovery = Not calculated						
P 214.914†	9.2	5.5481 ug/L	6.17261	5.5481 ppb	6.17261	111.26%
QC value within limits for P 214.914 Recovery = Not calculated						
Pb 220.353†	-5.3	-0.6405 ug/L	2.53046	-0.6405 ppb	2.53046	395.07%
QC value within limits for Pb 220.353 Recovery = Not calculated						
S 181.975 Axial†	4.3	6.0389 ug/L	6.00844	6.0389 ppb	6.00844	99.50%
QC value within limits for S 181.975 Axial Recovery = Not calculated						
Sb 206.836†	12.0	4.0890 ug/L	0.95804	4.0890 ppb	0.95804	23.43%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-1.8	-1.1917 ug/L	1.55646	-1.1917 ppb	1.55646	130.61%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	46.0	1.4556 ug/L	0.05624	1.4556 ppb	0.05624	3.86%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	4.2	0.7379 ug/L	0.66242	0.7379 ppb	0.66242	89.77%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Sr 421.552†	-2.7	-0.0174 ug/L	0.11305	-0.0174 ppb	0.11305	649.89%
QC value within limits for Sr 421.552 Recovery = Not calculated						
Ti 334.940†	78.7	0.1290 ug/L	0.01690	0.1290 ppb	0.01690	13.10%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-0.8	-0.2346 ug/L	0.65600	-0.2346 ppb	0.65600	279.68%
QC value within limits for Tl 190.801 Recovery = Not calculated						
U 409.014†	47.7	1.4057 ug/L	2.28945	1.4057 ppb	2.28945	162.86%
QC value within limits for U 409.014 Recovery = Not calculated						
V 292.402†	9.2	0.0665 ug/L	0.31862	0.0665 ppb	0.31862	479.13%
QC value within limits for V 292.402 Recovery = Not calculated						
Zn 213.857†	22.8	0.2174 ug/L	0.04251	0.2174 ppb	0.04251	19.55%
QC value within limits for Zn 213.857 Recovery = Not calculated						
SiO2†	60.0	4.0460 ug/L	0.27106	4.0460 ppb	0.27106	6.70%
QC value within limits for SiO2 Recovery = Not calculated						
All analyte(s) passed QC.						

Sequence No.: 21  
 Sample ID: 1202006013|937474|1  
 Analyst: HSC  
 Initial Sample Wt:  
 Dilution:  
 User canceled analysis.

Autosampler Location: 51  
 Date Collected: 1/12/2010 16:30:30  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

# Analysis Begun

Start Time: 1/12/2010 16:37:36  
 Logged In Analyst: Optima3  
 Spectrometer Model: Optima 5300 DV, S/N 077C7090601

Plasma On Time: 1/11/2010 06:15:31  
 Technique: ICP Continuous  
 Autosampler Model: S10

Sample Information File: C:\pe\Optima3\Sample Information\011210.sif  
 Batch ID:  
 Results Data Set: 011210  
 Results Library: C:\pe\Optima3\Results\Results.mdb

Sequence No.: 10  
 Sample ID: CCV  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 7  
 Date Collected: 1/12/2010 16:37:37  
 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	5168.0	5168.0	101 %		16:39:29
1	Y RADIAL	5450.0	5450.0	98.99 %		16:39:29
1	Al 396.153Radial†	6474.6	6421.8	5111.7 ug/L	5111.7 ppb	16:39:29
1	Ca 317.933Radial†	3212.3	3163.8	5107.2 ug/L	5107.2 ppb	16:39:49
1	Fe 238.204 Radial†	610.5	593.4	5060.9 ug/L	5060.9 ppb	16:39:49
1	K 766.490 Radial†	30267.6	27480.3	4998.1 ug/L	4998.1 ppb	16:39:29
1	Mg 279.077 IEC†	159.9	155.4	5161.3 ug/L	5161.3 ppb	16:39:49
1	Na 589.592 Radial†	32141.7	33157.8	9504.7 ug/L	9504.7 ppb	16:39:29
1	Sr 421.552†	77498.4	76782.6	490.18 ug/L	490.18 ppb	16:39:29
1	Sc 361.383	872998.3	872998.3	101.74 %		16:40:47
1	Y 371.029	726407.0	726407.0	99.827 %		16:40:47
1	Ag 328.068†	112133.1	109858.7	507.22 ug/L	507.22 ppb	16:40:52
1	As 188.979†	1167.9	1171.9	505.39 ug/L	505.39 ppb	16:41:12
1	B 249.677†	22264.1	22498.5	502.73 ug/L	502.73 ppb	16:40:52
1	Ba 233.527†	65709.8	64594.9	501.75 ug/L	501.75 ppb	16:40:52
1	Be 313.107†	1367645.3	1348735.5	510.74 ug/L	510.74 ppb	16:40:47
1	Cd 226.502†	46168.4	45580.6	501.31 ug/L	501.31 ppb	16:40:52
1	Co 228.616†	25187.1	24833.7	503.95 ug/L	503.95 ppb	16:40:52
1	Cr 267.716†	45790.1	44928.2	499.07 ug/L	499.07 ppb	16:40:52
1	Cu 324.752†	175771.3	166363.5	496.27 ug/L	496.27 ppb	16:40:52
1	Mn 257.610†	469179.2	460727.2	505.55 ug/L	505.55 ppb	16:40:47
1	Mo 202.031†	7323.7	7176.9	501.23 ug/L	501.23 ppb	16:41:12
1	Ni 231.604†	20712.5	20291.3	501.84 ug/L	501.84 ppb	16:40:52
1	P 214.914†	4456.6	4160.1	2381.2 ug/L	2381.2 ppb	16:41:12
1	Pb 220.353†	4138.1	4129.6	501.48 ug/L	501.48 ppb	16:41:12
1	S 181.975 Axial†	784.4	727.2	1011.0 ug/L	1011.0 ppb	16:41:12
1	Sb 206.836†	1526.7	1467.1	515.31 ug/L	515.31 ppb	16:41:12
1	Se 196.026†	780.5	799.2	520.06 ug/L	520.06 ppb	16:41:12
1	Si 251.611†	81272.2	79421.9	2508.0 ug/L	2508.0 ppb	16:40:52
1	Sn 189.927†	2928.4	2876.6	502.05 ug/L	502.05 ppb	16:41:12
1	Ti 334.940†	322696.1	318512.7	509.89 ug/L	509.89 ppb	16:40:47
1	Tl 190.801†	1655.4	1661.2	505.02 ug/L	505.02 ppb	16:41:12
1	U 409.014†	15811.9	17405.4	510.70 ug/L	510.70 ppb	16:40:52
1	V 292.402†	73510.4	73613.2	505.99 ug/L	505.99 ppb	16:40:52
1	Zn 213.857†	55306.7	53736.4	500.08 ug/L	500.08 ppb	16:40:52
1	SiO2†	81238.3	79390.2	5341.1 ug/L	5341.1 ppb	16:42:20
2	Sc Radial	5099.6	5099.6	99.6 %		16:39:54
2	Y RADIAL	5413.6	5413.6	98.33 %		16:39:54
2	Al 396.153Radial†	6527.8	6561.4	5223.2 ug/L	5223.2 ppb	16:39:54

2	Ca 317.933Radial†	3226.9	3221.2	5199.8 ug/L	5199.8 ppb	16:40:14
2	Fe 238.204 Radial†	613.7	604.7	5156.6 ug/L	5156.6 ppb	16:40:14
2	K 766.490 Radial†	30224.6	27839.7	5063.5 ug/L	5063.5 ppb	16:39:54
2	Mg 279.077 IEC†	165.2	162.8	5407.2 ug/L	5407.2 ppb	16:40:14
2	Na 589.592 Radial†	32021.2	33464.1	9592.5 ug/L	9592.5 ppb	16:39:54
2	Sr 421.552†	77501.0	77815.8	496.78 ug/L	496.78 ppb	16:39:54
2	Sc 361.383	870542.5	870542.5	101.45 %		16:41:18
2	Y 371.029	722660.3	722660.3	99.312 %		16:41:18
2	Ag 328.068†	113319.6	111339.2	514.07 ug/L	514.07 ppb	16:41:23
2	As 188.979†	1174.0	1181.1	509.37 ug/L	509.37 ppb	16:41:43
2	B 249.677†	22517.1	22809.6	509.68 ug/L	509.68 ppb	16:41:23
2	Ba 233.527†	66222.2	65282.1	507.09 ug/L	507.09 ppb	16:41:23
2	Be 313.107†	1364652.9	1349578.2	511.06 ug/L	511.06 ppb	16:41:18
2	Cd 226.502†	46746.7	46278.6	508.98 ug/L	508.98 ppb	16:41:23
2	Co 228.616†	25428.1	25141.1	510.19 ug/L	510.19 ppb	16:41:23
2	Cr 267.716†	46281.2	45539.2	505.86 ug/L	505.86 ppb	16:41:23
2	Cu 324.752†	178438.0	169479.3	505.57 ug/L	505.57 ppb	16:41:23
2	Mn 257.610†	470193.7	463028.1	508.08 ug/L	508.08 ppb	16:41:18
2	Mo 202.031†	7341.2	7214.4	503.85 ug/L	503.85 ppb	16:41:43
2	Ni 231.604†	20894.2	20527.8	507.69 ug/L	507.69 ppb	16:41:23
2	P 214.914†	4467.8	4183.5	2393.1 ug/L	2393.1 ppb	16:41:43
2	Pb 220.353†	4159.2	4161.8	505.39 ug/L	505.39 ppb	16:41:43
2	S 181.975 Axial†	788.7	733.6	1019.9 ug/L	1019.9 ppb	16:41:43
2	Sb 206.836†	1534.0	1478.6	519.30 ug/L	519.30 ppb	16:41:43
2	Se 196.026†	784.9	805.6	524.45 ug/L	524.45 ppb	16:41:43
2	Si 251.611†	82361.9	80721.4	2549.1 ug/L	2549.1 ppb	16:41:23
2	Sn 189.927†	2939.1	2895.4	505.33 ug/L	505.33 ppb	16:41:43
2	Ti 334.940†	322767.0	319477.4	511.42 ug/L	511.42 ppb	16:41:18
2	Tl 190.801†	1654.3	1664.7	506.05 ug/L	506.05 ppb	16:41:43
2	U 409.014†	15810.8	17448.1	511.94 ug/L	511.94 ppb	16:41:23
2	V 292.402†	74091.8	74390.1	511.28 ug/L	511.28 ppb	16:41:23
2	Zn 213.857†	55916.4	54490.7	507.10 ug/L	507.10 ppb	16:41:23
2	SiO2†	81830.2	80198.9	5395.6 ug/L	5395.6 ppb	16:42:25
3	Sc Radial	5210.0	5210.0	102 %		16:40:19
3	Y RADIAL	5503.0	5503.0	99.96 %		16:40:19
3	Al 396.153Radial†	6560.0	6454.0	5137.3 ug/L	5137.3 ppb	16:40:19
3	Ca 317.933Radial†	3229.1	3154.6	5092.4 ug/L	5092.4 ppb	16:40:39
3	Fe 238.204 Radial†	615.2	593.1	5058.5 ug/L	5058.5 ppb	16:40:39
3	K 766.490 Radial†	30428.4	27396.6	4982.9 ug/L	4982.9 ppb	16:40:19
3	Mg 279.077 IEC†	161.9	156.0	5181.9 ug/L	5181.9 ppb	16:40:39
3	Na 589.592 Radial†	32319.9	33076.1	9481.3 ug/L	9481.3 ppb	16:40:19
3	Sr 421.552†	78061.7	76717.2	489.77 ug/L	489.77 ppb	16:40:19
3	Sc 361.383	865526.3	865526.3	100.87 %		16:41:49
3	Y 371.029	718990.0	718990.0	98.808 %		16:41:49
3	Ag 328.068†	113313.9	111980.9	516.99 ug/L	516.99 ppb	16:41:54
3	As 188.979†	1163.7	1177.6	507.81 ug/L	507.81 ppb	16:42:14
3	B 249.677†	22726.4	23145.8	517.22 ug/L	517.22 ppb	16:41:54
3	Ba 233.527†	66387.7	65824.5	511.29 ug/L	511.29 ppb	16:41:54
3	Be 313.107†	1348141.4	1341004.7	507.82 ug/L	507.82 ppb	16:41:49
3	Cd 226.502†	46552.7	46353.3	509.82 ug/L	509.82 ppb	16:41:54
3	Co 228.616†	25490.7	25348.4	514.40 ug/L	514.40 ppb	16:41:54
3	Cr 267.716†	46239.9	45762.6	508.34 ug/L	508.34 ppb	16:41:54
3	Cu 324.752†	178657.0	170715.8	509.25 ug/L	509.25 ppb	16:41:54
3	Mn 257.610†	464741.8	460309.2	505.09 ug/L	505.09 ppb	16:41:49
3	Mo 202.031†	7289.6	7205.2	503.20 ug/L	503.20 ppb	16:42:14
3	Ni 231.604†	20940.9	20693.5	511.79 ug/L	511.79 ppb	16:41:54
3	P 214.914†	4416.2	4157.8	2376.8 ug/L	2376.8 ppb	16:42:14
3	Pb 220.353†	4103.8	4130.7	501.62 ug/L	501.62 ppb	16:42:14
3	S 181.975 Axial†	777.9	727.3	1011.2 ug/L	1011.2 ppb	16:42:14
3	Sb 206.836†	1508.0	1461.6	513.53 ug/L	513.53 ppb	16:42:14
3	Se 196.026†	777.2	802.6	522.21 ug/L	522.21 ppb	16:42:14
3	Si 251.611†	82448.4	81277.7	2566.8 ug/L	2566.8 ppb	16:41:54
3	Sn 189.927†	2920.1	2893.3	504.95 ug/L	504.95 ppb	16:42:14
3	Ti 334.940†	319319.0	317902.8	508.90 ug/L	508.90 ppb	16:41:49
3	Tl 190.801†	1643.7	1663.6	505.67 ug/L	505.67 ppb	16:42:14
3	U 409.014†	15896.3	17623.2	517.10 ug/L	517.10 ppb	16:41:54
3	V 292.402†	74237.0	74957.3	515.14 ug/L	515.14 ppb	16:41:54
3	Zn 213.857†	55837.9	54732.3	509.35 ug/L	509.35 ppb	16:41:54
3	SiO2†	81357.6	80197.9	5395.5 ug/L	5395.5 ppb	16:42:30

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	869689.0	101.35 %	0.444			0.44%
Sc Radial	5159.2	101 %	1.1			1.08%
Y 371.029	722685.8	99.316 %	0.5097			0.51%
Y RADIAL	5455.5	99.09 %	0.817			0.82%
Ag 328.068†	111059.6	512.76 ug/L	5.013	512.76 ppb	5.013	0.98%
QC value within limits for Ag 328.068 Recovery = 102.55%						
Al 396.153Radial†	6479.0	5157.4 ug/L	58.40	5157.4 ppb	58.40	1.13%
QC value within limits for Al 396.153Radial Recovery = 103.15%						
As 188.979†	1176.9	507.52 ug/L	2.005	507.52 ppb	2.005	0.39%
QC value within limits for As 188.979 Recovery = 101.50%						
B 249.677†	22818.0	509.88 ug/L	7.251	509.88 ppb	7.251	1.42%
QC value within limits for B 249.677 Recovery = 101.98%						
Ba 233.527†	65233.8	506.71 ug/L	4.785	506.71 ppb	4.785	0.94%
QC value within limits for Ba 233.527 Recovery = 101.34%						
Be 313.107†	1346439.4	509.88 ug/L	1.788	509.88 ppb	1.788	0.35%
QC value within limits for Be 313.107 Recovery = 101.98%						
Ca 317.933Radial†	3179.9	5133.1 ug/L	58.22	5133.1 ppb	58.22	1.13%
QC value within limits for Ca 317.933Radial Recovery = 102.66%						
Cd 226.502†	46070.9	506.70 ug/L	4.690	506.70 ppb	4.690	0.93%
QC value within limits for Cd 226.502 Recovery = 101.34%						
Co 228.616†	25107.7	509.51 ug/L	5.258	509.51 ppb	5.258	1.03%
QC value within limits for Co 228.616 Recovery = 101.90%						
Cr 267.716†	45410.0	504.43 ug/L	4.798	504.43 ppb	4.798	0.95%
QC value within limits for Cr 267.716 Recovery = 100.89%						
Cu 324.752†	168852.9	503.70 ug/L	6.689	503.70 ppb	6.689	1.33%
QC value within limits for Cu 324.752 Recovery = 100.74%						
Fe 238.204 Radial†	597.1	5092.0 ug/L	55.98	5092.0 ppb	55.98	1.10%
QC value within limits for Fe 238.204 Radial Recovery = 101.84%						
K 766.490 Radial†	27572.2	5014.9 ug/L	42.82	5014.9 ppb	42.82	0.85%
QC value within limits for K 766.490 Radial Recovery = 100.30%						
Mg 279.077 IEC†	158.1	5250.1 ug/L	136.40	5250.1 ppb	136.40	2.60%
QC value within limits for Mg 279.077 IEC Recovery = 105.00%						
Mn 257.610†	461354.9	506.24 ug/L	1.606	506.24 ppb	1.606	0.32%
QC value within limits for Mn 257.610 Recovery = 101.25%						
Mo 202.031†	7198.8	502.76 ug/L	1.367	502.76 ppb	1.367	0.27%
QC value within limits for Mo 202.031 Recovery = 100.55%						
Na 589.592 Radial†	33232.7	9526.2 ug/L	58.64	9526.2 ppb	58.64	0.62%
QC value within limits for Na 589.592 Radial Recovery = 95.26%						
Ni 231.604†	20504.2	507.11 ug/L	4.999	507.11 ppb	4.999	0.99%
QC value within limits for Ni 231.604 Recovery = 101.42%						
P 214.914†	4167.2	2383.7 ug/L	8.40	2383.7 ppb	8.40	0.35%
QC value within limits for P 214.914 Recovery = 95.35%						
Pb 220.353†	4140.7	502.83 ug/L	2.221	502.83 ppb	2.221	0.44%
QC value within limits for Pb 220.353 Recovery = 100.57%						
S 181.975 Axial†	729.3	1014.0 ug/L	5.09	1014.0 ppb	5.09	0.50%
QC value within limits for S 181.975 Axial Recovery = 101.40%						
Sb 206.836†	1469.1	516.05 ug/L	2.958	516.05 ppb	2.958	0.57%
QC value within limits for Sb 206.836 Recovery = 103.21%						
Se 196.026†	802.5	522.24 ug/L	2.191	522.24 ppb	2.191	0.42%
QC value within limits for Se 196.026 Recovery = 104.45%						
Si 251.611†	80473.7	2541.3 ug/L	30.13	2541.3 ppb	30.13	1.19%
QC value within limits for Si 251.611 Recovery = 101.65%						
Sn 189.927†	2888.4	504.11 ug/L	1.794	504.11 ppb	1.794	0.36%
QC value within limits for Sn 189.927 Recovery = 100.82%						
Sr 421.552†	77105.2	492.24 ug/L	3.934	492.24 ppb	3.934	0.80%
QC value within limits for Sr 421.552 Recovery = 98.45%						
Ti 334.940†	318631.0	510.07 ug/L	1.270	510.07 ppb	1.270	0.25%
QC value within limits for Ti 334.940 Recovery = 102.01%						
Tl 190.801†	1663.2	505.58 ug/L	0.524	505.58 ppb	0.524	0.10%
QC value within limits for Tl 190.801 Recovery = 101.12%						
U 409.014†	17492.3	513.25 ug/L	3.391	513.25 ppb	3.391	0.66%
QC value within limits for U 409.014 Recovery = 102.65%						
V 292.402†	74320.2	510.80 ug/L	4.594	510.80 ppb	4.594	0.90%
QC value within limits for V 292.402 Recovery = 102.16%						
Zn 213.857†	54319.8	505.51 ug/L	4.835	505.51 ppb	4.835	0.96%
QC value within limits for Zn 213.857 Recovery = 101.10%						
SiO2†	79929.0	5377.4 ug/L	31.43	5377.4 ppb	31.43	0.58%
QC value within limits for SiO2 Recovery = 100.56%						

Sequence No.: 11  
 Sample ID: CCB  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 8  
 Date Collected: 1/12/2010 16:44:41  
 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	5218.4	5218.4	102 %		16:46:34
1	Y RADIAL	5573.5	5573.5	101.2 %		16:46:34
1	Al 396.153Radial†	-15.3	-8.9	-7.1141 ug/L	-7.1141 ppb	16:46:34
1	Ca 317.933Radial†	21.4	1.8	2.8711 ug/L	2.8711 ppb	16:46:54
1	Fe 238.204 Radial†	9.6	-2.1	-17.792 ug/L	-17.792 ppb	16:46:54
1	K 766.490 Radial†	2733.4	170.8	31.100 ug/L	31.100 ppb	16:46:34
1	Mg 279.077 IEC†	2.1	-1.0	-32.518 ug/L	-32.518 ppb	16:46:54
1	Na 589.592 Radial†	-1270.0	62.6	17.949 ug/L	17.949 ppb	16:46:34
1	Sr 421.552†	-23.6	-32.9	-0.2100 ug/L	-0.2100 ppb	16:46:34
1	Sc 361.383	860706.5	860706.5	100.31 %		16:47:50
1	Y 371.029	727524.4	727524.4	99.981 %		16:47:50
1	Ag 328.068†	336.5	-21.6	-0.1033 ug/L	-0.1033 ppb	16:47:55
1	As 188.979†	-14.4	9.6	4.1016 ug/L	4.1016 ppb	16:48:15
1	B 249.677†	-264.3	351.6	7.8955 ug/L	7.8955 ppb	16:48:15
1	Ba 233.527†	-3.7	4.9	0.0370 ug/L	0.0370 ppb	16:48:15
1	Be 313.107†	-4535.9	-47.4	-0.0179 ug/L	-0.0179 ppb	16:47:55
1	Cd 226.502†	-175.7	26.5	0.2924 ug/L	0.2924 ppb	16:48:15
1	Co 228.616†	-87.1	-9.6	-0.1930 ug/L	-0.1930 ppb	16:48:15
1	Cr 267.716†	86.1	6.9	0.0766 ug/L	0.0766 ppb	16:48:15
1	Cu 324.752†	6402.2	-19.8	-0.0590 ug/L	-0.0590 ppb	16:47:55
1	Mn 257.610†	423.5	-7.6	-0.0088 ug/L	-0.0088 ppb	16:48:15
1	Mo 202.031†	28.8	7.1	0.4933 ug/L	0.4933 ppb	16:48:15
1	Ni 231.604†	65.1	-2.1	-0.0524 ug/L	-0.0524 ppb	16:48:15
1	P 214.914†	218.7	-2.3	-1.3528 ug/L	-1.3528 ppb	16:48:15
1	Pb 220.353†	-63.0	-0.6	-0.0693 ug/L	-0.0693 ppb	16:48:15
1	S 181.975 Axial†	43.7	-0.3	-0.3568 ug/L	-0.3568 ppb	16:48:15
1	Sb 206.836†	36.8	3.2	1.1274 ug/L	1.1274 ppb	16:48:15
1	Se 196.026†	-27.7	4.4	2.7147 ug/L	2.7147 ppb	16:48:15
1	Si 251.611†	545.7	83.4	2.6337 ug/L	2.6337 ppb	16:48:15
1	Sn 189.927†	8.2	6.5	1.1376 ug/L	1.1376 ppb	16:48:15
1	Ti 334.940†	-1321.3	16.9	0.0310 ug/L	0.0310 ppb	16:47:55
1	Tl 190.801†	-34.9	-0.7	-0.2031 ug/L	-0.2031 ppb	16:48:15
1	U 409.014†	-1938.6	-68.8	-2.0243 ug/L	-2.0243 ppb	16:47:50
1	V 292.402†	-1371.8	-7.9	-0.0480 ug/L	-0.0480 ppb	16:47:55
1	Zn 213.857†	692.1	65.3	0.6154 ug/L	0.6154 ppb	16:48:15
1	SiO2†	586.6	125.8	8.4731 ug/L	8.4731 ppb	16:49:21
2	Sc Radial	5184.3	5184.3	101 %		16:46:59
2	Y RADIAL	5539.4	5539.4	100.6 %		16:46:59
2	Al 396.153Radial†	-7.0	-0.7	-0.5625 ug/L	-0.5625 ppb	16:46:59
2	Ca 317.933Radial†	17.5	-1.9	-3.0519 ug/L	-3.0519 ppb	16:47:19
2	Fe 238.204 Radial†	9.6	-2.1	-17.883 ug/L	-17.883 ppb	16:47:19
2	K 766.490 Radial†	2864.9	318.3	57.947 ug/L	57.947 ppb	16:46:59
2	Mg 279.077 IEC†	1.0	-2.1	-69.771 ug/L	-69.771 ppb	16:47:19
2	Na 589.592 Radial†	-1203.9	119.7	34.315 ug/L	34.315 ppb	16:46:59
2	Sr 421.552†	15.6	5.7	0.0363 ug/L	0.0363 ppb	16:46:59
2	Sc 361.383	873944.8	873944.8	101.85 %		16:48:21
2	Y 371.029	737504.9	737504.9	101.35 %		16:48:21
2	Ag 328.068†	387.1	23.0	0.1084 ug/L	0.1084 ppb	16:48:26
2	As 188.979†	-21.8	2.5	1.0686 ug/L	1.0686 ppb	16:48:46
2	B 249.677†	-292.5	328.0	7.3636 ug/L	7.3636 ppb	16:48:46
2	Ba 233.527†	-10.9	-2.1	-0.0149 ug/L	-0.0149 ppb	16:48:46
2	Be 313.107†	-4530.7	26.3	0.0101 ug/L	0.0101 ppb	16:48:26
2	Cd 226.502†	-178.8	26.1	0.2877 ug/L	0.2877 ppb	16:48:46
2	Co 228.616†	-72.2	6.3	0.1293 ug/L	0.1293 ppb	16:48:46
2	Cr 267.716†	96.6	15.9	0.1790 ug/L	0.1790 ppb	16:48:46
2	Cu 324.752†	6419.5	-99.5	-0.2944 ug/L	-0.2944 ppb	16:48:26
2	Mn 257.610†	437.4	-0.3	0.0007 ug/L	0.0007 ppb	16:48:46
2	Mo 202.031†	25.0	2.9	0.2022 ug/L	0.2022 ppb	16:48:46
2	Ni 231.604†	59.9	-8.2	-0.2020 ug/L	-0.2020 ppb	16:48:46

2	P 214.914†	220.0	-4.3	-2.4558 ug/L	-2.4558 ppb	16:48:46
2	Pb 220.353†	-36.2	26.6	3.2234 ug/L	3.2234 ppb	16:48:46
2	S 181.975 Axial†	47.9	3.2	4.4351 ug/L	4.4351 ppb	16:48:46
2	Sb 206.836†	40.5	6.4	2.1928 ug/L	2.1928 ppb	16:48:46
2	Se 196.026†	-33.1	-0.5	-0.3370 ug/L	-0.3370 ppb	16:48:46
2	Si 251.611†	519.7	49.6	1.5665 ug/L	1.5665 ppb	16:48:46
2	Sn 189.927†	12.1	10.2	1.7774 ug/L	1.7774 ppb	16:48:46
2	Ti 334.940†	-1310.7	47.2	0.0835 ug/L	0.0835 ppb	16:48:26
2	Tl 190.801†	-41.5	-6.7	-2.0239 ug/L	-2.0239 ppb	16:48:46
2	U 409.014†	-2110.9	-208.7	-6.1418 ug/L	-6.1418 ppb	16:48:21
2	V 292.402†	-1268.1	114.7	0.7701 ug/L	0.7701 ppb	16:48:26
2	Zn 213.857†	691.3	54.1	0.5116 ug/L	0.5116 ppb	16:48:46
2	SiO2†	540.0	71.2	4.7955 ug/L	4.7955 ppb	16:49:26
3	Sc Radial	5230.9	5230.9	102 %		16:47:24
3	Y RADIAL	5568.2	5568.2	101.1 %		16:47:24
3	Al 396.153Radial†	-0.3	5.9	4.7145 ug/L	4.7145 ppb	16:47:24
3	Ca 317.933Radial†	22.7	3.0	4.8329 ug/L	4.8329 ppb	16:47:44
3	Fe 238.204 Radial†	10.3	-1.5	-12.710 ug/L	-12.710 ppb	16:47:44
3	K 766.490 Radial†	2706.3	137.9	25.102 ug/L	25.102 ppb	16:47:24
3	Mg 279.077 IEC†	3.0	-0.1	-3.0016 ug/L	-3.0016 ppb	16:47:44
3	Na 589.592 Radial†	-1233.4	101.4	29.061 ug/L	29.061 ppb	16:47:24
3	Sr 421.552†	2.5	-7.3	-0.0467 ug/L	-0.0467 ppb	16:47:24
3	Sc 361.383	866602.9	866602.9	100.99 %		16:48:51
3	Y 371.029	731442.2	731442.2	100.52 %		16:48:51
3	Ag 328.068†	264.8	-94.9	-0.4343 ug/L	-0.4343 ppb	16:48:56
3	As 188.979†	-26.7	-2.5	-1.0819 ug/L	-1.0819 ppb	16:49:16
3	B 249.677†	-250.0	367.5	8.2513 ug/L	8.2513 ppb	16:49:16
3	Ba 233.527†	-17.0	-8.3	-0.0642 ug/L	-0.0642 ppb	16:49:16
3	Be 313.107†	-4528.8	-9.5	-0.0032 ug/L	-0.0032 ppb	16:48:56
3	Cd 226.502†	-193.5	10.0	0.1107 ug/L	0.1107 ppb	16:49:16
3	Co 228.616†	-76.0	1.9	0.0388 ug/L	0.0388 ppb	16:49:16
3	Cr 267.716†	77.4	-2.3	-0.0237 ug/L	-0.0237 ppb	16:49:16
3	Cu 324.752†	6433.2	-32.5	-0.0949 ug/L	-0.0949 ppb	16:48:56
3	Mn 257.610†	429.5	-4.5	-0.0061 ug/L	-0.0061 ppb	16:49:16
3	Mo 202.031†	19.2	-2.6	-0.1856 ug/L	-0.1856 ppb	16:49:16
3	Ni 231.604†	70.8	3.1	0.0768 ug/L	0.0768 ppb	16:49:16
3	P 214.914†	239.8	17.1	10.318 ug/L	10.318 ppb	16:49:16
3	Pb 220.353†	-73.2	-10.3	-1.2396 ug/L	-1.2396 ppb	16:49:16
3	S 181.975 Axial†	49.5	5.2	7.2009 ug/L	7.2009 ppb	16:49:16
3	Sb 206.836†	37.9	4.1	1.3937 ug/L	1.3937 ppb	16:49:16
3	Se 196.026†	-36.4	-4.0	-2.5865 ug/L	-2.5865 ppb	16:49:16
3	Si 251.611†	516.7	51.0	1.6162 ug/L	1.6162 ppb	16:49:16
3	Sn 189.927†	5.6	3.9	0.6846 ug/L	0.6846 ppb	16:49:16
3	Ti 334.940†	-1222.7	123.4	0.2008 ug/L	0.2008 ppb	16:48:56
3	Tl 190.801†	-39.1	-4.6	-1.3988 ug/L	-1.3988 ppb	16:49:16
3	U 409.014†	-2057.2	-173.0	-5.0926 ug/L	-5.0926 ppb	16:48:51
3	V 292.402†	-1343.6	29.4	0.1883 ug/L	0.1883 ppb	16:48:56
3	Zn 213.857†	695.1	63.6	0.5983 ug/L	0.5983 ppb	16:49:16
3	SiO2†	549.5	85.1	5.7435 ug/L	5.7435 ppb	16:49:31

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	867084.7	101.05 %		0.773			0.76%
Sc Radial	5211.2	102 %		0.5			0.46%
Y 371.029	732157.2	100.62 %		0.691			0.69%
Y RADIAL	5560.4	101.0 %		0.33			0.33%
Ag 328.068†	-31.1	-0.1431 ug/L		0.27350	-0.1431 ppb	0.27350	191.19%
QC value within limits for Ag 328.068 Recovery = Not calculated							
Al 396.153Radial†	-1.2	-0.9874 ug/L		5.92572	-0.9874 ppb	5.92572	600.16%
QC value within limits for Al 396.153Radial Recovery = Not calculated							
As 188.979†	3.2	1.3628 ug/L		2.60425	1.3628 ppb	2.60425	191.10%
QC value within limits for As 188.979 Recovery = Not calculated							
B 249.677†	349.0	7.8368 ug/L		0.44675	7.8368 ppb	0.44675	5.70%
QC value within limits for B 249.677 Recovery = Not calculated							
Ba 233.527†	-1.8	-0.0140 ug/L		0.05056	-0.0140 ppb	0.05056	360.08%
QC value within limits for Ba 233.527 Recovery = Not calculated							
Be 313.107†	-10.2	-0.0036 ug/L		0.01398	-0.0036 ppb	0.01398	384.53%
QC value within limits for Be 313.107 Recovery = Not calculated							
Ca 317.933Radial†	1.0	1.5507 ug/L		4.10487	1.5507 ppb	4.10487	264.71%

QC value within limits for Ca 317.933 Radial	Recovery = Not calculated		
Cd 226.502†	20.9 0.2303 ug/L	0.10358 0.2303 ppb	0.10358 44.98%
QC value within limits for Cd 226.502	Recovery = Not calculated		
Co 228.616†	-0.4 -0.0083 ug/L	0.16623 -0.0083 ppb	0.16623 >999.9%
QC value within limits for Co 228.616	Recovery = Not calculated		
Cr 267.716†	6.8 0.0773 ug/L	0.10138 0.0773 ppb	0.10138 131.10%
QC value within limits for Cr 267.716	Recovery = Not calculated		
Cu 324.752†	-50.6 -0.1494 ug/L	0.12686 -0.1494 ppb	0.12686 84.90%
QC value within limits for Cu 324.752	Recovery = Not calculated		
Fe 238.204 Radial†	-1.9 -16.128 ug/L	2.9608 -16.128 ppb	2.9608 18.36%
QC value within limits for Fe 238.204 Radial	Recovery = Not calculated		
K 766.490 Radial†	209.0 38.050 ug/L	17.4906 38.050 ppb	17.4906 45.97%
QC value within limits for K 766.490 Radial	Recovery = Not calculated		
Mg 279.077 IEC†	-1.1 -35.097 ug/L	33.4592 -35.097 ppb	33.4592 95.33%
QC value within limits for Mg 279.077 IEC	Recovery = Not calculated		
Mn 257.610†	-4.2 -0.0047 ug/L	0.00488 -0.0047 ppb	0.00488 103.49%
QC value within limits for Mn 257.610	Recovery = Not calculated		
Mo 202.031†	2.5 0.1700 ug/L	0.34062 0.1700 ppb	0.34062 200.38%
QC value within limits for Mo 202.031	Recovery = Not calculated		
Na 589.592 Radial†	94.6 27.109 ug/L	8.3558 27.109 ppb	8.3558 30.82%
QC value within limits for Na 589.592 Radial	Recovery = Not calculated		
Ni 231.604†	-2.4 -0.0592 ug/L	0.13953 -0.0592 ppb	0.13953 235.56%
QC value within limits for Ni 231.604	Recovery = Not calculated		
P 214.914†	3.5 2.1699 ug/L	7.07818 2.1699 ppb	7.07818 326.20%
QC value within limits for P 214.914	Recovery = Not calculated		
Pb 220.353†	5.3 0.6382 ug/L	2.31407 0.6382 ppb	2.31407 362.62%
QC value within limits for Pb 220.353	Recovery = Not calculated		
S 181.975 Axial†	2.7 3.7598 ug/L	3.82385 3.7598 ppb	3.82385 101.70%
QC value within limits for S 181.975 Axial	Recovery = Not calculated		
Sb 206.836†	4.6 1.5713 ug/L	0.55445 1.5713 ppb	0.55445 35.29%
QC value within limits for Sb 206.836	Recovery = Not calculated		
Se 196.026†	-0.0 -0.0696 ug/L	2.66068 -0.0696 ppb	2.66068 >999.9%
QC value within limits for Se 196.026	Recovery = Not calculated		
Si 251.611†	61.3 1.9388 ug/L	0.60229 1.9388 ppb	0.60229 31.07%
QC value within limits for Si 251.611	Recovery = Not calculated		
Sn 189.927†	6.9 1.1998 ug/L	0.54903 1.1998 ppb	0.54903 45.76%
QC value within limits for Sn 189.927	Recovery = Not calculated		
Sr 421.552†	-11.5 -0.0735 ug/L	0.12530 -0.0735 ppb	0.12530 170.57%
QC value within limits for Sr 421.552	Recovery = Not calculated		
Ti 334.940†	62.5 0.1051 ug/L	0.08693 0.1051 ppb	0.08693 82.70%
QC value within limits for Ti 334.940	Recovery = Not calculated		
Tl 190.801†	-4.0 -1.2086 ug/L	0.92516 -1.2086 ppb	0.92516 76.55%
QC value within limits for Tl 190.801	Recovery = Not calculated		
U 409.014†	-150.2 -4.4196 ug/L	2.13966 -4.4196 ppb	2.13966 48.41%
QC value within limits for U 409.014	Recovery = Not calculated		
V 292.402†	45.4 0.3035 ug/L	0.42103 0.3035 ppb	0.42103 138.73%
QC value within limits for V 292.402	Recovery = Not calculated		
Zn 213.857†	61.0 0.5751 ug/L	0.05569 0.5751 ppb	0.05569 9.68%
QC value within limits for Zn 213.857	Recovery = Not calculated		
SiO2†	94.0 6.3373 ug/L	1.90935 6.3373 ppb	1.90935 30.13%
QC value within limits for SiO2	Recovery = Not calculated		

All analyte(s) passed QC.

Sequence No.: 13  
 Sample ID: 243631001|937469|1  
 Analyst: HSC  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 45  
 Date Collected: 1/12/2010 16:58:43  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

Replicate Data: 243631001|937469|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5551.4	5551.4	108 %		17:00:36
1	Y RADIAL	5914.0	5914.0	107.4 %		17:00:36
1	Al 396.153Radial†	16.6	21.5	17.208 ug/L	17.208 ppb	17:00:36
1	Ca 317.933Radial†	35.7	13.7	22.135 ug/L	22.135 ppb	17:00:56
1	Fe 238.204 Radial†	13.8	1.2	9.8566 ug/L	9.8566 ppb	17:00:56
1	K 766.490 Radial†	3363.6	591.2	107.60 ug/L	107.60 ppb	17:00:36
1	Mg 279.077 IEC†	2.2	-1.0	-32.676 ug/L	-32.676 ppb	17:00:56
1	Na 589.592 Radial†	-911.7	467.9	134.13 ug/L	134.13 ppb	17:00:36
1	Sr 421.552†	25.6	13.8	0.0881 ug/L	0.0881 ppb	17:00:36
1	Sc 361.383	899857.1	899857.1	104.87 %		17:01:52
1	Y 371.029	754881.8	754881.8	103.74 %		17:01:52
1	Ag 328.068†	259.4	-109.7	-0.4963 ug/L	-0.4963 ppb	17:01:57
1	As 188.979†	-17.2	7.5	3.2125 ug/L	3.2125 ppb	17:02:17
1	B 249.677†	397.9	994.5	22.321 ug/L	22.321 ppb	17:02:17
1	Ba 233.527†	37.3	44.1	0.3439 ug/L	0.3439 ppb	17:02:17
1	Be 313.107†	-4667.4	24.0	0.0100 ug/L	0.0100 ppb	17:01:57
1	Cd 226.502†	-190.9	19.6	0.2144 ug/L	0.2144 ppb	17:02:17
1	Co 228.616†	-84.9	-3.7	-0.0788 ug/L	-0.0788 ppb	17:02:17
1	Cr 267.716†	115.6	31.3	0.3489 ug/L	0.3489 ppb	17:02:17
1	Cu 324.752†	6782.2	64.8	0.1943 ug/L	0.1943 ppb	17:01:57
1	Mn 257.610†	675.5	214.3	0.2373 ug/L	0.2373 ppb	17:02:17
1	Mo 202.031†	11.1	-11.0	-0.7669 ug/L	-0.7669 ppb	17:02:17
1	Ni 231.604†	82.3	11.4	0.2832 ug/L	0.2832 ppb	17:02:17
1	P 214.914†	230.7	-0.3	-0.2524 ug/L	-0.2524 ppb	17:02:17
1	Pb 220.353†	-49.3	15.2	1.8380 ug/L	1.8380 ppb	17:02:17
1	S 181.975 Axial†	70.1	23.0	32.009 ug/L	32.009 ppb	17:02:17
1	Sb 206.836†	42.5	7.1	2.3964 ug/L	2.3964 ppb	17:02:17
1	Se 196.026†	-31.9	1.6	1.0302 ug/L	1.0302 ppb	17:02:17
1	Si 251.611†	45169.5	42611.4	1348.9 ug/L	1348.9 ppb	17:01:57
1	Sn 189.927†	3.1	1.3	0.2295 ug/L	0.2295 ppb	17:02:17
1	Ti 334.940†	-1125.2	261.2	0.4240 ug/L	0.4240 ppb	17:01:57
1	Tl 190.801†	-39.2	-3.3	-0.9843 ug/L	-0.9843 ppb	17:02:17
1	U 409.014†	-1975.1	-19.5	-0.5748 ug/L	-0.5748 ppb	17:01:52
1	V 292.402†	-1307.5	113.0	0.7504 ug/L	0.7504 ppb	17:01:57
1	Zn 213.857†	785.2	124.1	1.1622 ug/L	1.1622 ppb	17:02:17
1	SiO2†	44806.4	42266.8	2850.9 ug/L	2850.9 ppb	17:03:23
2	Sc Radial	5229.4	5229.4	102 %		17:01:01
2	Y RADIAL	5584.4	5584.4	101.4 %		17:01:01
2	Al 396.153Radial†	-0.9	5.3	4.2759 ug/L	4.2759 ppb	17:01:01
2	Ca 317.933Radial†	35.6	15.7	25.265 ug/L	25.265 ppb	17:01:21
2	Fe 238.204 Radial†	11.3	-0.5	-4.5101 ug/L	-4.5101 ppb	17:01:21
2	K 766.490 Radial†	3285.7	706.0	128.52 ug/L	128.52 ppb	17:01:01
2	Mg 279.077 IEC†	3.9	0.8	25.801 ug/L	25.801 ppb	17:01:21
2	Na 589.592 Radial†	-1029.0	301.2	86.351 ug/L	86.351 ppb	17:01:01
2	Sr 421.552†	22.6	12.4	0.0790 ug/L	0.0790 ppb	17:01:01
2	Sc 361.383	902982.0	902982.0	105.23 %		17:02:23
2	Y 371.029	758824.4	758824.4	104.28 %		17:02:23
2	Ag 328.068†	284.8	-86.4	-0.3989 ug/L	-0.3989 ppb	17:02:28
2	As 188.979†	-16.2	8.6	3.6678 ug/L	3.6678 ppb	17:02:48
2	B 249.677†	385.4	981.3	22.027 ug/L	22.027 ppb	17:02:48
2	Ba 233.527†	24.2	31.6	0.2457 ug/L	0.2457 ppb	17:02:48
2	Be 313.107†	-4482.7	214.9	0.0821 ug/L	0.0821 ppb	17:02:28
2	Cd 226.502†	-189.0	22.0	0.2432 ug/L	0.2432 ppb	17:02:48
2	Co 228.616†	-84.6	-3.2	-0.0678 ug/L	-0.0678 ppb	17:02:48
2	Cr 267.716†	91.1	7.6	0.0832 ug/L	0.0832 ppb	17:02:48
2	Cu 324.752†	6667.9	-66.2	-0.1995 ug/L	-0.1995 ppb	17:02:28
2	Mn 257.610†	671.2	208.0	0.2266 ug/L	0.2266 ppb	17:02:48
2	Mo 202.031†	8.0	-14.0	-0.9772 ug/L	-0.9772 ppb	17:02:48
2	Ni 231.604†	72.6	1.9	0.0479 ug/L	0.0479 ppb	17:02:48



2	P 214.914†	233.3	1.4	0.8841 ug/L	0.8841 ppb	17:02:48
2	Pb 220.353†	-65.1	0.3	0.0394 ug/L	0.0394 ppb	17:02:48
2	S 181.975 Axial†	80.3	32.4	45.124 ug/L	45.124 ppb	17:02:48
2	Sb 206.836†	39.5	4.1	1.3771 ug/L	1.3771 ppb	17:02:48
2	Se 196.026†	-27.5	5.9	3.7110 ug/L	3.7110 ppb	17:02:48
2	Si 251.611†	44301.7	41637.7	1318.1 ug/L	1318.1 ppb	17:02:28
2	Sn 189.927†	8.9	6.8	1.1955 ug/L	1.1955 ppb	17:02:48
2	Ti 334.940†	-1134.8	255.8	0.4094 ug/L	0.4094 ppb	17:02:28
2	Tl 190.801†	-48.0	-11.6	-3.4831 ug/L	-3.4831 ppb	17:02:48
2	U 409.014†	-1838.0	117.3	3.4542 ug/L	3.4542 ppb	17:02:23
2	V 292.402†	-1363.1	64.4	0.4294 ug/L	0.4294 ppb	17:02:28
2	Zn 213.857†	793.0	128.9	1.2103 ug/L	1.2103 ppb	17:02:48
2	SiO2†	45151.3	42446.7	2863.0 ug/L	2863.0 ppb	17:03:28
3	Sc Radial	5501.4	5501.4	107 %		17:01:26
3	Y RADIAL	5900.4	5900.4	107.2 %		17:01:26
3	Al 396.153Radial†	12.5	17.8	14.270 ug/L	14.270 ppb	17:01:26
3	Ca 317.933Radial†	40.6	18.5	29.935 ug/L	29.935 ppb	17:01:46
3	Fe 238.204 Radial†	11.6	-0.8	-6.8008 ug/L	-6.8008 ppb	17:01:46
3	K 766.490 Radial†	3257.2	520.4	94.706 ug/L	94.706 ppb	17:01:26
3	Mg 279.077 IEC†	4.0	0.6	21.252 ug/L	21.252 ppb	17:01:46
3	Na 589.592 Radial†	-931.8	441.5	126.56 ug/L	126.56 ppb	17:01:26
3	Sr 421.552†	8.3	-2.0	-0.0131 ug/L	-0.0131 ppb	17:01:26
3	Sc 361.383	900831.6	900831.6	104.98 %		17:02:53
3	Y 371.029	758878.7	758878.7	104.29 %		17:02:53
3	Ag 328.068†	261.4	-108.1	-0.4989 ug/L	-0.4989 ppb	17:02:58
3	As 188.979†	-28.5	-3.2	-1.3650 ug/L	-1.3650 ppb	17:03:18
3	B 249.677†	383.1	980.0	21.997 ug/L	21.997 ppb	17:03:18
3	Ba 233.527†	15.0	22.9	0.1779 ug/L	0.1779 ppb	17:03:18
3	Be 313.107†	-4501.4	187.0	0.0717 ug/L	0.0717 ppb	17:02:58
3	Cd 226.502†	-208.0	3.5	0.0402 ug/L	0.0402 ppb	17:03:18
3	Co 228.616†	-72.4	8.3	0.1665 ug/L	0.1665 ppb	17:03:18
3	Cr 267.716†	92.4	9.1	0.1002 ug/L	0.1002 ppb	17:03:18
3	Cu 324.752†	6807.7	82.2	0.2434 ug/L	0.2434 ppb	17:02:58
3	Mn 257.610†	685.1	222.7	0.2427 ug/L	0.2427 ppb	17:03:18
3	Mo 202.031†	22.1	-0.6	-0.0405 ug/L	-0.0405 ppb	17:03:18
3	Ni 231.604†	87.5	16.4	0.4048 ug/L	0.4048 ppb	17:03:18
3	P 214.914†	246.4	14.4	8.6059 ug/L	8.6059 ppb	17:03:18
3	Pb 220.353†	-71.0	-5.4	-0.6531 ug/L	-0.6531 ppb	17:03:18
3	S 181.975 Axial†	75.4	27.9	38.838 ug/L	38.838 ppb	17:03:18
3	Sb 206.836†	49.1	13.4	4.5643 ug/L	4.5643 ppb	17:03:18
3	Se 196.026†	-21.1	11.9	7.4713 ug/L	7.4713 ppb	17:03:18
3	Si 251.611†	44411.4	41842.7	1324.6 ug/L	1324.6 ppb	17:02:58
3	Sn 189.927†	12.9	10.7	1.8639 ug/L	1.8639 ppb	17:03:18
3	Ti 334.940†	-1091.9	294.0	0.4721 ug/L	0.4721 ppb	17:02:58
3	Tl 190.801†	-35.1	0.7	0.2075 ug/L	0.2075 ppb	17:03:18
3	U 409.014†	-1869.3	83.3	2.4521 ug/L	2.4521 ppb	17:02:53
3	V 292.402†	-1385.2	40.3	0.2781 ug/L	0.2781 ppb	17:02:58
3	Zn 213.857†	805.4	142.5	1.3356 ug/L	1.3356 ppb	17:03:18
3	SiO2†	44955.6	42362.6	2857.3 ug/L	2857.3 ppb	17:03:34

Mean Data: 243631001|937469|1

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	901223.5	105.03 %		0.186			0.18%
Sc Radial	5427.4	106 %		3.4			3.19%
Y 371.029	757528.3	104.10 %		0.315			0.30%
Y RADIAL	5799.6	105.3 %		3.39			3.22%
Ag 328.068†	-101.4	-0.4647 ug/L		0.05701	-0.4647 ppb	0.05701	12.27%
Al 396.153Radial†	14.9	11.918 ug/L		6.7795	11.918 ppb	6.7795	56.88%
As 188.979†	4.3	1.8384 ug/L		2.78358	1.8384 ppb	2.78358	151.41%
B 249.677†	985.3	22.115 ug/L		0.1793	22.115 ppb	0.1793	0.81%
Ba 233.527†	32.9	0.2558 ug/L		0.08345	0.2558 ppb	0.08345	32.62%
Be 313.107†	141.9	0.0546 ug/L		0.03898	0.0546 ppb	0.03898	71.38%
Ca 317.933Radial†	16.0	25.778 ug/L		3.9251	25.778 ppb	3.9251	15.23%
Cd 226.502†	15.0	0.1659 ug/L		0.10981	0.1659 ppb	0.10981	66.18%
Co 228.616†	0.4	0.0066 ug/L		0.13857	0.0066 ppb	0.13857	>999.9%
Cr 267.716†	16.0	0.1775 ug/L		0.14874	0.1775 ppb	0.14874	83.81%
Cu 324.752†	26.9	0.0794 ug/L		0.24279	0.0794 ppb	0.24279	305.86%
Fe 238.204 Radial†	-0.1	-0.4848 ug/L		9.02879	-0.4848 ppb	9.02879	>999.9%
K 766.490 Radial†	605.9	110.28 ug/L		17.066	110.28 ppb	17.066	15.48%

Mg 279.077 IEC†	0.1	4.7925 ug/L	32.52797	4.7925 ppb	32.52797	678.72%
Mn 257.610†	215.0	0.2356 ug/L	0.00822	0.2356 ppb	0.00822	3.49%
Mo 202.031†	-8.5	-0.5949 ug/L	0.49151	-0.5949 ppb	0.49151	82.62%
Na 589.592 Radial†	403.6	115.68 ug/L	25.681	115.68 ppb	25.681	22.20%
Ni 231.604†	9.9	0.2453 ug/L	0.18145	0.2453 ppb	0.18145	73.98%
P 214.914†	5.1	3.0792 ug/L	4.81988	3.0792 ppb	4.81988	156.53%
Pb 220.353†	3.4	0.4081 ug/L	1.28582	0.4081 ppb	1.28582	315.07%
S 181.975 Axial†	27.8	38.657 ug/L	6.5596	38.657 ppb	6.5596	16.97%
Sb 206.836†	8.2	2.7793 ug/L	1.62772	2.7793 ppb	1.62772	58.57%
Se 196.026†	6.5	4.0708 ug/L	3.23564	4.0708 ppb	3.23564	79.48%
Si 251.611†	42030.6	1330.5 ug/L	16.25	1330.5 ppb	16.25	1.22%
Sn 189.927†	6.3	1.0963 ug/L	0.82166	1.0963 ppb	0.82166	74.95%
Sr 421.552†	8.1	0.0513 ug/L	0.05602	0.0513 ppb	0.05602	109.14%
Ti 334.940†	270.3	0.4351 ug/L	0.03279	0.4351 ppb	0.03279	7.54%
Tl 190.801†	-4.7	-1.4200 ug/L	1.88351	-1.4200 ppb	1.88351	132.65%
U 409.014†	60.4	1.7772 ug/L	2.09759	1.7772 ppb	2.09759	118.03%
V 292.402†	72.5	0.4859 ug/L	0.24117	0.4859 ppb	0.24117	49.63%
Zn 213.857†	131.8	1.2360 ug/L	0.08953	1.2360 ppb	0.08953	7.24%
SiO2†	42358.7	2857.0 ug/L	6.07	2857.0 ppb	6.07	0.21%

Sequence No.: 15

Sample ID: 1202006004|937469|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 47

Date Collected: 1/12/2010 17:12:32

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202006004|937469|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Calib. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5492.3	5492.3	107 %			17:14:26
1	Y RADIAL	5863.7	5863.7	106.5 %			17:14:26
1	Al 396.153Radial†	-9.4	-2.6	-2.0601 ug/L		-2.0601 ppb	17:14:26
1	Ca 317.933Radial†	40.8	18.8	30.380 ug/L		30.380 ppb	17:14:46
1	Fe 238.204 Radial†	9.7	-2.5	-20.983 ug/L		-20.983 ppb	17:14:46
1	K 766.490 Radial†	3303.7	568.7	103.51 ug/L		103.51 ppb	17:14:26
1	Mg 279.077 IEC†	4.3	1.0	32.646 ug/L		32.646 ppb	17:14:46
1	Na 589.592 Radial†	-880.9	487.6	139.76 ug/L		139.76 ppb	17:14:26
1	Sr 421.552†	9.1	-1.2	-0.0082 ug/L		-0.0082 ppb	17:14:26
1	Sc 361.383	903742.4	903742.4	105.32 %			17:15:43
1	Y 371.029	758640.4	758640.4	104.26 %			17:15:43
1	Ag 328.068†	376.5	0.4	-0.0055 ug/L		-0.0055 ppb	17:15:48
1	As 188.979†	-24.5	0.7	0.2832 ug/L		0.2832 ppb	17:16:08
1	B 249.677†	360.5	957.4	21.492 ug/L		21.492 ppb	17:16:08
1	Ba 233.527†	7.2	15.4	0.1210 ug/L		0.1210 ppb	17:16:08
1	Be 313.107†	-4652.2	57.5	0.0229 ug/L		0.0229 ppb	17:15:48
1	Cd 226.502†	-198.6	13.1	0.1474 ug/L		0.1474 ppb	17:16:08
1	Co 228.616†	-79.3	2.0	0.0387 ug/L		0.0387 ppb	17:16:08
1	Cr 267.716†	103.5	19.3	0.2131 ug/L		0.2131 ppb	17:16:08
1	Cu 324.752†	6862.8	113.5	0.3349 ug/L		0.3349 ppb	17:15:48
1	Mn 257.610†	675.3	211.4	0.2284 ug/L		0.2284 ppb	17:16:08
1	Mo 202.031†	17.3	-5.2	-0.3615 ug/L		-0.3615 ppb	17:16:08
1	Ni 231.604†	68.8	-1.7	-0.0422 ug/L		-0.0422 ppb	17:16:08
1	P 214.914†	241.9	9.3	5.5328 ug/L		5.5328 ppb	17:16:08
1	Pb 220.353†	-57.6	7.6	0.9146 ug/L		0.9146 ppb	17:16:08
1	S 181.975 Axial†	69.8	22.4	31.178 ug/L		31.178 ppb	17:16:08
1	Sb 206.836†	38.6	3.2	1.0574 ug/L		1.0574 ppb	17:16:08
1	Se 196.026†	-23.6	9.6	5.9838 ug/L		5.9838 ppb	17:16:08
1	Si 251.611†	45700.0	42929.9	1359.0 ug/L		1359.0 ppb	17:15:48
1	Sn 189.927†	-5.5	-6.9	-1.1980 ug/L		-1.1980 ppb	17:16:08
1	Ti 334.940†	-1074.4	314.0	0.5020 ug/L		0.5020 ppb	17:15:48
1	Tl 190.801†	-40.5	-4.4	-1.3238 ug/L		-1.3238 ppb	17:16:08
1	U 409.014†	-1789.3	165.0	4.8588 ug/L		4.8588 ppb	17:15:43
1	V 292.402†	-1295.9	129.3	0.8842 ug/L		0.8842 ppb	17:15:48
1	Zn 213.857†	776.3	112.4	1.0572 ug/L		1.0572 ppb	17:16:08
1	SiO2†	45639.3	42873.9	2891.8 ug/L		2891.8 ppb	17:17:14
2	Sc Radial	5538.4	5538.4	108 %			17:14:51
2	Y RADIAL	5901.7	5901.7	107.2 %			17:14:51
2	Al 396.153Radial†	-10.6	-3.6	-2.8444 ug/L		-2.8444 ppb	17:14:51
2	Ca 317.933Radial†	43.0	20.5	33.165 ug/L		33.165 ppb	17:15:11
2	Fe 238.204 Radial†	10.2	-2.1	-17.702 ug/L		-17.702 ppb	17:15:11
2	K 766.490 Radial†	3395.6	628.2	114.32 ug/L		114.32 ppb	17:14:51
2	Mg 279.077 IEC†	-1.1	-4.0	-133.80 ug/L		-133.80 ppb	17:15:11
2	Na 589.592 Radial†	-868.9	505.5	144.89 ug/L		144.89 ppb	17:14:51
2	Sr 421.552†	17.9	6.8	0.0432 ug/L		0.0432 ppb	17:14:51
2	Sc 361.383	894543.5	894543.5	104.25 %			17:16:13
2	Y 371.029	752156.2	752156.2	103.37 %			17:16:13
2	Ag 328.068†	312.6	-57.3	-0.2647 ug/L		-0.2647 ppb	17:16:18
2	As 188.979†	-22.6	2.2	0.9614 ug/L		0.9614 ppb	17:16:38
2	B 249.677†	342.6	943.7	21.185 ug/L		21.185 ppb	17:16:38
2	Ba 233.527†	-9.7	-0.7	-0.0042 ug/L		-0.0042 ppb	17:16:38
2	Be 313.107†	-4545.2	114.7	0.0443 ug/L		0.0443 ppb	17:16:18
2	Cd 226.502†	-200.7	9.1	0.1024 ug/L		0.1024 ppb	17:16:38
2	Co 228.616†	-83.5	-2.9	-0.0602 ug/L		-0.0602 ppb	17:16:38
2	Cr 267.716†	92.6	9.9	0.1102 ug/L		0.1102 ppb	17:16:38
2	Cu 324.752†	6861.2	179.1	0.5331 ug/L		0.5331 ppb	17:16:18
2	Mn 257.610†	673.2	215.9	0.2405 ug/L		0.2405 ppb	17:16:38
2	Mo 202.031†	16.2	-6.1	-0.4262 ug/L		-0.4262 ppb	17:16:38
2	Ni 231.604†	75.1	5.0	0.1240 ug/L		0.1240 ppb	17:16:38

2	P 214.914†	250.6	20.1	11.962 ug/L	11.962 ppb	17:16:38
2	Pb 220.353†	-59.7	4.9	0.5984 ug/L	0.5984 ppb	17:16:38
2	S 181.975 Axial†	79.7	32.6	45.330 ug/L	45.330 ppb	17:16:38
2	Sb 206.836†	47.9	12.5	4.2259 ug/L	4.2259 ppb	17:16:38
2	Se 196.026†	-25.6	7.5	4.6396 ug/L	4.6396 ppb	17:16:38
2	Si 251.611†	45465.4	43151.0	1366.0 ug/L	1366.0 ppb	17:16:18
2	Sn 189.927†	2.0	0.3	0.0511 ug/L	0.0511 ppb	17:16:38
2	Ti 334.940†	-1109.2	270.2	0.4480 ug/L	0.4480 ppb	17:16:18
2	Tl 190.801†	-30.6	4.8	1.4393 ug/L	1.4393 ppb	17:16:38
2	U 409.014†	-1935.5	7.3	0.2157 ug/L	0.2157 ppb	17:16:13
2	V 292.402†	-1273.3	138.4	0.9319 ug/L	0.9319 ppb	17:16:18
2	Zn 213.857†	788.8	131.9	1.2388 ug/L	1.2388 ppb	17:16:38
2	SiO2†	45654.9	43334.5	2922.9 ug/L	2922.9 ppb	17:17:19
3	Sc Radial	5607.2	5607.2	109 %		17:15:16
3	Y RADIAL	5968.1	5968.1	108.4 %		17:15:16
3	Al 396.153Radial†	18.8	23.3	18.638 ug/L	18.638 ppb	17:15:16
3	Ca 317.933Radial†	37.1	14.7	23.739 ug/L	23.739 ppb	17:15:36
3	Fe 238.204 Radial†	10.6	-1.9	-15.738 ug/L	-15.738 ppb	17:15:36
3	K 766.490 Radial†	3241.1	448.5	81.601 ug/L	81.601 ppb	17:15:16
3	Mg 279.077 IEC†	-1.5	-4.4	-146.02 ug/L	-146.02 ppb	17:15:36
3	Na 589.592 Radial†	-844.9	537.2	154.00 ug/L	154.00 ppb	17:15:16
3	Sr 421.552†	8.1	-2.4	-0.0153 ug/L	-0.0153 ppb	17:15:16
3	Sc 361.383	907104.0	907104.0	105.71 %		17:16:43
3	Y 371.029	763447.1	763447.1	104.92 %		17:16:43
3	Ag 328.068†	302.9	-70.6	-0.3336 ug/L	-0.3336 ppb	17:16:48
3	As 188.979†	-16.5	8.4	3.5706 ug/L	3.5706 ppb	17:17:08
3	B 249.677†	337.1	934.0	20.966 ug/L	20.966 ppb	17:17:08
3	Ba 233.527†	-4.3	4.5	0.0355 ug/L	0.0355 ppb	17:17:08
3	Be 313.107†	-4559.2	161.9	0.0623 ug/L	0.0623 ppb	17:16:48
3	Cd 226.502†	-195.3	16.9	0.1896 ug/L	0.1896 ppb	17:17:08
3	Co 228.616†	-82.1	-0.4	-0.0090 ug/L	-0.0090 ppb	17:17:08
3	Cr 267.716†	99.3	15.0	0.1632 ug/L	0.1632 ppb	17:17:08
3	Cu 324.752†	6735.1	-31.4	-0.0987 ug/L	-0.0987 ppb	17:16:48
3	Mn 257.610†	666.6	200.8	0.2246 ug/L	0.2246 ppb	17:17:08
3	Mo 202.031†	22.8	-0.0	-0.0024 ug/L	-0.0024 ppb	17:17:08
3	Ni 231.604†	78.9	7.6	0.1884 ug/L	0.1884 ppb	17:17:08
3	P 214.914†	238.2	5.0	3.0582 ug/L	3.0582 ppb	17:17:08
3	Pb 220.353†	-70.2	-4.2	-0.4990 ug/L	-0.4990 ppb	17:17:08
3	S 181.975 Axial†	78.1	30.0	41.747 ug/L	41.747 ppb	17:17:08
3	Sb 206.836†	41.2	5.5	1.8999 ug/L	1.8999 ppb	17:17:08
3	Se 196.026†	-34.1	-0.2	-0.1867 ug/L	-0.1867 ppb	17:17:08
3	Si 251.611†	45351.5	42439.4	1343.5 ug/L	1343.5 ppb	17:16:48
3	Sn 189.927†	8.9	6.8	1.1830 ug/L	1.1830 ppb	17:17:08
3	Ti 334.940†	-1085.8	307.1	0.5035 ug/L	0.5035 ppb	17:16:48
3	Tl 190.801†	-40.8	-4.6	-1.3704 ug/L	-1.3704 ppb	17:17:08
3	U 409.014†	-1697.1	258.5	7.6107 ug/L	7.6107 ppb	17:16:43
3	V 292.402†	-1378.9	55.3	0.3887 ug/L	0.3887 ppb	17:16:48
3	Zn 213.857†	761.4	95.6	0.8981 ug/L	0.8981 ppb	17:17:08
3	SiO2†	45563.0	42641.1	2876.1 ug/L	2876.1 ppb	17:17:24

Mean Data: 1202006004|937469|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	901796.7	105.10 %	0.758			0.72%
Sc Radial	5546.0	108 %	1.1			1.04%
Y 371.029	758081.2	104.18 %	0.779			0.75%
Y RADIAL	5911.2	107.4 %	0.96			0.89%
Ag 328.068†	-42.5	-0.2013 ug/L	0.17299	-0.2013 ppb	0.17299	85.95%
Al 396.153Radial†	5.7	4.5780 ug/L	12.18297	4.5780 ppb	12.18297	266.12%
As 188.979†	3.8	1.6051 ug/L	1.73566	1.6051 ppb	1.73566	108.14%
B 249.677†	945.0	21.214 ug/L	0.2644	21.214 ppb	0.2644	1.25%
Ba 233.527†	6.4	0.0508 ug/L	0.06394	0.0508 ppb	0.06394	125.94%
Be 313.107†	111.4	0.0432 ug/L	0.01972	0.0432 ppb	0.01972	45.70%
Ca 317.933Radial†	18.0	29.095 ug/L	4.8424	29.095 ppb	4.8424	16.64%
Cd 226.502†	13.1	0.1465 ug/L	0.04362	0.1465 ppb	0.04362	29.78%
Co 228.616†	-0.4	-0.0102 ug/L	0.04946	-0.0102 ppb	0.04946	485.59%
Cr 267.716†	14.7	0.1622 ug/L	0.05146	0.1622 ppb	0.05146	31.73%
Cu 324.752†	87.1	0.2564 ug/L	0.32310	0.2564 ppb	0.32310	126.00%
Fe 238.204 Radial†	-2.1	-18.141 ug/L	2.6501	-18.141 ppb	2.6501	14.61%
K 766.490 Radial†	548.5	99.810 ug/L	16.6714	99.810 ppb	16.6714	16.70%

Mg 279.077 IEC†	-2.5	-82.390 ug/L	99.8107	-82.390 ppb	99.8107	121.14%
Mn 257.610†	209.4	0.2312 ug/L	0.00829	0.2312 ppb	0.00829	3.58%
Mo 202.031†	-3.8	-0.2633 ug/L	0.22832	-0.2633 ppb	0.22832	86.70%
Na 589.592 Radial†	510.1	146.22 ug/L	7.211	146.22 ppb	7.211	4.93%
Ni 231.604†	3.6	0.0901 ug/L	0.11899	0.0901 ppb	0.11899	132.07%
P 214.914†	11.5	6.8509 ug/L	4.59571	6.8509 ppb	4.59571	67.08%
Pb 220.353†	2.8	0.3380 ug/L	0.74194	0.3380 ppb	0.74194	219.51%
S 181.975 Axial†	28.3	39.418 ug/L	7.3581	39.418 ppb	7.3581	18.67%
Sb 206.836†	7.1	2.3944 ug/L	1.64113	2.3944 ppb	1.64113	68.54%
Se 196.026†	5.6	3.4789 ug/L	3.24488	3.4789 ppb	3.24488	93.27%
Si 251.611†	42840.1	1356.2 ug/L	11.53	1356.2 ppb	11.53	0.85%
Sn 189.927†	0.0	0.0120 ug/L	1.19100	0.0120 ppb	1.19100	>999.9%
Sr 421.552†	1.1	0.0066 ug/L	0.03192	0.0066 ppb	0.03192	486.77%
Ti 334.940†	297.1	0.4845 ug/L	0.03163	0.4845 ppb	0.03163	6.53%
Tl 190.801†	-1.4	-0.4183 ug/L	1.60887	-0.4183 ppb	1.60887	384.60%
U 409.014†	143.6	4.2284 ug/L	3.73758	4.2284 ppb	3.73758	88.39%
V 292.402†	107.7	0.7349 ug/L	0.30079	0.7349 ppb	0.30079	40.93%
Zn 213.857†	113.3	1.0647 ug/L	0.17050	1.0647 ppb	0.17050	16.01%
SiO2†	42949.8	2896.9 ug/L	23.81	2896.9 ppb	23.81	0.82%

Sequence No.: 16

Sample ID: 1202006005|937469|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 48

Date Collected: 1/12/2010 17:19:34

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202006005|937469|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5327.7	5327.7	104 %		17:21:28
1	Y RADIAL	5627.2	5627.2	102.2 %		17:21:28
1	Al 396.153Radial†	6768.4	6511.8	5183.6 ug/L	5183.6 ppb	17:21:28
1	Ca 317.933Radial†	3354.3	3204.8	5173.4 ug/L	5173.4 ppb	17:21:48
1	Fe 238.204 Radial†	634.9	598.7	5105.4 ug/L	5105.4 ppb	17:21:48
1	K 766.490 Radial†	31632.0	27892.5	5075.0 ug/L	5075.0 ppb	17:21:28
1	Mg 279.077 IEC†	166.7	157.2	5218.9 ug/L	5218.9 ppb	17:21:48
1	Na 589.592 Radial†	16491.4	17160.1	4918.9 ug/L	4918.9 ppb	17:21:28
1	Sr 421.552†	80918.5	77767.5	496.47 ug/L	496.47 ppb	17:21:28
1	Sc 361.383	885192.1	885192.1	103.16 %		17:22:47
1	Y 371.029	734354.9	734354.9	100.92 %		17:22:47
1	Ag 328.068†	113230.8	109404.5	505.19 ug/L	505.19 ppb	17:22:47
1	As 188.979†	1187.2	1174.7	506.65 ug/L	506.65 ppb	17:23:07
1	B 249.677†	23270.9	23173.1	517.88 ug/L	517.88 ppb	17:22:47
1	Ba 233.527†	68598.8	66505.6	516.57 ug/L	516.57 ppb	17:22:47
1	Be 313.107†	1392813.1	1354614.6	512.98 ug/L	512.98 ppb	17:22:47
1	Cd 226.502†	46796.4	45564.3	501.13 ug/L	501.13 ppb	17:22:47
1	Co 228.616†	25222.4	24526.9	497.72 ug/L	497.72 ppb	17:23:07
1	Cr 267.716†	47009.8	45490.6	505.32 ug/L	505.32 ppb	17:22:47
1	Cu 324.752†	184388.9	172337.1	514.09 ug/L	514.09 ppb	17:22:47
1	Mn 257.610†	482783.2	467561.8	513.05 ug/L	513.05 ppb	17:22:47
1	Mo 202.031†	7453.0	7203.0	503.05 ug/L	503.05 ppb	17:23:07
1	Ni 231.604†	21109.1	20395.3	504.42 ug/L	504.42 ppb	17:23:07
1	P 214.914†	1256.5	997.7	478.61 ug/L	478.61 ppb	17:23:07
1	Pb 220.353†	4249.0	4181.0	507.71 ug/L	507.71 ppb	17:23:07
1	S 181.975 Axial†	3852.5	3690.6	5135.0 ug/L	5135.0 ppb	17:23:07
1	Sb 206.836†	1589.3	1507.1	529.24 ug/L	529.24 ppb	17:23:07
1	Se 196.026†	769.6	778.0	506.90 ug/L	506.90 ppb	17:23:07
1	Si 251.611†	210254.3	203351.8	6431.2 ug/L	6431.2 ppb	17:22:47
1	Sn 189.927†	3088.5	2992.3	522.20 ug/L	522.20 ppb	17:23:07
1	Ti 334.940†	330662.7	321865.9	515.26 ug/L	515.26 ppb	17:22:47
1	Tl 190.801†	1578.6	1564.3	475.86 ug/L	475.86 ppb	17:23:07
1	U 409.014†	16304.3	17668.7	518.43 ug/L	518.43 ppb	17:22:47
1	V 292.402†	75921.0	74954.7	515.11 ug/L	515.11 ppb	17:22:47
1	Zn 213.857†	55130.4	52816.6	491.40 ug/L	491.40 ppb	17:22:47
1	SiO2†	211257.4	204325.8	13768 ug/L	13768 ppb	17:24:07
2	Sc Radial	5318.2	5318.2	104 %		17:21:53
2	Y RADIAL	5644.4	5644.4	102.5 %		17:21:53
2	Al 396.153Radial†	6803.4	6557.2	5219.9 ug/L	5219.9 ppb	17:21:53
2	Ca 317.933Radial†	3370.6	3226.3	5208.1 ug/L	5208.1 ppb	17:22:13
2	Fe 238.204 Radial†	643.4	608.0	5184.4 ug/L	5184.4 ppb	17:22:13
2	K 766.490 Radial†	31640.7	27955.6	5086.4 ug/L	5086.4 ppb	17:21:53
2	Mg 279.077 IEC†	168.2	158.9	5275.9 ug/L	5275.9 ppb	17:22:13
2	Na 589.592 Radial†	16490.5	17187.8	4926.9 ug/L	4926.9 ppb	17:21:53
2	Sr 421.552†	81093.4	78075.9	498.44 ug/L	498.44 ppb	17:21:53
2	Sc 361.383	889850.7	889850.7	103.70 %		17:23:14
2	Y 371.029	740065.0	740065.0	101.70 %		17:23:14
2	Ag 328.068†	113871.2	109447.5	505.41 ug/L	505.41 ppb	17:23:14
2	As 188.979†	1186.6	1168.2	503.87 ug/L	503.87 ppb	17:23:34
2	B 249.677†	23366.7	23147.3	517.29 ug/L	517.29 ppb	17:23:14
2	Ba 233.527†	68882.7	66431.2	516.00 ug/L	516.00 ppb	17:23:14
2	Be 313.107†	1398898.6	1353414.6	512.52 ug/L	512.52 ppb	17:23:14
2	Cd 226.502†	46829.5	45358.7	498.86 ug/L	498.86 ppb	17:23:14
2	Co 228.616†	25295.2	24469.1	496.55 ug/L	496.55 ppb	17:23:34
2	Cr 267.716†	47000.5	45243.0	502.58 ug/L	502.58 ppb	17:23:14
2	Cu 324.752†	185654.6	172621.9	514.94 ug/L	514.94 ppb	17:23:14
2	Mn 257.610†	483663.8	465961.0	511.30 ug/L	511.30 ppb	17:23:14
2	Mo 202.031†	7474.7	7186.2	501.89 ug/L	501.89 ppb	17:23:34
2	Ni 231.604†	21172.5	20349.3	503.28 ug/L	503.28 ppb	17:23:34

2	P 214.914†	1258.5	993.3	475.65 ug/L	475.65 ppb	17:23:34
2	Pb 220.353†	4273.5	4183.1	507.96 ug/L	507.96 ppb	17:23:34
2	S 181.975 Axial†	3867.6	3685.6	5128.2 ug/L	5128.2 ppb	17:23:34
2	Sb 206.836†	1601.0	1510.4	530.27 ug/L	530.27 ppb	17:23:34
2	Se 196.026†	778.7	782.9	510.22 ug/L	510.22 ppb	17:23:34
2	Si 251.611†	211015.7	203019.1	6420.7 ug/L	6420.7 ppb	17:23:14
2	Sn 189.927†	3080.2	2968.6	518.09 ug/L	518.09 ppb	17:23:34
2	Ti 334.940†	332331.0	321796.7	515.15 ug/L	515.15 ppb	17:23:14
2	Tl 190.801†	1579.6	1557.2	473.71 ug/L	473.71 ppb	17:23:34
2	U 409.014†	16455.8	17732.0	520.30 ug/L	520.30 ppb	17:23:14
2	V 292.402†	76316.3	74950.6	515.06 ug/L	515.06 ppb	17:23:14
2	Zn 213.857†	55306.6	52706.7	490.37 ug/L	490.37 ppb	17:23:14
2	SiO2†	209878.2	201923.9	13606 ug/L	13606 ppb	17:24:13
3	Sc Radial	5321.5	5321.5	104 %		17:22:18
3	Y RADIAL	5631.3	5631.3	102.3 %		17:22:18
3	Al 396.153Radial†	6778.1	6528.8	5197.1 ug/L	5197.1 ppb	17:22:18
3	Ca 317.933Radial†	3348.7	3203.3	5170.9 ug/L	5170.9 ppb	17:22:38
3	Fe 238.204 Radial†	638.9	603.3	5144.3 ug/L	5144.3 ppb	17:22:38
3	K 766.490 Radial†	31775.7	28066.4	5106.6 ug/L	5106.6 ppb	17:22:18
3	Mg 279.077 IEC†	169.2	159.7	5304.3 ug/L	5304.3 ppb	17:22:38
3	Na 589.592 Radial†	16514.1	17200.5	4930.5 ug/L	4930.5 ppb	17:22:18
3	Sr 421.552†	80818.6	77762.3	496.44 ug/L	496.44 ppb	17:22:18
3	Sc 361.383	883336.1	883336.1	102.94 %		17:23:42
3	Y 371.029	733645.6	733645.6	100.82 %		17:23:42
3	Ag 328.068†	113307.5	109709.7	506.60 ug/L	506.60 ppb	17:23:42
3	As 188.979†	1186.9	1176.9	507.59 ug/L	507.59 ppb	17:24:02
3	B 249.677†	23194.5	23146.2	517.26 ug/L	517.26 ppb	17:23:42
3	Ba 233.527†	68489.1	66538.8	516.83 ug/L	516.83 ppb	17:23:42
3	Be 313.107†	1390719.4	1355417.6	513.28 ug/L	513.28 ppb	17:23:42
3	Cd 226.502†	46589.7	45458.8	499.96 ug/L	499.96 ppb	17:23:42
3	Co 228.616†	25235.3	24590.8	499.02 ug/L	499.02 ppb	17:24:02
3	Cr 267.716†	46846.5	45427.7	504.63 ug/L	504.63 ppb	17:23:42
3	Cu 324.752†	184650.4	172966.7	515.97 ug/L	515.97 ppb	17:23:42
3	Mn 257.610†	481662.0	467456.0	512.93 ug/L	512.93 ppb	17:23:42
3	Mo 202.031†	7477.5	7242.0	505.78 ug/L	505.78 ppb	17:24:02
3	Ni 231.604†	21139.1	20467.5	506.20 ug/L	506.20 ppb	17:24:02
3	P 214.914†	1262.2	1005.7	483.01 ug/L	483.01 ppb	17:24:02
3	Pb 220.353†	4267.7	4207.8	510.96 ug/L	510.96 ppb	17:24:02
3	S 181.975 Axial†	3871.9	3717.3	5172.2 ug/L	5172.2 ppb	17:24:02
3	Sb 206.836†	1593.3	1514.3	531.76 ug/L	531.76 ppb	17:24:02
3	Se 196.026†	762.4	772.6	503.61 ug/L	503.61 ppb	17:24:02
3	Si 251.611†	210269.2	203794.5	6445.2 ug/L	6445.2 ppb	17:23:42
3	Sn 189.927†	3104.9	3014.4	526.06 ug/L	526.06 ppb	17:24:02
3	Ti 334.940†	330714.9	322590.2	516.41 ug/L	516.41 ppb	17:23:42
3	Tl 190.801†	1594.5	1582.9	481.48 ug/L	481.48 ppb	17:24:02
3	U 409.014†	16284.0	17682.1	518.83 ug/L	518.83 ppb	17:23:42
3	V 292.402†	75758.6	74951.5	515.12 ug/L	515.12 ppb	17:23:42
3	Zn 213.857†	55036.7	52838.0	491.58 ug/L	491.58 ppb	17:23:42
3	SiO2†	208508.1	202085.4	13617 ug/L	13617 ppb	17:24:18

Mean Data: 1202006005|937469|1

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	886126.3	103.27 %		0.391			0.38%
Sc Radial	5322.5	104 %		0.1			0.09%
Y 371.029	736021.8	101.15 %		0.484			0.48%
Y RADIAL	5634.3	102.3 %		0.16			0.16%
Ag 328.068†	109520.6	505.73 ug/L		0.759	505.73 ppb	0.759	0.15%
Al 396.153Radial†	6532.6	5200.2 ug/L		18.37	5200.2 ppb	18.37	0.35%
As 188.979†	1173.3	506.04 ug/L		1.932	506.04 ppb	1.932	0.38%
B 249.677†	23155.5	517.48 ug/L		0.347	517.48 ppb	0.347	0.07%
Ba 233.527†	66491.9	516.47 ug/L		0.426	516.47 ppb	0.426	0.08%
Be 313.107†	1354482.3	512.93 ug/L		0.382	512.93 ppb	0.382	0.07%
Ca 317.933Radial†	3211.5	5184.2 ug/L		20.80	5184.2 ppb	20.80	0.40%
Cd 226.502†	45460.6	499.98 ug/L		1.135	499.98 ppb	1.135	0.23%
Co 228.616†	24528.9	497.76 ug/L		1.239	497.76 ppb	1.239	0.25%
Cr 267.716†	45387.1	504.18 ug/L		1.427	504.18 ppb	1.427	0.28%
Cu 324.752†	172641.9	515.00 ug/L		0.941	515.00 ppb	0.941	0.18%
Fe 238.204 Radial†	603.3	5144.7 ug/L		39.49	5144.7 ppb	39.49	0.77%
K 766.490 Radial†	27971.5	5089.3 ug/L		16.02	5089.3 ppb	16.02	0.31%

Mg 279.077 IEC†	158.6	5266.4 ug/L	43.52	5266.4 ppb	43.52	0.83%
Mn 257.610†	466993.0	512.43 ug/L	0.979	512.43 ppb	0.979	0.19%
Mo 202.031†	7210.4	503.57 ug/L	1.997	503.57 ppb	1.997	0.40%
Na 589.592 Radial†	17182.8	4925.5 ug/L	5.92	4925.5 ppb	5.92	0.12%
Ni 231.604†	20404.1	504.64 ug/L	1.473	504.64 ppb	1.473	0.29%
P 214.914†	998.9	479.09 ug/L	3.702	479.09 ppb	3.702	0.77%
Pb 220.353†	4190.6	508.88 ug/L	1.810	508.88 ppb	1.810	0.36%
S 181.975 Axial†	3697.8	5145.1 ug/L	23.72	5145.1 ppb	23.72	0.46%
Sb 206.836†	1510.6	530.42 ug/L	1.268	530.42 ppb	1.268	0.24%
Se 196.026†	777.9	506.91 ug/L	3.303	506.91 ppb	3.303	0.65%
Si 251.611†	203388.5	6432.3 ug/L	12.29	6432.3 ppb	12.29	0.19%
Sn 189.927†	2991.7	522.12 ug/L	3.987	522.12 ppb	3.987	0.76%
Sr 421.552†	77868.6	497.12 ug/L	1.146	497.12 ppb	1.146	0.23%
Ti 334.940†	322084.3	515.60 ug/L	0.699	515.60 ppb	0.699	0.14%
Tl 190.801†	1568.2	477.02 ug/L	4.013	477.02 ppb	4.013	0.84%
U 409.014†	17694.3	519.19 ug/L	0.981	519.19 ppb	0.981	0.19%
V 292.402†	74952.3	515.10 ug/L	0.035	515.10 ppb	0.035	0.01%
Zn 213.857†	52787.1	491.12 ug/L	0.656	491.12 ppb	0.656	0.13%
SiO2†	202778.4	13663 ug/L	90.6	13663 ppb	90.6	0.66%



Sequence No.: 17  
 Sample ID: 1202006006|937469|5  
 Analyst: HSC  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 49  
 Date Collected: 1/12/2010 17:26:29  
 Data Type: Original  
 Initial Sample Vol:  
 Sample Prep Vol:

Replicate Data: 1202006006|937469|5

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5458.6	5458.6	107 %		17:28:22
1	Y RADIAL	5824.0	5824.0	105.8 %		17:28:22
1	Al 396.153Radial†	-2.7	3.6	2.9112 ug/L	2.9112 ppb	17:28:22
1	Ca 317.933Radial†	24.0	3.3	5.3856 ug/L	5.3856 ppb	17:28:42
1	Fe 238.204 Radial†	7.7	-4.3	-36.511 ug/L	-36.511 ppb	17:28:42
1	K 766.490 Radial†	2590.2	-81.6	-14.892 ug/L	-14.892 ppb	17:28:22
1	Mg 279.077 IEC†	1.0	-2.1	-71.013 ug/L	-71.013 ppb	17:28:42
1	Na 589.592 Radial†	-1135.3	243.9	69.903 ug/L	69.903 ppb	17:28:22
1	Sr 421.552†	33.3	21.5	0.1374 ug/L	0.1374 ppb	17:28:22
1	Sc 361.383	896342.7	896342.7	104.46 %		17:29:39
1	Y 371.029	754265.2	754265.2	103.66 %		17:29:39
1	Ag 328.068†	318.7	-52.0	-0.2476 ug/L	-0.2476 ppb	17:29:44
1	As 188.979†	-12.9	11.5	4.9320 ug/L	4.9320 ppb	17:30:04
1	B 249.677†	-288.0	339.4	7.6246 ug/L	7.6246 ppb	17:30:04
1	Ba 233.527†	7.7	16.0	0.1240 ug/L	0.1240 ppb	17:30:04
1	Be 313.107†	-4493.9	172.6	0.0659 ug/L	0.0659 ppb	17:29:44
1	Cd 226.502†	-197.7	12.4	0.1401 ug/L	0.1401 ppb	17:30:04
1	Co 228.616†	-82.2	-1.5	-0.0312 ug/L	-0.0312 ppb	17:30:04
1	Cr 267.716†	67.7	-14.2	-0.1572 ug/L	-0.1572 ppb	17:30:04
1	Cu 324.752†	6554.9	-127.4	-0.3821 ug/L	-0.3821 ppb	17:29:44
1	Mn 257.610†	517.9	66.0	0.0716 ug/L	0.0716 ppb	17:30:04
1	Mo 202.031†	13.9	-8.3	-0.5821 ug/L	-0.5821 ppb	17:30:04
1	Ni 231.604†	78.9	8.5	0.2098 ug/L	0.2098 ppb	17:30:04
1	P 214.914†	230.7	0.5	0.4408 ug/L	0.4408 ppb	17:30:04
1	Pb 220.353†	-55.1	9.4	1.1433 ug/L	1.1433 ppb	17:30:04
1	S 181.975 Axial†	53.0	6.9	9.6166 ug/L	9.6166 ppb	17:30:04
1	Sb 206.836†	23.1	-11.3	-3.8231 ug/L	-3.8231 ppb	17:30:04
1	Se 196.026†	-28.8	4.5	2.7191 ug/L	2.7191 ppb	17:30:04
1	Si 251.611†	9352.4	8492.4	268.85 ug/L	268.85 ppb	17:29:44
1	Sn 189.927†	8.9	6.9	1.2021 ug/L	1.2021 ppb	17:30:04
1	Ti 334.940†	-1185.0	199.8	0.3263 ug/L	0.3263 ppb	17:29:44
1	Tl 190.801†	-22.3	12.7	3.8377 ug/L	3.8377 ppb	17:30:04
1	U 409.014†	-1937.4	9.2	0.2757 ug/L	0.2757 ppb	17:29:39
1	V 292.402†	-1319.3	96.7	0.6519 ug/L	0.6519 ppb	17:29:44
1	Zn 213.857†	712.5	57.4	0.5416 ug/L	0.5416 ppb	17:30:04
1	SiO2†	9445.7	8583.3	578.95 ug/L	578.95 ppb	17:31:10
2	Sc Radial	5400.7	5400.7	105 %		17:28:47
2	Y RADIAL	5738.8	5738.8	104.2 %		17:28:47
2	Al 396.153Radial†	6.4	12.2	9.7997 ug/L	9.7997 ppb	17:28:47
2	Ca 317.933Radial†	23.8	3.3	5.3434 ug/L	5.3434 ppb	17:29:07
2	Fe 238.204 Radial†	11.9	-0.3	-2.2495 ug/L	-2.2495 ppb	17:29:07
2	K 766.490 Radial†	2812.4	155.1	28.223 ug/L	28.223 ppb	17:28:47
2	Mg 279.077 IEC†	1.7	-1.4	-46.877 ug/L	-46.877 ppb	17:29:07
2	Na 589.592 Radial†	-1120.2	246.7	70.728 ug/L	70.728 ppb	17:28:47
2	Sr 421.552†	29.7	18.4	0.1177 ug/L	0.1177 ppb	17:28:47
2	Sc 361.383	885203.2	885203.2	103.16 %		17:30:09
2	Y 371.029	746099.2	746099.2	102.53 %		17:30:09
2	Ag 328.068†	282.0	-83.7	-0.3813 ug/L	-0.3813 ppb	17:30:14
2	As 188.979†	-17.3	7.2	3.0642 ug/L	3.0642 ppb	17:30:35
2	B 249.677†	-268.9	354.4	7.9559 ug/L	7.9559 ppb	17:30:35
2	Ba 233.527†	-6.0	2.7	0.0224 ug/L	0.0224 ppb	17:30:35
2	Be 313.107†	-4610.7	5.3	0.0028 ug/L	0.0028 ppb	17:30:14
2	Cd 226.502†	-194.1	13.5	0.1483 ug/L	0.1483 ppb	17:30:35
2	Co 228.616†	-78.3	1.4	0.0262 ug/L	0.0262 ppb	17:30:35
2	Cr 267.716†	70.9	-10.3	-0.1128 ug/L	-0.1128 ppb	17:30:35
2	Cu 324.752†	6654.0	47.6	0.1424 ug/L	0.1424 ppb	17:30:14
2	Mn 257.610†	524.1	78.3	0.0875 ug/L	0.0875 ppb	17:30:35
2	Mo 202.031†	17.1	-5.1	-0.3543 ug/L	-0.3543 ppb	17:30:35
2	Ni 231.604†	84.0	14.4	0.3555 ug/L	0.3555 ppb	17:30:35

2	P 214.914†	234.2	6.7	3.9921 ug/L	3.9921 ppb	17:30:35
2	Pb 220.353†	-62.0	2.1	0.2545 ug/L	0.2545 ppb	17:30:35
2	S 181.975 Axial†	59.7	14.0	19.462 ug/L	19.462 ppb	17:30:35
2	Sb 206.836†	26.2	-8.1	-2.7498 ug/L	-2.7498 ppb	17:30:35
2	Se 196.026†	-32.8	0.2	0.1207 ug/L	0.1207 ppb	17:30:35
2	Si 251.611†	9396.7	8648.0	273.77 ug/L	273.77 ppb	17:30:14
2	Sn 189.927†	2.1	0.4	0.0714 ug/L	0.0714 ppb	17:30:35
2	Ti 334.940†	-1143.8	225.5	0.3659 ug/L	0.3659 ppb	17:30:14
2	Tl 190.801†	-25.7	9.2	2.7754 ug/L	2.7754 ppb	17:30:35
2	U 409.014†	-1950.2	-26.5	-0.7807 ug/L	-0.7807 ppb	17:30:09
2	V 292.402†	-1309.8	90.1	0.6032 ug/L	0.6032 ppb	17:30:14
2	Zn 213.857†	709.0	62.6	0.5854 ug/L	0.5854 ppb	17:30:35
2	SiO2†	9302.0	8557.9	577.23 ug/L	577.23 ppb	17:31:15
3	Sc Radial	5414.7	5414.7	106 %		17:29:13
3	Y RADIAL	5761.7	5761.7	104.7 %		17:29:13
3	Al 396.153Radial†	16.0	21.3	17.053 ug/L	17.053 ppb	17:29:13
3	Ca 317.933Radial†	29.9	9.1	14.620 ug/L	14.620 ppb	17:29:33
3	Fe 238.204 Radial†	11.5	-0.7	-6.1281 ug/L	-6.1281 ppb	17:29:33
3	K 766.490 Radial†	2822.9	158.2	28.782 ug/L	28.782 ppb	17:29:13
3	Mg 279.077 IEC†	1.2	-1.9	-63.217 ug/L	-63.217 ppb	17:29:33
3	Na 589.592 Radial†	-1149.9	221.4	63.464 ug/L	63.464 ppb	17:29:13
3	Sr 421.552†	36.2	24.5	0.1560 ug/L	0.1560 ppb	17:29:13
3	Sc 361.383	896480.2	896480.2	104.48 %		17:30:40
3	Y 371.029	754992.4	754992.4	103.76 %		17:30:40
3	Ag 328.068†	219.2	-147.2	-0.6783 ug/L	-0.6783 ppb	17:30:45
3	As 188.979†	-19.2	5.6	2.3756 ug/L	2.3756 ppb	17:31:05
3	B 249.677†	-283.1	344.1	7.7247 ug/L	7.7247 ppb	17:31:05
3	Ba 233.527†	-32.2	-22.2	-0.1725 ug/L	-0.1725 ppb	17:31:05
3	Be 313.107†	-4538.2	130.9	0.0499 ug/L	0.0499 ppb	17:30:45
3	Cd 226.502†	-189.3	20.4	0.2256 ug/L	0.2256 ppb	17:31:05
3	Co 228.616†	-66.8	13.3	0.2675 ug/L	0.2675 ppb	17:31:05
3	Cr 267.716†	84.7	2.1	0.0224 ug/L	0.0224 ppb	17:31:05
3	Cu 324.752†	6526.9	-155.1	-0.4636 ug/L	-0.4636 ppb	17:30:45
3	Mn 257.610†	502.3	51.0	0.0579 ug/L	0.0579 ppb	17:31:05
3	Mo 202.031†	11.9	-10.3	-0.7177 ug/L	-0.7177 ppb	17:31:05
3	Ni 231.604†	68.3	-1.6	-0.0403 ug/L	-0.0403 ppb	17:31:05
3	P 214.914†	233.2	2.9	1.8726 ug/L	1.8726 ppb	17:31:05
3	Pb 220.353†	-70.0	-4.8	-0.5756 ug/L	-0.5756 ppb	17:31:05
3	S 181.975 Axial†	58.6	12.3	17.064 ug/L	17.064 ppb	17:31:05
3	Sb 206.836†	28.3	-6.4	-2.1726 ug/L	-2.1726 ppb	17:31:05
3	Se 196.026†	-27.8	5.4	3.3821 ug/L	3.3821 ppb	17:31:05
3	Si 251.611†	9301.0	8441.9	267.25 ug/L	267.25 ppb	17:30:45
3	Sn 189.927†	1.7	-0.0	-0.0063 ug/L	-0.0063 ppb	17:31:05
3	Ti 334.940†	-1267.0	121.5	0.2012 ug/L	0.2012 ppb	17:30:45
3	Tl 190.801†	-22.6	12.4	3.7481 ug/L	3.7481 ppb	17:31:05
3	U 409.014†	-1910.8	34.9	1.0291 ug/L	1.0291 ppb	17:30:40
3	V 292.402†	-1422.7	-2.1	-0.0231 ug/L	-0.0231 ppb	17:30:45
3	Zn 213.857†	715.3	60.0	0.5643 ug/L	0.5643 ppb	17:31:05
3	SiO2†	9411.1	8548.8	576.63 ug/L	576.63 ppb	17:31:20

Mean Data: 1202006006|937469|5

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	892675.4	104.03 %		0.754			0.72%
Sc Radial	5424.7	106 %		0.6			0.56%
Y 371.029	751785.6	103.31 %		0.679			0.66%
Y RADIAL	5774.8	104.9 %		0.80			0.76%
Ag 328.068†	-94.3	-0.4357 ug/L		0.22047	-0.4357 ppb	0.22047	50.60%
Al 396.153Radial†	12.4	9.9212 ug/L		7.07146	9.9212 ppb	7.07146	71.28%
As 188.979†	8.1	3.4573 ug/L		1.32274	3.4573 ppb	1.32274	38.26%
B 249.677†	346.0	7.7684 ug/L		0.16993	7.7684 ppb	0.16993	2.19%
Ba 233.527†	-1.2	-0.0087 ug/L		0.15068	-0.0087 ppb	0.15068	>999.9%
Be 313.107†	102.9	0.0396 ug/L		0.03281	0.0396 ppb	0.03281	82.96%
Ca 317.933Radial†	5.2	8.4496 ug/L		5.34362	8.4496 ppb	5.34362	63.24%
Cd 226.502†	15.4	0.1713 ug/L		0.04715	0.1713 ppb	0.04715	27.52%
Co 228.616†	4.4	0.0875 ug/L		0.15848	0.0875 ppb	0.15848	181.13%
Cr 267.716†	-7.5	-0.0825 ug/L		0.09357	-0.0825 ppb	0.09357	113.39%
Cu 324.752†	-78.3	-0.2344 ug/L		0.32888	-0.2344 ppb	0.32888	140.28%
Fe 238.204 Radial†	-1.8	-14.963 ug/L		18.7616	-14.963 ppb	18.7616	125.39%
K 766.490 Radial†	77.2	14.038 ug/L		25.0551	14.038 ppb	25.0551	178.48%

Mg 279.077 IEC†	-1.8	-60.369 ug/L	12.3176	-60.369 ppb	12.3176	20.40%
Mn 257.610†	65.1	0.0723 ug/L	0.01483	0.0723 ppb	0.01483	20.50%
Mo 202.031†	-7.9	-0.5514 ug/L	0.18363	-0.5514 ppb	0.18363	33.30%
Na 589.592 Radial†	237.3	68.032 ug/L	3.9774	68.032 ppb	3.9774	5.85%
Ni 231.604†	7.1	0.1750 ug/L	0.20018	0.1750 ppb	0.20018	114.37%
P 214.914†	3.4	2.1018 ug/L	1.78671	2.1018 ppb	1.78671	85.01%
Pb 220.353†	2.2	0.2741 ug/L	0.85961	0.2741 ppb	0.85961	313.63%
S 181.975 Axial†	11.1	15.381 ug/L	5.1339	15.381 ppb	5.1339	33.38%
Sb 206.836†	-8.6	-2.9152 ug/L	0.83758	-2.9152 ppb	0.83758	28.73%
Se 196.026†	3.4	2.0739 ug/L	1.72377	2.0739 ppb	1.72377	83.12%
Si 251.611†	8527.4	269.95 ug/L	3.399	269.95 ppb	3.399	1.26%
Sn 189.927†	2.4	0.4224 ug/L	0.67635	0.4224 ppb	0.67635	160.11%
Sr 421.552†	21.5	0.1370 ug/L	0.01915	0.1370 ppb	0.01915	13.98%
Ti 334.940†	182.2	0.2978 ug/L	0.08601	0.2978 ppb	0.08601	28.88%
Tl 190.801†	11.4	3.4538 ug/L	0.58918	3.4538 ppb	0.58918	17.06%
U 409.014†	5.9	0.1747 ug/L	0.90910	0.1747 ppb	0.90910	520.33%
V 292.402†	61.6	0.4107 ug/L	0.37645	0.4107 ppb	0.37645	91.67%
Zn 213.857†	60.0	0.5638 ug/L	0.02188	0.5638 ppb	0.02188	3.88%
SiO2†	8563.3	577.60 ug/L	1.206	577.60 ppb	1.206	0.21%

Sequence No.: 18

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 1/12/2010 17:33:32

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	5136.5	5136.5	100 %		17:35:24
1	Y RADIAL	5441.1	5441.1	98.83 %		17:35:24
1	Al 396.153Radial†	6580.9	6567.2	5227.4 ug/L	5227.4 ppb	17:35:24
1	Ca 317.933Radial†	3252.5	3223.4	5203.4 ug/L	5203.4 ppb	17:35:44
1	Fe 238.204 Radial†	623.0	609.6	5198.6 ug/L	5198.6 ppb	17:35:44
1	K 766.490 Radial†	30109.1	27506.4	5002.7 ug/L	5002.7 ppb	17:35:24
1	Mg 279.077 IEC†	162.9	159.3	5290.9 ug/L	5290.9 ppb	17:35:44
1	Na 589.592 Radial†	32766.4	33976.0	9739.2 ug/L	9739.2 ppb	17:35:24
1	Sr 421.552†	78723.0	78474.9	500.99 ug/L	500.99 ppb	17:35:24
1	Sc 361.383	849021.6	849021.6	98.945 %		17:36:43
1	Y 371.029	704216.6	704216.6	96.778 %		17:36:43
1	Ag 328.068†	110165.7	110983.0	512.46 ug/L	512.46 ppb	17:36:43
1	As 188.979†	1159.7	1196.0	515.71 ug/L	515.71 ppb	17:37:03
1	B 249.677†	21531.6	22376.3	499.95 ug/L	499.95 ppb	17:36:43
1	Ba 233.527†	64856.8	65556.7	509.21 ug/L	509.21 ppb	17:36:43
1	Be 313.107†	1337219.6	1355948.0	513.47 ug/L	513.47 ppb	17:36:43
1	Cd 226.502†	45681.0	46369.5	509.97 ug/L	509.97 ppb	17:36:43
1	Co 228.616†	24685.2	25025.5	507.86 ug/L	507.86 ppb	17:37:03
1	Cr 267.716†	45243.7	45647.0	507.07 ug/L	507.07 ppb	17:36:43
1	Cu 324.752†	174798.3	170259.1	507.91 ug/L	507.91 ppb	17:36:43
1	Mn 257.610†	459753.1	464223.9	509.40 ug/L	509.40 ppb	17:36:43
1	Mo 202.031†	7291.7	7347.8	513.16 ug/L	513.16 ppb	17:37:03
1	Ni 231.604†	20374.0	20524.2	507.60 ug/L	507.60 ppb	17:37:03
1	P 214.914†	4416.5	4243.3	2428.4 ug/L	2428.4 ppb	17:37:03
1	Pb 220.353†	4126.5	4232.7	514.00 ug/L	514.00 ppb	17:37:03
1	S 181.975 Axial†	773.3	737.6	1025.5 ug/L	1025.5 ppb	17:37:03
1	Sb 206.836†	1493.2	1475.7	518.59 ug/L	518.59 ppb	17:37:03
1	Se 196.026†	776.4	816.7	531.54 ug/L	531.54 ppb	17:37:03
1	Si 251.611†	80363.4	80759.4	2550.2 ug/L	2550.2 ppb	17:36:43
1	Sn 189.927†	2895.4	2924.6	510.42 ug/L	510.42 ppb	17:37:03
1	Ti 334.940†	315537.6	320235.1	512.65 ug/L	512.65 ppb	17:36:43
1	Tl 190.801†	1602.7	1653.9	502.83 ug/L	502.83 ppb	17:37:03
1	U 409.014†	14822.3	16844.2	494.15 ug/L	494.15 ppb	17:36:43
1	V 292.402†	72212.9	74342.3	511.05 ug/L	511.05 ppb	17:36:43
1	Zn 213.857†	54595.4	54552.7	507.68 ug/L	507.68 ppb	17:36:43
1	SiO2†	81975.0	82389.8	5543.1 ug/L	5543.1 ppb	17:38:03
2	Sc Radial	5164.2	5164.2	101 %		17:35:49
2	Y RADIAL	5458.1	5458.1	99.14 %		17:35:49
2	Al 396.153Radial†	6512.3	6464.0	5144.9 ug/L	5144.9 ppb	17:35:49
2	Ca 317.933Radial†	3244.8	3198.4	5163.1 ug/L	5163.1 ppb	17:36:09
2	Fe 238.204 Radial†	621.8	605.0	5159.7 ug/L	5159.7 ppb	17:36:09
2	K 766.490 Radial†	29989.7	27227.0	4951.9 ug/L	4951.9 ppb	17:35:49
2	Mg 279.077 IEC†	165.5	161.1	5350.0 ug/L	5350.0 ppb	17:36:09
2	Na 589.592 Radial†	32721.9	33756.8	9676.4 ug/L	9676.4 ppb	17:35:49
2	Sr 421.552†	78306.2	77640.7	495.66 ug/L	495.66 ppb	17:35:49
2	Sc 361.383	855400.2	855400.2	99.689 %		17:37:10
2	Y 371.029	710715.4	710715.4	97.671 %		17:37:10
2	Ag 328.068†	111443.6	111434.6	514.53 ug/L	514.53 ppb	17:37:10
2	As 188.979†	1172.7	1200.3	517.59 ug/L	517.59 ppb	17:37:30
2	B 249.677†	21995.1	22678.9	506.75 ug/L	506.75 ppb	17:37:10
2	Ba 233.527†	65387.7	65600.5	509.56 ug/L	509.56 ppb	17:37:10
2	Be 313.107†	1358094.3	1366810.1	517.58 ug/L	517.58 ppb	17:37:10
2	Cd 226.502†	46136.3	46482.0	511.22 ug/L	511.22 ppb	17:37:10
2	Co 228.616†	24800.2	24954.9	506.43 ug/L	506.43 ppb	17:37:30
2	Cr 267.716†	45754.7	45818.6	508.97 ug/L	508.97 ppb	17:37:10
2	Cu 324.752†	177366.8	171518.3	511.65 ug/L	511.65 ppb	17:37:10
2	Mn 257.610†	464392.0	465412.5	510.69 ug/L	510.69 ppb	17:37:10
2	Mo 202.031†	7341.1	7342.4	512.78 ug/L	512.78 ppb	17:37:30
2	Ni 231.604†	20523.0	20520.0	507.50 ug/L	507.50 ppb	17:37:30

2	P 214.914†	4452.7	4246.3	2429.4 ug/L	2429.4 ppb	17:37:30
2	Pb 220.353†	4166.1	4241.3	515.02 ug/L	515.02 ppb	17:37:30
2	S 181.975 Axial†	774.0	732.6	1018.5 ug/L	1018.5 ppb	17:37:30
2	Sb 206.836†	1518.1	1489.4	523.27 ug/L	523.27 ppb	17:37:30
2	Se 196.026†	780.3	814.8	530.26 ug/L	530.26 ppb	17:37:30
2	Si 251.611†	81273.1	81066.2	2559.9 ug/L	2559.9 ppb	17:37:10
2	Sn 189.927†	2934.7	2942.2	513.48 ug/L	513.48 ppb	17:37:30
2	Ti 334.940†	319169.0	321499.9	514.66 ug/L	514.66 ppb	17:37:10
2	Tl 190.801†	1624.4	1663.6	505.76 ug/L	505.76 ppb	17:37:30
2	U 409.014†	15288.0	17199.6	504.61 ug/L	504.61 ppb	17:37:10
2	V 292.402†	73417.5	75006.5	515.57 ug/L	515.57 ppb	17:37:10
2	Zn 213.857†	55168.9	54716.5	509.21 ug/L	509.21 ppb	17:37:10
2	SiO2†	80928.5	80722.2	5430.6 ug/L	5430.6 ppb	17:38:08
3	Sc Radial	5027.3	5027.3	98.2 %		17:36:14
3	Y RADIAL	5322.0	5322.0	96.67 %		17:36:14
3	Al 396.153Radial†	6385.2	6510.3	5182.0 ug/L	5182.0 ppb	17:36:14
3	Ca 317.933Radial†	3244.1	3285.3	5303.3 ug/L	5303.3 ppb	17:36:34
3	Fe 238.204 Radial†	618.7	618.7	5275.6 ug/L	5275.6 ppb	17:36:34
3	K 766.490 Radial†	29499.0	27536.9	5008.3 ug/L	5008.3 ppb	17:36:14
3	Mg 279.077 IEC†	161.6	161.6	5366.6 ug/L	5366.6 ppb	17:36:34
3	Na 589.592 Radial†	31956.2	33860.2	9706.1 ug/L	9706.1 ppb	17:36:14
3	Sr 421.552†	76563.2	77979.4	497.82 ug/L	497.82 ppb	17:36:14
3	Sc 361.383	857948.8	857948.8	99.986 %		17:37:38
3	Y 371.029	712746.3	712746.3	97.950 %		17:37:38
3	Ag 328.068†	111500.6	111159.5	513.31 ug/L	513.31 ppb	17:37:38
3	As 188.979†	1171.9	1196.0	515.77 ug/L	515.77 ppb	17:37:58
3	B 249.677†	22056.6	22674.8	506.64 ug/L	506.64 ppb	17:37:38
3	Ba 233.527†	65584.7	65602.7	509.58 ug/L	509.58 ppb	17:37:38
3	Be 313.107†	1359041.9	1363711.0	516.41 ug/L	516.41 ppb	17:37:38
3	Cd 226.502†	46368.9	46577.2	512.25 ug/L	512.25 ppb	17:37:38
3	Co 228.616†	24850.7	24931.5	505.95 ug/L	505.95 ppb	17:37:58
3	Cr 267.716†	45890.5	45818.1	508.97 ug/L	508.97 ppb	17:37:38
3	Cu 324.752†	177085.8	170708.8	509.25 ug/L	509.25 ppb	17:37:38
3	Mn 257.610†	465154.5	464791.3	510.02 ug/L	510.02 ppb	17:37:38
3	Mo 202.031†	7323.2	7302.6	510.02 ug/L	510.02 ppb	17:37:58
3	Ni 231.604†	20566.9	20502.8	507.07 ug/L	507.07 ppb	17:37:58
3	P 214.914†	4470.2	4250.5	2432.3 ug/L	2432.3 ppb	17:37:58
3	Pb 220.353†	4163.3	4226.1	513.17 ug/L	513.17 ppb	17:37:58
3	S 181.975 Axial†	785.9	742.1	1031.8 ug/L	1031.8 ppb	17:37:58
3	Sb 206.836†	1520.7	1487.4	522.50 ug/L	522.50 ppb	17:37:58
3	Se 196.026†	787.5	819.7	533.65 ug/L	533.65 ppb	17:37:58
3	Si 251.611†	81250.6	80801.6	2551.6 ug/L	2551.6 ppb	17:37:38
3	Sn 189.927†	2924.5	2923.2	510.20 ug/L	510.20 ppb	17:37:58
3	Ti 334.940†	319649.4	321029.3	513.93 ug/L	513.93 ppb	17:37:38
3	Tl 190.801†	1630.8	1665.1	506.23 ug/L	506.23 ppb	17:37:58
3	U 409.014†	15057.9	16924.0	496.48 ug/L	496.48 ppb	17:37:38
3	V 292.402†	73542.0	74912.2	514.86 ug/L	514.86 ppb	17:37:38
3	Zn 213.857†	55329.5	54712.8	509.17 ug/L	509.17 ppb	17:37:38
3	SiO2†	81001.5	80554.1	5419.4 ug/L	5419.4 ppb	17:38:14

## Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	854123.5	99.540 %	0.5359			0.54%
Sc Radial	5109.3	99.8 %	1.41			1.42%
Y 371.029	709226.1	97.466 %	0.6123			0.63%
Y RADIAL	5407.1	98.21 %	1.347			1.37%
Ag 328.068†	111192.3	513.43 ug/L	1.041	513.43 ppb	1.041	0.20%
QC value within limits for Ag 328.068 Recovery = 102.69%						
Al 396.153Radial†	6513.8	5184.7 ug/L	41.33	5184.7 ppb	41.33	0.80%
QC value within limits for Al 396.153Radial Recovery = 103.69%						
As 188.979†	1197.4	516.35 ug/L	1.068	516.35 ppb	1.068	0.21%
QC value within limits for As 188.979 Recovery = 103.27%						
B 249.677†	22576.7	504.45 ug/L	3.897	504.45 ppb	3.897	0.77%
QC value within limits for B 249.677 Recovery = 100.89%						
Ba 233.527†	65586.6	509.45 ug/L	0.207	509.45 ppb	0.207	0.04%
QC value within limits for Ba 233.527 Recovery = 101.89%						
Be 313.107†	1362156.4	515.82 ug/L	2.116	515.82 ppb	2.116	0.41%
QC value within limits for Be 313.107 Recovery = 103.16%						
Ca 317.933Radial†	3235.7	5223.3 ug/L	72.20	5223.3 ppb	72.20	1.38%

QC value within limits for Ca 317.933 Radial Recovery = 104.47%							
Cd	226.502†	46476.3	511.15 ug/L	1.140	511.15 ppb	1.140	0.22%
QC value within limits for Cd 226.502 Recovery = 102.23%							
Co	228.616†	24970.7	506.75 ug/L	0.999	506.75 ppb	0.999	0.20%
QC value within limits for Co 228.616 Recovery = 101.35%							
Cr	267.716†	45761.3	508.34 ug/L	1.100	508.34 ppb	1.100	0.22%
QC value within limits for Cr 267.716 Recovery = 101.67%							
Cu	324.752†	170828.7	509.60 ug/L	1.899	509.60 ppb	1.899	0.37%
QC value within limits for Cu 324.752 Recovery = 101.92%							
Fe	238.204 Radial†	611.1	5211.3 ug/L	58.99	5211.3 ppb	58.99	1.13%
QC value within limits for Fe 238.204 Radial Recovery = 104.23%							
K	766.490 Radial†	27423.4	4987.6 ug/L	31.08	4987.6 ppb	31.08	0.62%
QC value within limits for K 766.490 Radial Recovery = 99.75%							
Mg	279.077 IEC†	160.7	5335.9 ug/L	39.82	5335.9 ppb	39.82	0.75%
QC value within limits for Mg 279.077 IEC Recovery = 106.72%							
Mn	257.610†	464809.2	510.04 ug/L	0.649	510.04 ppb	0.649	0.13%
QC value within limits for Mn 257.610 Recovery = 102.01%							
Mo	202.031†	7330.9	511.99 ug/L	1.716	511.99 ppb	1.716	0.34%
QC value within limits for Mo 202.031 Recovery = 102.40%							
Na	589.592 Radial†	33864.3	9707.2 ug/L	31.44	9707.2 ppb	31.44	0.32%
QC value within limits for Na 589.592 Radial Recovery = 97.07%							
Ni	231.604†	20515.7	507.39 ug/L	0.280	507.39 ppb	0.280	0.06%
QC value within limits for Ni 231.604 Recovery = 101.48%							
P	214.914†	4246.7	2430.0 ug/L	2.05	2430.0 ppb	2.05	0.08%
QC value within limits for P 214.914 Recovery = 97.20%							
Pb	220.353†	4233.4	514.06 ug/L	0.928	514.06 ppb	0.928	0.18%
QC value within limits for Pb 220.353 Recovery = 102.81%							
S	181.975 Axial†	737.4	1025.3 ug/L	6.62	1025.3 ppb	6.62	0.65%
QC value within limits for S 181.975 Axial Recovery = 102.53%							
Sb	206.836†	1484.2	521.46 ug/L	2.512	521.46 ppb	2.512	0.48%
QC value within limits for Sb 206.836 Recovery = 104.29%							
Se	196.026†	817.1	531.82 ug/L	1.712	531.82 ppb	1.712	0.32%
QC value within limits for Se 196.026 Recovery = 106.36%							
Si	251.611†	80875.7	2553.9 ug/L	5.26	2553.9 ppb	5.26	0.21%
QC value within limits for Si 251.611 Recovery = 102.16%							
Sn	189.927†	2930.0	511.37 ug/L	1.835	511.37 ppb	1.835	0.36%
QC value within limits for Sn 189.927 Recovery = 102.27%							
Sr	421.552†	78031.7	498.16 ug/L	2.678	498.16 ppb	2.678	0.54%
QC value within limits for Sr 421.552 Recovery = 99.63%							
Ti	334.940†	320921.4	513.75 ug/L	1.017	513.75 ppb	1.017	0.20%
QC value within limits for Ti 334.940 Recovery = 102.75%							
Tl	190.801†	1660.9	504.94 ug/L	1.845	504.94 ppb	1.845	0.37%
QC value within limits for Tl 190.801 Recovery = 100.99%							
U	409.014†	16989.3	498.41 ug/L	5.492	498.41 ppb	5.492	1.10%
QC value within limits for U 409.014 Recovery = 99.68%							
V	292.402†	74753.7	513.83 ug/L	2.431	513.83 ppb	2.431	0.47%
QC value within limits for V 292.402 Recovery = 102.77%							
Zn	213.857†	54660.7	508.69 ug/L	0.876	508.69 ppb	0.876	0.17%
QC value within limits for Zn 213.857 Recovery = 101.74%							
SiO2†		81222.0	5464.4 ug/L	68.41	5464.4 ppb	68.41	1.25%
QC value within limits for SiO2 Recovery = 102.19%							

All analyte(s) passed QC.

Sequence No.: 19  
 Sample ID: CCB  
 Analyst:  
 Initial Sample Wt:  
 Dilution:

Autosampler Location: 6  
 Date Collected: 1/12/2010 17:40:23  
 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	5050.4	5050.4	98.6 %		17:42:15
1	Y RADIAL	5387.0	5387.0	97.85 %		17:42:15
1	Al 396.153Radial†	6.3	12.5	10.052 ug/L	10.052 ppb	17:42:15
1	Ca 317.933Radial†	14.5	-4.5	-7.2003 ug/L	-7.2003 ppb	17:42:35
1	Fe 238.204 Radial†	11.7	0.4	3.0254 ug/L	3.0254 ppb	17:42:35
1	K 766.490 Radial†	2689.2	215.3	39.205 ug/L	39.205 ppb	17:42:15
1	Mg 279.077 IEC†	3.9	0.9	30.276 ug/L	30.276 ppb	17:42:35
1	Na 589.592 Radial†	-1312.4	-21.9	-6.2708 ug/L	-6.2708 ppb	17:42:15
1	Sr 421.552†	7.6	-2.0	-0.0128 ug/L	-0.0128 ppb	17:42:15
1	Sc 361.383	904505.5	904505.5	105.41 %		17:43:32
1	Y 371.029	762654.1	762654.1	104.81 %		17:43:32
1	Ag 328.068†	381.5	4.9	0.0227 ug/L	0.0227 ppb	17:43:37
1	As 188.979†	-23.9	1.2	0.5297 ug/L	0.5297 ppb	17:43:57
1	B 249.677†	-387.4	247.6	5.5566 ug/L	5.5566 ppb	17:43:57
1	Ba 233.527†	-19.1	-9.6	-0.0725 ug/L	-0.0725 ppb	17:43:57
1	Be 313.107†	-4492.9	212.4	0.0805 ug/L	0.0805 ppb	17:43:37
1	Cd 226.502†	-182.1	28.9	0.3182 ug/L	0.3182 ppb	17:43:57
1	Co 228.616†	-73.5	7.5	0.1507 ug/L	0.1507 ppb	17:43:57
1	Cr 267.716†	70.9	-11.7	-0.1303 ug/L	-0.1303 ppb	17:43:57
1	Cu 324.752†	6453.8	-279.9	-0.8376 ug/L	-0.8376 ppb	17:43:37
1	Mn 257.610†	416.5	-34.7	-0.0390 ug/L	-0.0390 ppb	17:43:57
1	Mo 202.031†	17.5	-5.1	-0.3524 ug/L	-0.3524 ppb	17:43:57
1	Ni 231.604†	70.6	-0.0	-0.0009 ug/L	-0.0009 ppb	17:43:57
1	P 214.914†	231.8	-0.4	-0.0333 ug/L	-0.0333 ppb	17:43:57
1	Pb 220.353†	-58.1	7.1	0.8591 ug/L	0.8591 ppb	17:43:57
1	S 181.975 Axial†	58.2	11.4	15.802 ug/L	15.802 ppb	17:43:57
1	Sb 206.836†	37.1	1.8	0.6236 ug/L	0.6236 ppb	17:43:57
1	Se 196.026†	-30.8	2.9	1.8069 ug/L	1.8069 ppb	17:43:57
1	Si 251.611†	487.2	1.5	0.0525 ug/L	0.0525 ppb	17:43:57
1	Sn 189.927†	14.8	12.4	2.1503 ug/L	2.1503 ppb	17:43:57
1	Ti 334.940†	-1324.2	77.9	0.1192 ug/L	0.1192 ppb	17:43:37
1	Tl 190.801†	-29.4	6.2	1.8751 ug/L	1.8751 ppb	17:43:57
1	U 409.014†	-1789.8	166.0	4.8862 ug/L	4.8862 ppb	17:43:32
1	V 292.402†	-1317.8	109.6	0.7470 ug/L	0.7470 ppb	17:43:37
1	Zn 213.857†	644.9	-12.9	-0.1203 ug/L	-0.1203 ppb	17:43:57
1	SiO2†	487.3	3.2	0.2280 ug/L	0.2280 ppb	17:45:03
2	Sc Radial	4831.2	4831.2	94.3 %		17:42:40
2	Y RADIAL	5221.0	5221.0	94.83 %		17:42:40
2	Al 396.153Radial†	3.5	9.9	7.8761 ug/L	7.8761 ppb	17:42:40
2	Ca 317.933Radial†	13.2	-5.2	-8.3508 ug/L	-8.3508 ppb	17:43:00
2	Fe 238.204 Radial†	9.7	-1.3	-11.190 ug/L	-11.190 ppb	17:43:00
2	K 766.490 Radial†	2635.3	281.8	51.332 ug/L	51.332 ppb	17:42:40
2	Mg 279.077 IEC†	0.9	-2.1	-68.277 ug/L	-68.277 ppb	17:43:00
2	Na 589.592 Radial†	-1288.1	-56.5	-16.184 ug/L	-16.184 ppb	17:42:40
2	Sr 421.552†	31.9	24.0	0.1534 ug/L	0.1534 ppb	17:42:40
2	Sc 361.383	881522.3	881522.3	102.73 %		17:44:02
2	Y 371.029	746169.7	746169.7	102.54 %		17:44:02
2	Ag 328.068†	356.5	-10.1	-0.0483 ug/L	-0.0483 ppb	17:44:07
2	As 188.979†	-25.2	-0.6	-0.2438 ug/L	-0.2438 ppb	17:44:27
2	B 249.677†	-453.1	174.0	3.9068 ug/L	3.9068 ppb	17:44:27
2	Ba 233.527†	-23.8	-14.5	-0.1122 ug/L	-0.1122 ppb	17:44:27
2	Be 313.107†	-4462.2	131.1	0.0497 ug/L	0.0497 ppb	17:44:07
2	Cd 226.502†	-193.0	13.7	0.1524 ug/L	0.1524 ppb	17:44:27
2	Co 228.616†	-62.8	16.1	0.3278 ug/L	0.3278 ppb	17:44:27
2	Cr 267.716†	88.8	7.5	0.0833 ug/L	0.0833 ppb	17:44:27
2	Cu 324.752†	6361.8	-209.9	-0.6269 ug/L	-0.6269 ppb	17:44:07
2	Mn 257.610†	420.2	-20.8	-0.0211 ug/L	-0.0211 ppb	17:44:27
2	Mo 202.031†	26.6	4.2	0.2931 ug/L	0.2931 ppb	17:44:27
2	Ni 231.604†	70.2	1.3	0.0328 ug/L	0.0328 ppb	17:44:27

2	P 214.914†	223.8	-2.5	-1.3211 ug/L	-1.3211 ppb	17:44:27
2	Pb 220.353†	-55.6	8.1	0.9828 ug/L	0.9828 ppb	17:44:27
2	S 181.975 Axial†	45.7	0.6	0.8879 ug/L	0.8879 ppb	17:44:27
2	Sb 206.836†	40.4	5.9	2.0154 ug/L	2.0154 ppb	17:44:27
2	Se 196.026†	-24.2	8.5	5.3056 ug/L	5.3056 ppb	17:44:27
2	Si 251.611†	491.5	17.7	0.5582 ug/L	0.5582 ppb	17:44:27
2	Sn 189.927†	6.1	4.3	0.7396 ug/L	0.7396 ppb	17:44:27
2	Ti 334.940†	-1327.2	42.3	0.0719 ug/L	0.0719 ppb	17:44:07
2	Tl 190.801†	-19.8	14.8	4.4751 ug/L	4.4751 ppb	17:44:27
2	U 409.014†	-1899.3	15.1	0.4453 ug/L	0.4453 ppb	17:44:02
2	V 292.402†	-1337.9	57.4	0.3946 ug/L	0.3946 ppb	17:44:07
2	Zn 213.857†	637.6	-4.0	-0.0357 ug/L	-0.0357 ppb	17:44:27
2	SiO2†	542.4	68.9	4.6424 ug/L	4.6424 ppb	17:45:08
3	Sc Radial	5248.9	5248.9	102 %		17:43:05
3	Y RADIAL	5624.0	5624.0	102.2 %		17:43:05
3	Al 396.153Radial†	-3.8	2.5	2.0017 ug/L	2.0017 ppb	17:43:05
3	Ca 317.933Radial†	18.8	-0.8	-1.3525 ug/L	-1.3525 ppb	17:43:25
3	Fe 238.204 Radial†	10.0	-1.8	-15.108 ug/L	-15.108 ppb	17:43:25
3	K 766.490 Radial†	2706.3	128.8	23.451 ug/L	23.451 ppb	17:43:05
3	Mg 279.077 IEC†	1.5	-1.6	-51.823 ug/L	-51.823 ppb	17:43:25
3	Na 589.592 Radial†	-1276.1	63.9	18.308 ug/L	18.308 ppb	17:43:05
3	Sr 421.552†	6.4	-3.5	-0.0226 ug/L	-0.0226 ppb	17:43:05
3	Sc 361.383	887100.9	887100.9	103.38 %		17:44:32
3	Y 371.029	750211.5	750211.5	103.10 %		17:44:32
3	Ag 328.068†	345.2	-23.2	-0.1088 ug/L	-0.1088 ppb	17:44:37
3	As 188.979†	-21.4	3.3	1.3974 ug/L	1.3974 ppb	17:44:57
3	B 249.677†	-412.0	216.6	4.8645 ug/L	4.8645 ppb	17:44:57
3	Ba 233.527†	-20.9	-11.7	-0.0908 ug/L	-0.0908 ppb	17:44:57
3	Be 313.107†	-4514.0	108.4	0.0413 ug/L	0.0413 ppb	17:44:37
3	Cd 226.502†	-194.6	13.4	0.1480 ug/L	0.1480 ppb	17:44:57
3	Co 228.616†	-77.9	1.9	0.0380 ug/L	0.0380 ppb	17:44:57
3	Cr 267.716†	83.8	2.1	0.0245 ug/L	0.0245 ppb	17:44:57
3	Cu 324.752†	6467.6	-146.5	-0.4361 ug/L	-0.4361 ppb	17:44:37
3	Mn 257.610†	418.0	-25.5	-0.0273 ug/L	-0.0273 ppb	17:44:57
3	Mo 202.031†	17.1	-5.1	-0.3550 ug/L	-0.3550 ppb	17:44:57
3	Ni 231.604†	57.3	-11.6	-0.2871 ug/L	-0.2871 ppb	17:44:57
3	P 214.914†	231.8	3.9	2.4672 ug/L	2.4672 ppb	17:44:57
3	Pb 220.353†	-57.2	6.8	0.8276 ug/L	0.8276 ppb	17:44:57
3	S 181.975 Axial†	48.5	3.1	4.2674 ug/L	4.2674 ppb	17:44:57
3	Sb 206.836†	40.0	5.3	1.7777 ug/L	1.7777 ppb	17:44:57
3	Se 196.026†	-28.5	4.5	2.7927 ug/L	2.7927 ppb	17:44:57
3	Si 251.611†	481.3	4.9	0.1590 ug/L	0.1590 ppb	17:44:57
3	Sn 189.927†	1.7	-0.0	-0.0038 ug/L	-0.0038 ppb	17:44:57
3	Ti 334.940†	-1289.3	87.0	0.1447 ug/L	0.1447 ppb	17:44:37
3	Tl 190.801†	-19.4	15.3	4.6263 ug/L	4.6263 ppb	17:44:57
3	U 409.014†	-2034.3	-103.9	-3.0568 ug/L	-3.0568 ppb	17:44:32
3	V 292.402†	-1407.4	-1.6	-0.0205 ug/L	-0.0205 ppb	17:44:37
3	Zn 213.857†	637.9	-7.7	-0.0682 ug/L	-0.0682 ppb	17:44:57
3	SiO2†	509.5	33.8	2.2893 ug/L	2.2893 ppb	17:45:13

## Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	891042.9	103.84 %	1.397			1.35%
Sc Radial	5043.5	98.5 %	4.08			4.14%
Y 371.029	753011.8	103.48 %	1.181			1.14%
Y RADIAL	5410.7	98.28 %	3.679			3.74%
Ag 328.068†	-9.5	-0.0448 ug/L	0.06581	-0.0448 ppb	0.06581	146.98%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	8.3	6.6431 ug/L	4.16422	6.6431 ppb	4.16422	62.68%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	1.3	0.5611 ug/L	0.82104	0.5611 ppb	0.82104	146.32%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	212.7	4.7760 ug/L	0.82848	4.7760 ppb	0.82848	17.35%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-11.9	-0.0918 ug/L	0.01986	-0.0918 ppb	0.01986	21.63%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	150.7	0.0572 ug/L	0.02068	0.0572 ppb	0.02068	36.18%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-3.5	-5.6346 ug/L	3.75269	-5.6346 ppb	3.75269	66.60%



QC value within limits for Ca 317.933 Radial Recovery = Not calculated									
Cd	226.502†	18.7	0.2062 ug/L	0.09703	0.2062 ppb	0.09703	47.06%		
QC value within limits for Cd 226.502 Recovery = Not calculated									
Co	228.616†	8.5	0.1722 ug/L	0.14611	0.1722 ppb	0.14611	84.86%		
QC value within limits for Co 228.616 Recovery = Not calculated									
Cr	267.716†	-0.7	-0.0075 ug/L	0.11031	-0.0075 ppb	0.11031	>999.9%		
QC value within limits for Cr 267.716 Recovery = Not calculated									
Cu	324.752†	-212.1	-0.6335 ug/L	0.20082	-0.6335 ppb	0.20082	31.70%		
QC value within limits for Cu 324.752 Recovery = Not calculated									
Fe	238.204 Radial†	-0.9	-7.7575 ug/L	9.54148	-7.7575 ppb	9.54148	123.00%		
QC value within limits for Fe 238.204 Radial Recovery = Not calculated									
K	766.490 Radial†	208.6	37.996 ug/L	13.9798	37.996 ppb	13.9798	36.79%		
QC value within limits for K 766.490 Radial Recovery = Not calculated									
Mg	279.077 IEC†	-0.9	-29.941 ug/L	52.7948	-29.941 ppb	52.7948	176.33%		
QC value within limits for Mg 279.077 IEC Recovery = Not calculated									
Mn	257.610†	-27.0	-0.0291 ug/L	0.00906	-0.0291 ppb	0.00906	31.09%		
QC value within limits for Mn 257.610 Recovery = Not calculated									
Mo	202.031†	-2.0	-0.1381 ug/L	0.37343	-0.1381 ppb	0.37343	270.40%		
QC value within limits for Mo 202.031 Recovery = Not calculated									
Na	589.592 Radial†	-4.8	-1.3822 ug/L	17.75775	-1.3822 ppb	17.75775	>999.9%		
QC value within limits for Na 589.592 Radial Recovery = Not calculated									
Ni	231.604†	-3.4	-0.0851 ug/L	0.17577	-0.0851 ppb	0.17577	206.59%		
QC value within limits for Ni 231.604 Recovery = Not calculated									
P	214.914†	0.3	0.3709 ug/L	1.92623	0.3709 ppb	1.92623	519.28%		
QC value within limits for P 214.914 Recovery = Not calculated									
Pb	220.353†	7.3	0.8898 ug/L	0.08204	0.8898 ppb	0.08204	9.22%		
QC value within limits for Pb 220.353 Recovery = Not calculated									
S	181.975 Axial†	5.0	6.9857 ug/L	7.81975	6.9857 ppb	7.81975	111.94%		
QC value within limits for S 181.975 Axial Recovery = Not calculated									
Sb	206.836†	4.3	1.4722 ug/L	0.74448	1.4722 ppb	0.74448	50.57%		
QC value within limits for Sb 206.836 Recovery = Not calculated									
Se	196.026†	5.3	3.3017 ug/L	1.80405	3.3017 ppb	1.80405	54.64%		
QC value within limits for Se 196.026 Recovery = Not calculated									
Si	251.611†	8.1	0.2566 ug/L	0.26658	0.2566 ppb	0.26658	103.90%		
QC value within limits for Si 251.611 Recovery = Not calculated									
Sn	189.927†	5.5	0.9620 ug/L	1.09412	0.9620 ppb	1.09412	113.73%		
QC value within limits for Sn 189.927 Recovery = Not calculated									
Sr	421.552†	6.2	0.0393 ug/L	0.09889	0.0393 ppb	0.09889	251.53%		
QC value within limits for Sr 421.552 Recovery = Not calculated									
Ti	334.940†	69.1	0.1119 ug/L	0.03694	0.1119 ppb	0.03694	33.00%		
QC value within limits for Ti 334.940 Recovery = Not calculated									
Tl	190.801†	12.1	3.6589 ug/L	1.54662	3.6589 ppb	1.54662	42.27%		
QC value within limits for Tl 190.801 Recovery = Not calculated									
U	409.014†	25.7	0.7582 ug/L	3.98074	0.7582 ppb	3.98074	524.99%		
QC value within limits for U 409.014 Recovery = Not calculated									
V	292.402†	55.1	0.3737 ug/L	0.38417	0.3737 ppb	0.38417	102.81%		
QC value within limits for V 292.402 Recovery = Not calculated									
Zn	213.857†	-8.2	-0.0747 ug/L	0.04269	-0.0747 ppb	0.04269	57.11%		
QC value within limits for Zn 213.857 Recovery = Not calculated									
SiO2†		35.3	2.3866 ug/L	2.20882	2.3866 ppb	2.20882	92.55%		
QC value within limits for SiO2 Recovery = Not calculated									
All analyte(s) passed QC.									

## ICPMS #5 Daily Performance Report

### Sample ID: Sample

Sample Date/Time: Sunday, January 03, 2010 14:14:04

Sample Description:

Method File: c:\elandata\Method\Daily2.mth

Dataset File: c:\elandata\Dataset\default2\Sample.1646

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	4529.7	4529.718	79.085	1.7
Mg	24.0	48383.4	48383.404	575.294	1.2
Co	58.9	93399.2	93399.174	1332.998	1.4
Rh	102.9	177381.9	177381.878	885.008	0.5
In	114.9	233658.3	233658.280	2035.639	0.9
Pb	208.0	265884.5	265884.502	3858.984	1.5
[> Ba	137.9	237479.3	237479.332	1260.587	0.5
[ Ba++	69.0	5196.0	0.022	0.000	0.9
[> Ce	139.9	293550.0	293549.998	3117.206	1.1
[ CeO	155.9	6435.4	0.022	0.000	1.2
Bkgd	220.0	18.2	18.200	2.564	14.1

### Current Optimization File Data

Current Value	Description
0.85	Nebulizer Gas Flow
7.00	Lens Voltage
1450.00	ICP RF Power
-1687.50	Analog Stage Voltage
1200.00	Pulse Stage Voltage
275.00	Discriminator Threshold
-6.00	AC Rod Offset

### Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	13	8.3	5205.6
Co	59	13	8.8	90127.4
In	115	13	10.3	227698.6

## ICPMS #5 Instrument Tuning Report

File Name: default2.tun  
File Path: c:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width
He	3.0	3.0	595	2065	0.579
Be	9.0	9.0	2059	2070	0.620
Mg	24.0	24.0	5695	2070	0.648
Mg	25.0	25.0	5935	2070	0.610
Mg	26.0	25.9	6172	2070	0.628
Co	58.9	58.9	14188	2105	0.608
Rh	102.9	102.9	24884	2165	0.604
In	114.9	114.9	27798	2185	0.599
Ce	139.9	139.9	33870	2200	0.627
Pb	206.0	206.0	49948	2270	0.665
Pb	207.0	207.0	50171	2235	0.674
Pb	208.0	208.0	50451	2260	0.711
U	238.1	238.1	57736	2275	0.727

## ICPMS#5 - Summary Report

Sample ID: Blank

Sample Date/Time: Sunday, January 03, 2010 18:25:58

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: c:\elandata\Dataset\100103\Blank.081

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7		ug/L		74	
Be	9		ug/L		16	
B	11		ug/L		667	
Na	23		ug/L		17679	
Mg	24		ug/L		2000	
Al	27		ug/L		4334	
P	31		ug/L		7059	
K	39		ug/L		629926	
Ca	43		ug/L		259	
> Sc	45		ug/L		1413157	
Ti	47		ug/L		356	
V	51		ug/L		11568	
Cr	52		ug/L		-1762	
Cr	53		ug/L		157290	
Mn	55		ug/L		1160	
Fe	57		ug/L		5195	
Co	59		ug/L		93	
Ni	60		ug/L		70	
Cu	63		ug/L		290	
Cu	65		ug/L		131	
Zn	66		ug/L		253	
Zn	67		ug/L		18419	
Zn	68		ug/L		2081	
> Ge	74		ug/L		469831	
As	75		ug/L		-410	
Se	77		ug/L		8356	
Se	82		ug/L		-27	
Kr	83		ug/L		124	
Sr	88		ug/L		186	
Y	89		ug/L		64	
Mo	98		ug/L		95	
Ag	107		ug/L		49	
Cd	111		ug/L		29	
Cd	114		ug/L		39	
> In	115		ug/L		296035	
Sn	120		ug/L		381	
Sb	121		ug/L		423	
Sb	123		ug/L		338	
Ba	135		ug/L		36	
Ba	137		ug/L		46	
Ho	165		ug/L		24	
> Lu	175		ug/L		600437	
Tl	205		ug/L		4030	
Pb	208		ug/L		399	
Bi	209		ug/L		187	
Th	232		ug/L		916	
U	238		ug/L		379	

Sample ID: Blank

Report Date/Time: Sunday, January 03, 2010 18:28:42

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear 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
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45					
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74					
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115					
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175					
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Sunday, January 03, 2010 18:32:05

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: c:\elandata\Dataset\100103\Standard 1.082

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	10.000	ug/L	1.896	20432	0.015
Be	9	10.000	ug/L	3.466	4855	0.003
B	11	20.000	ug/L	3.247	10642	0.007
Na	23	1000.000	ug/L	2.255	4965016	3.533
Mg	24	1000.000	ug/L	3.039	3242789	2.314
Al	27	1000.000	ug/L	3.564	4817858	3.438
P	31	1000.000	ug/L	1.596	286170	0.199
K	39	1000.000	ug/L	8.140	6522832	4.215
Ca	43	1000.000	ug/L	2.529	14765	0.010
> Sc	45		ug/L		1400292	1400291.854
Ti	47	10.000	ug/L	2.330	7747	0.005
V	51	10.000	ug/L	0.826	95271	0.060
Cr	52	10.000	ug/L	1.463	64949	0.048
Cr	53		ug/L		151989	-0.003
Mn	55	10.000	ug/L	0.577	108278	0.077
Fe	57	1000.000	ug/L	2.137	218547	0.152
Co	59	10.000	ug/L	1.525	81915	0.058
Ni	60	10.000	ug/L	1.689	17834	0.013
Cu	63		ug/L		43243	0.031
Cu	65	10.000	ug/L	0.782	21060	0.015
Zn	66	10.000	ug/L	2.101	14669	0.031
Zn	67		ug/L		19901	0.004
Zn	68		ug/L		12428	0.022
> Ge	74		ug/L		463616	463616.444
As	75	10.000	ug/L	4.450	14171	0.031
Se	77		ug/L		8800	0.001
Se	82	10.000	ug/L	3.250	1354	0.003
Kr	83		ug/L		107	-0.000
Sr	88	10.000	ug/L	0.972	171806	0.586
Y	89		ug/L		79	0.000
Mo	98	10.000	ug/L	1.970	41016	0.140
Ag	107	10.000	ug/L	1.871	73385	0.250
Cd	111	10.000	ug/L	2.753	17556	0.060
Cd	114		ug/L		42197	0.144
> In	115		ug/L		292880	292880.285
Sn	120	10.000	ug/L	2.646	75463	0.256
Sb	121	10.000	ug/L	2.759	66902	0.227
Sb	123		ug/L		52496	0.178
Ba	135		ug/L		19734	0.033
Ba	137	10.000	ug/L	1.504	34947	0.058
Ho	165		ug/L		36	0.000
> Lu	175		ug/L		604378	604377.944
Tl	205	10.000	ug/L	1.552	310706	0.507
Pb	208	10.000	ug/L	2.216	481966	0.797
Bi	209		ug/L		230	0.000
Th	232	10.000	ug/L	1.153	598983	0.990
U	238	10.000	ug/L	0.707	638638	1.056

Sample ID: Standard 1

Report Date/Time: Sunday, January 03, 2010 18:34:46

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000



### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution %	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45					
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74					
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115					
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175					
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Sunday, January 03, 2010 18:38:09

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: c:\elandata\Dataset\100103\Standard 2.083

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	100.020	ug/L	0.385	201279	0.148
Be	9	99.990	ug/L	1.523	46443	0.034
B	11	199.927	ug/L	2.724	93898	0.069
Na	23	9994.494	ug/L	6.989	45418461	33.472
Mg	24	10002.554	ug/L	9.336	32229946	23.752
Al	27	9993.938	ug/L	5.498	43937890	32.391
P	31	10003.816	ug/L	2.345	2819521	2.074
K	39	9997.205	ug/L	5.449	56196706	40.991
Ca	43	9997.865	ug/L	1.905	137844	0.101
> Sc	45		ug/L		1356427	1356427.282
Ti	47	99.998	ug/L	2.602	71838	0.053
V	51	99.958	ug/L	0.576	789498	0.574
Cr	52	99.939	ug/L	0.121	606612	0.448
Cr	53		ug/L		185910	0.026
Mn	55	99.927	ug/L	3.206	967741	0.713
Fe	57	9985.553	ug/L	1.433	1808682	1.330
Co	59	99.940	ug/L	1.299	747640	0.551
Ni	60	99.967	ug/L	1.884	166684	0.123
Cu	63		ug/L		395778	0.292
Cu	65	99.955	ug/L	2.588	194010	0.143
Zn	66	99.944	ug/L	1.597	133003	0.294
Zn	67		ug/L		37506	0.044
Zn	68		ug/L		97947	0.213
> Ge	74		ug/L		450891	450891.334
As	75	99.951	ug/L	2.579	134595	0.299
Se	77		ug/L		16067	0.018
Se	82	99.990	ug/L	1.342	13258	0.029
Kr	83		ug/L		123	0.000
Sr	88	99.878	ug/L	1.553	1493282	5.218
Y	89		ug/L		208	0.001
Mo	98	99.984	ug/L	0.274	393804	1.376
Ag	107	99.919	ug/L	2.746	662581	2.315
Cd	111	99.988	ug/L	1.787	169374	0.592
Cd	114		ug/L		397994	1.391
> In	115		ug/L		286198	286197.846
Sn	120	99.957	ug/L	1.463	704008	2.459
Sb	121	99.954	ug/L	2.183	621244	2.170
Sb	123		ug/L		490297	1.712
Ba	135		ug/L		186331	0.321
Ba	137	99.973	ug/L	1.919	326928	0.562
Ho	165		ug/L		35	0.000
> Lu	175		ug/L		581333	581332.669
Tl	205	99.879	ug/L	4.100	2630572	4.520
Pb	208	99.867	ug/L	1.890	4084454	7.027
Bi	209		ug/L		543	0.001
Th	232	99.854	ug/L	3.887	5013521	8.626
U	238	99.888	ug/L	2.417	5512100	9.483

Sample ID: Standard 2

Report Date/Time: Sunday, January 03, 2010 18:40:50

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear 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
[	Li	7				
	Be	9				
	B	11				
	Na	23				
	Mg	24				
	Al	27				
	P	31				
	K	39				
	Ca	43				
>	Sc	45				
	Ti	47				
	V	51				
	Cr	52				
	Cr	53				
	Mn	55				
	Fe	57				
	Co	59				
	Ni	60				
	Cu	63				
	Cu	65				
[	Zn	66				
	Zn	67				
	Zn	68				
>	Ge	74				
	As	75				
	Se	77				
	Se	82				
	Kr	83				
[	Sr	88				
	Y	89				
	Mo	98				
	Ag	107				
	Cd	111				
	Cd	114				
>	In	115				
	Sn	120				
	Sb	121				
	Sb	123				
[	Ba	135				
	Ba	137				
	Ho	165				
>	Lu	175				
	Tl	205				
	Pb	208				
	Bi	209				
	Th	232				
	U	238				

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Sunday, January 03, 2010 18:44:12

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 1.084

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	51.148	ug/L	1.195	104865	0.076
Be	9	49.885	ug/L	0.499	23608	0.017
B	11	101.099	ug/L	1.884	48686	0.035
Na	23	4835.803	ug/L	2.700	22393824	16.195
Mg	24	4951.492	ug/L	3.957	16240143	11.758
Al	27	5094.158	ug/L	3.313	22822550	16.511
P	31	4287.216	ug/L	1.432	1234615	0.889
K	39	5321.226	ug/L	6.371	30741752	21.818
Ca	43	4859.379	ug/L	1.952	68365	0.049
> Sc	45		ug/L		1381607	1381606.605
Ti	47	48.934	ug/L	1.475	35986	0.026
V	51	49.529	ug/L	2.378	404100	0.284
Cr	52	51.095	ug/L	2.048	314990	0.229
Cr	53		ug/L		149475	-0.003
Mn	55	51.162	ug/L	2.809	505126	0.365
Fe	57	5250.154	ug/L	2.916	970765	0.699
Co	59	50.830	ug/L	1.659	387287	0.280
Ni	60	51.392	ug/L	1.402	87302	0.063
Cu	63		ug/L		205376	0.148
Cu	65	51.082	ug/L	0.737	101054	0.073
Zn	66	51.152	ug/L	1.366	70101	0.151
Zn	67		ug/L		27260	0.020
Zn	68		ug/L		52982	0.110
> Ge	74		ug/L		463459	463458.993
As	75	48.148	ug/L	0.191	66450	0.144
Se	77		ug/L		10822	0.006
Se	82	48.607	ug/L	1.261	6612	0.014
Kr	83		ug/L		118	-0.000
Sr	88	51.907	ug/L	3.989	799326	2.712
Y	89		ug/L		102	0.000
Mo	98	49.560	ug/L	2.751	201128	0.682
Ag	107	51.107	ug/L	2.477	349174	1.184
Cd	111	49.212	ug/L	4.260	85861	0.291
Cd	114		ug/L		202172	0.686
> In	115		ug/L		294959	294958.712
Sn	120	50.679	ug/L	3.568	367798	1.247
Sb	121	49.705	ug/L	2.468	318514	1.079
Sb	123		ug/L		251681	0.853
Ba	135		ug/L		94499	0.160
Ba	137	49.920	ug/L	2.152	165928	0.281
Ho	165		ug/L		59	0.000
> Lu	175		ug/L		590805	590804.957
Tl	205	49.617	ug/L	0.805	1330592	2.245
Pb	208	53.015	ug/L	2.461	2203668	3.730
Bi	209		ug/L		621	0.001
Th	232	50.186	ug/L	0.861	2562252	4.336
U	238	51.848	ug/L	3.353	2907723	4.922

Sample ID: QC Std 1

Report Date/Time: Sunday, January 03, 2010 18:46:54

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear 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
Li	7	102.297				
Be	9	99.771				
B	11	101.099				
Na	23	96.716				
Mg	24	99.030				
Al	27	100.874				
P	31	85.744				
K	39	106.425				
Ca	43	97.188				
> Sc	45		97.8			
Ti	47	97.869				
V	51	99.058				
Cr	52	102.189				
Cr	53					
Mn	55	102.323				
Fe	57	105.003				
Co	59	101.659				
Ni	60	102.783				
Cu	63					
Cu	65	102.164				
Zn	66	102.305				
Zn	67					
Zn	68					
> Ge	74		98.6			
As	75	96.297				
Se	77					
Se	82	97.214				
Kr	83					
Sr	88	103.814				
Y	89					
Mo	98	99.120				
Ag	107	102.214				
Cd	111	98.424				
Cd	114					
> In	115		99.6			
Sn	120	101.358				
Sb	121	99.409				
Sb	123					
Ba	135					
Ba	137	99.841				
Ho	165					
> Lu	175		98.4			
Tl	205	99.234				
Pb	208	106.029				
Bi	209					
Th	232	100.372				
U	238	103.696				

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 1	P	31	ICV is out of limits (+/- 10%)

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Sunday, January 03, 2010 18:50:20

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 2.085

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.013	ug/L	26.933	98	0.000
Be	9	0.003	ug/L	283.538	17	0.000
B	11	2.633	ug/L	20.710	1875	0.001
Na	23	-0.447	ug/L	123.871	15008	-0.001
Mg	24	-0.082	ug/L	573.538	1667	-0.000
Al	27	0.489	ug/L	53.490	6335	0.002
P	31	-0.390	ug/L	47.694	6692	-0.000
K	39	-8.651	ug/L	40.516	558730	-0.035
Ca	43	2.224	ug/L	32.792	280	0.000
> Sc	45		ug/L		1361537	1361536.770
Ti	47	-0.022	ug/L	49.515	327	-0.000
V	51	-0.262	ug/L	71.685	9087	-0.002
Cr	52	0.303	ug/L	6.697	154	0.001
Cr	53		ug/L		117207	-0.025
Mn	55	-0.012	ug/L	25.238	1002	-0.000
Fe	57	-0.731	ug/L	71.825	4872	-0.000
Co	59	0.004	ug/L	33.153	119	0.000
Ni	60	0.009	ug/L	38.657	82	0.000
Cu	63		ug/L		652	0.000
Cu	65	0.009	ug/L	107.731	145	0.000
Zn	66	0.012	ug/L	68.398	262	0.000
Zn	67		ug/L		15962	-0.004
Zn	68		ug/L		1695	-0.001
> Ge	74		ug/L		457304	457304.486
As	75	0.304	ug/L	27.825	18	0.001
Se	77		ug/L		5886	-0.005
Se	82	0.199	ug/L	49.862	1	0.000
Kr	83		ug/L		111	-0.000
Sr	88	0.002	ug/L	48.367	213	0.000
Y	89		ug/L		59	-0.000
Mo	98	0.042	ug/L	26.308	259	0.001
Ag	107	0.004	ug/L	30.187	73	0.000
Cd	111	0.001	ug/L	1142.711	30	0.000
Cd	114		ug/L		52	0.000
> In	115		ug/L		289411	289410.821
Sn	120	0.136	ug/L	15.066	1338	0.003
Sb	121	0.296	ug/L	16.351	2274	0.006
Sb	123		ug/L		1759	0.005
Ba	135		ug/L		46	0.000
Ba	137	0.001	ug/L	44.013	50	0.000
Ho	165		ug/L		28	0.000
> Lu	175		ug/L		594485	594485.014
Tl	205	0.400	ug/L	22.190	14739	0.018
Pb	208	0.004	ug/L	41.827	558	0.000
Bi	209		ug/L		189	0.000
Th	232	0.055	ug/L	19.830	3708	0.005
U	238	0.007	ug/L	20.413	778	0.001

Sample ID: QC Std 2

Report Date/Time: Sunday, January 03, 2010 18:53:04

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear 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
[	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		96.3			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
[	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		97.3			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
[	Sr	88					
	Y	89					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		97.8			
	Sn	120					
	Sb	121					
	Sb	123					
[	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		99.0			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
[	U	238					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Sunday, January 03, 2010 18:56:27

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 3.086

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	10.840	ug/L	1.509	22195	0.016
Be	9	0.526	ug/L	9.828	263	0.000
B	11	16.608	ug/L	2.712	8508	0.006
Na	23	264.355	ug/L	10.565	1234775	0.885
Mg	24	18.299	ug/L	22.480	61805	0.043
Al	27	33.901	ug/L	15.240	155522	0.110
P	31	47.205	ug/L	5.895	20335	0.010
K	39	298.570	ug/L	8.943	2297677	1.224
Ca	43	216.427	ug/L	1.619	3274	0.002
> Sc	45		ug/L		1375985	1375985.006
Ti	47	8.508	ug/L	2.292	6519	0.004
V	51	10.691	ug/L	2.315	95712	0.061
Cr	52	11.034	ug/L	1.900	66410	0.050
Cr	53		ug/L		127372	-0.019
Mn	55	5.871	ug/L	1.024	58748	0.042
Fe	57	120.409	ug/L	2.346	27120	0.016
Co	59	1.126	ug/L	1.233	8634	0.006
Ni	60	2.214	ug/L	1.902	3812	0.003
Cu	63		ug/L		4920	0.003
Cu	65	1.158	ug/L	1.773	2406	0.002
Zn	66	11.127	ug/L	0.907	15102	0.033
Zn	67		ug/L		18849	0.002
Zn	68		ug/L		12489	0.023
> Ge	74		ug/L		453207	453206.512
As	75	5.737	ug/L	4.338	7394	0.017
Se	77		ug/L		6626	-0.003
Se	82	5.557	ug/L	1.521	716	0.002
Kr	83		ug/L		117	-0.000
Sr	88	11.754	ug/L	0.934	180253	0.614
Y	89		ug/L		54	-0.000
Mo	98	0.545	ug/L	3.015	2293	0.008
Ag	107	1.059	ug/L	0.682	7249	0.025
Cd	111	1.075	ug/L	3.084	1894	0.006
Cd	114		ug/L		4410	0.015
> In	115		ug/L		293304	293303.702
Sn	120	5.424	ug/L	3.048	39493	0.133
Sb	121	3.333	ug/L	2.989	21627	0.072
Sb	123		ug/L		17202	0.058
Ba	135		ug/L		4010	0.007
Ba	137	2.128	ug/L	2.005	7034	0.012
Ho	165		ug/L		29	0.000
> Lu	175		ug/L		583848	583848.263
Tl	205	1.270	ug/L	3.770	37475	0.057
Pb	208	2.420	ug/L	1.173	99786	0.170
Bi	209		ug/L		194	0.000
Th	232	1.290	ug/L	2.482	65932	0.111
U	238	0.262	ug/L	2.088	14879	0.025

Sample ID: QC Std 3

Report Date/Time: Sunday, January 03, 2010 18:59:09

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear 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
Li	7	108.403				
Be	9	105.102				
B	11	110.719				
Na	23	105.742				
Mg	24	121.992				
Al	27	113.004				
P	31	94.410				
K	39	99.523				
Ca	43	108.213				
> Sc	45		97.4			
Ti	47	85.084				
V	51	106.906				
Cr	52	110.342				
Cr	53					
Mn	55	117.429				
Fe	57	120.409				
Co	59	112.607				
Ni	60	110.708				
Cu	63					
Cu	65	115.753				
Zn	66	111.271				
Zn	67					
Zn	68					
> Ge	74		96.5			
As	75	114.749				
Se	77					
Se	82	111.147				
Kr	83					
Sr	88	117.539				
Y	89					
Mo	98	109.029				
Ag	107	105.944				
Cd	111	107.470				
Cd	114					
> In	115		99.1			
Sn	120	108.471				
Sb	121	111.088				
Sb	123					
Ba	135					
Ba	137	106.413				
Ho	165					
> Lu	175		97.2			
Tl	205	127.043				
Pb	208	120.994				
Bi	209					
Th	232	128.983				
U	238	130.921				

### 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: Sunday, January 03, 2010 19:02:33

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 4.087

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.136	ug/L	8.560	307	0.000
Be	9	0.077	ug/L	20.620	45	0.000
B	11	1.954	ug/L	5.633	1377	0.001
Na	23	91668.464	ug/L	3.169	369403480	307.003
Mg	24	95603.087	ug/L	4.975	273302490	227.018
Al	27	100369.919	ug/L	3.749	391552701	325.307
P	31	92583.900	ug/L	1.452	23102005	19.193
K	39	99289.639	ug/L	2.273	490497382	407.111
Ca	43	93306.584	ug/L	0.739	1139680	0.947
> Sc	45		ug/L		1203508	1203508.234
Ti	47	1380.818	ug/L	2.287	876196	0.728
V	51	-0.253	ug/L	68.295	8095	-0.001
Cr	52	3.013	ug/L	2.924	14767	0.014
Cr	53		ug/L		85333	-0.040
Mn	55	6.259	ug/L	2.151	54710	0.045
Fe	57	102046.217	ug/L	1.813	16357381	13.590
Co	59	0.350	ug/L	7.101	2398	0.002
Ni	60	3.094	ug/L	3.024	4634	0.004
Cu	63		ug/L		7748	0.006
Cu	65	3.067	ug/L	4.752	5390	0.004
Zn	66	3.672	ug/L	2.078	4635	0.011
Zn	67		ug/L		13818	-0.005
Zn	68		ug/L		2264	0.001
> Ge	74		ug/L		408162	408162.445
As	75	0.184	ug/L	167.508	-131	0.001
Se	77		ug/L		6659	-0.001
Se	82	-1.054	ug/L	21.632	-150	-0.000
Kr	83		ug/L		316	0.001
Sr	88	1.301	ug/L	1.902	17622	0.068
Y	89		ug/L		572	0.002
Mo	98	2023.875	ug/L	0.314	7154333	27.847
Ag	107	0.088	ug/L	13.790	569	0.002
Cd	111	0.395	ug/L	23.127	626	0.002
Cd	114		ug/L		11143	0.043
> In	115		ug/L		256918	256917.835
Sn	120	0.155	ug/L	4.670	1308	0.004
Sb	121	0.065	ug/L	16.042	732	0.001
Sb	123		ug/L		587	0.001
Ba	135		ug/L		1202	0.002
Ba	137	0.685	ug/L	1.698	2072	0.004
Ho	165		ug/L		1306	0.002
> Lu	175		ug/L		527394	527394.369
Tl	205	0.057	ug/L	25.869	4890	0.003
Pb	208	0.194	ug/L	0.472	7540	0.014
Bi	209		ug/L		1664	0.003
Th	232	0.045	ug/L	34.543	2860	0.004
U	238	-0.002	ug/L	52.917	227	-0.000

Sample ID: QC Std 4

Report Date/Time: Sunday, January 03, 2010 19:05:16

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear 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
	Li	7					
	Be	9					
	B	11					
	Na	23	91.668				
	Mg	24	95.603				
	Al	27	100.370				
	P	31	92.584				
	K	39	99.290				
	Ca	43	93.307				
>	Sc	45		85.2			
	Ti	47	69.041				
	V	51					
	Cr	52	81.433				
	Cr	53					
	Mn	55	107.919				
	Fe	57	102.046				
	Co	59	139.862				
	Ni	60	114.583				
	Cu	63					
	Cu	65	105.743				
	Zn	66	101.993				
	Zn	67					
	Zn	68					
>	Ge	74		86.9			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88	108.411				
	Y	89					
	Mo	98	101.194				
	Ag	107					
	Cd	111	98.688				
	Cd	114					
>	In	115		86.8			
	Sn	120					
	Sb	121	65.365				
	Sb	123					
	Ba	135					
	Ba	137	102.218				
	Ho	165					
>	Lu	175		87.8			
	Tl	205					
	Pb	208	96.871				
	Bi	209					
	Th	232					
	U	238					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 4	Ti	47	ICSA is out of limits

### QC Action

QC Action Line: Continue



## ICPMS#5 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Sunday, January 03, 2010 19:08:39

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 5.088

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	21.479	ug/L	2.050	37687	0.032
Be	9	19.207	ug/L	2.295	7779	0.007
B	11	18.113	ug/L	1.240	7917	0.006
Na	23	88023.919	ug/L	4.504	348544631	294.798
Mg	24	89721.967	ug/L	4.000	251691659	213.053
Al	27	96325.822	ug/L	5.168	369000510	312.199
P	31	90999.014	ug/L	3.574	22284335	18.864
K	39	104502.784	ug/L	7.122	506161970	428.486
Ca	43	91704.387	ug/L	1.901	1099335	0.930
> Sc	45		ug/L		1181556	1181556.071
Ti	47	1348.092	ug/L	1.535	839759	0.711
V	51	20.147	ug/L	3.012	146269	0.116
Cr	52	23.181	ug/L	2.737	121398	0.104
Cr	53		ug/L		95673	-0.030
Mn	55	27.403	ug/L	2.111	231825	0.195
Fe	57	100334.395	ug/L	2.546	15784798	13.362
Co	59	20.800	ug/L	2.232	135553	0.115
Ni	60	22.402	ug/L	2.821	32566	0.028
Cu	63		ug/L		73012	0.062
Cu	65	21.854	ug/L	2.614	37021	0.031
Zn	66	21.332	ug/L	0.930	25753	0.063
Zn	67		ug/L		16735	0.002
Zn	68		ug/L		17923	0.040
> Ge	74		ug/L		406272	406271.840
As	75	20.445	ug/L	1.205	24531	0.061
Se	77		ug/L		8302	0.003
Se	82	19.154	ug/L	2.552	2270	0.006
Kr	83		ug/L		291	0.000
Sr	88	23.517	ug/L	1.190	312500	1.229
Y	89		ug/L		548	0.002
Mo	98	2009.080	ug/L	2.999	7028378	27.643
Ag	107	19.927	ug/L	1.351	117444	0.462
Cd	111	19.716	ug/L	1.577	29694	0.117
Cd	114		ug/L		79444	0.312
> In	115		ug/L		254259	254258.924
Sn	120	20.993	ug/L	0.964	131621	0.516
Sb	121	21.162	ug/L	1.563	117153	0.459
Sb	123		ug/L		92287	0.362
Ba	135		ug/L		33964	0.065
Ba	137	20.343	ug/L	1.618	60155	0.114
Ho	165		ug/L		1298	0.002
> Lu	175		ug/L		525340	525339.927
Tl	205	20.412	ug/L	2.011	488823	0.924
Pb	208	21.152	ug/L	0.727	782200	1.488
Bi	209		ug/L		2083	0.004
Th	232	22.389	ug/L	0.713	1016887	1.934
U	238	22.308	ug/L	0.551	1112956	2.118

Sample ID: QC Std 5

Report Date/Time: Sunday, January 03, 2010 19:11:22

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear 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
Li	7	107.395				
Be	9	96.036				
B	11	90.566				
Na	23	88.024				
Mg	24	89.722				
Al	27	96.326				
P	31	90.999				
K	39	104.503				
Ca	43	91.704				
> Sc	45		83.6			
Ti	47	67.405				
V	51	100.734				
Cr	52	97.811				
Cr	53					
Mn	55	106.213				
Fe	57	100.334				
Co	59	102.718				
Ni	60	98.687				
Cu	63					
Cu	65	95.431				
Zn	66	90.390				
Zn	67					
Zn	68					
> Ge	74		86.5			
As	75	102.224				
Se	77					
Se	82	95.769				
Kr	83					
Sr	88	110.930				
Y	89					
Mo	98	100.454				
Ag	107	99.637				
Cd	111	96.647				
Cd	114					
> In	115		85.9			
Sn	120	104.967				
Sb	121	105.285				
Sb	123					
Ba	135					
Ba	137	98.417				
Ho	165					
> Lu	175		87.5			
Tl	205	102.058				
Pb	208	104.715				
Bi	209					
Th	232	111.946				
U	238	111.542				

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 5	Ti		47ICSAB is out of limits

### QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Sunday, January 03, 2010 19:14:47

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 6.089

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	55.396	ug/L	2.224	102800	0.082
Be	9	52.167	ug/L	3.017	22341	0.018
B	11	96.376	ug/L	5.072	42020	0.033
Na	23	4431.551	ug/L	7.306	18561642	14.842
Mg	24	4706.139	ug/L	3.697	13975431	11.175
Al	27	5104.433	ug/L	3.298	20690056	16.544
P	31	4270.691	ug/L	1.847	1113249	0.885
K	39	5122.515	ug/L	1.805	26825605	21.004
Ca	43	4953.774	ug/L	2.221	63074	0.050
> Sc	45		ug/L		1250651	1250651.066
Ti	47	50.068	ug/L	0.812	33321	0.026
V	51	50.358	ug/L	4.240	371640	0.289
Cr	52	52.011	ug/L	2.386	290252	0.233
Cr	53		ug/L		136683	-0.002
Mn	55	53.706	ug/L	1.310	480005	0.383
Fe	57	5493.888	ug/L	2.459	919347	0.732
Co	59	53.053	ug/L	0.613	365938	0.293
Ni	60	53.759	ug/L	1.975	82658	0.066
Cu	63		ug/L		190784	0.152
Cu	65	52.737	ug/L	0.527	94447	0.075
Zn	66	51.496	ug/L	1.766	65615	0.152
Zn	67		ug/L		25140	0.019
Zn	68		ug/L		48895	0.109
> Ge	74		ug/L		430964	430964.419
As	75	49.965	ug/L	0.335	64134	0.150
Se	77		ug/L		9961	0.005
Se	82	50.021	ug/L	1.034	6327	0.015
Kr	83		ug/L		111	-0.000
Sr	88	53.339	ug/L	1.468	772623	2.786
Y	89		ug/L		97	0.000
Mo	98	50.171	ug/L	0.906	191476	0.690
Ag	107	52.724	ug/L	0.632	338752	1.222
Cd	111	50.515	ug/L	0.909	82910	0.299
Cd	114		ug/L		195464	0.705
> In	115		ug/L		277241	277240.697
Sn	120	51.551	ug/L	1.709	351886	1.268
Sb	121	50.958	ug/L	2.396	307017	1.106
Sb	123		ug/L		242424	0.873
Ba	135		ug/L		89621	0.157
Ba	137	49.364	ug/L	0.652	158304	0.278
Ho	165		ug/L		55	0.000
> Lu	175		ug/L		569921	569921.118
Tl	205	49.430	ug/L	1.267	1278703	2.237
Pb	208	52.709	ug/L	0.610	2114016	3.709
Bi	209		ug/L		591	0.001
Th	232	50.212	ug/L	0.532	2473075	4.338
U	238	51.949	ug/L	1.436	2811095	4.932

Sample ID: QC Std 6

Report Date/Time: Sunday, January 03, 2010 19:17:30

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear 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
Li	7	110.792				
Be	9	104.334				
B	11	96.376				
Na	23	88.631				
Mg	24	94.123				
Al	27	101.078				
P	31	85.414				
K	39	102.450				
Ca	43	99.075				
> Sc	45		88.5			
Ti	47	100.136				
V	51	100.717				
Cr	52	104.023				
Cr	53					
Mn	55	107.412				
Fe	57	109.878				
Co	59	106.106				
Ni	60	107.518				
Cu	63					
Cu	65	105.473				
Zn	66	102.992				
Zn	67					
Zn	68					
> Ge	74		91.7			
As	75	99.929				
Se	77					
Se	82	100.041				
Kr	83					
Sr	88	106.679				
Y	89					
Mo	98	100.341				
Ag	107	105.448				
Cd	111	101.030				
Cd	114					
> In	115		93.7			
Sn	120	103.103				
Sb	121	101.916				
Sb	123					
Ba	135					
Ba	137	98.727				
Ho	165					
> Lu	175		94.9			
Tl	205	98.860				
Pb	208	105.418				
Bi	209					
Th	232	100.424				
U	238	103.898				

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Li	7	7CCV is out of limits (+/- 10%)
QC Std 6	Na	23	23CCV is out of limits (+/- 10%)
QC Std 6	P	31	31CCV is out of limits (+/- 10%)

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Sunday, January 03, 2010 19:20:55

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 7.090

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.006	ug/L	66.051	81	0.000
Be	9	0.008	ug/L	70.833	18	0.000
B	11	1.552	ug/L	29.187	1312	0.001
Na	23	1.992	ug/L	152.464	25026	0.007
Mg	24	0.803	ug/L	92.991	4334	0.002
Al	27	1.104	ug/L	54.128	8669	0.004
P	31	-2.600	ug/L	21.882	5815	-0.001
K	39	-8.359	ug/L	38.557	536910	-0.034
Ca	43	3.412	ug/L	29.694	284	0.000
> Sc	45		ug/L		1304807	1304807.014
Ti	47	0.183	ug/L	36.811	455	0.000
V	51	-0.545	ug/L	47.834	6600	-0.003
Cr	52	0.014	ug/L	711.949	-1545	0.000
Cr	53		ug/L		109543	-0.027
Mn	55	-0.014	ug/L	32.547	945	-0.000
Fe	57	2.519	ug/L	32.013	5234	0.000
Co	59	0.003	ug/L	52.712	109	0.000
Ni	60	0.005	ug/L	85.369	73	0.000
Cu	63		ug/L		333	0.000
Cu	65	0.034	ug/L	30.774	184	0.000
Zn	66	0.023	ug/L	115.129	273	0.000
Zn	67		ug/L		14764	-0.006
Zn	68		ug/L		1487	-0.001
> Ge	74		ug/L		449717	449716.711
As	75	0.178	ug/L	96.277	-153	0.001
Se	77		ug/L		5756	-0.005
Se	82	0.080	ug/L	256.945	-15	0.000
Kr	83		ug/L		116	-0.000
Sr	88	0.002	ug/L	66.785	207	0.000
Y	89		ug/L		56	-0.000
Mo	98	0.105	ug/L	10.078	508	0.001
Ag	107	0.003	ug/L	40.439	66	0.000
Cd	111	0.001	ug/L	378.937	30	0.000
Cd	114		ug/L		54	0.000
> In	115		ug/L		287909	287909.480
Sn	120	0.103	ug/L	12.941	1101	0.003
Sb	121	0.209	ug/L	22.901	1719	0.005
Sb	123		ug/L		1365	0.004
Ba	135		ug/L		32	-0.000
Ba	137	0.001	ug/L	312.535	48	0.000
Ho	165		ug/L		29	0.000
> Lu	175		ug/L		584730	584729.624
Tl	205	0.277	ug/L	27.681	11264	0.013
Pb	208	0.002	ug/L	44.343	488	0.000
Bi	209		ug/L		159	-0.000
Th	232	0.061	ug/L	24.946	3970	0.005
U	238	0.006	ug/L	37.030	694	0.001

Sample ID: QC Std 7

Report Date/Time: Sunday, January 03, 2010 19:23:39

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear 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
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		92.3			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		95.7			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		97.3			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		97.4			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 10

Sample Date/Time: Sunday, January 03, 2010 19:27:02

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 10.091

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	1008.878	ug/L	1.946	1763818	1.496
Be	9	999.986	ug/L	0.492	403593	0.342
B	11	2.965	ug/L	5.180	1758	0.001
Na	23	46678.072	ug/L	2.799	184365307	156.328
Mg	24	46500.492	ug/L	5.839	130223886	110.420
Al	27	50879.841	ug/L	10.844	194609858	164.905
P	31	23565.498	ug/L	2.409	5765692	4.885
K	39	53994.367	ug/L	2.934	261598604	221.390
Ca	43	48003.310	ug/L	1.866	574376	0.487
> Sc	45		ug/L		1178971	1178970.607
Ti	47	41.961	ug/L	1.230	26378	0.022
V	51	918.855	ug/L	1.950	6229724	5.275
Cr	52	920.759	ug/L	1.378	4870295	4.132
Cr	53		ug/L		691480	0.475
Mn	55	947.277	ug/L	2.665	7968191	6.756
Fe	57	51182.266	ug/L	0.915	8040690	6.816
Co	59	893.775	ug/L	1.907	5811093	4.929
Ni	60	872.147	ug/L	1.798	1263313	1.072
Cu	63		ug/L		3066182	2.600
Cu	65	845.113	ug/L	0.144	1425053	1.209
Zn	66	2371.550	ug/L	2.599	2803780	6.988
Zn	67		ug/L		437316	1.051
Zn	68		ug/L		1757684	4.377
> Ge	74		ug/L		401209	401208.508
As	75	871.916	ug/L	1.668	1047719	2.612
Se	77		ug/L		47549	0.101
Se	82	468.514	ug/L	0.610	55366	0.138
Kr	83		ug/L		173	0.000
Sr	88	1007.708	ug/L	2.442	13172564	52.642
Y	89		ug/L		523	0.002
Mo	98	1042.186	ug/L	3.333	3588073	14.340
Ag	107	232.828	ug/L	1.470	1350120	5.395
Cd	111	902.667	ug/L	1.819	1336828	5.342
Cd	114		ug/L		3440439	13.749
> In	115		ug/L		250243	250243.237
Sn	120	1004.863	ug/L	3.352	6185048	24.718
Sb	121	242.494	ug/L	1.075	1317427	5.263
Sb	123		ug/L		1069281	4.272
Ba	135		ug/L		1457002	2.666
Ba	137	920.422	ug/L	4.582	2828781	5.178
Ho	165		ug/L		468	0.001
> Lu	175		ug/L		546805	546805.380
Tl	205	472.269	ug/L	5.164	11678358	21.373
Pb	208	4851.901	ug/L	3.691	186539735	341.391
Bi	209		ug/L		5282	0.009
Th	232	2507.477	ug/L	5.055	118329973	216.621
U	238	5246.491	ug/L	4.336	272126377	498.100

Sample ID: QC Std 10

Report Date/Time: Sunday, January 03, 2010 19:29:43

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear 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
Li	7	100.888				
Be	9	99.999				
B	11					
Na	23	93.356				
Mg	24	93.001				
Al	27	101.760				
P	31	94.262				
K	39	107.989				
Ca	43	96.007				
> Sc	45		83.4			
Ti	47					
V	51	91.886				
Cr	52	92.076				
Cr	53					
Mn	55	94.728				
Fe	57	102.365				
Co	59	89.378				
Ni	60	87.215				
Cu	63					
Cu	65	84.511				
Zn	66	94.862				
Zn	67					
Zn	68					
> Ge	74		85.4			
As	75	87.192				
Se	77					
Se	82	93.703				
Kr	83					
Sr	88	100.771				
Y	89					
Mo	98	104.219				
Ag	107	93.131				
Cd	111	90.267				
Cd	114					
> In	115		84.5			
Sn	120	100.486				
Sb	121	96.998				
Sb	123					
Ba	135					
Ba	137	92.042				
Ho	165					
> Lu	175		91.1			
Tl	205	94.454				
Pb	208	97.038				
Bi	209					
Th	232	100.299				
U	238	104.930				

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 10	Co	59	LRS is out of limits (+/- 10%)
QC Std 10	Ni	60	LRS is out of limits (+/- 10%)
QC Std 10	Cu	65	LRS is out of limits (+/- 10%)
QC Std 10	As	75	LRS is out of limits (+/- 10%)

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 11

Sample Date/Time: Sunday, January 03, 2010 19:33:07

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 11.092

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	52.429	ug/L	1.685	102753	0.078
Be	9	51.229	ug/L	2.920	23171	0.018
B	11	95.771	ug/L	3.007	44115	0.033
Na	23	5051.660	ug/L	8.398	22372797	16.918
Mg	24	5061.080	ug/L	5.453	15867543	12.018
Al	27	5075.141	ug/L	11.970	21707699	16.449
P	31	4285.774	ug/L	1.443	1179850	0.888
K	39	5098.055	ug/L	3.404	28196257	20.903
Ca	43	4895.788	ug/L	1.289	65849	0.050
> Sc	45		ug/L		1320724	1320724.024
Ti	47	48.690	ug/L	3.124	34224	0.026
V	51	49.840	ug/L	2.578	388635	0.286
Cr	52	50.845	ug/L	2.735	299628	0.228
Cr	53		ug/L		140716	-0.005
Mn	55	52.478	ug/L	2.726	495305	0.374
Fe	57	5390.262	ug/L	1.552	952790	0.718
Co	59	51.854	ug/L	1.390	377695	0.286
Ni	60	52.023	ug/L	1.403	84481	0.064
Cu	63		ug/L		198327	0.150
Cu	65	51.528	ug/L	3.166	97426	0.074
Zn	66	51.797	ug/L	1.830	68299	0.153
Zn	67		ug/L		27032	0.021
Zn	68		ug/L		51602	0.111
> Ge	74		ug/L		446010	446009.871
As	75	49.551	ug/L	2.610	65809	0.148
Se	77		ug/L		9762	0.004
Se	82	49.148	ug/L	1.481	6434	0.014
Kr	83		ug/L		115	-0.000
Sr	88	53.505	ug/L	3.063	792069	2.795
Y	89		ug/L		100	0.000
Mo	98	50.517	ug/L	3.359	197002	0.695
Ag	107	51.807	ug/L	3.409	340138	1.200
Cd	111	50.879	ug/L	2.461	85347	0.301
Cd	114		ug/L		201679	0.712
> In	115		ug/L		283445	283444.816
Sn	120	53.477	ug/L	3.609	373009	1.315
Sb	121	51.910	ug/L	2.742	319654	1.127
Sb	123		ug/L		251869	0.888
Ba	135		ug/L		91928	0.159
Ba	137	49.595	ug/L	2.194	161755	0.279
Ho	165		ug/L		67	0.000
> Lu	175		ug/L		579745	579745.045
Tl	205	51.059	ug/L	1.222	1343334	2.311
Pb	208	53.188	ug/L	1.071	2169777	3.742
Bi	209		ug/L		588	0.001
Th	232	51.502	ug/L	1.659	2579873	4.449
U	238	53.261	ug/L	2.037	2931595	5.057

Sample ID: QC Std 11

Report Date/Time: Sunday, January 03, 2010 19:35:49

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear 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
Li	7	104.857				
Be	9	102.457				
B	11	95.771				
Na	23	101.033				
Mg	24	101.222				
Al	27	100.498				
P	31	85.715				
K	39	101.961				
Ca	43	97.916				
> Sc	45		93.5			
Ti	47	97.380				
V	51	99.679				
Cr	52	101.691				
Cr	53					
Mn	55	104.956				
Fe	57	107.805				
Co	59	103.709				
Ni	60	104.046				
Cu	63					
Cu	65	103.056				
Zn	66	103.595				
Zn	67					
Zn	68					
> Ge	74		94.9			
As	75	99.102				
Se	77					
Se	82	98.295				
Kr	83					
Sr	88	107.010				
Y	89					
Mo	98	101.033				
Ag	107	103.613				
Cd	111	101.759				
Cd	114					
> In	115		95.7			
Sn	120	106.953				
Sb	121	103.820				
Sb	123					
Ba	135					
Ba	137	99.190				
Ho	165					
> Lu	175		96.6			
Tl	205	102.118				
Pb	208	106.375				
Bi	209					
Th	232	103.004				
U	238	106.523				

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 11	P	31	CCV is out of limits (+/- 10%)

### QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 12

Sample Date/Time: Sunday, January 03, 2010 19:39:14

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 12.093

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.070	ug/L	6.993	208	0.000
Be	9	0.020	ug/L	13.592	24	0.000
B	11	1.674	ug/L	27.980	1394	0.001
Na	23	1.549	ug/L	79.367	23687	0.005
Mg	24	-0.069	ug/L	527.938	1667	-0.000
Al	27	0.362	ug/L	94.181	5668	0.001
P	31	-2.503	ug/L	86.431	5962	-0.001
K	39	-4.721	ug/L	102.570	568431	-0.019
Ca	43	3.450	ug/L	25.468	291	0.000
> Sc	45		ug/L		1333740	1333740.396
Ti	47	-0.021	ug/L	35.487	321	-0.000
V	51	-0.538	ug/L	46.099	6824	-0.003
Cr	52	0.150	ug/L	73.372	-758	0.001
Cr	53		ug/L		109912	-0.029
Mn	55	-0.009	ug/L	77.765	1012	-0.000
Fe	57	0.448	ug/L	274.202	4980	0.000
Co	59	0.010	ug/L	12.669	161	0.000
Ni	60	0.014	ug/L	37.410	89	0.000
Cu	63		ug/L		468	0.000
Cu	65	0.061	ug/L	12.438	240	0.000
Zn	66	0.019	ug/L	61.688	268	0.000
Zn	67		ug/L		15454	-0.005
Zn	68		ug/L		1619	-0.001
> Ge	74		ug/L		451384	451383.714
As	75	0.336	ug/L	118.470	60	0.001
Se	77		ug/L		5436	-0.006
Se	82	0.194	ug/L	44.783	0	0.000
Kr	83		ug/L		102	-0.000
Sr	88	0.008	ug/L	43.683	291	0.000
Y	89		ug/L		58	-0.000
Mo	98	0.128	ug/L	6.190	593	0.002
Ag	107	0.006	ug/L	24.054	86	0.000
Cd	111	0.003	ug/L	244.666	33	0.000
Cd	114		ug/L		62	0.000
> In	115		ug/L		285603	285602.840
Sn	120	0.588	ug/L	8.555	4496	0.014
Sb	121	0.443	ug/L	16.035	3147	0.010
Sb	123		ug/L		2466	0.008
Ba	135		ug/L		48	0.000
Ba	137	0.007	ug/L	28.070	67	0.000
Ho	165		ug/L		34	0.000
> Lu	175		ug/L		578086	578085.887
Tl	205	0.768	ug/L	13.189	23981	0.035
Pb	208	0.038	ug/L	8.593	1946	0.003
Bi	209		ug/L		167	-0.000
Th	232	0.124	ug/L	10.019	7063	0.011
U	238	0.064	ug/L	7.285	3906	0.006

Sample ID: QC Std 12

Report Date/Time: Sunday, January 03, 2010 19:41:58

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear 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
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		94.4			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		96.1			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		96.5			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		96.3			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Sunday, January 03, 2010 20:28:23

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 8.101

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	52.670	ug/L	0.737	101667	0.078
Be	9	50.250	ug/L	3.242	22384	0.017
B	11	94.622	ug/L	4.485	42932	0.033
Na	23	4427.060	ug/L	12.804	19281819	14.826
Mg	24	4708.241	ug/L	5.071	14540154	11.180
Al	27	4932.106	ug/L	11.662	20784226	15.985
P	31	4238.786	ug/L	2.140	1149492	0.879
K	39	5178.946	ug/L	4.090	28196257	21.235
Ca	43	4822.867	ug/L	0.541	63887	0.049
> Sc	45		ug/L		1300735	1300735.320
Ti	47	48.148	ug/L	2.935	33334	0.025
V	51	48.369	ug/L	2.222	371788	0.278
Cr	52	49.853	ug/L	1.582	289330	0.224
Cr	53		ug/L		159996	0.012
Mn	55	51.506	ug/L	3.250	478758	0.367
Fe	57	5292.430	ug/L	2.742	921320	0.705
Co	59	51.108	ug/L	1.529	366635	0.282
Ni	60	51.520	ug/L	0.577	82404	0.063
Cu	63		ug/L		194698	0.149
Cu	65	51.159	ug/L	1.480	95280	0.073
Zn	66	50.544	ug/L	0.662	65792	0.149
Zn	67		ug/L		28696	0.026
Zn	68		ug/L		50178	0.110
> Ge	74		ug/L		440168	440168.049
As	75	49.090	ug/L	1.826	64347	0.147
Se	77		ug/L		11316	0.008
Se	82	49.719	ug/L	1.214	6424	0.015
Kr	83		ug/L		126	0.000
Sr	88	52.147	ug/L	1.830	769974	2.724
Y	89		ug/L		101	0.000
Mo	98	48.666	ug/L	2.240	189289	0.670
Ag	107	50.876	ug/L	1.477	333188	1.179
Cd	111	49.400	ug/L	1.701	82643	0.292
Cd	114		ug/L		196317	0.695
> In	115		ug/L		282619	282618.804
Sn	120	50.832	ug/L	2.231	353658	1.250
Sb	121	49.895	ug/L	2.718	306388	1.083
Sb	123		ug/L		240929	0.851
Ba	135		ug/L		90765	0.158
Ba	137	49.355	ug/L	0.700	159761	0.278
Ho	165		ug/L		60	0.000
> Lu	175		ug/L		575258	575258.206
Tl	205	47.160	ug/L	2.325	1231526	2.134
Pb	208	52.532	ug/L	0.244	2126706	3.696
Bi	209		ug/L		588	0.001
Th	232	49.757	ug/L	1.379	2473491	4.298
U	238	51.452	ug/L	1.604	2810427	4.885

Sample ID: QC Std 8

Report Date/Time: Sunday, January 03, 2010 20:31:06

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear 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
Li	7	105.341				
Be	9	100.501				
B	11	94.622				
Na	23	88.541				
Mg	24	94.165				
Al	27	97.665				
P	31	84.776				
K	39	103.579				
Ca	43	96.457				
> Sc	45		92.0			
Ti	47	96.296				
V	51	96.738				
Cr	52	99.706				
Cr	53					
Mn	55	103.011				
Fe	57	105.849				
Co	59	102.215				
Ni	60	103.040				
Cu	63					
Cu	65	102.319				
Zn	66	101.088				
Zn	67					
Zn	68					
> Ge	74		93.7			
As	75	98.180				
Se	77					
Se	82	99.437				
Kr	83					
Sr	88	104.295				
Y	89					
Mo	98	97.333				
Ag	107	101.752				
Cd	111	98.800				
Cd	114					
> In	115		95.5			
Sn	120	101.664				
Sb	121	99.789				
Sb	123					
Ba	135					
Ba	137	98.710				
Ho	165					
> Lu	175		95.8			
Tl	205	94.321				
Pb	208	105.064				
Bi	209					
Th	232	99.514				
U	238	102.905				

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 8	Na	23	CCV is out of limits (+/- 10%)
QC Std 8	P	31	CCV is out of limits (+/- 10%)

### QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Sunday, January 03, 2010 20:34:31

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 9.102

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.010	ug/L	21.744	88	0.000
Be	9	0.007	ug/L	90.368	18	0.000
B	11	1.594	ug/L	30.197	1344	0.001
Na	23	0.417	ug/L	74.768	18345	0.001
Mg	24	0.041	ug/L	761.733	2000	0.000
Al	27	-0.166	ug/L	218.569	3334	-0.001
P	31	-0.922	ug/L	41.387	6335	-0.000
K	39	3.770	ug/L	157.760	608019	0.015
Ca	43	1.652	ug/L	159.116	263	0.000
> Sc	45		ug/L		1318709	1318709.122
Ti	47	0.000	ug/L	12106.485	333	0.000
V	51	-0.478	ug/L	128.807	7156	-0.003
Cr	52	0.079	ug/L	81.426	-1176	0.000
Cr	53		ug/L		122724	-0.018
Mn	55	-0.010	ug/L	36.403	987	-0.000
Fe	57	0.232	ug/L	215.254	4888	0.000
Co	59	0.004	ug/L	75.910	118	0.000
Ni	60	0.009	ug/L	34.619	81	0.000
Cu	63		ug/L		307	0.000
Cu	65	0.019	ug/L	29.039	158	0.000
Zn	66	0.005	ug/L	228.469	247	0.000
Zn	67		ug/L		16670	-0.002
Zn	68		ug/L		1759	-0.000
> Ge	74		ug/L		447928	447927.558
As	75	0.177	ug/L	146.213	-149	0.001
Se	77		ug/L		6302	-0.004
Se	82	0.089	ug/L	24.311	-14	0.000
Kr	83		ug/L		119	0.000
Sr	88	0.002	ug/L	7.979	215	0.000
Y	89		ug/L		59	-0.000
Mo	98	0.034	ug/L	23.951	227	0.000
Ag	107	0.003	ug/L	42.589	70	0.000
Cd	111	0.001	ug/L	336.940	30	0.000
Cd	114		ug/L		38	0.000
> In	115		ug/L		288959	288958.682
Sn	120	0.095	ug/L	27.461	1045	0.002
Sb	121	0.233	ug/L	26.012	1868	0.005
Sb	123		ug/L		1499	0.004
Ba	135		ug/L		34	-0.000
Ba	137	0.004	ug/L	54.356	56	0.000
Ho	165		ug/L		29	0.000
> Lu	175		ug/L		586067	586066.777
Tl	205	0.882	ug/L	17.428	27328	0.040
Pb	208	0.006	ug/L	25.653	619	0.000
Bi	209		ug/L		163	-0.000
Th	232	0.058	ug/L	20.216	3815	0.005
U	238	0.009	ug/L	21.474	847	0.001

Sample ID: QC Std 9

Report Date/Time: Sunday, January 03, 2010 20:37:16

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear 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
[	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		93.3			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		95.3			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		97.6			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		97.6			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202006053

Sample Date/Time: Sunday, January 03, 2010 20:40:41

Sample Type:

Sample Description: LANL 6020 MB

Number of Replicates: 3

Batch ID: 937496|1|baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: c:\elandata\Dataset\100103\1202006053.103

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.048	ug/L	2.988	162	0.000
Be	9	0.007	ug/L	90.254	18	0.000
B	11	0.616	ug/L	10.844	894	0.000
Na	23	8.479	ug/L	20.557	53434	0.028
Mg	24	0.693	ug/L	46.002	4001	0.002
Al	27	0.633	ug/L	122.127	6668	0.002
P	31	-1.134	ug/L	73.138	6222	-0.000
K	39	9.373	ug/L	29.057	633068	0.038
Ca	43	19.327	ug/L	13.051	495	0.000
> Sc	45		ug/L		1307207	1307206.685
Ti	47	0.373	ug/L	5.699	587	0.000
V	51	-2.568	ug/L	20.737	-8589	-0.015
Cr	52	-1.258	ug/L	24.705	-8994	-0.006
Cr	53		ug/L		313134	0.128
Mn	55	0.138	ug/L	10.821	2355	0.001
Fe	57	1.313	ug/L	53.157	5033	0.000
Co	59	0.001	ug/L	106.874	92	0.000
Ni	60	0.035	ug/L	16.406	120	0.000
Cu	63		ug/L		1114	0.001
Cu	65	0.237	ug/L	8.443	565	0.000
Zn	66	0.705	ug/L	1.074	1131	0.002
Zn	67		ug/L		67332	0.117
Zn	68		ug/L		4926	0.007
> Ge	74		ug/L		432510	432510.204
As	75	0.372	ug/L	134.240	101	0.001
Se	77		ug/L		17801	0.023
Se	82	0.090	ug/L	70.209	-13	0.000
Kr	83		ug/L		124	0.000
Sr	88	0.030	ug/L	3.314	602	0.002
Y	89		ug/L		65	0.000
Mo	98	0.008	ug/L	56.755	116	0.000
Ag	107	0.001	ug/L	154.090	52	0.000
Cd	111	-0.004	ug/L	91.445	20	-0.000
Cd	114		ug/L		20	-0.000
> In	115		ug/L		270912	270911.753
Sn	120	0.199	ug/L	20.830	1674	0.005
Sb	121	0.078	ug/L	24.065	846	0.002
Sb	123		ug/L		664	0.001
Ba	135		ug/L		53	0.000
Ba	137	0.011	ug/L	42.510	78	0.000
Ho	165		ug/L		25	0.000
> Lu	175		ug/L		567044	567043.755
Tl	205	0.283	ug/L	6.717	11078	0.013
Pb	208	0.001	ug/L	114.712	401	0.000
Bi	209		ug/L		114	-0.000
Th	232	0.037	ug/L	26.509	2697	0.003
U	238	-0.003	ug/L	5.227	205	-0.000

Sample ID: 1202006053

Report Date/Time: Sunday, January 03, 2010 20:43:26

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear 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
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		92.5			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		92.1			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		91.5			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		94.4			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202006054  
 Sample Date/Time: Sunday, January 03, 2010 20:46:52  
 Sample Type:  
 Sample Description: LANL 6020 LCS  
 Number of Replicates: 3  
 Batch ID: 937496|1|baj  
 Method File: c:\elandata\Method\6020 2.mth  
 Dataset File: c:\elandata\Dataset\100103\1202006054.104

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	51.257	ug/L	1.495	99360	0.076
Be	9	51.859	ug/L	1.594	23201	0.018
B	11	95.546	ug/L	4.061	43527	0.033
Na	23	1674.569	ug/L	0.702	7341074	5.608
Mg	24	1850.520	ug/L	2.910	5740377	4.394
Al	27	2138.848	ug/L	6.254	9055507	6.932
P	31	1754.984	ug/L	4.095	481602	0.364
K	39	2121.429	ug/L	4.624	11941188	8.698
Ca	43	1960.488	ug/L	1.058	26219	0.020
> Sc	45		ug/L		1306069	1306069.417
Ti	47	43.087	ug/L	2.249	29992	0.023
V	51	42.983	ug/L	4.596	332924	0.247
Cr	52	47.395	ug/L	2.340	276113	0.213
Cr	53		ug/L		336609	0.146
Mn	55	49.708	ug/L	0.749	464098	0.355
Fe	57	2134.067	ug/L	0.593	375976	0.284
Co	59	49.446	ug/L	1.610	356179	0.273
Ni	60	49.836	ug/L	1.548	80041	0.061
Cu	63		ug/L		192594	0.147
Cu	65	50.465	ug/L	1.224	94387	0.072
Zn	66	56.870	ug/L	1.422	72771	0.168
Zn	67		ug/L		81665	0.150
Zn	68		ug/L		56444	0.126
> Ge	74		ug/L		432931	432931.046
As	75	48.874	ug/L	1.624	63018	0.146
Se	77		ug/L		21365	0.032
Se	82	50.039	ug/L	1.587	6358	0.015
Kr	83		ug/L		132	0.000
Sr	88	51.886	ug/L	1.649	745494	2.710
Y	89		ug/L		98	0.000
Mo	98	48.223	ug/L	2.478	182535	0.664
Ag	107	51.358	ug/L	3.887	327254	1.190
Cd	111	49.285	ug/L	2.147	80233	0.292
Cd	114		ug/L		190486	0.693
> In	115		ug/L		274989	274989.414
Sn	120	50.241	ug/L	1.103	340181	1.236
Sb	121	49.956	ug/L	1.690	298549	1.084
Sb	123		ug/L		234463	0.851
Ba	135		ug/L		88508	0.154
Ba	137	48.167	ug/L	2.678	155953	0.271
Ho	165		ug/L		67	0.000
> Lu	175		ug/L		575619	575619.407
Tl	205	45.432	ug/L	3.509	1186750	2.056
Pb	208	51.863	ug/L	2.659	2100120	3.649
Bi	209		ug/L		1624115	2.822
Th	232	48.111	ug/L	3.237	2392178	4.156
U	238	50.169	ug/L	1.653	2741455	4.763

## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear 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
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
Sc	45		92.4			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
Ge	74		92.1			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
In	115		92.9			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
Lu	175		95.9			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected



## ICPMS#5 - Summary Report

Sample ID: 1202006055  
 Sample Date/Time: Sunday, January 03, 2010 21:05:29  
 Sample Type:  
 Sample Description: LANL 6020 DUP  
 Number of Replicates: 3  
 Batch ID: 937496[1]baj  
 Method File: c:\elandata\Method\6020 2.mth  
 Dataset File: c:\elandata\Dataset\100103\1202006055.107

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.201	ug/L	3.834	458	0.000
Be	9	0.003	ug/L	372.202	16	0.000
B	11	20.020	ug/L	4.269	9602	0.007
Na	23	190.746	ug/L	9.432	849645	0.639
Mg	24	17.410	ug/L	9.300	55776	0.041
Al	27	97.711	ug/L	10.191	417384	0.317
P	31	2.085	ug/L	56.307	7084	0.000
K	39	203.887	ug/L	1.812	1672871	0.836
Ca	43	92.400	ug/L	2.554	1463	0.001
> Sc	45		ug/L		1305189	1305188.667
Ti	47	2.289	ug/L	2.858	1903	0.001
V	51	-4.126	ug/L	28.863	-20256	-0.024
Cr	52	2.486	ug/L	9.885	12929	0.011
Cr	53		ug/L		402794	0.197
Mn	55	3.166	ug/L	2.238	30538	0.023
Fe	57	90.941	ug/L	1.542	20604	0.012
Co	59	0.079	ug/L	3.046	651	0.000
Ni	60	1.503	ug/L	2.271	2476	0.002
Cu	63		ug/L		4829	0.003
Cu	65	1.183	ug/L	2.271	2329	0.002
Zn	66	5.154	ug/L	1.573	6763	0.015
Zn	67		ug/L		71753	0.128
Zn	68		ug/L		9286	0.017
> Ge	74		ug/L		430170	430170.327
As	75	-0.233	ug/L	188.194	-670	-0.001
Se	77		ug/L		27503	0.046
Se	82	0.007	ug/L	1442.057	-23	0.000
Kr	83		ug/L		129	0.000
Sr	88	0.478	ug/L	0.929	6972	0.025
Y	89		ug/L		1506	0.005
Mo	98	0.087	ug/L	2.036	413	0.001
Ag	107	0.006	ug/L	27.903	81	0.000
Cd	111	0.003	ug/L	88.200	31	0.000
Cd	114		ug/L		46	0.000
> In	115		ug/L		272272	272271.934
Sn	120	0.502	ug/L	1.829	3714	0.012
Sb	121	0.013	ug/L	10.139	467	0.000
Sb	123		ug/L		369	0.000
Ba	135		ug/L		4028	0.007
Ba	137	2.203	ug/L	1.691	7097	0.012
Ho	165		ug/L		141	0.000
> Lu	175		ug/L		569038	569038.137
Tl	205	0.212	ug/L	7.834	9281	0.010
Pb	208	0.181	ug/L	0.777	7621	0.013
Bi	209		ug/L		443	0.000
Th	232	0.032	ug/L	3.276	2426	0.003
U	238	0.006	ug/L	2.526	703	0.001

# Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear 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
[	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		92.4			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		91.6			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		92.0			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		94.8			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202006056

Sample Date/Time: Sunday, January 03, 2010 21:11:40

Sample Type:

Sample Description: LANL 6020 MS

Number of Replicates: 3

Batch ID: 937496|1|baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: c:\elandata\Dataset\100103\1202006056.108

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	51.055	ug/L	1.216	100161	0.076
Be	9	51.597	ug/L	2.412	23365	0.018
B	11	114.857	ug/L	2.740	52844	0.040
Na	23	2029.581	ug/L	6.099	9004841	6.797
Mg	24	1873.785	ug/L	3.197	5883013	4.449
Al	27	2072.312	ug/L	6.068	8882356	6.717
P	31	1732.758	ug/L	2.495	481439	0.359
K	39	2218.165	ug/L	2.362	12611216	9.095
Ca	43	2055.231	ug/L	1.693	27807	0.021
> Sc	45		ug/L		1321971	1321970.935
Ti	47	45.646	ug/L	0.882	32143	0.024
V	51	43.021	ug/L	3.233	337294	0.247
Cr	52	53.888	ug/L	0.162	318024	0.242
Cr	53		ug/L		376095	0.173
Mn	55	52.326	ug/L	0.632	494432	0.373
Fe	57	2297.114	ug/L	2.594	409245	0.306
Co	59	50.901	ug/L	1.685	371152	0.281
Ni	60	51.735	ug/L	1.226	84098	0.064
Cu	63		ug/L		200816	0.152
Cu	65	51.912	ug/L	1.777	98261	0.074
Zn	66	54.777	ug/L	1.037	69610	0.161
Zn	67		ug/L		82229	0.152
Zn	68		ug/L		54351	0.122
> Ge	74		ug/L		429866	429865.861
As	75	78.035	ug/L	1.841	100125	0.234
Se	77		ug/L		23964	0.038
Se	82	20.173	ug/L	0.683	2531	0.006
Kr	83		ug/L		139	0.000
Sr	88	53.817	ug/L	2.186	755157	2.811
Y	89		ug/L		1578	0.006
Mo	98	51.045	ug/L	2.536	188678	0.702
Ag	107	53.085	ug/L	1.154	330428	1.230
Cd	111	10.714	ug/L	3.428	17052	0.063
Cd	114		ug/L		38025	0.141
> In	115		ug/L		268601	268600.611
Sn	120	52.531	ug/L	2.387	347358	1.292
Sb	121	194.860	ug/L	2.518	1136105	4.230
Sb	123		ug/L		916344	3.411
Ba	135		ug/L		94113	0.165
Ba	137	52.109	ug/L	1.156	167260	0.293
Ho	165		ug/L		442	0.001
> Lu	175		ug/L		570457	570456.862
Tl	205	83.355	ug/L	7.452	2154625	3.772
Pb	208	42.998	ug/L	1.579	1726067	3.025
Bi	209		ug/L		764	0.001
Th	232	48.365	ug/L	3.827	2383749	4.178
U	238	50.239	ug/L	0.791	2721112	4.770

Sample ID: 1202006056

Report Date/Time: Sunday, January 03, 2010 21:14:24

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear 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
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		93.5			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		91.5			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		90.7			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		95.0			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202006057

Sample Date/Time: Sunday, January 03, 2010 21:17:49

Sample Type:

Sample Description: LANL 6020 SDILT

Number of Replicates: 3

Batch ID: 937496[5]ba]

Method File: c:\elandata\Method\6020 2.mth

Dataset File: c:\elandata\Dataset\100103\1202006057.109

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.038	ug/L	12.060	141	0.000
Be	9	0.006	ug/L	219.801	17	0.000
B	11	5.135	ug/L	6.750	2919	0.002
Na	23	37.324	ug/L	14.068	179467	0.125
Mg	24	3.393	ug/L	24.913	12339	0.008
Al	27	19.063	ug/L	11.097	84585	0.062
P	31	0.349	ug/L	509.733	6611	0.000
K	39	31.436	ug/L	5.093	749496	0.129
Ca	43	23.271	ug/L	3.472	547	0.000
> Sc	45		ug/L		1304185	1304185.338
Ti	47	0.433	ug/L	11.345	627	0.000
V	51	-0.468	ug/L	151.264	7176	-0.003
Cr	52	1.110	ug/L	15.953	4869	0.005
Cr	53		ug/L		210670	0.050
Mn	55	0.513	ug/L	4.457	5842	0.004
Fe	57	14.768	ug/L	4.412	7359	0.002
Co	59	0.016	ug/L	10.424	203	0.000
Ni	60	0.348	ug/L	2.928	623	0.000
Cu	63		ug/L		1288	0.001
Cu	65	0.236	ug/L	3.730	562	0.000
Zn	66	0.993	ug/L	1.358	1492	0.003
Zn	67		ug/L		26013	0.021
Zn	68		ug/L		3294	0.003
> Ge	74		ug/L		430966	430966.039
As	75	-0.151	ug/L	170.342	-569	-0.000
Se	77		ug/L		13274	0.013
Se	82	0.045	ug/L	203.679	-19	0.000
Kr	83		ug/L		112	-0.000
Sr	88	0.090	ug/L	1.512	1483	0.005
Y	89		ug/L		327	0.001
Mo	98	0.029	ug/L	16.896	199	0.000
Ag	107	0.001	ug/L	88.956	50	0.000
Cd	111	-0.005	ug/L	72.170	19	-0.000
Cd	114		ug/L		31	-0.000
> In	115		ug/L		276877	276877.172
Sn	120	0.109	ug/L	4.689	1095	0.003
Sb	121	0.199	ug/L	24.204	1591	0.004
Sb	123		ug/L		1233	0.003
Ba	135		ug/L		809	0.001
Ba	137	0.420	ug/L	0.490	1401	0.002
Ho	165		ug/L		51	0.000
> Lu	175		ug/L		574759	574758.576
Tl	205	2.426	ug/L	18.109	66993	0.110
Pb	208	0.035	ug/L	3.378	1814	0.002
Bi	209		ug/L		182	0.000
Th	232	0.027	ug/L	29.857	2223	0.002
U	238	0.000	ug/L	825.719	370	0.000

Sample ID: 1202006057

Report Date/Time: Sunday, January 03, 2010 21:20:34

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear 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
Li	7						
Be	9						
B	11						
Na	23						
Mg	24						
Al	27						
P	31						
K	39						
Ca	43						
> Sc	45		92.3				
Ti	47						
V	51						
Cr	52						
Cr	53						
Mn	55						
Fe	57						
Co	59						
Ni	60						
Cu	63						
Cu	65						
Zn	66						
Zn	67						
Zn	68						
> Ge	74		91.7				
As	75						
Se	77						
Se	82						
Kr	83						
Sr	88						
Y	89						
Mo	98						
Ag	107						
Cd	111						
Cd	114						
> In	115		93.5				
Sn	120						
Sb	121						
Sb	123						
Ba	135						
Ba	137						
Ho	165						
> Lu	175		95.7				
Tl	205						
Pb	208						
Bi	209						
Th	232						
U	238						

## QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

## QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Sunday, January 03, 2010 21:23:57

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 8.110

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	54.665	ug/L	1.381	100954	0.081
Be	9	52.535	ug/L	0.970	22396	0.018
B	11	94.494	ug/L	1.624	41035	0.032
Na	23	4257.176	ug/L	2.453	17765242	14.258
Mg	24	4503.960	ug/L	2.983	13311736	10.695
Al	27	4558.806	ug/L	3.094	18387448	14.775
P	31	4195.219	ug/L	2.290	1088361	0.870
K	39	5304.701	ug/L	9.661	27608835	21.751
Ca	43	4897.980	ug/L	0.832	62082	0.050
> Sc	45		ug/L		1244614	1244614.189
Ti	47	48.215	ug/L	3.326	31939	0.025
V	51	49.408	ug/L	3.595	363118	0.284
Cr	52	50.429	ug/L	3.166	280002	0.226
Cr	53		ug/L		153052	0.012
Mn	55	52.270	ug/L	1.606	464939	0.373
Fe	57	5334.489	ug/L	1.231	888640	0.710
Co	59	51.244	ug/L	3.314	351653	0.283
Ni	60	51.724	ug/L	1.370	79153	0.064
Cu	63		ug/L		186718	0.150
Cu	65	50.776	ug/L	1.495	90482	0.073
Zn	66	49.853	ug/L	2.299	63023	0.147
Zn	67		ug/L		26746	0.023
Zn	68		ug/L		47839	0.107
> Ge	74		ug/L		427627	427627.258
As	75	48.099	ug/L	2.876	61227	0.144
Se	77		ug/L		11011	0.008
Se	82	50.287	ug/L	2.739	6310	0.015
Kr	83		ug/L		115	0.000
Sr	88	50.957	ug/L	2.579	736671	2.662
Y	89		ug/L		102	0.000
Mo	98	48.727	ug/L	2.482	185592	0.670
Ag	107	50.665	ug/L	2.811	324867	1.174
Cd	111	49.460	ug/L	1.444	81026	0.293
Cd	114		ug/L		190133	0.687
> In	115		ug/L		276732	276732.281
Sn	120	50.904	ug/L	1.012	346837	1.252
Sb	121	50.169	ug/L	1.654	301706	1.089
Sb	123		ug/L		236649	0.854
Ba	135		ug/L		87019	0.151
Ba	137	48.107	ug/L	4.467	156099	0.271
Ho	165		ug/L		55	0.000
> Lu	175		ug/L		577038	577037.634
Tl	205	46.438	ug/L	1.708	1216637	2.102
Pb	208	51.376	ug/L	3.019	2085400	3.615
Bi	209		ug/L		590	0.001
Th	232	47.973	ug/L	1.204	2391951	4.144
U	238	49.553	ug/L	2.259	2714178	4.705

Sample ID: QC Std 8

Report Date/Time: Sunday, January 03, 2010 21:26:40

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear 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
Li	7	109.329				
Be	9	105.069				
B	11	94.494				
Na	23	85.144				
Mg	24	90.079				
Al	27	90.273				
P	31	83.904				
K	39	106.094				
Ca	43	97.960				
> Sc	45		88.1			
Ti	47	96.429				
V	51	98.816				
Cr	52	100.858				
Cr	53					
Mn	55	104.540				
Fe	57	106.690				
Co	59	102.487				
Ni	60	103.449				
Cu	63					
Cu	65	101.553				
Zn	66	99.705				
Zn	67					
Zn	68					
> Ge	74		91.0			
As	75	96.198				
Se	77					
Se	82	100.575				
Kr	83					
Sr	88	101.914				
Y	89					
Mo	98	97.453				
Ag	107	101.331				
Cd	111	98.920				
Cd	114					
> In	115		93.5			
Sn	120	101.809				
Sb	121	100.338				
Sb	123					
Ba	135					
Ba	137	96.213				
Ho	165					
> Lu	175		96.1			
Tl	205	92.875				
Pb	208	102.752				
Bi	209					
Th	232	95.947				
U	238	99.107				

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 8	Na		23CCV is out of limits (+/- 10%)
QC Std 8	P		31CCV is out of limits (+/- 10%)

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Sunday, January 03, 2010 21:30:05

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 9.111

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.016	ug/L	23.410	95	0.000
Be	9	0.014	ug/L	52.113	20	0.000
B	11	1.768	ug/L	28.999	1351	0.001
Na	23	-0.459	ug/L	265.514	13674	-0.002
Mg	24	0.072	ug/L	454.137	2000	0.000
Al	27	0.282	ug/L	80.735	5001	0.001
P	31	-2.025	ug/L	38.093	5734	-0.000
K	39	2.514	ug/L	175.414	571551	0.010
Ca	43	5.940	ug/L	34.093	305	0.000
> Sc	45		ug/L		1253674	1253673.646
Ti	47	0.004	ug/L	1299.825	318	0.000
V	51	-0.637	ug/L	43.352	5681	-0.004
Cr	52	0.203	ug/L	50.599	-414	0.001
Cr	53		ug/L		118805	-0.016
Mn	55	-0.003	ug/L	127.834	1000	-0.000
Fe	57	1.129	ug/L	107.817	4797	0.000
Co	59	0.003	ug/L	48.107	103	0.000
Ni	60	0.008	ug/L	43.015	75	0.000
Cu	63		ug/L		289	0.000
Cu	65	0.013	ug/L	40.702	140	0.000
Zn	66	0.005	ug/L	178.604	235	0.000
Zn	67		ug/L		15712	-0.002
Zn	68		ug/L		1678	-0.000
> Ge	74		ug/L		424110	424109.894
As	75	0.430	ug/L	54.783	176	0.001
Se	77		ug/L		6302	-0.003
Se	82	0.159	ug/L	63.663	-4	0.000
Kr	83		ug/L		108	-0.000
Sr	88	0.003	ug/L	41.577	224	0.000
Y	89		ug/L		61	0.000
Mo	98	0.034	ug/L	35.500	216	0.000
Ag	107	0.004	ug/L	26.396	69	0.000
Cd	111	0.002	ug/L	181.181	30	0.000
Cd	114		ug/L		46	0.000
> In	115		ug/L		275832	275831.809
Sn	120	0.099	ug/L	22.306	1031	0.002
Sb	121	0.256	ug/L	19.824	1927	0.006
Sb	123		ug/L		1516	0.004
Ba	135		ug/L		40	0.000
Ba	137	0.002	ug/L	39.977	50	0.000
Ho	165		ug/L		31	0.000
> Lu	175		ug/L		569539	569539.123
Tl	205	1.475	ug/L	13.084	41819	0.067
Pb	208	0.006	ug/L	21.923	628	0.000
Bi	209		ug/L		163	-0.000
Th	232	0.058	ug/L	23.302	3724	0.005
U	238	0.009	ug/L	17.821	860	0.001

Sample ID: QC Std 9

Report Date/Time: Sunday, January 03, 2010 21:32:49

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear 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
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		88.7			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		90.3			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		93.2			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		94.9			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 9	TI	205	CCB is out of limits (+/- PQL)

### QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: 243631001

Sample Date/Time: Sunday, January 03, 2010 21:54:52

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 937496|1|baj

Method File: c:\elandata\Method\6020 2.mth

Dataset File: c:\elandata\Dataset\100103\243631001.115

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.112	ug/L	13.777	280	0.000
Be	9	0.013	ug/L	52.035	20	0.000
B	11	19.408	ug/L	4.584	9184	0.007
Na	23	70.271	ug/L	16.180	318567	0.235
Mg	24	3.008	ug/L	37.479	11005	0.007
Al	27	5.713	ug/L	32.406	27695	0.019
P	31	0.995	ug/L	144.000	6684	0.000
K	39	126.551	ug/L	7.019	1239976	0.519
Ca	43	44.749	ug/L	2.984	819	0.000
> Sc	45		ug/L		1285174	1285174.175
Ti	47	0.641	ug/L	11.374	758	0.000
V	51	-5.015	ug/L	3.015	-26485	-0.029
Cr	52	0.049	ug/L	220.959	-1323	0.000
Cr	53		ug/L		413238	0.210
Mn	55	0.436	ug/L	2.773	5054	0.003
Fe	57	8.385	ug/L	3.973	6159	0.001
Co	59	0.005	ug/L	44.130	122	0.000
Ni	60	0.128	ug/L	7.242	266	0.000
Cu	63		ug/L		3696	0.003
Cu	65	0.908	ug/L	3.001	1787	0.001
Zn	66	1.343	ug/L	5.338	1883	0.004
Zn	67		ug/L		69635	0.127
Zn	68		ug/L		5656	0.009
> Ge	74		ug/L		418905	418905.070
As	75	-0.913	ug/L	27.110	-1511	-0.003
Se	77		ug/L		28990	0.051
Se	82	0.121	ug/L	54.592	-9	0.000
Kr	83		ug/L		113	0.000
Sr	88	0.132	ug/L	0.925	2001	0.007
Y	89		ug/L		116	0.000
Mo	98	0.007	ug/L	27.241	109	0.000
Ag	107	0.000	ug/L	450.822	47	0.000
Cd	111	-0.004	ug/L	135.637	20	-0.000
Cd	114		ug/L		51	0.000
> In	115		ug/L		265661	265660.558
Sn	120	0.161	ug/L	2.495	1395	0.004
Sb	121	-0.009	ug/L	10.851	325	-0.000
Sb	123		ug/L		234	-0.000
Ba	135		ug/L		1327	0.002
Ba	137	0.714	ug/L	5.886	2286	0.004
Ho	165		ug/L		26	0.000
> Lu	175		ug/L		559081	559081.148
Tl	205	0.190	ug/L	6.398	8558	0.009
Pb	208	0.049	ug/L	1.555	2288	0.003
Bi	209		ug/L		137	-0.000
Th	232	-0.001	ug/L	95.008	790	-0.000
U	238	-0.002	ug/L	20.384	245	-0.000

Sample ID: 243631001

Report Date/Time: Sunday, January 03, 2010 21:57:38

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear 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
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		90.9			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		89.2			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		89.7			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		93.1			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Sunday, January 03, 2010 22:07:16

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 8.117

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	55.419	ug/L	3.019	98446	0.082
Be	9	52.258	ug/L	4.036	21427	0.018
B	11	95.508	ug/L	1.997	39893	0.033
Na	23	4325.369	ug/L	6.997	17342072	14.486
Mg	24	4923.343	ug/L	7.803	13995807	11.691
Al	27	4724.130	ug/L	5.708	18326693	15.311
P	31	4185.519	ug/L	2.490	1044661	0.868
K	39	5087.719	ug/L	4.500	25503906	20.861
Ca	43	4797.898	ug/L	1.326	58508	0.049
> Sc	45		ug/L		1197621	1197620.585
Ti	47	48.699	ug/L	3.151	31031	0.026
V	51	48.760	ug/L	2.593	344916	0.280
Cr	52	50.321	ug/L	2.733	268808	0.226
Cr	53		ug/L		157816	0.021
Mn	55	52.855	ug/L	2.380	452311	0.377
Fe	57	5487.318	ug/L	3.882	878973	0.731
Co	59	51.772	ug/L	3.556	341767	0.285
Ni	60	52.052	ug/L	3.068	76617	0.064
Cu	63		ug/L		179746	0.150
Cu	65	51.784	ug/L	3.321	88758	0.074
Zn	66	50.012	ug/L	3.155	60993	0.147
Zn	67		ug/L		26819	0.026
Zn	68		ug/L		46184	0.108
> Ge	74		ug/L		412649	412648.596
As	75	48.464	ug/L	4.095	59535	0.145
Se	77		ug/L		11238	0.009
Se	82	49.500	ug/L	1.785	5994	0.015
Kr	83		ug/L		113	0.000
Sr	88	51.570	ug/L	0.825	714338	2.694
Y	89		ug/L		91	0.000
Mo	98	49.347	ug/L	1.084	180063	0.679
Ag	107	51.438	ug/L	1.404	316002	1.192
Cd	111	50.116	ug/L	2.015	78645	0.297
Cd	114		ug/L		185052	0.698
> In	115		ug/L		265094	265094.180
Sn	120	51.485	ug/L	1.744	336028	1.266
Sb	121	50.694	ug/L	0.278	292063	1.100
Sb	123		ug/L		229292	0.864
Ba	135		ug/L		86251	0.154
Ba	137	48.026	ug/L	3.423	150998	0.270
Ho	165		ug/L		53	0.000
> Lu	175		ug/L		559101	559100.530
Tl	205	42.261	ug/L	3.869	1073202	1.913
Pb	208	52.262	ug/L	2.772	2055289	3.677
Bi	209		ug/L		607	0.001
Th	232	49.361	ug/L	2.558	2384101	4.264
U	238	50.312	ug/L	3.414	2669300	4.777

Sample ID: QC Std 8

Report Date/Time: Sunday, January 03, 2010 22:09:59

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear 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
Li	7	110.837				
Be	9	104.517				
B	11	95.508				
Na	23	86.507				
Mg	24	98.467				
Al	27	93.547				
P	31	83.710				
K	39	101.754				
Ca	43	95.958				
> Sc	45		84.7			
Ti	47	97.398				
V	51	97.521				
Cr	52	100.642				
Cr	53					
Mn	55	105.710				
Fe	57	109.746				
Co	59	103.543				
Ni	60	104.104				
Cu	63					
Cu	65	103.567				
Zn	66	100.023				
Zn	67					
Zn	68					
> Ge	74		87.8			
As	75	96.929				
Se	77					
Se	82	99.000				
Kr	83					
Sr	88	103.140				
Y	89					
Mo	98	98.694				
Ag	107	102.876				
Cd	111	100.232				
Cd	114					
> In	115		89.5			
Sn	120	102.970				
Sb	121	101.387				
Sb	123					
Ba	135					
Ba	137	96.052				
Ho	165					
> Lu	175		93.1			
Tl	205	84.522				
Pb	208	104.524				
Bi	209					
Th	232	98.722				
U	238	100.624				

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 8	Li	7	7CCV is out of limits (+/- 10%)
QC Std 8	Na	23	23CCV is out of limits (+/- 10%)
QC Std 8	P	31	31CCV is out of limits (+/- 10%)
QC Std 8	Ti	47	205CCV is out of limits (+/- 10%)

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Sunday, January 03, 2010 22:13:23

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020 2.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 9.118

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.004	ug/L	60.869	71	0.000
Be	9	0.012	ug/L	52.297	19	0.000
B	11	1.665	ug/L	29.590	1276	0.001
Na	23	-0.812	ug/L	233.940	12007	-0.003
Mg	24	-0.365	ug/L	54.985	667	-0.001
Al	27	-0.022	ug/L	1251.087	3667	-0.000
P	31	-0.759	ug/L	63.222	5911	-0.000
K	39	4.000	ug/L	211.388	564290	0.016
Ca	43	4.698	ug/L	26.950	282	0.000
> Sc	45		ug/L		1221863	1221863.107
Ti	47	-0.021	ug/L	209.606	294	-0.000
V	51	-0.736	ug/L	108.870	4814	-0.004
Cr	52	0.143	ug/L	34.461	-745	0.001
Cr	53		ug/L		122610	-0.011
Mn	55	0.000	ug/L	983.537	1005	0.000
Fe	57	1.640	ug/L	105.980	4755	0.000
Co	59	0.003	ug/L	45.784	103	0.000
Ni	60	0.007	ug/L	137.160	71	0.000
Cu	63		ug/L		287	0.000
Cu	65	0.021	ug/L	54.090	150	0.000
Zn	66	0.011	ug/L	295.187	239	0.000
Zn	67		ug/L		15843	-0.001
Zn	68		ug/L		1759	-0.000
> Ge	74		ug/L		418641	418641.475
As	75	0.640	ug/L	19.036	436	0.002
Se	77		ug/L		6523	-0.002
Se	82	0.193	ug/L	78.887	-0	0.000
Kr	83		ug/L		104	-0.000
Sr	88	0.002	ug/L	48.066	203	0.000
Y	89		ug/L		54	-0.000
Mo	98	0.037	ug/L	24.767	221	0.001
Ag	107	0.004	ug/L	48.336	72	0.000
Cd	111	0.003	ug/L	184.458	31	0.000
Cd	114		ug/L		46	0.000
> In	115		ug/L		268613	268613.106
Sn	120	0.104	ug/L	15.704	1031	0.003
Sb	121	0.215	ug/L	27.470	1634	0.005
Sb	123		ug/L		1339	0.004
Ba	135		ug/L		39	0.000
Ba	137	0.001	ug/L	117.343	46	0.000
Ho	165		ug/L		29	0.000
> Lu	175		ug/L		562568	562568.061
Tl	205	1.477	ug/L	15.538	41352	0.067
Pb	208	0.006	ug/L	12.473	605	0.000
Bi	209		ug/L		150	-0.000
Th	232	0.056	ug/L	28.662	3557	0.005
U	238	0.008	ug/L	19.780	804	0.001

Sample ID: QC Std 9

Report Date/Time: Sunday, January 03, 2010 22:16:07

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## Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear 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
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		86.5			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		89.1			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		90.7			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		93.7			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

## QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 9	Ti	205	CCB is out of limits (+/- PQL)

## QC Action

QC Action Line: Continue

## ICPMS#5 - Summary Report

Sample ID: Blank

Sample Date/Time: Monday, January 04, 2010 03:00:44

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\l only.mth

Dataset File: c:\elandata\Dataset\100103\Blank.165

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Lu	175		ug/L		596146	
[	Tl	205		ug/L		7880	

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
>	Lu	175					
[	Tl	205					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Monday, January 04, 2010 03:05:14

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\l only.mth

Dataset File: c:\elandata\Dataset\100103\Standard 1.166

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		605505	605504.907
[	TI	205	10.000	ug/L	0.671	277145	0.444

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
TI	205	Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[>	Lu	175					
[	TI	205					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Monday, January 04, 2010 03:09:41

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\I only.mth

Dataset File: c:\elandata\Dataset\100103\Standard 2.167

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		596316	596315.906
[	Tl	205	99.932	ug/L	0.643	2488601	4.160

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[>	Lu	175					
[	Tl	205					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Monday, January 04, 2010 03:14:08

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\l only.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 1.168

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		598574	598573.597
[	Tl	205	50.602	ug/L	2.935	1268364	2.106

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[>	Lu	175			100.4			
[	Tl	205	101.204					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Monday, January 04, 2010 03:18:38

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\l only.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 2.169

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu	175		ug/L		601493	601493.184
[ TI	205	0.280	ug/L	2.707	14961	0.012

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
TI	205	Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[> Lu	175		100.9			
[ TI	205					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Monday, January 04, 2010 03:23:08

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\l only.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 3.170

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		599565	599565.431
[	Tl	205	1.079	ug/L	3.158	34851	0.045

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[>	Lu	175			100.6			
[	Tl	205	107.888					

### 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 4

Sample Date/Time: Monday, January 04, 2010 03:27:37

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\tl only.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 4.171

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu	175		ug/L		534642	534642.011
[ TI	205	0.001	ug/L	1094.628	7082	0.000

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
TI	205	Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[> Lu	175		89.7			
[ TI	205					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected



## ICPMS#5 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Monday, January 04, 2010 03:32:06

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\tl only.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 5.172

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		537331	537330.943
[	Tl	205	19.883	ug/L	1.610	451842	0.828

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution %	Duplicate Rel. % Difference
[>	Lu	175		90.1			
[	Tl	205	99.415				

### 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, January 04, 2010 03:36:36

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\l only.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 6.173

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		589465	589465.449
[	Tl	205	49.939	ug/L	1.296	1233125	2.079

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel.	% Difference
[>	Lu	175			98.9			
[	Tl	205	99.878					

### 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 7

Sample Date/Time: Monday, January 04, 2010 03:41:07

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\tl only.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 7.174

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		599306	599305.501
[	Tl	205	0.178	ug/L	4.831	12370	0.007

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte	Mass	QC Std	% Recovery	Int Std	% Recovery	Spike	% Recovery	Dilution	% Dil	Duplicate	Rel. % Difference
[>	Lu	175					100.5					
[	Tl	205										

### QC Out Of Limits

Measurement Type    Analyte    Mass    Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Monday, January 04, 2010 04:17:20

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\l only.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 8.182

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		596539	596538.623
[	TI	205	47.359	ug/L	1.528	1183986	1.971

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
TI	205	Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[>	Lu	175		100.1			
[	TI	205	94.718				

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Monday, January 04, 2010 04:21:51

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\Ti only.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 9.183

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		603204	603204.213
[	Ti	205	0.211	ug/L	4.952	13275	0.009

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Ti	205	Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[>	Lu	175		101.2			
[	Ti	205					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202006053

Sample Date/Time: Monday, January 04, 2010 04:26:24

Sample Type:

Sample Description: LANL 6020 MB

Number of Replicates: 3

Batch ID: 937496|1|ba|

Method File: c:\elandata\Method\l only.mth

Dataset File: c:\elandata\Dataset\100103\1202006053.184

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		578748	578747.932
[	Tl	205	-0.027	ug/L	14.025	7001	-0.001

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[>	Lu	175		97.1			
[	Tl	205					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202006054

Sample Date/Time: Monday, January 04, 2010 04:30:58

Sample Type:

Sample Description: LANL 6020 LCS

Number of Replicates: 3

Batch ID: 937496|1|baj

Method File: c:\elandata\Method\tl only.mth

Dataset File: c:\elandata\Dataset\100103\1202006054.185

### Concentration Results

	Analyte	Mass	Conc.	Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175			ug/L		574321	574320.510
[	TI	205	43.679		ug/L	0.096	1051865	1.818

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
TI	205	Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[>	Lu	175		96.3			
[	TI	205					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202006055

Sample Date/Time: Monday, January 04, 2010 04:44:42

Sample Type:

Sample Description: LANL 6020 DUP

Number of Replicates: 3

Batch ID: 937496|1|baj

Method File: c:\elandata\Method\tl only.mth

Dataset File: c:\elandata\Dataset\100103\1202006055.188

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		575607	575606.900
[	Tl	205	-0.062	ug/L	8.957	6112	-0.003

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[>	Lu	175		96.6			
[	Tl	205					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected



## ICPMS#5 - Summary Report

Sample ID: 1202006056

Sample Date/Time: Monday, January 04, 2010 04:49:17

Sample Type:

Sample Description: LANL 6020 MS

Number of Replicates: 3

Batch ID: 937496|1|baj

Method File: c:\elandata\Method\l only.mth

Dataset File: c:\elandata\Dataset\100103\1202006056.189

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu	175		ug/L		580468	580468.333
[ TI	205	81.733	ug/L	1.225	1982568	3.402

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
TI	205	Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[> Lu	175		97.4			
[ TI	205					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 1202006057

Sample Date/Time: Monday, January 04, 2010 04:53:50

Sample Type:

Sample Description: LANL 6020 SDILT

Number of Replicates: 3

Batch ID: 937496|5|baj

Method File: c:\elandata\Method\l only.mth

Dataset File: c:\elandata\Dataset\100103\1202006057.190

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu	175		ug/L		600864	600863.575
[ TI	205	0.650	ug/L	0.793	24210	0.027

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
TI	205	Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[> Lu	175		100.8			
[ TI	205					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Monday, January 04, 2010 04:58:21

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\I only.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 8.191

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		596768	596767.600
[	Tl	205	47.212	ug/L	0.859	1180761	1.965

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[>	Lu	175			100.1		
[	Tl	205	94.424				

### 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 9

Sample Date/Time: Monday, January 04, 2010 05:02:53

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\I only.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 9.192

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		604894	604894.389
[	Tl	205	0.327	ug/L	1.303	16231	0.014

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[>	Lu	175		101.5			
[	Tl	205					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: 243631001

Sample Date/Time: Monday, January 04, 2010 05:21:10

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 937496|1|baj

Method File: c:\elandata\Method\l only.mth

Dataset File: c:\elandata\Dataset\100103\243631001.196

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175	ug/L		581710	581710.317
[	Tl	205	-0.133 ug/L	4.013	4474	-0.006

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[>	Lu	175		97.6		
[	Tl	205				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Monday, January 04, 2010 05:30:19

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\I only.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 8.198

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu	175		ug/L		593405	593405.412
[ TI	205	45.103	ug/L	1.547	1121952	1.878

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
TI	205	Linear Thru Zero	1.0000

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel.	% Difference
[> Lu	175			99.5			
[ TI	205	90.207					

### 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 9

Sample Date/Time: Monday, January 04, 2010 05:34:50

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\tl only.mth

Dataset File: c:\elandata\Dataset\100103\QC Std 9.199

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		598966	598965.639
[	Tl	205	0.211	ug/L	2.239	13181	0.009

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[>	Lu	175		100.5			
[	Tl	205					

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS #5 Daily Performance Report

### Sample ID: Sample

Sample Date/Time: Monday, January 04, 2010 10:41:22

Sample Description:

Method File: c:\elandata\Method\Daily2.mth

Dataset File: c:\elandata\Dataset\default2\Sample.1649

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		3512.2		3512.232		128.283		3.7
Mg	24.0		47233.8		47233.766		549.550		1.2
Co	58.9		91025.3		91025.285		607.526		0.7
Rh	102.9		159862.9		159862.908		854.487		0.5
In	114.9		235956.6		235956.608		2146.407		0.9
Pb	208.0		253887.3		253887.313		2157.230		0.8
[> Ba	137.9		224624.4		224624.356		2155.436		1.0
[ Ba++	69.0		4388.7		0.020		0.000		1.4
[> Ce	139.9		272378.1		272378.061		2256.038		0.8
[ CeO	155.9		6598.6		0.024		0.000		0.5
Bkgd	220.0		17.5		17.500		4.373		25.0

### Current Optimization File Data

Current Value	Description
0.85	Nebulizer Gas Flow
7.00	Lens Voltage
1450.00	ICP RF Power
-1687.50	Analog Stage Voltage
1200.00	Pulse Stage Voltage
275.00	Discriminator Threshold
-6.00	AC Rod Offset

### Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	17	7.3	4566.4
Co	59	17	8.3	89391.5
In	115	17	9.5	240006.3



## ICPMS #5 Instrument Tuning Report

File Name: default2.tun  
File Path: c:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width
He	3.0	3.0	599	2065	0.576
Be	9.0	9.0	2054	2070	0.606
Mg	24.0	24.0	5691	2070	0.612
Mg	25.0	25.0	5943	2070	0.610
Mg	26.0	25.9	6158	2070	0.637
Co	58.9	58.9	14184	2105	0.603
Rh	102.9	102.9	24870	2165	0.605
In	114.9	114.9	27796	2185	0.592
Ce	139.9	139.9	33868	2200	0.621
Pb	206.0	206.0	49948	2270	0.640
Pb	207.0	207.0	50171	2235	0.676
Pb	208.0	208.0	50439	2260	0.704
U	238.1	238.0	57722	2275	0.705

## ICPMS#5 - Summary Report

Sample ID: Blank

Sample Date/Time: Monday, January 04, 2010 16:23:17

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\w only.mth

Dataset File: C:\elandata\Dataset\100104\Blank.114

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		586177	
[	U	238		ug/L		1220	

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[>	Lu	175					
[	U	238					

### QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Monday, January 04, 2010 16:24:56

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only.mth

Dataset File: C:\elandata\Dataset\100104\Standard 1.115

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		585004	585004.384
[	U	238	10.000	ug/L	1.183	562031	0.959

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
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
[>	Lu	175					
[	U	238					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Monday, January 04, 2010 16:26:33

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\w only.mth

Dataset File: C:\elandata\Dataset\100104\Standard 2.116

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175	ug/L		583259	583258.924
[	U	238	99.822 ug/L	0.380	4737625	8.121

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[>	Lu	175				
[	U	238				

### QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Monday, January 04, 2010 16:28:11

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\w only.mth

Dataset File: C:\elandata\Dataset\100104\QC Std 1.117

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		583537	583537.048
[	U	238	53.585	ug/L	2.136	2544741	4.359

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[>	Lu	175		99.5			
[	U	238	107.171				

### 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 2

Sample Date/Time: Monday, January 04, 2010 16:29:51

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only.mth

Dataset File: C:\elandata\Dataset\100104\QC Std 2.118

### Concentration Results

	Analyte	Mass	Conc.	Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175			ug/L		588345	588345.375
[	U	238	0.025		ug/L	0.731	2398	0.002

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel.	% Difference
[>	Lu	175		100.4				
[	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, January 04, 2010 16:31:31

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only.mth

Dataset File: C:\elandata\Dataset\100104\QC Std 3.119

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu	175		ug/L		590298	590297.995
[ U	238	0.257	ug/L	1.625	13592	0.021

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	0.9998

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[> Lu	175		100.7			
[ U	238	128.713				

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Monday, January 04, 2010 16:33:09

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only.mth

Dataset File: C:\elandata\Dataset\100104\QC Std 4.120

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu	175		ug/L		522438	522438.443
[ U	238	-0.017	ug/L	0.827	345	-0.001

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[> Lu	175		89.1				
[ 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 5

Sample Date/Time: Monday, January 04, 2010 16:34:49

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\w only.mth

Dataset File: C:\elandata\Dataset\100104\QC Std 5.121

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		520311	520311.255
[	U	238	23.875	ug/L	0.369	1011667	1.942

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel.	% Difference
[>	Lu	175		88.8				
[	U	238	119.374					

### 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, January 04, 2010 16:36:27

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lu only.mth

Dataset File: C:\elandata\Dataset\100104\QC Std 6.122

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		580507	580507.106
[	U	238	52.699	ug/L	0.348	2489978	4.287

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[>	Lu	175		99.0				
[	U	238	105.397					

### 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, January 04, 2010 16:38:07

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\w only.mth

Dataset File: C:\elandata\Dataset\100104\QC Std 7.123

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		595661	595660.731
[	U	238	0.018	ug/L	2.469	2134	0.002

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[>	Lu	175		101.6				
[	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: 1202006053

Sample Date/Time: Monday, January 04, 2010 16:39:50

Sample Type:

Sample Description: LANL 6020 MB

Number of Replicates: 3

Batch ID: 937496|1|baj

Method File: c:\elandata\Method\w only.mth

Dataset File: C:\elandata\Dataset\100104\1202006053.124

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		570389	570389.292
[	U	238	-0.019	ug/L	2.904	311	-0.002

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std	% Recovery	Int Std	% Recovery	Spike	% Recovery	Dilution	% Dil	Duplicate	Rel. % Difference
[>	Lu	175					97.3					
[	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: 1202006054

Sample Date/Time: Monday, January 04, 2010 16:41:33

Sample Type:

Sample Description: LANL 6020 LCS

Number of Replicates: 3

Batch ID: 937496|1|ba|

Method File: c:\elandata\Method\only.mth

Dataset File: C:\elandata\Dataset\100104\1202006054.125

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		573970	573969.546
[	U	238	54.373	ug/L	2.422	2539347	4.423

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[>	Lu	175		97.9				
[	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: 1202006055

Sample Date/Time: Monday, January 04, 2010 16:46:48

Sample Type:

Sample Description: LANL 6020 DUP

Number of Replicates: 3

Batch ID: 937496|1|ba|

Method File: c:\elandata\Method\only.mth

Dataset File: C:\elandata\Dataset\100104\1202006055.128

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		576530	576530.449
[	U	238	-0.010	ug/L	3.607	719	-0.001

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[>	Lu	175		98.4			
[	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: 1202006056

Sample Date/Time: Monday, January 04, 2010 16:48:32

Sample Type:

Sample Description: LANL 6020 MS

Number of Replicates: 3

Batch ID: 937496|1|baj

Method File: c:\elandata\Method\only.mth

Dataset File: C:\elandata\Dataset\100104\1202006056.129

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu	175		ug/L		578122	578121.593
[ U	238	55.382	ug/L	2.790	2605685	4.506

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[> Lu	175		98.6			
[ 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: 1202006057

Sample Date/Time: Monday, January 04, 2010 16:50:15

Sample Type:

Sample Description: LANL 6020 SDILT

Number of Replicates: 3

Batch ID: 937496[S|ba]

Method File: c:\elandata\Method\only.mth

Dataset File: C:\elandata\Dataset\100104\1202006057.130

### Concentration Results

	Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175	ug/L		587244	587244.187
[	U	238	-0.005 ug/L	17.089	964	-0.000

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[>	Lu	175		100.2		
[	U	238				

### QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
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### QC Action

QC Action Line: No QC out of limits detected



## ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Monday, January 04, 2010 16:51:56

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\w only.mth

Dataset File: C:\elandata\Dataset\100104\QC Std 8.131

### Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[> Lu	175		ug/L		583515	583514.717
[ U	238	54.035	ug/L	0.152	2566294	4.396

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

### QC Calculated Values

Analyte	Mass	QC Std	% Recovery	Int Std	% Recovery	Spike	% Recovery	Dilution	% Duplicate	Rel. % Difference
[> Lu	175					99.5				
[ U	238		108.069							

### 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 9

Sample Date/Time: Monday, January 04, 2010 16:53:35

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\w only.mth

Dataset File: C:\elandata\Dataset\100104\QC Std 9.132

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		584261	584261.120
[	U	238	0.021	ug/L	3.611	2232	0.002

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std	% Recovery	Int Std	% Recovery	Spike	% Recovery	Dilution	% Dil	Duplicate	Rel. % Difference
[>	Lu	175					99.7					
[	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: 243631001

Sample Date/Time: Monday, January 04, 2010 17:00:33

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 937496|1|baj

Method File: c:\elandata\Method\w only.mth

Dataset File: C:\elandata\Dataset\100104\243631001.136

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Lu	175		ug/L		578531	578530.511
U	U	238	-0.019	ug/L	1.450	317	-0.002

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution %	DiDuplicate	Rel. % Difference
>	Lu	175			98.7			
U	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 8

Sample Date/Time: Monday, January 04, 2010 17:04:01

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\w only.mth

Dataset File: C:\elandata\Dataset\100104\QC Std 8.138

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		583804	583803.943
[	U	238	53.852	ug/L	0.393	2558871	4.381

### Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[>	Lu	175		99.6				
[	U	238	107.705					

### QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

### QC Action

QC Action Line: No QC out of limits detected

## ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Monday, January 04, 2010 17:05:41

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\only.mth

Dataset File: C:\elandata\Dataset\100104\QC Std 9.139

### Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		586424	586424.060
[	U	238	0.019	ug/L	6.121	2127	0.002

### Calibration

Analyte	MassCurve Type	Correlation Coefficient
Lu	175Linear Thru Zero	
U	238Linear Thru Zero	0.9998

### QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[>	Lu	175		100.0				
[	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

=====  
Analysis Begun

Logged In Analyst: Administrator

Technique: AA FIMS-MHS

Spectrometer Model: FIMS-100, S/N B050-9550

Autosampler Model: S10

Sample Information File: C:\data-AA\Administrator\Sample Information\010810W1.SIF

Batch ID:

Results Data Set: 010810W1

Results Library: C:\data-AA\Administrator\Results\Results.mdb  
=====

## Method Loaded

Method Name: WATER

Method Last Saved: 12/28/2009 15:47:50

Method Description: 7470A, 245.2, ILM04 ANALYST JXL  
=====

Sequence No.: 1

Autosampler Location: 1

Sample ID: Calib Blank

Date Collected: 1/8/2010 09:05:01

Analyst:

Data Type: Original  
=====

## Replicate Data: Calib Blank

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1		[0.00]	0.0004	0.0012	0.0004	09:06:03	Yes
2		[0.00]	0.0004	0.0012	0.0004	09:06:38	Yes
Mean:		[0.00]	0.0004				
SD:		0.00	0.0000				
%RSD:		0.00	3.39				

Auto-zero performed.  
=====

Sequence No.: 2

Autosampler Location: 2

Sample ID: S0.2

Date Collected: 1/8/2010 09:06:57

Analyst:

Data Type: Original  
=====

## Replicate Data: S0.2

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1		[0.2]	0.0020	0.0107	0.0024	09:07:58	Yes
2		[0.2]	0.0019	0.0101	0.0023	09:08:33	Yes
Mean:		[0.2]	0.0019				
SD:		0.0	0.0001				
%RSD:		0.0	4.18				

Standard number 1 applied. [0.2]

Correlation Coef.: 1.000000 Slope: 0.00956 Intercept: 0.00000  
=====

Sequence No.: 3

Autosampler Location: 3

Sample ID: S0.5

Date Collected: 1/8/2010 09:08:52

Analyst:

Data Type: Original  
=====

## Replicate Data: S0.5

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1		[0.5]	0.0048	0.0241	0.0053	09:09:53	Yes
2		[0.5]	0.0048	0.0235	0.0052	09:10:28	Yes
Mean:		[0.5]	0.0048				
SD:		0.0	0.0000				
%RSD:		0.0	0.75				

Standard number 2 applied. [0.5]

Correlation Coef.: 0.999993 Slope: 0.00964 Intercept: -0.00001  
=====

Sequence No.: 4

Autosampler Location: 4

Sample ID: S2.0

Date Collected: 1/8/2010 09:10:47

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]	0.0200	0.0952	0.0204	09:11:49	Yes
2		[2.0]	0.0198	0.0946	0.0203	09:12:23	Yes
Mean:		[2.0]	0.0199				
SD:		0.0	0.0001				
%RSD:		0.0	0.46				

Standard number 3 applied. [2.0]  
Correlation Coef.: 0.999970 Slope: 0.00997 Intercept: -0.00008

Sequence No.: 5

Sample ID: S5.0

Analyst:

Autosampler Location: 5

Date Collected: 1/8/2010 09:12:43

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]	0.0509	0.2400	0.0513	09:13:45	Yes
2		[5.0]	0.0505	0.2386	0.0510	09:14:20	Yes
Mean:		[5.0]	0.0507				
SD:		0.0	0.0002				
%RSD:		0.0	0.45				

Standard number 4 applied. [5.0]  
Correlation Coef.: 0.999969 Slope: 0.01016 Intercept: -0.00017

Sequence No.: 6

Sample ID: S10.0

Analyst:

Autosampler Location: 6

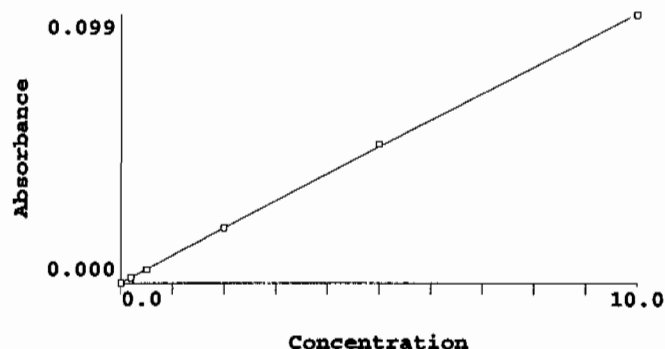
Date Collected: 1/8/2010 09:14:40

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]	0.0992	0.4709	0.0996	09:15:40	Yes
2		[10.0]	0.0992	0.4684	0.0997	09:16:15	Yes
Mean:		[10.0]	0.0992				
SD:		0.0	0.0001				
%RSD:		0.0	0.06				

Standard number 5 applied. [10.0]  
Correlation Coef.: 0.999934 Slope: 0.00996 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	-0.005	0.00	3.4
S0.2	0.0019	0.2	0.187	0.00	4.2
S0.5	0.0048	0.5	0.479	0.00	0.8
S2.0	0.0199	2.0	1.993	0.00	0.5

S5.0 0.0507 5.0 5.088 0.00 0.5  
S10.0 0.0992 10.0 9.959 0.00 0.1  
Correlation Coef.: 0.999934 Slope: 0.00996 Intercept: 0.00005

Sequence No.: 7

Autosampler Location: 9

Sample ID: ICV

Date Collected: 1/8/2010 09:16:34

Analyst:

Data Type: Original

## Replicate Data: ICV

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.242	5.242	0.0522	0.2467	0.0527	09:17:35	Yes
2	5.230	5.230	0.0521	0.2432	0.0526	09:18:11	Yes
Mean:	5.236	5.236	0.0522				
SD:	0.009	0.009	0.0001				
%RSD:	0.164	0.164	0.16				

QC value within limits for Hg 253.7 Recovery = 104.71%  
All analyte(s) passed QC.

Sequence No.: 8

Autosampler Location: 10

Sample ID: ICB

Date Collected: 1/8/2010 09:18:30

Analyst:

Data Type: Original

## Replicate Data: ICB

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.005	0.005	0.0001	0.0017	0.0005	09:19:32	Yes
2	0.006	0.006	0.0001	0.0014	0.0005	09:20:06	Yes
Mean:	0.005	0.005	0.0001				
SD:	0.001	0.001	0.0000				
%RSD:	10.31	10.31	5.22				

QC value within limits for Hg 253.7 Recovery = Not calculated  
All analyte(s) passed QC.

Sequence No.: 9

Autosampler Location: 11

Sample ID: CRDL

Date Collected: 1/8/2010 09:20:26

Analyst:

Data Type: Original

## Replicate Data: CRDL

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.212	0.212	0.0022	0.0115	0.0026	09:21:28	Yes
2	0.205	0.205	0.0021	0.0114	0.0025	09:22:03	Yes
Mean:	0.209	0.209	0.0021				
SD:	0.005	0.005	0.0001				
%RSD:	2.471	2.471	2.41				

QC value within limits for Hg 253.7 Recovery = 104.26%  
All analyte(s) passed QC.

Sequence No.: 10

Autosampler Location: 7

Sample ID: CCV

Date Collected: 1/8/2010 09:22:23

Analyst:

Data Type: Original

## Replicate Data: CCV

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.214	5.214	0.0520	0.2452	0.0524	09:23:23	Yes
2	5.196	5.196	0.0518	0.2428	0.0522	09:23:59	Yes
Mean:	5.205	5.205	0.0519				
SD:	0.012	0.012	0.0001				
%RSD:	0.234	0.234	0.23				

QC value within limits for Hg 253.7 Recovery = 104.10%  
All analyte(s) passed QC.



Sequence No.: 11

Autosampler Location: 8

Sample ID: CCB

Date Collected: 1/8/2010 09:24:18

Analyst:

Data Type: Original

## Replicate Data: CCB

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.004	-0.004	0.0000	0.0015	0.0004	09:25:19	Yes
2	0.001	0.001	0.0001	0.0019	0.0005	09:25:54	Yes
Mean:	-0.001	-0.001	0.0000				
SD:	0.004	0.004	0.0000				
%RSD:	314.5	314.5	91.78				

QC value within limits for Hg 253.7 Recovery = Not calculated

All analyte(s) passed QC.

User canceled analysis.

-----  
Replicate Data: 243478001|937649|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.008	0.008	0.0001	0.0027	0.0006	09:43:21	Yes
2	0.014	0.014	0.0002	0.0032	0.0006	09:43:56	Yes
Mean:	0.011	0.011	0.0002				
SD:	0.004	0.004	0.0000				
%RSD:	35.60	35.60	24.00				

Sequence No.: 10

Autosampler Location: 21

Sample ID: 1202006482|937649|1

Date Collected: 1/8/2010 09:44:16

Analyst: JXL

Data Type: Original  
-----

## Replicate Data: 1202006482|937649|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.010	0.010	0.0002	0.0040	0.0006	09:45:17	Yes
2	0.012	0.012	0.0002	0.0049	0.0006	09:45:51	Yes
Mean:	0.011	0.011	0.0002				
SD:	0.001	0.001	0.0000				
%RSD:	12.00	12.00	8.16				

Sequence No.: 11

Autosampler Location: 7

Sample ID: CCV

Date Collected: 1/8/2010 09:46:11

Analyst:

Data Type: Original  
-----

## Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.203	5.203	0.0519	0.2471	0.0523	09:47:12	Yes
2	5.204	5.204	0.0519	0.2453	0.0523	09:47:46	Yes
Mean:	5.204	5.204	0.0519				
SD:	0.000	0.000	0.0000				
%RSD:	0.008	0.008	0.01				

QC value within limits for Hg 253.7 Recovery = 104.07%  
All analyte(s) passed QC.

Sequence No.: 12

Autosampler Location: 8

Sample ID: CCB

Date Collected: 1/8/2010 09:48:05

Analyst:

Data Type: Original  
-----

## Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.003	-0.003	0.0000	0.0019	0.0005	09:49:06	Yes
2	-0.006	-0.006	-0.0000	0.0017	0.0004	09:49:41	Yes
Mean:	-0.005	-0.005	0.0000				
SD:	0.002	0.002	0.0000				
%RSD:	42.25	42.25	633.13				

QC value within limits for Hg 253.7 Recovery = Not calculated  
All analyte(s) passed QC.

Sequence No.: 13

Autosampler Location: 22

Sample ID: 1202006483|937649|1

Date Collected: 1/8/2010 09:50:00

Analyst: JXL

Data Type: Original  
-----

## Replicate Data: 1202006483|937649|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.048	2.048	0.0204	0.0984	0.0209	09:51:02	Yes
2	2.041	2.041	0.0204	0.0977	0.0208	09:51:37	Yes
Mean:	2.045	2.045	0.0204				

SD: 0.005 0.005 0.0001  
%RSD: 0.269 0.269 0.27

Sequence No.: 14

Sample ID: 1202006484|937649|5

Analyst: JXL

Autosampler Location: 23

Date Collected: 1/8/2010 09:51:57

Data Type: Original

Replicate Data: 1202006484|937649|5

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.006	-0.006	-0.0000	0.0015	0.0004	09:52:58	Yes
2	0.000	0.000	0.0001	0.0019	0.0005	09:53:33	Yes
Mean:	-0.003	-0.003	0.0000				
SD:	0.004	0.004	0.0000				
%RSD:	134.4	134.4	219.53				

Sequence No.: 15

Sample ID: 243478003|937649|1

Analyst: JXL

Autosampler Location: 24

Date Collected: 1/8/2010 09:53:53

Data Type: Original

Replicate Data: 243478003|937649|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.001	-0.001	0.0000	0.0019	0.0005	09:54:55	Yes
2	0.001	0.001	0.0001	0.0025	0.0005	09:55:30	Yes
Mean:	0.000	0.000	0.0001				
SD:	0.002	0.002	0.0000				
%RSD:	>999.9%	>999.9%	34.18				

Sequence No.: 16

Sample ID: 1202006475|937647|1

Analyst: JXL

Autosampler Location: 25

Date Collected: 1/8/2010 09:55:50

Data Type: Original

Replicate Data: 1202006475|937647|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.006	-0.006	-0.0000	0.0023	0.0004	09:56:52	Yes
2	0.003	0.003	0.0001	0.0027	0.0005	09:57:27	Yes
Mean:	-0.001	-0.001	0.0000				
SD:	0.006	0.006	0.0001				
%RSD:	502.3	502.3	149.83				

Sequence No.: 17

Sample ID: 1202006479|937647|1

Analyst: JXL

Autosampler Location: 26

Date Collected: 1/8/2010 09:57:47

Data Type: Original

Replicate Data: 1202006479|937647|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	2.031	2.031	0.0203	0.1003	0.0207	09:58:48	Yes
2	2.024	2.024	0.0202	0.0986	0.0206	09:59:23	Yes
Mean:	2.027	2.027	0.0202				
SD:	0.005	0.005	0.0000				
%RSD:	0.245	0.245	0.24				

Sequence No.: 18

Sample ID: 243627001|937647|1

Analyst: JXL

Autosampler Location: 27

Date Collected: 1/8/2010 09:59:42

Data Type: Original

Replicate Data: 243627001|937647|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
------	------------	----------	---------	------	------	------	------

#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.017	0.017	0.0002	0.0051	0.0007	10:00:42	Yes
2	0.011	0.011	0.0002	0.0038	0.0006	10:01:17	Yes
Mean:	0.014	0.014	0.0002				
SD:	0.004	0.004	0.0000				
%RSD:	30.50	30.50	22.27				

Sequence No.: 19

Autosampler Location: 28

Sample ID: 1202006476|937647|1

Date Collected: 1/8/2010 10:01:37

Analyst: JXL

Data Type: Original

Replicate Data: 1202006476|937647|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.007	-0.007	-0.0000	0.0018	0.0004	10:02:37	Yes
2	0.001	0.001	0.0001	0.0020	0.0005	10:03:12	Yes
Mean:	-0.003	-0.003	0.0000				
SD:	0.006	0.006	0.0001				
%RSD:	173.3	173.3	293.14				

Sequence No.: 20

Autosampler Location: 29

Sample ID: 1202006478|937647|1

Date Collected: 1/8/2010 10:03:31

Analyst: JXL

Data Type: Original

Replicate Data: 1202006478|937647|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	2.043	2.043	0.0204	0.0986	0.0208	10:04:32	Yes
2	2.033	2.033	0.0203	0.0979	0.0207	10:05:07	Yes
Mean:	2.038	2.038	0.0203				
SD:	0.007	0.007	0.0001				
%RSD:	0.327	0.327	0.33				

Sequence No.: 21

Autosampler Location: 30

Sample ID: 1202006477|937647|5

Date Collected: 1/8/2010 10:05:26

Analyst: JXL

Data Type: Original

Replicate Data: 1202006477|937647|5

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.007	-0.007	-0.0000	0.0016	0.0004	10:06:26	Yes
2	0.000	0.000	0.0000	0.0021	0.0005	10:07:01	Yes
Mean:	-0.004	-0.004	0.0000				
SD:	0.005	0.005	0.0000				
%RSD:	128.6	128.6	343.06				

Sequence No.: 22

Autosampler Location: 31

Sample ID: 243629001|937647|1

Date Collected: 1/8/2010 10:07:20

Analyst: JXL

Data Type: Original

Replicate Data: 243629001|937647|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.001	-0.001	0.0000	0.0022	0.0005	10:08:21	Yes
2	-0.008	-0.008	-0.0000	0.0018	0.0004	10:08:56	Yes
Mean:	-0.004	-0.004	0.0000				
SD:	0.005	0.005	0.0000				
%RSD:	115.1	115.1	480.08				

Sequence No.: 23

Autosampler Location: 7

Sample ID: CCV

Date Collected: 1/8/2010 10:09:15

Analyst:

Data Type: Original

-----  
Replicate Data: CCV

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.267	5.267	0.0525	0.2501	0.0529	10:10:16	Yes
2	5.256	5.256	0.0524	0.2477	0.0528	10:10:51	Yes
Mean:	5.261	5.261	0.0524				
SD:	0.008	0.008	0.0001				
%RSD:	0.148	0.148	0.15				

QC value within limits for Hg 253.7 Recovery = 105.23%  
All analyte(s) passed QC.

=====

Sequence No.: 24

Sample ID: CCB

Analyst:

Autosampler Location: 8

Date Collected: 1/8/2010 10:11:10

Data Type: Original

-----  
Replicate Data: CCB

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.001	-0.001	0.0000	0.0023	0.0005	10:12:10	Yes
2	-0.004	-0.004	0.0000	0.0022	0.0004	10:12:45	Yes
Mean:	-0.002	-0.002	0.0000				
SD:	0.002	0.002	0.0000				
%RSD:	85.54	85.54	64.33				

QC value within limits for Hg 253.7 Recovery = Not calculated  
All analyte(s) passed QC.

=====

Sequence No.: 25

Sample ID: 243631001|937647|1

Analyst: JXL

Autosampler Location: 32

Date Collected: 1/8/2010 10:13:04

Data Type: Original

-----  
Replicate Data: 243631001|937647|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.004	-0.004	0.0000	0.0021	0.0004	10:14:05	Yes
2	-0.007	-0.007	0.0000	0.0022	0.0004	10:14:40	Yes
Mean:	-0.005	-0.005	0.0000				
SD:	0.002	0.002	0.0000				
%RSD:	38.91	38.91	>999.9%				

=====

Sequence No.: 26

Sample ID: 243632001|937647|1

Analyst: JXL

Autosampler Location: 33

Date Collected: 1/8/2010 10:15:00

Data Type: Original

-----  
Replicate Data: 243632001|937647|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.003	-0.003	0.0000	0.0023	0.0005	10:16:01	Yes
2	-0.001	-0.001	0.0000	0.0025	0.0005	10:16:35	Yes
Mean:	-0.002	-0.002	0.0000				
SD:	0.001	0.001	0.0000				
%RSD:	67.97	67.97	36.18				

=====

Sequence No.: 27

Sample ID: 1202006469|937645|1

Analyst: JXL

Autosampler Location: 34

Date Collected: 1/8/2010 10:16:55

Data Type: Original

-----  
Replicate Data: 1202006469|937645|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.002	0.002	0.0001	0.0026	0.0005	10:17:56	Yes
2	0.000	0.000	0.0001	0.0023	0.0005	10:18:31	Yes

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.001	-0.001	0.0000	0.0021	0.0005	10:27:38	Yes
2	-0.001	-0.001	0.0000	0.0021	0.0005	10:28:13	Yes
Mean:	-0.001	-0.001	0.0000				
SD:	0.000	0.000	0.0000				
%RSD:	25.49	25.49	7.12				

Sequence No.: 33  
Sample ID: 243554002|937645|1  
Analyst: JXL

Autosampler Location: 40  
Date Collected: 1/8/2010 10:28:33  
Data Type: Original

## Replicate Data: 243554002|937645|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.008	-0.008	-0.0000	0.0013	0.0004	10:29:34	Yes
2	-0.011	-0.011	-0.0001	0.0016	0.0004	10:30:08	Yes
Mean:	-0.010	-0.010	-0.0000				
SD:	0.002	0.002	0.0000				
%RSD:	23.56	23.56	53.42				

Sequence No.: 34  
Sample ID: 243554003|937645|1  
Analyst: JXL

Autosampler Location: 41  
Date Collected: 1/8/2010 10:30:28  
Data Type: Original

## Replicate Data: 243554003|937645|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.009	-0.009	-0.0000	0.0016	0.0004	10:31:29	Yes
2	-0.006	-0.006	-0.0000	0.0018	0.0004	10:32:04	Yes
Mean:	-0.007	-0.007	-0.0000				
SD:	0.002	0.002	0.0000				
%RSD:	29.53	29.53	103.23				

Sequence No.: 35  
Sample ID: CCV  
Analyst:

Autosampler Location: 7  
Date Collected: 1/8/2010 10:32:23  
Data Type: Original

## Replicate Data: CCV

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.193	5.193	0.0518	0.2507	0.0522	10:33:23	Yes
2	5.171	5.171	0.0515	0.2487	0.0520	10:33:58	Yes
Mean:	5.182	5.182	0.0516				
SD:	0.016	0.016	0.0002				
%RSD:	0.302	0.302	0.30				

QC value within limits for Hg 253.7 Recovery = 103.64%  
All analyte(s) passed QC.

Sequence No.: 36  
Sample ID: CCB  
Analyst:

Autosampler Location: 8  
Date Collected: 1/8/2010 10:34:17  
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	-0.0000	0.0016	0.0004	10:35:18	Yes
2	-0.004	-0.004	0.0000	0.0018	0.0004	10:35:53	Yes
Mean:	-0.007	-0.007	-0.0000				
SD:	0.004	0.004	0.0000				
%RSD:	52.50	52.50	254.21				

QC value within limits for Hg 253.7 Recovery = Not calculated  
All analyte(s) passed QC.

# Miscellaneous

# Prep LogBook

Analyst: BXA1 Verified by: \_\_\_\_\_

Batch: 937495

Lab SOP: GL-MA-E-006 REV# 9

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Spike Amount	Spike Units
MB	1202006053		SW846 3005A	31-DEC-2009 07:20	<2	50 mL	50 mL	1	.5	mL
LCS	1202006054		SW846 3005A	31-DEC-2009 07:20	<2	50 mL	50 mL	1	.5	mL
SAMPLE	243601001		SW846 3005A	31-DEC-2009 07:20	<2	50 mL	50 mL	1	.5	mL
SAMPLE	243608001		SW846 3005A	31-DEC-2009 07:20	<2	50 mL	50 mL	1	.5	mL
DUP	1202006055	243608001	SW846 3005A	31-DEC-2009 07:20	<2	50 mL	50 mL	1	.5	mL
MS	1202006056	243608001	SW846 3005A	31-DEC-2009 07:20	<2	50 mL	50 mL	1	.5	mL
SDILT	1202006057	243608001	SW846 3005A	31-DEC-2009 07:20	<2	50 mL	50 mL	1	.5	mL
SAMPLE	243621001		SW846 3005A	31-DEC-2009 07:20	<2	50 mL	50 mL	1	.5	mL
SAMPLE	243627001		SW846 3005A	31-DEC-2009 07:20	<2	50 mL	50 mL	1	.5	mL
SAMPLE	243629001		SW846 3005A	31-DEC-2009 07:20	<2	50 mL	50 mL	1	.5	mL
SAMPLE	243631001		SW846 3005A	31-DEC-2009 07:20	<2	50 mL	50 mL	1	.5	mL
SAMPLE	243632001		SW846 3005A	31-DEC-2009 07:20	<2	50 mL	50 mL	1	.5	mL

## Comments:

Reagent/Solvent Lot ID	Amount	Description
1244970	2.5 mL	HYDROCHLORIC ACID
1234886	1 mL	Nitric Acid CONC.



# Prep LogBook

Analyst: BXA1  
 Batch: 937468  
 Lab SOP: GL-MA-E-006 REV# 9

Verified by: \_\_\_\_\_

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Spike Amount	Spike Units
MB	1202006002		SW846 3005A	31-DEC-2009 07:29	<2	50 mL	50 mL	1	.25	mL
LCS	1202006003		SW846 3005A	31-DEC-2009 07:29	<2	50 mL	50 mL	1	.25	mL
SAMPLE	243601001		SW846 3005A	31-DEC-2009 07:29	<2	50 mL	50 mL	1	.25	mL
SAMPLE	243608001		SW846 3005A	31-DEC-2009 07:29	<2	50 mL	50 mL	1	.25	mL
SAMPLE	243621001		SW846 3005A	31-DEC-2009 07:29	<2	50 mL	50 mL	1	.25	mL
SAMPLE	243627001		SW846 3005A	31-DEC-2009 07:29	<2	50 mL	50 mL	1	.25	mL
SAMPLE	243629001		SW846 3005A	31-DEC-2009 07:29	<2	50 mL	50 mL	1	.25	mL
SAMPLE	243631001		SW846 3005A	31-DEC-2009 07:29	<2	50 mL	50 mL	1	.25	mL
SAMPLE	243632001		SW846 3005A	31-DEC-2009 07:29	<2	50 mL	50 mL	1	.25	mL
DUP	1202006004	243632001	SW846 3005A	31-DEC-2009 07:29	<2	50 mL	50 mL	1	.25	mL
MS	1202006005	243632001	SW846 3005A	31-DEC-2009 07:29	<2	50 mL	50 mL	1	.25	mL
SDILT	1202006006	243632001	SW846 3005A	31-DEC-2009 07:29	<2	50 mL	50 mL	1	.25	mL

Reagent/Solvent/Lot ID	Amount	Description	Comments
1244970	2.5 mL	HYDROCHLORIC ACID	
1234886	1 mL	Nitric Acid CONC.	

# Prep LogBook

Analyst: AXG2 Verified by: \_\_\_\_\_

Batch: 937646

Lab SOP: GL-MA-E-010 REV# 23

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Spike Amount	Spike Units
MB	1202006475		SW846 7470A Prep	07-JAN-2010 11:30	<2	20 mL	20 mL	1		
LCS	1202006479		SW846 7470A Prep	07-JAN-2010 11:30	<2	20 mL	20 mL	1	.2	mL
SAMPLE	243627001		SW846 7470A Prep	07-JAN-2010 11:30	<2	20 mL	20 mL	1		
DUP	1202006476	243627001	SW846 7470A Prep	07-JAN-2010 11:30	<2	20 mL	20 mL	1		
SDILT	1202006477	243627001	SW846 7470A Prep	07-JAN-2010 11:30	<2	20 mL	20 mL	1		
MS	1202006478	243627001	SW846 7470A Prep	07-JAN-2010 11:30	<2	20 mL	20 mL	1		
SAMPLE	243629001		SW846 7470A Prep	07-JAN-2010 11:30	<2	20 mL	20 mL	1		
SAMPLE	243631001		SW846 7470A Prep	07-JAN-2010 11:30	<2	20 mL	20 mL	1		
SAMPLE	243632001		SW846 7470A Prep	07-JAN-2010 11:30	<2	20 mL	20 mL	1		

Comments: Digestion Start Date: 07-JAN-10 11:30  
Digestion End Date: 07-JAN-10 13:30

Reagent/Solvent Lot ID	Amount	Description
1176183	1 mL	Sulfuric Acid, Concentrated
1240182-1	.5 mL	NITRIC ACID
1234385-C	1.5 mL	5% Potassium Persulfate
1244904-C	3 mL	5% KMnO4 solution
1206350-C	1 mL	Hg reducing agent
WHG100107-06	500 uL	Mercury Working 2nd Source 5.0/ICV
WHG100107-01a	20 uL	Mercury Working 1st Source CAL 0.2/CRA
WHG100107-02	50 uL	Mercury Working 1st Source CAL 0.5
WHG100107-05	1 mL	Mercury Working 1st Source CAL 10.0
WHG100107-03	200 uL	Mercury Working 1st Source CAL 2.0
WHG100107-04	500 uL	Mercury Working 1st Source CAL 5.0/CCV

# Standard Logbook

**Serial ID:** UHG1167639-01      **Opened:** 13-AUG-09      **Amount :** 125 mL  
**Name:** MHGSTOCK1      **Received:** 13-AUG-09      **Catalog Number :** PLHG4-2Y  
**Type:** Source Material      **Expires:** 13-AUG-10      **Lot Number :** 15-37HG  
**Employee:** Bryan Davis      **Solvent :** 10% HNO3  
**Supplier:** Spex  
**Description:** Mercury Source Standard #1 1,000 mg/L  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Mercury	1000 mg/L		

**Serial ID:** UHG1167641-02      **Opened:** 13-AUG-09      **Amount :** 100 mL  
**Name:** MHGSTOCK2      **Received:** 13-AUG-09      **Catalog Number :** AHG1KN-100  
**Type:** Source Material      **Expires:** 13-AUG-10      **Lot Number :** 4905530  
**Employee:** Bryan Davis      **Solvent :** 3% HNO3  
**Supplier:** Ricca Chemical Company  
**Description:** Mercury Source Standard #2 1,000 mg/L  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Mercury	999.7 mg/L		

**Serial ID:** UI090422-40      **Opened:** 04-MAY-09      **Amount :** 500 mL  
**Name:** TRACE ICP ICSA SOLN A      **Received:** 22-APR-09      **Catalog Number :** 160005-01-03  
**Type:** Source Material      **Expires:** 04-MAY-10      **Lot Number :** 1013357  
**Employee:** Helen Camello      **Solvent :** 5% HNO3  
**Supplier:** o2si  
**Description:** TRACE ICP ICSA SOLN A mg/L +/- 0.5% IN 5% HNO3  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	5000 mg/L	Calcium	5000 mg/L
Iron	2000 mg/L	Magnesium	5000 mg/L

**Serial ID:** UI090610-03      **Opened:** 10-JUN-09      **Catalog Number :** 060074-06-01  
**Name:** ICPMS Tungsten - 10mg/L      **Received:** 10-JUN-09      **Lot Number :** 1016338  
**Type:** Source Material      **Expires:** 10-JUN-10      **Solvent :** 2% HNO3  
**Employee:** Paul Boyd  
**Supplier:** O2SI  
**Description:** ICPMS Tungsten standard SPIKE - 10mg/L  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Tungsten	10 mg/L		

# 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 Carnello      **Solvent :** +/-0.5%in2%HNO3+TrHF  
**Supplier:** 02si  
**Description:** TRACE ICP Stock PQL Standard  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
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# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Aluminum	100 mg/L	Antimony	5 mg/L
Arsenic	15 mg/L	Barium	2.5 mg/L
Beryllium	2.5 mg/L	Boron	25 mg/L
Cadmium	2.5 mg/L	Calcium	100 mg/L
Chromium	2.5 mg/L	Cobalt	2.5 mg/L
Copper	5 mg/L	Iron	50 mg/L
Lead	5 mg/L	Magnesium	150 mg/L
Manganese	5 mg/L	Molybdenum	5 mg/L
Nickel	2.5 mg/L	Phosphorous	75 mg/L
Potassium	75 mg/L	Selenium	15 mg/L
Silicon	50 mg/L	Silver	2.5 mg/L
Sodium	150 mg/L	Strontium	2.5 mg/L
Sulfur	50 mg/L	Thallium	10 mg/L
Tin	5 mg/L	Titanium	2.5 mg/L
Uranium	25 mg/L	Vanadium	2.5 mg/L
Zinc	5 mg/L		

**Serial ID:** UI090828-42      **Opened:** 16-SEP-09      **Amount :** 500 mL  
**Name:** TRACE ICP Na-1000SOUR      **Received:** 27-AUG-09      **Catalog Number :** 060011-02-03  
**Type:** Source Material      **Expires:** 16-SEP-10      **Lot Number :** 1017098  
**Employee:** Helen Camello      **Solvent :** 1%HNO3  
**Supplier:** O2SI  
**Description:** Sodium 1000 +/- 3 ug/mL in 1% HNO3  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Sodium	1000 ug/mL		

**Serial ID:** UI090828-A      **Opened:** 28-AUG-09      **Catalog Number :** 160067-02  
**Name:** ICP-MS DOE Liquid SPIKE      **Received:** 27-AUG-09      **Lot Number :** 1017141  
**Type:** Source Material      **Expires:** 28-AUG-10  
**Employee:** Francena Armstrong      **Verified:** 21-NOV-08  
**Supplier:** O2Si  
**Description:** ICP-MS DOE liquid Spike Solution A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	200 mg/L	Arsenic	8 mg/L
Barium	5 mg/L	Beryllium	5 mg/L
Boron	10 mg/L	Cadmium	1 mg/L
Calcium	200 mg/L	Chromium	5 mg/L
Cobalt	5 mg/L	Copper	5 mg/L
Iron	200 mg/L	Lead	4 mg/L
Lithium	5 mg/L	Magnesium	200 mg/L
Manganese	5 mg/L	Nickel	5 mg/L

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Phosphorus, Total as P	200 mg/L	Potassium	200 mg/L
Selenium	2 mg/L	Silicon	200 mg/L
Sodium	200 mg/L	Strontium	5 mg/L
Thallium	10 mg/L	Thorium	5 mg/L
Total Uranium	5 mg/L	Uranium	5 mg/L
Uranium-235	.0364 mg/L	Uranium-238	4.96 mg/L
Vanadium	5 mg/L	Zinc	5 mg/L

**Serial ID:** UI090828-B      **Opened:** 28-AUG-09      **Catalog Number :** 160067-02  
**Name:** ICP-MS DOE Liquid SPIKE      **Received:** 27-AUG-09      **Lot Number :** 1017141  
**Type:** Source Material      **Expires:** 28-AUG-10  
**Employee:** Francena Armstrong      **Verified:** 21-NOV-08  
**Supplier:** O2Si  
**Description:** ICP-MS DOE Liquid Spike Solution B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Molybdenum	5 mg/L
Silver	5 mg/L	Tin	5 mg/L
Titanium	5 mg/L	Zirconium	5 mg/L

**Serial ID:** UI090925-40      **Opened:** 23-OCT-09      **Amount :** 500 mL  
**Name:** SECOND SOURCE STD -1      **Received:** 25-SEP-09      **Catalog Number :** SGELMX38-500N  
**Type:** Source Material      **Expires:** 30-SEP-10      **Lot Number :** 4909129  
**Employee:** Helen Camello      **Solvent :** 5%HNO3  
**Supplier:** SPECTRO PURE  
**Description:** SECOND SOURCE STD #1A 5%HNO3  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Arsenic	100 mg/L
Barium	100 mg/L	Boron	100 mg/L
Cadmium	100 mg/L	Calcium	1000 mg/L
Chromium	100 mg/L	Cobalt	100 mg/L
Copper	100 mg/L	Iron	1000 mg/L
Lead	100 mg/L	Phosphorous	500 mg/L
Potassium	500 mg/L	Selenium	500 mg/L
Sodium	500 mg/L	Strontium	100 mg/L

**Serial ID:** UI090925-41      **Opened:** 23-OCT-09      **Amount :** 500 mL  
**Name:** SECOND SOURCE STD -1      **Received:** 25-SEP-09      **Catalog Number :** SGELMX39-500B  
**Type:** Source Material      **Expires:** 30-SEP-10      **Lot Number :** 4909130  
**Employee:** Helen Camello      **Solvent :** 5%HNO3,TR.HF  
**Supplier:** SPECTRO PURE

# Standard Logbook

Description: SECOND SOURCE STD #1B

Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	100 mg/L	Beryllium	50 mg/L
Magnesium	1000 mg/L	Manganese	100 mg/L
Molybdenum	100 mg/L	Nickel	100 mg/L
Silver	50 mg/L	Sulfur	500 mg/L
Thallium	100 mg/L	Tin	100 mg/L
Titanium	100 mg/L	Uranium	100 mg/L
Vanadium	100 mg/L	Zinc	100 mg/L

Serial ID: UI091015-42      Opened: 28-OCT-09      Amount : 500 mL  
 Name: SI 1000mg/L      Received: 15-OCT-09      Catalog Number : 060014-02-03  
 Type: Source Material      Expires: 28-OCT-10      Lot Number : 1017581  
 Employee: Helen Camello      Solvent : 0.3%H2O(NH4)2SiF6  
 Supplier: o2si  
 Description: Silicon 1000mg/L+/-0.3%in H2O(NH4)2SiF6  
 Comments: None

Analyte	Concentration	Analyte	Concentration
Silica	2139 mg/L	Silicon	1000 mg/L

Serial ID: UI091102-40      Opened: 16-NOV-09      Amount : 500 mL  
 Name: TRACE CALSTD#1A SOUF      Received: 02-NOV-09      Catalog Number : HP2270-1-500  
 Type: Source Material      Expires: 31-OCT-10      Lot Number : 0930215  
 Employee: Helen Camello      Solvent : HNO3  
 Supplier: Environmental Express  
 Description: Trace Calibration Std #1A  
 Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	2000 mg/L	Arsenic	200 mg/L
Barium	200 mg/L	Beryllium	200 mg/L
Boron	200 mg/L	Cadmium	200 mg/L
Calcium	2000 mg/L	Chromium	200 mg/L
Cobalt	200 mg/L	Copper	200 mg/L
Iron	2000 mg/L	Lead	200 mg/L
Magnesium	2000 mg/L	Manganese	200 mg/L
Nickel	200 mg/L	Phosphorous	1000 mg/L
Potassium	2000 mg/L	Selenium	200 mg/L
Sodium	2000 mg/L	Strontium	200 mg/L
Thallium	200 mg/L	Uranium	200 mg/L
Vanadium	200 mg/L	Zinc	200 mg/L

# Standard Logbook

**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:** UI091124-01      **Opened:** 24-NOV-09      **Lot Number :** 1017642  
**Name:** METALSPIKE-1      **Received:** 24-NOV-09  
**Type:** Source Material      **Expires:** 24-NOV-10  
**Employee:** Francena Armstrong  
**Supplier:** OS2I  
**Description:** Metals Spike Mix I  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 ug/mL	Arsenic	100 ug/mL
Barium	100 ug/mL	Beryllium	100 ug/mL
Boron	100 ug/mL	Cadmium	100 ug/mL
Calcium	1000 ug/mL	Cobalt	100 ug/mL
Iron	1000 ug/mL	Lead	100 ug/mL
Magnesium	1000 ug/mL	Phosphorous	100 ug/mL
Potassium	1000 ug/mL	Silver	100 ug/mL
Sodium	1000 ug/mL	Strontium	100 ug/mL



# Standard Logbook

**Serial ID:** UI091124-06      **Opened:** 24-NOV-09      **Lot Number :** 1017643  
**Name:** METALSPIKE-2      **Received:** 24-NOV-09  
**Type:** Source Material      **Expires:** 24-NOV-10  
**Employee:** Francena Armstrong  
**Supplier:** OS2I  
**Description:** Metals Spike Mix II  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	100 ug/mL	Chromium	100 ug/mL
Copper	100 ug/mL	Manganese	100 ug/mL
Molybdenum	100 ug/mL	Nickel	100 ug/mL
Selenium	100 ug/mL	Silica	2141 ug/mL
Silicon	1000 ug/mL	Sulfur	1000 ug/mL
Thallium	100 ug/mL	Tin	100 ug/mL
Titanium	100 ug/mL	Uranium	100 ug/mL
Vanadium	100 ug/mL	Zinc	100 ug/mL

**Serial ID:** UI091124-A00      **Opened:** 24-NOV-09      **Catalog Number :** 160067-05  
**Name:** ICP-MS ALL OTHER SPIKE      **Received:** 24-NOV-09      **Lot Number :** 1017644  
**Type:** Source Material      **Expires:** 24-NOV-10  
**Employee:** Francena Armstrong  
**Supplier:** O2si  
**Description:** ICP-MS SPIKE FOR ALL CLIENTS EXCEPT DOE CLIENTS (Solution A).  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	200 mg/L	Arsenic	5 mg/L
Barium	5 mg/L	Beryllium	5 mg/L
Bismuth	5 mg/L	Boron	10 mg/L
Cadmium	5 mg/L	Calcium	200 mg/L
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

# Standard Logbook

**Serial ID:** UI091124-B      **Opened:** 24-NOV-09      **Catalog Number :** 160067-05  
**Name:** ICP-MS ALL OTHER SPIKE      **Received:** 24-NOV-09      **Lot Number :** 1017644  
**Type:** Source Material      **Expires:** 24-NOV-10  
**Employee:** Francena Armstrong  
**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:** UI091212-11      **Opened:** 12-DEC-09      **Amount :** 1000 mL  
**Name:** ICP-MS ICSA Master A      **Received:** 12-DEC-09      **Catalog Number :** 160013-01-01L  
**Type:** Source Material      **Expires:** 12-DEC-10      **Lot Number :** 1015303  
**Employee:** Paul Boyd      **Solvent :** 2% HNO3  
**Supplier:** O2SI  
**Description:** ICP-MS ICSA Master A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Carbon	2000 mg/L	Chloride	10000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Molybdenum	20 mg/L	Phosphorous	1000 mg/L
Potassium	1000 mg/L	Sodium	1000 mg/L
Sulfur	1000 mg/L	Titanium	20 mg/L

**Serial ID:** UI091212-60      **Opened:** 12-DEC-09      **Amount :** .5 mL  
**Name:** ICPMS High Range Standard      **Received:** 12-DEC-09      **Catalog Number :** 160212-02-01  
**Type:** Source Material      **Expires:** 12-DEC-10      **Lot Number :** 1018064  
**Employee:** Paul Boyd      **Solvent :** 2%HNO3 + Tr HF  
**Supplier:** O2SI  
**Description:** Linear Range Standard A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	5000 mg/L	Arsenic	100 mg/L
Barium	250 mg/L	Beryllium	100 mg/L
Cadmium	100 mg/L	Calcium	5000 mg/L
Chromium	100 mg/L	Cobalt	100 mg/L
Copper	100 mg/L	Iron	5000 mg/L
Lead	500 mg/L	Lithium	100 mg/L
Magnesium	5000 mg/L	Manganese	100 mg/L
Nickel	100 mg/L	Phosphorous	2500 mg/L

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Potassium	5000 mg/L	Selenium	50 mg/L
Sodium	5000 mg/L	Strontium	100 mg/L
Thallium	50 mg/L	Thorium	250 mg/L
Uranium	500 mg/L	Vanadium	100 mg/L
Zinc	250 mg/L		

**Serial ID:** UI091212-61      **Opened:** 12-DEC-09      **Amount :** .5 mL  
**Name:** ICPMS High Range Standard      **Received:** 12-DEC-09      **Catalog Number :** 160212-02-01  
**Type:** Source Material      **Expires:** 12-DEC-10      **Lot Number :** 1018064  
**Employee:** Paul Boyd      **Solvent :** 2%HNO3 + Tr HF  
**Supplier:** O2SI  
**Description:** Linear Range Standard B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	25 mg/L	Molybdenum	100 mg/L
Silver	25 mg/L	Tin	100 mg/L
Tungsten	100 mg/L	Zirconium	50 mg/L

**Serial ID:** UI091215-48      **Opened:** 04-JAN-10      **Amount :** 1000 mL  
**Name:** Trace ICP ICSEA      **Received:** 18-DEC-09      **Catalog Number :** 160005-02  
**Type:** Source Material      **Expires:** 04-JAN-11      **Lot Number :** 1018219  
**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:** UI091217-06      **Opened:** 17-DEC-09      **Amount :** 250 mL  
**Name:** ICP-MS ICV/CCV Master A      **Received:** 17-DEC-09      **Catalog Number :** 160055-01  
**Type:** Source Material      **Expires:** 17-DEC-10      **Lot Number :** 1018209  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 5% HNO3 100 cm2  
**Supplier:** O2SI  
**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:** UI091217-07      **Opened:** 17-DEC-09      **Amount :** 250 mL  
**Name:** ICP-MS ICV/CCV Master B      **Received:** 17-DEC-09      **Catalog Number :** 160054-02  
**Type:** Source Material      **Expires:** 17-DEC-10      **Lot Number :** 1018210  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 5% HNO3 100 cm2  
**Supplier:** 02SI  
**Description:** ICPMS ICV/CCV Soln B - 10ppm  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Arsenic	20 mg/L	Barium	20 mg/L
Beryllium	20 mg/L	Boron	40 mg/L
Cadmium	20 mg/L	Chromium	20 mg/L
Cobalt	20 mg/L	Copper	20 mg/L
Lead	20 mg/L	Lithium	20 mg/L
Manganese	20 mg/L	Nickel	20 mg/L
Selenium	20 mg/L	Strontium	20 mg/L
Thallium	20 mg/L	Thorium	20 mg/L
Uranium	20 mg/L	Vanadium	20 mg/L
Zinc	20 mg/L		

**Serial ID:** UI091217-08      **Opened:** 17-DEC-09      **Amount :** 250 mL  
**Name:** ICP-MS ICV/CCV Master C      **Received:** 17-DEC-09      **Catalog Number :** 160054-03  
**Type:** Source Material      **Expires:** 17-DEC-10      **Lot Number :** 1018211  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 5% HNO3 100 cm2  
**Supplier:** 02SI  
**Description:** ICPMS ICV/CCV Soln C - 10ppm  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Molybdenum	20 mg/L
Silver	20 mg/L	Tin	20 mg/L
Titanium	20 mg/L	Tungsten	20 mg/L
Zirconium	20 mg/L		

**Serial ID:** UI091217-12      **Opened:** 17-DEC-09      **Amount :** 250 mL  
**Name:** ICP-MS ICSAB Master B      **Received:** 17-DEC-09      **Catalog Number :** 160033-02  
**Type:** Source Material      **Expires:** 17-DEC-10      **Lot Number :** 1018212  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 2% HNO3  
**Supplier:** 02SI  
**Description:** ICPMS ICSAB Master B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Arsenic	2 mg/L	Barium	2 mg/L
Beryllium	2 mg/L	Boron	2 mg/L
Cadmium	2 mg/L	Chromium	2 mg/L

# Standard Logbook

Analyte	Concentration	Analyte	Concentration
Cobalt	2 mg/L	Copper	2 mg/L
Lead	2 mg/L	Lithium	2 mg/L
Manganese	2 mg/L	Nickel	2 mg/L
Selenium	2 mg/L	Strontium	2 mg/L
Thallium	2 mg/L	Thorium	2 mg/L
Uranium	2 mg/L	Vanadium	2 mg/L
Zinc	2 mg/L		

**Serial ID:** UI091217-13      **Opened:** 17-DEC-09      **Amount :** 250 mL  
**Name:** ICP-MS ICSAB Master C      **Received:** 17-DEC-09      **Catalog Number :** 160033-03  
**Type:** Source Material      **Expires:** 17-DEC-10      **Lot Number :** 1016926  
**Employee:** Paul Boyd      **Solvent :** +/- 0.5% in 2% HNO3  
**Supplier:** Q2SI  
**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:** UI091228-40      **Opened:** 28-DEC-09      **Amount :** 500 mL  
**Name:** ICP HIGH RANGE STD-A      **Received:** 21-DEC-09      **Catalog Number :** 160211-05-03  
**Type:** Source Material      **Expires:** 28-DEC-10      **Lot Number :** 1018160  
**Employee:** Helen Camello      **Solvent :** +/-0.5%in2%HNO3  
**Supplier:** Q2SI  
**Description:** ICP HIGH RANGE STD SOLUTION A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	10000 ug/L	Arsenic	10000 ug/L
Barium	15000 ug/L	Beryllium	3000 ug/L
Boron	5000 ug/L	Cadmium	10000 ug/L
Chromium	25000 ug/L	Cobalt	10000 ug/L
Copper	20000 ug/L	Lead	25000 ug/L
Manganese	10000 ug/L	Molybdenum	10000 ug/L
Nickel	10000 ug/L	Phosphorous	15000 ug/L
Potassium	300000 ug/L	Selenium	10000 ug/L
Silica	107000 ug/L	Silicon	50000 ug/L
Silver	1000 ug/L	Strontium	10000 ug/L
Sulfur	50000 ug/L	Thallium	10000 ug/L
Tin	10000 ug/L	Titanium	10000 ug/L
Vanadium	10000 ug/L	Zinc	15000 ug/L

## Standard Logbook

**Serial ID:** UI091228-41      **Opened:** 28-DEC-09      **Amount :** 500 mL  
**Name:** ICP HIGH RANGE STD B      **Received:** 21-DEC-09      **Catalog Number :** 160211-05-03  
**Type:** Source Material      **Expires:** 28-DEC-10      **Lot Number :** 1018160  
**Employee:** Helen Camello      **Solvent :** +/-0.5%in2%HNO3  
**Supplier:** 02SI  
**Description:** ICP HIGH RANGE STD SOLUTION B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	500000 ug/L	Calcium	500000 ug/L
Iron	500000 ug/L	Magnesium	500000 ug/L
Sodium	500000 ug/L	Uranium	15000 ug/L

**Serial ID:** UMS090303-01      **Opened:** 03-MAR-09      **Amount :** 250 mL  
**Name:** ICPMSCalSPIKEB      **Received:** 03-MAR-09      **Catalog Number :** ZGEL-100-250  
**Type:** Source Material      **Expires:** 28-FEB-10      **Lot Number :** 14-81JB  
**Employee:** Paul Boyd  
**Supplier:** SPEX  
**Description:** ICPMS Calibration Standard Solution B  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Arsenic	10 mg/L	Barium	10 mg/L
Beryllium	10 mg/L	Boron	20 mg/L
Cadmium	10 mg/L	Chromium	10 mg/L
Cobalt	10 mg/L	Copper	10 mg/L
Lead	10 mg/L	Lithium	10 mg/L
Manganese	10 mg/L	Nickel	10 mg/L
Selenium	10 mg/L	Silver	10 mg/L
Strontium	10 mg/L	Thallium	10 mg/L
Thorium	10 mg/L	Uranium	10 mg/L
Vanadium	10 mg/L	Zinc	10 mg/L

**Serial ID:** UMS090303-02      **Opened:** 03-MAR-09      **Catalog Number :** ZGEL-102-250  
**Name:** ICPMSCalSPIKEA      **Received:** 03-MAR-09      **Lot Number :** 14-83JB  
**Type:** Source Material      **Expires:** 28-FEB-10  
**Employee:** Paul Boyd  
**Supplier:** SPEX  
**Description:** ICPMS Calibration Standard Solution A  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Phosphorous	1000 mg/L	Potassium	1000 mg/L
Sodium	1000 mg/L		

# Standard Logbook

**Serial ID:** UMS090303-03      **Opened:** 03-MAR-09      **Amount :** 250 ml  
**Name:** ICPMSCaSPIKEC      **Received:** 03-MAR-09      **Catalog Number :** ZGEL-101-250  
**Type:** Source Material      **Expires:** 28-FEB-10      **Lot Number :** 15-199JB  
**Employee:** Paul Boyd  
**Supplier:** SPEX  
**Description:** ICPMS Calibration Standard Solution C  
**Comments:** None

Analyte	Concentration	Analyte	Concentration
Antimony	10 mg/L	Molybdenum	10 mg/L
Tin	10 mg/L	Titanium	10 mg/L
Zirconium	10 mg/L		

**Serial ID:** IHG100107-01      **Opened:** 07-JAN-10      **Instrument Id :** Mercury  
**Name:** MHGINTER1      **Received:** 07-JAN-10      **Pipet Id :** Minou1  
**Type:** Intermediate      **Expires:** 08-JAN-10      **Solvent :** 1mL HNO3 + Typel H2O  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** Mercury Intermediate 1st Source 200 ug/L  
**Comments:** Prepare fresh daily

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167639-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

**Serial ID:** IHG100107-02      **Opened:** 07-JAN-10      **Pipet Id :** Minou1  
**Name:** MHGINTER2      **Received:** 07-JAN-10      **Solvent :** 2% HNO3-1240182  
**Type:** Intermediate      **Expires:** 08-JAN-10  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** Mercury Intermediate 2nd Source 200 ug/L  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167641-02	Mercury	999.7 mg/L	.05 mL	250 mL	200 ug/L

**Serial ID:** WHG100107-01a      **Opened:** 07-JAN-10      **Pipet Id :** Hg1289245  
**Name:** MHGWORKCAL0.2CRA      **Received:** 07-JAN-10      **Solvent :** 2% HNO3-1240182  
**Type:** Working      **Expires:** 08-JAN-10  
**Employee:** Jason Loy  
**Supplier:** GEL  
**Description:** Mercury Working 1st Source CAL 0.2/CRA  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100107-01	Mercury	200 ug/L	20 uL	20 mL	.2 ug/L

# Standard Logbook

**Serial ID:** WHG100107-02      **Opened:** 07-JAN-10      **Pipet Id :** Hg1289245  
**Name:** MHGWORKCAL0.5      **Received:** 07-JAN-10      **Solvent :** 2% HNO3-1240182  
**Type:** Working      **Expires:** 08-JAN-10  
**Employee:** Jason Loy  
**Supplier:** GEL  
**Description:** Mercury Working 1st Source CAL 0.5  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100107-01	Mercury	200 ug/L	50 uL	20 mL	.5 ug/L

**Serial ID:** WHG100107-03      **Opened:** 07-JAN-10      **Pipet Id :** Hg1289245  
**Name:** MHGWORKCAL2.0      **Received:** 07-JAN-10      **Solvent :** 2% HNO3-1240182  
**Type:** Working      **Expires:** 08-JAN-10  
**Employee:** Jason Loy      **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.
IHG100107-01	Mercury	200 ug/L	200 uL	20 mL	2 ug/L

**Serial ID:** WHG100107-04      **Opened:** 07-JAN-10      **Pipet Id :** Hg1289245  
**Name:** MHGWORKCAL5.0CCV      **Received:** 07-JAN-10      **Solvent :** 2% HNO3-1240182  
**Type:** Working      **Expires:** 08-JAN-10  
**Employee:** Jason Loy      **Verified:** 20-JUL-07  
**Supplier:** GEL  
**Description:** Mercury Working 1st Source CAL 5.0/CCV  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100107-01	Mercury	200 ug/L	500 uL	20 mL	5 ug/L

**Serial ID:** WHG100107-05      **Opened:** 07-JAN-10      **Pipet Id :** Hg1289245  
**Name:** MHGWORKCAL10.0      **Received:** 07-JAN-10      **Solvent :** 2% HNO3-1240182  
**Type:** Working      **Expires:** 08-JAN-10  
**Employee:** Jason Loy      **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.
IHG100107-01	Mercury	200 ug/L	1 mL	20 mL	10 ug/L



# Standard Logbook

**Serial ID:** WHG100107-06      **Opened:** 07-JAN-10      **Pipet Id :** Hg1289245  
**Name:** MHGWORK5.0ICV      **Received:** 07-JAN-10      **Solvent :** 2% HNO3-1240182  
**Type:** Working      **Expires:** 08-JAN-10  
**Employee:** Jason Loy  
**Supplier:** GEL  
**Description:** Mercury Working 2nd Source 5.0/ICV  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100107-02	Mercury	200 ug/L	500 uL	20 mL	5 ug/L

**Serial ID:** WHG100107-13      **Opened:** 07-JAN-10      **Pipet Id :** Hg1289245  
**Name:** MHGLIQLCSMSSPIKE      **Received:** 07-JAN-10      **Solvent :** 2% HNO3-1240182  
**Type:** Working      **Expires:** 08-JAN-10  
**Employee:** Tara Griffin      **Verified:** 20-JUL-07  
**Supplier:** GEL  
**Description:** Mercury working intermediate standard for LCS/MS  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167639-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

**Serial ID:** WI100112-42      **Opened:** 12-JAN-10      **Balance Id :** 216  
**Name:** TRACE ICP 0.1 PPM STD.      **Received:** 02-NOV-09      **Pipet Id :** 1099667  
**Type:** Working      **Expires:** 13-JAN-10      **Solvent :** 3%HCL and 1%HNO3 -1253514  
**Employee:** Helen Camello  
**Supplier:** GEL  
**Description:** TRACE ICP 0.1 PPM CALIBRATION STD.  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WI100112-44	Aluminum	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100112-44	Antimony	1000 ug/L	10 mL	100 mL	100 ug/L
WI100112-44	Arsenic	1000 ug/L	10 mL	100 mL	100 ug/L
WI100112-44	Barium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100112-44	Beryllium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100112-44	Boron	1000 ug/L	10 mL	100 mL	100 ug/L
WI100112-44	Cadmium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100112-44	Calcium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100112-44	Chromium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100112-44	Cobalt	1000 ug/L	10 mL	100 mL	100 ug/L
WI100112-44	Copper	1000 ug/L	10 mL	100 mL	100 ug/L
WI100112-44	Iron	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100112-44	Lead	1000 ug/L	10 mL	100 mL	100 ug/L
WI100112-44	Magnesium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100112-44	Manganese	1000 ug/L	10 mL	100 mL	100 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WI100112-44	Molybdenum	1000 ug/L	10 mL	100 mL	100 ug/L
WI100112-44	Nickel	1000 ug/L	10 mL	100 mL	100 ug/L
WI100112-44	Phosphorous	5000 ug/L	10 mL	100 mL	500 ug/L
WI100112-44	Potassium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100112-44	Selenium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100112-44	Silica	10698 ug/L	10 mL	100 mL	1069 ug/L
WI100112-44	Silicon	5000 ug/L	10 mL	100 mL	500 ug/L
WI100112-44	Silver	1000 ug/L	10 mL	100 mL	100 ug/L
WI100112-44	Sodium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100112-44	Strontium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100112-44	Sulfur	2000 ug/L	10 mL	100 mL	200 ug/L
WI100112-44	Thallium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100112-44	Tin	1000 ug/L	10 mL	100 mL	100 ug/L
WI100112-44	Titanium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100112-44	Uranium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100112-44	Vanadium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100112-44	Zinc	1000 ug/L	10 mL	100 mL	100 ug/L

**Serial ID:** WI100112-43      **Opened:** 12-JAN-10      **Balance Id :** 216  
**Name:** TRACE ICP 0.5/CCV STD.      **Received:** 02-NOV-09      **Pipet Id :** 1099667  
**Type:** Working      **Expires:** 13-JAN-10      **Solvent :** 3%HCL and 1%HNO3 -1253514  
**Employee:** Helen Camello  
**Supplier:** GEL  
**Description:** TRACE ICP 0.5/CCV CALIBRATION STD.  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090828-42	Sodium	1000 ug/mL	5 mL	1000 mL	5000 UG/L
UI091015-42	Silica	2139 mg/L	2.5 mL	1000 mL	5348.25 UG/L
UI091015-42	Silicon	1000 mg/L	2.5 mL	1000 mL	2500 UG/L
UI091102-40	Aluminum	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Arsenic	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Barium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Beryllium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Boron	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Cadmium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Calcium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Chromium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Cobalt	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Copper	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Iron	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Lead	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Magnesium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Manganese	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Nickel	200 mg/L	2.5 mL	1000 mL	500 UG/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
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:** WI100112-44      **Opened:** 12-JAN-10      **Balance Id :** 216  
**Name:** TRACE ICP SCAL 1.0      **Received:** 02-NOV-09      **Pipet Id :** 1099667  
**Type:** Working      **Expires:** 13-JAN-10      **Solvent :** 3%HCL and 1 %HNO3-1253514  
**Employee:** Helen Camello  
**Supplier:** o2si  
**Description:** Trace ICP Calibration Standard 1.0ppm  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091015-42	Silica	2139 mg/L	2.5 mL	500 mL	10698 ug/L
UI091015-42	Silicon	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI091102-40	Aluminum	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Arsenic	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Barium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Beryllium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Boron	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Cadmium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Calcium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Chromium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Cobalt	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Copper	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Iron	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Lead	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Magnesium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Manganese	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Nickel	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Phosphorous	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI091102-40	Potassium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Selenium	200 mg/L	2.5 mL	500 mL	1000 ug/L

## Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
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:** WI100112-45      **Opened:** 12-JAN-10      **Balance Id :** 216  
**Name:** TRACE ICP S-10 STD      **Received:** 22-APR-09      **Pipet Id :** 1099667  
**Type:** Working      **Expires:** 13-JAN-10      **Solvent :** 3%HCL and 1%HNO3 -1253514  
**Employee:** Helen Camello  
**Supplier:** GEL  
**Description:** TRACE ICP S-10 CALIBRATION STD.  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090422-40	Aluminum	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090422-40	Calcium	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090422-40	Iron	2000 mg/L	5 mL	500 mL	20000 UG/L
UI090422-40	Magnesium	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090828-42	Sodium	1000 ug/mL	10 mL	500 mL	20000 UG/L

**Serial ID:** WI100112-46      **Opened:** 12-JAN-10      **Balance Id :** 216  
**Name:** ICP TRACE ICV      **Received:** 25-SEP-09      **Pipet Id :** 1099667  
**Type:** Working      **Expires:** 13-JAN-10      **Solvent :** 3%HCL AND 1%HNO3-1253514  
**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

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
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

**Serial ID:** W1100112-47      **Opened:** 12-JAN-10      **Balance Id :** 216  
**Name:** PQL Working Standard      **Received:** 30-JUN-09      **Pipet Id :** 1099667  
**Type:** Working      **Expires:** 13-JAN-10      **Solvent :** 3%HCL & 1%HNO3-1253514  
**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

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
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:** WMS100103-04      **Opened:** 03-JAN-10      **Amount :** 50 mL  
**Name:** ICPMS Cal Standard 100      **Received:** 03-JAN-10      **Balance Id :** 4025216  
**Type:** Working      **Expires:** 04-JAN-10      **Pipet Id :** 3541598  
**Employee:** Elizabeth Janssen      **Solvent :** 2%HNO3/1%HCl-1247304  
**Supplier:** GEL  
**Description:** ICPMS Calibration Standard (100 ppb)  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090610-03	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS090303-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS090303-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UMS090303-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

**Serial ID:** WMS100103-04A      **Opened:** 03-JAN-10      **Balance Id :** 4025216  
**Name:** ICPMS Cal Standard 10      **Received:** 03-JAN-10      **Pipet Id :** 3541598  
**Type:** Working      **Expires:** 04-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1247304  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS Calibration Standard (10 ppb)  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100103-04	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100103-04	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100103-04	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100103-04	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100103-04	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100103-04	Manganese	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l

## Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100103-04	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100103-04	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100103-04	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100103-04	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Thallium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100103-04	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Zinc	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l

**Serial ID:** WMS100103-05      **Opened:** 03-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS ICV      **Received:** 03-JAN-10      **Pipet Id :** 3541598  
**Type:** Working      **Expires:** 04-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1247304  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS ICV  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-06	Aluminum	2020 mg/L	.125 mL	50 mL	5050 ug/L
UI091217-06	Calcium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Iron	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Magnesium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Phosphorous	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Potassium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Sodium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-07	Arsenic	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Barium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Beryllium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Boron	40 mg/L	.125 mL	50 mL	100 ug/L
UI091217-07	Cadmium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Chromium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Cobalt	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Copper	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lead	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lithium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Manganese	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Nickel	20 mg/L	.125 mL	50 mL	50 ug/L



# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-07	Selenium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Strontium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thallium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thorium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Uranium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Vanadium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Zinc	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Antimony	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Molybdenum	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Silver	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tin	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Titanium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tungsten	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Zirconium	20 mg/L	.125 mL	50 mL	50 ug/L

**Serial ID:** WMS100103-06      **Opened:** 03-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS CRDL      **Received:** 03-JAN-10      **Pipet Id :** 3820544  
**Type:** Working      **Expires:** 04-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1247304  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS CRDL  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Aluminum	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Arsenic	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Barium	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Beryllium	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-09	Boron	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Cadmium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Calcium	100 mg/L	.05 mL	50 mL	100 ug/L
UI090701-09	Chromium	3 mg/L	.05 mL	50 mL	3 ug/L
UI090701-09	Cobalt	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Copper	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Iron	25 mg/L	.05 mL	50 mL	25 ug/L
UI090701-09	Lead	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Lithium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Magnesium	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Manganese	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Nickel	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Phosphorous	50 mg/L	.05 mL	50 mL	50 ug/L
UI090701-09	Potassium	300 mg/L	.05 mL	50 mL	300 ug/L
UI090701-09	Selenium	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Sodium	250 mg/L	.05 mL	50 mL	250 ug/L
UI090701-09	Strontium	10 mg/L	.05 mL	50 mL	10 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
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:** WMS100103-07      **Opened:** 03-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS ICSA      **Received:** 03-JAN-10      **Lot Number :** 1010773  
**Type:** Working      **Expires:** 04-JAN-10      **Pipet Id :** 3541598  
**Employee:** Elizabeth Janssen      **Solvent :** 2%HNO3/1%HCl - 1247304  
**Supplier:** GEL  
**Description:** ICPMS ICSA  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

**Serial ID:** WMS100103-08      **Opened:** 03-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS ICSAB      **Received:** 03-JAN-10      **Pipet Id :** 1758088  
**Type:** Working      **Expires:** 04-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1247304  
**Employee:** Elizabeth Janssen  
**Supplier:** GEL  
**Description:** ICPMS ICSAB  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L
UI091217-12	Arsenic	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Barium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Beryllium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Boron	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Cadmium	2 mg/L	.5 mL	50 mL	20.2 ug/L
UI091217-12	Chromium	2 mg/L	.5 mL	50 mL	22.2 ug/L
UI091217-12	Cobalt	2 mg/L	.5 mL	50 mL	20.4 ug/L
UI091217-12	Copper	2 mg/L	.5 mL	50 mL	23.4 ug/L
UI091217-12	Lead	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Lithium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Manganese	2 mg/L	.5 mL	50 mL	22.7 ug/L
UI091217-12	Nickel	2 mg/L	.5 mL	50 mL	22.4 ug/L
UI091217-12	Selenium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Strontium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thallium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thorium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Uranium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Vanadium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Zinc	2 mg/L	.5 mL	50 mL	27 ug/L
UI091217-13	Antimony	2 mg/L	.5 mL	50 mL	20.5 ug/L
UI091217-13	Silver	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tin	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tungsten	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Zirconium	2 mg/L	.5 mL	50 mL	20 ug/L

Serial ID: WMS100103-70      Opened: 03-JAN-10      Balance Id : 40245216  
 Name: ICPMS LINEAR RANGE ST      Received: 03-JAN-10      Pipet Id : 1758088  
 Type: Working      Expires: 04-JAN-10      Solvent : 2%HNO3/1%HCl - 1247304  
 Employee: Elizabeth Janssen  
 Supplier: 02SI  
 Description: ICPMS LINEAR RANGE STANDARD  
 Comments: None

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
UI091212-60	Aluminum	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Arsenic	100 mg/L	.5 mL	50 mL	1000 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-60	Barium	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-60	Beryllium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Cadmium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Calcium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Chromium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Cobalt	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Copper	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Iron	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Lead	500 mg/L	.5 mL	50 mL	5000 ug/L
UI091212-60	Lithium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Magnesium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Manganese	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Nickel	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Phosphorous	2500 mg/L	.5 mL	50 mL	25000 ug/L
UI091212-60	Potassium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Selenium	50 mg/L	.5 mL	50 mL	500 ug/L
UI091212-60	Sodium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Strontium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Thallium	50 mg/L	.5 mL	50 mL	500 ug/L
UI091212-60	Thorium	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-60	Uranium	500 mg/L	.5 mL	50 mL	5000 ug/L
UI091212-60	Vanadium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Zinc	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-61	Antimony	25 mg/L	.5 mL	50 mL	250 ug/L
UI091212-61	Molybdenum	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-61	Silver	25 mg/L	.5 mL	50 mL	250 ug/L
UI091212-61	Tin	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-61	Tungsten	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-61	Zirconium	50 mg/L	.5 mL	50 mL	500 ug/L

**Serial ID:** WMS100104-04      **Opened:** 04-JAN-10      **Amount :** 50 mL  
**Name:** ICPMS Cal Standard 100      **Received:** 04-JAN-10      **Balance Id :** 4025216  
**Type:** Working      **Expires:** 05-JAN-10      **Pipet Id :** 3541598  
**Employee:** Paul Boyd      **Solvent :** 2%HNO3/1%HCl-1249336  
**Supplier:** GEL  
**Description:** ICPMS Calibration Standard (100 ppb)  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090610-03	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS090303-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS090303-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UMS090303-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

**Serial ID:** WMS100104-04A      **Opened:** 04-JAN-10      **Balance Id :** 4025216  
**Name:** ICPMS Cal Standard 10      **Received:** 04-JAN-10      **Pipet Id :** 3541598  
**Type:** Working      **Expires:** 05-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1249336  
**Employee:** Paul Boyd  
**Supplier:** GEL  
**Description:** ICPMS Calibration Standard (10 ppb)  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100104-04	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100104-04	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100104-04	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100104-04	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100104-04	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100104-04	Manganese	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100104-04	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100104-04	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100104-04	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Thallium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100104-04	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Zinc	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l

**Serial ID:** WMS100104-05      **Opened:** 04-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS ICV      **Received:** 04-JAN-10      **Pipet Id :** 3541598  
**Type:** Working      **Expires:** 05-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1249336  
**Employee:** Paul Boyd  
**Supplier:** GEL  
**Description:** ICPMS ICV  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-06	Aluminum	2020 mg/L	.125 mL	50 mL	5050 ug/L
UI091217-06	Calcium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Iron	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Magnesium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Phosphorous	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Potassium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Sodium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-07	Arsenic	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Barium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Beryllium	20 mg/L	.125 mL	50 mL	50 ug/L

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-07	Boron	40 mg/L	.125 mL	50 mL	100 ug/L
UI091217-07	Cadmium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Chromium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Cobalt	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Copper	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lead	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lithium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Manganese	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Nickel	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Selenium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Strontium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thallium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thorium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Uranium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Vanadium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Zinc	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Antimony	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Molybdenum	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Silver	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tin	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Titanium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tungsten	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Zirconium	20 mg/L	.125 mL	50 mL	50 ug/L

**Serial ID:** WMS100104-06      **Opened:** 04-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS CRDL      **Received:** 04-JAN-10      **Pipet Id :** 3820544  
**Type:** Working      **Expires:** 05-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1249336  
**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
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

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
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:** WMS100104-07      **Opened:** 04-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS ICSA      **Received:** 04-JAN-10      **Lot Number :** 1010773  
**Type:** Working      **Expires:** 05-JAN-10      **Pipet Id :** 3541598  
**Employee:** Paul Boyd      **Solvent :** 2%HNO3/1%HCl - 1249336  
**Supplier:** GEL  
**Description:** ICPMS ICSA  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L



# Standard Logbook

**Serial ID:** WMS100104-08      **Opened:** 04-JAN-10      **Balance Id :** 40245216  
**Name:** ICPMS ICSAB      **Received:** 04-JAN-10      **Pipet Id :** 1758088  
**Type:** Working      **Expires:** 05-JAN-10      **Solvent :** 2%HNO3/1%HCl - 1249336  
**Employee:** Paul Boyd  
**Supplier:** GEL  
**Description:** ICPMS ICSAB  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L
UI091217-12	Arsenic	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Barium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Beryllium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Boron	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Cadmium	2 mg/L	.5 mL	50 mL	20.2 ug/L
UI091217-12	Chromium	2 mg/L	.5 mL	50 mL	22.2 ug/L
UI091217-12	Cobalt	2 mg/L	.5 mL	50 mL	20.4 ug/L
UI091217-12	Copper	2 mg/L	.5 mL	50 mL	23.4 ug/L
UI091217-12	Lead	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Lithium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Manganese	2 mg/L	.5 mL	50 mL	22.7 ug/L
UI091217-12	Nickel	2 mg/L	.5 mL	50 mL	22.4 ug/L
UI091217-12	Selenium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Strontium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thallium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thorium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Uranium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Vanadium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Zinc	2 mg/L	.5 mL	50 mL	27 ug/L
UI091217-13	Antimony	2 mg/L	.5 mL	50 mL	20.5 ug/L
UI091217-13	Silver	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tin	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tungsten	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Zirconium	2 mg/L	.5 mL	50 mL	20 ug/L

# Standard Logbook

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: 1164796-A      Opened: 06-AUG-09      Lot Number : 49149927  
 Name: B-NH2OH.HCl-MER      Received: 06-AUG-09  
 Type: Reagent/Solvent      Expires: 06-AUG-10  
 Employee: Tara Griffin  
 Supplier: Fisher Scientific  
 Description: Hydroxylamine Hydrochloride  
 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: 1206350-C      Opened: 22-OCT-09      Balance Id : BAL-002  
 Name: B-NaCl.NH2OH.HCl-MER      Received: 22-OCT-09  
 Type: Reagent/Solvent      Expires: 15-JAN-10  
 Employee: Tara Griffin  
 Supplier: GEL  
 Description: Hg reducing agent  
 Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1164796-A	B-NH2OH.HCl-MER	N/A	120 g	1000 mL	N/A

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

# Standard Logbook

**Serial ID:** 1234385-C      **Opened:** 25-NOV-09      **Balance Id :** BAL-002  
**Name:** B-K2S2O8-MER      **Received:** 25-NOV-09  
**Type:** Reagent/Solvent      **Expires:** 25-MAY-10  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** 5% Potassium Persulfate  
**Comments:** None

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
1215906	B-K2S2O8S-MER	N/A	50 g	1000 mL	N/A

**Serial ID:** 1234886      **Opened:** 27-NOV-09      **Lot Number :** H20053 L  
**Name:** I-HNO3      **Received:** 27-NOV-09  
**Type:** Reagent/Solvent      **Expires:** 27-NOV-10  
**Employee:** Bryan Davis  
**Supplier:** BAKER  
**Description:** Nitric Acid CONC.  
**Comments:** None

**Serial ID:** 1238345      **Opened:** 04-DEC-09      **Lot Number :** H20053 L  
**Name:** I-HNO3      **Received:** 04-DEC-09  
**Type:** Reagent/Solvent      **Expires:** 04-DEC-10  
**Employee:** Francena Armstrong  
**Supplier:** BAKER  
**Description:** Nitric Acid CONC.  
**Comments:** None

**Serial ID:** 1240182-1      **Opened:** 09-DEC-09      **Instrument Id :** MERCURY  
**Name:** B-HNO3-MER      **Received:** 09-DEC-09      **Lot Number :** H34040  
**Type:** Reagent/Solvent      **Expires:** 09-DEC-10  
**Employee:** Tara Griffin  
**Supplier:** Mallinckrodt Chemicals  
**Description:** NITRIC ACID  
**Comments:** None

**Serial ID:** 1244904-C      **Opened:** 18-DEC-09      **Balance Id :** BAL-002  
**Name:** B-KMnO4-MER      **Received:** 18-DEC-09  
**Type:** Reagent/Solvent      **Expires:** 18-JUN-10  
**Employee:** Tara Griffin  
**Supplier:** GEL  
**Description:** 5% KMnO4 solution  
**Comments:** None

# Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1156689-A	B-KMnO4(VWR)-MER	Crystals	50 g	1000 mL	3%

Serial ID: 1244970      Opened: 18-DEC-09      Lot Number : H41032  
 Name: I-HCL      Received: 18-DEC-09      Preservative\_Id : 5 none  
 Type: Reagent/Solvent      Expires: 18-DEC-10  
 Employee: Francena Armstrong  
 Supplier: J.T. BAKER  
 Description: HYDROCHLORIC ACID  
 Comments: None

Serial ID: 1247304      Opened: 28-DEC-09      Solvent : Type I Water  
 Name: B-2%HNO3/1%HCl-ICPMS      Received: 28-DEC-09  
 Type: Reagent/Solvent      Expires: 04-JAN-10  
 Employee: Elizabeth Janssen  
 Supplier: GEL  
 Description: 2%HNO3/1%HCl Solution (Type I Water)  
 Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1238345	I-HNO3	69.0-70.0	180 mL	9 l	N/A
1244970	I-HCL	36.5-38.0	90 mL	9 l	N/A

Serial ID: 1249336      Opened: 04-JAN-10      Solvent : Type I Water  
 Name: B-2%HNO3/1%HCl-ICPMS      Received: 04-JAN-10  
 Type: Reagent/Solvent      Expires: 11-JAN-10  
 Employee: Paul Boyd  
 Supplier: GEL  
 Description: 2%HNO3/1%HCl Solution (Type I Water)  
 Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1238345	I-HNO3	69.0-70.0	180 mL	9 l	N/A
1244970	I-HCL	36.5-38.0	90 mL	9 l	N/A

Serial ID: 1253514      Opened: 11-JAN-10      Amount : 20 L  
 Name: B-ICP-RINSE SOLN      Received: 11-JAN-10      Lot Number : H04040+G34050  
 Type: Reagent/Solvent      Expires: 17-JAN-10      Solvent : 3%HCL+1%HNO3  
 Employee: Helen Camello  
 Supplier: GEL  
 Description: 3%HCL+1%HNO3 RINSE SOLN.  
 Comments: None

# **General Chemistry Analysis**

# Case Narrative

**General Chemistry Narrative  
Los Alamos National Laboratory (LANL)  
SDG 10-1104**

**Method/Analysis Information**

**Product:** Cyanide, Total  
**Analytical Batch:** 937245      **Method:** SW846 9012A  
**Prep Batch :** 937244      **Method:** SW846 9010B Prep

**Sample Analysis**

The following samples were analyzed using the analytical protocol as established in SW846 9012A:

<b>Sample ID</b>	<b>Client ID</b>
243631001	RE12-10-9923
1202005554	Method Blank (MB)
1202005555	243608001(RE16-10-372) Sample Duplicate (DUP)
1202005556	243608001(RE16-10-372) Matrix Spike (MS)
1202005557	243608001(RE16-10-372) Matrix Spike Duplicate (MSD)
1202005558	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 sample was selected for QC analysis: 243608001 (RE16-10-372).

**Matrix Spike (MS)/Post Spike (PS) Recovery Statement**

The MS/PS recovery for this sample set was within the required acceptance limits.

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

The MSD recovery for this sample set was within the required acceptance limits.

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

The RPD between the spike and spike duplicate met the acceptance limits.

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

The values for the sample and duplicate are less than the Practical Quantitation Limit (PQL); therefore, the RPD is not applicable. 1202005555 (RE16-10-372).

**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 following sample was re-analyzed due to instrument failure: 1202005558 (LCS).



### **Miscellaneous Information**

#### **Nonconformance (NCR) Documentation**

An NCR was not required for this SDG.

#### **Additional Comments**

Additional comments were not required for this SDG.

#### **Electronic Packaging Comment**

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

**Certification Statement**

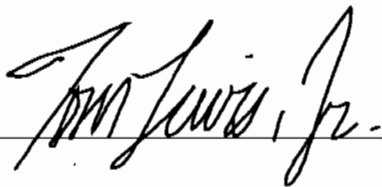
Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

**Review Validation:**

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

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

Reviewer:



Date:

25Jan10

# **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: 10-1104 GEL Work Order: 243631

**The Qualifiers in this report are defined as follows:**

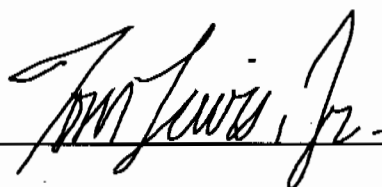
- \* Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- \*\* Indicates the analyte is a surrogate compound.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the detection limit.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Reviewed by

A handwritten signature in black ink, appearing to read "Tom Lewis, Jr.", is written over a horizontal line.

# GEL LABORATORIES LLC

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

## Certificate of Analysis

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

Report Date: January 6, 2010

Client SDG: 10-1104

Client Sample ID: RE12-10-9923  
Sample ID: 243631001  
Matrix: W  
Collect Date: 21-DEC-09 12:00  
Receive Date: 29-DEC-09  
Collector: Client

Project: LANL01004  
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
<b>Flow Injection Analysis</b>											
<i>SW9012A Cyanide, Total "As Received"</i>											
Cyanide, Total	U	ND	1.66	5.00	ug/L	1	AXC2	01/04/10	1050	937245	1

### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/31/09	1507	937244

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

# **Quality Control Summary**

# GEL LABORATORIES LLC

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

## QC Summary

Report Date: January 6, 2010

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

Contact: Ms. Joylene Valdez

Workorder: 243631

Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Flow Injection Analysis											
Batch	937245										
QC1202005555	243608001	DUP									
Cyanide, Total		U	ND	U	ND	ug/L	N/A		AXC2	01/04/10	10:45
QC1202005558	LCS										
Cyanide, Total	50.0				45.4	ug/L	90.8	(90%-110%)		01/04/10	10:54
QC1202005554	MB										
Cyanide, Total			U		5.00	ug/L				01/04/10	10:42
QC1202005556	243608001	MS									
Cyanide, Total	100	U	ND		94.9	ug/L	94.9	(60%-127%)		01/04/10	10:46
QC1202005557	243608001	MSD									
Cyanide, Total	100	U	ND		100	ug/L	5.23	100	(0%-20%)	01/04/10	10:47

- 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 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.
  - 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

## GEL LABORATORIES LLC

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### QC Summary

Workorder: 243631

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
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: 06-JAN-2010 08:57

**GEL Laboratories LLC**

**Contract: LANL01004**

**SDG #: 10-1104**

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>04-JAN-2010 10:36:47</b>	<b>OM_1-4-2010_10-26-17</b>	<b>137</b>	<b>150</b>	<b>91</b>	<b>(90%-110%)</b>	<b>Yes</b>
CCV	04-JAN-2010 10:51:04	OM_1-4-2010_10-26-17	109	100	109	(90%-110%)	Yes
CCV	04-JAN-2010 11:03:30	OM_1-4-2010_10-26-17	103	100	103	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
<b>ICB</b>	<b>04-JAN-2010 10:38:37</b>	<b>OM_1-4-2010_10-26-17</b>	<b>-3.1</b>	<b>5</b>	<b>Yes</b>
CCB	04-JAN-2010 10:52:55	OM_1-4-2010_10-26-17	-2.04	5	Yes
CCB	04-JAN-2010 11:05:20	OM_1-4-2010_10-26-17	-2.7	5	Yes

# Cyanide, Total

# Prep LogBook

Analyst: AXS5  
Batch: 937244  
Lab SOP: GL-GC-E-067 REV# 13

Verified by: \_\_\_\_\_

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Spike Amount	Spike Units
MB	1202005554		SW846 9010B Prep	31-DEC-2009 15:07	>12	25 mL	25 mL	1	.0125	mL
LCS	1202005558		SW846 9010B Prep	31-DEC-2009 15:07	>12	25 mL	25 mL	1	.025	mL
SAMPLE	243585002		EPA 335.4	31-DEC-2009 15:07	>12	25 mL	25 mL	1	.025	mL
SAMPLE	243608001		SW846 9010B Prep	31-DEC-2009 15:07	>12	25 mL	25 mL	1	.025	mL
DUP	1202005555	243608001	SW846 9010B Prep	31-DEC-2009 15:07	>12	25 mL	25 mL	1	.025	mL
MS	1202005556	243608001	SW846 9010B Prep	31-DEC-2009 15:07	>12	25 mL	25 mL	1	.025	mL
MSD	1202005557	243608001	SW846 9010B Prep	31-DEC-2009 15:07	>12	25 mL	25 mL	1	.025	mL
SAMPLE	243627001		SW846 9010B Prep	31-DEC-2009 15:07	>12	25 mL	25 mL	1	.025	mL
SAMPLE	243629001		SW846 9010B Prep	31-DEC-2009 15:07	>12	25 mL	25 mL	1	.025	mL
SAMPLE	243631001		SW846 9010B Prep	31-DEC-2009 15:07	>12	25 mL	25 mL	1	.025	mL
SAMPLE	243632001		SW846 9010B Prep	31-DEC-2009 15:07	>12	25 mL	25 mL	1	.025	mL
SAMPLE	243633001		EPA 335.4	31-DEC-2009 15:07	>12	25 mL	25 mL	1	.025	mL
SAMPLE	243633002		EPA 335.4	31-DEC-2009 15:07	>12	25 mL	25 mL	1	.025	mL
SAMPLE	243633006		EPA 335.4	31-DEC-2009 15:07	>12	25 mL	25 mL	1	.025	mL
DUP	1202006217	243633006	EPA 335.4	31-DEC-2009 15:07	>12	25 mL	25 mL	1	.025	mL
MS	1202006218	243633006	EPA 335.4	31-DEC-2009 15:07	>12	25 mL	25 mL	1	.025	mL
MSD	1202006219	243633006	EPA 335.4	31-DEC-2009 15:07	>12	25 mL	25 mL	1	.025	mL
SAMPLE	243633009		EPA 335.4	31-DEC-2009 15:07	>12	25 mL	25 mL	1	.025	mL

## Comments

Reagent/Solvent Lot ID	Amount	Description
091211-C	25 mL	0.25N Sodium Hydroxide Solution
WCN091231-07	.0375 mL	150 ppb CN Distilled ICV Standard
1176724-C	1.25 mL	0.8N H3NO3S
1238146-C	2.5 mL	50% H2SO4 CN Prep
1176778-C	1 mL	51% MgCl2 Soln
1238142-C	1.25 mL	Bismuth Nitrate Solution

This is runlog Lachat1

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
200 ppb		1	axc2	1/4/2010 10:29:37	OM_1-4-2010_10-26-17
150 ppb		1	axc2	1/4/2010 10:30:29	OM_1-4-2010_10-26-17
100 ppb		1	axc2	1/4/2010 10:31:22	OM_1-4-2010_10-26-17
50 ppb		1	axc2	1/4/2010 10:32:15	OM_1-4-2010_10-26-17
10 ppb		1	axc2	1/4/2010 10:33:08	OM_1-4-2010_10-26-17
CRDL 5.0 ppb		1	axc2	1/4/2010 10:34:02	OM_1-4-2010_10-26-17
ICAL-00		1	axc2	1/4/2010 10:34:56	OM_1-4-2010_10-26-17
ICV		1	axc2	1/4/2010 10:36:47	OM_1-4-2010_10-26-17
ICB		1	axc2	1/4/2010 10:38:37	OM_1-4-2010_10-26-17
CRDL		1	axc2	1/4/2010 10:40:27	OM_1-4-2010_10-26-17
1202005554	937245	1	axc2	1/4/2010 10:42:17	OM_1-4-2010_10-26-17
1202005558*	937245	1	axc2	1/4/2010 10:43:10	OM_1-4-2010_10-26-17
243585002	937245	1	axc2	1/4/2010 10:44:03	OM_1-4-2010_10-26-17
243608001	937245	1	axc2	1/4/2010 10:44:56	OM_1-4-2010_10-26-17
1202005555	937245	1	axc2	1/4/2010 10:45:49	OM_1-4-2010_10-26-17
1202005556	937245	1	axc2	1/4/2010 10:46:42	OM_1-4-2010_10-26-17
1202005557	937245	1	axc2	1/4/2010 10:47:34	OM_1-4-2010_10-26-17
243627001	937245	1	axc2	1/4/2010 10:48:27	OM_1-4-2010_10-26-17
243629001	937245	1	axc2	1/4/2010 10:49:19	OM_1-4-2010_10-26-17
243631001	937245	1	axc2	1/4/2010 10:50:12	OM_1-4-2010_10-26-17
CCV		1	axc2	1/4/2010 10:51:04	OM_1-4-2010_10-26-17
CCB		1	axc2	1/4/2010 10:52:55	OM_1-4-2010_10-26-17
1202005558	937245	1	axc2	1/4/2010 10:54:44	OM_1-4-2010_10-26-17
243632001	937245	1	axc2	1/4/2010 10:55:36	OM_1-4-2010_10-26-17
243633001	937245	1	axc2	1/4/2010 10:56:28	OM_1-4-2010_10-26-17
243633002	937245	1	axc2	1/4/2010 10:57:20	OM_1-4-2010_10-26-17
243633006	937245	1	axc2	1/4/2010 10:58:12	OM_1-4-2010_10-26-17
1202006217	937245	1	axc2	1/4/2010 10:59:04	OM_1-4-2010_10-26-17
1202006218	937245	1	axc2	1/4/2010 10:59:57	OM_1-4-2010_10-26-17
1202006219	937245	1	axc2	1/4/2010 11:00:51	OM_1-4-2010_10-26-17
243633009	937245	1	axc2	1/4/2010 11:01:44	OM_1-4-2010_10-26-17
1202004497	936843	1	axc2	1/4/2010 11:02:37	OM_1-4-2010_10-26-17
CCV		1	axc2	1/4/2010 11:03:30	OM_1-4-2010_10-26-17
CCB		1	axc2	1/4/2010 11:05:20	OM_1-4-2010_10-26-17
1202004504	936843	25	axc2	1/4/2010 11:07:10	OM_1-4-2010_10-26-17
243517008	936843	1	axc2	1/4/2010 11:08:03	OM_1-4-2010_10-26-17
1202004498	936843	1	axc2	1/4/2010 11:08:56	OM_1-4-2010_10-26-17
1202004500	936843	1	axc2	1/4/2010 11:09:48	OM_1-4-2010_10-26-17
1202004502	936843	1	axc2	1/4/2010 11:10:41	OM_1-4-2010_10-26-17
243517009	936843	1	axc2	1/4/2010 11:11:34	OM_1-4-2010_10-26-17
1202004499	936843	1	axc2	1/4/2010 11:12:26	OM_1-4-2010_10-26-17
1202004501	936843	1	axc2	1/4/2010 11:13:18	OM_1-4-2010_10-26-17
1202004503	936843	1	axc2	1/4/2010 11:14:10	OM_1-4-2010_10-26-17
243521001	936843	1	axc2	1/4/2010 11:15:02	OM_1-4-2010_10-26-17
CCV		1	axc2	1/4/2010 11:15:55	OM_1-4-2010_10-26-17
CCB		1	axc2	1/4/2010 11:17:45	OM_1-4-2010_10-26-17
243521002	936843	1	axc2	1/4/2010 11:19:33	OM_1-4-2010_10-26-17
243521003	936843	1	axc2	1/4/2010 11:20:27	OM_1-4-2010_10-26-17
243521004	936843	1	axc2	1/4/2010 11:21:21	OM_1-4-2010_10-26-17
243521005	936843	1	axc2	1/4/2010 11:22:14	OM_1-4-2010_10-26-17
243521006	936843	1	axc2	1/4/2010 11:23:08	OM_1-4-2010_10-26-17
243521007	936843	1	axc2	1/4/2010 11:24:01	OM_1-4-2010_10-26-17
243521008	936843	1	axc2	1/4/2010 11:24:54	OM_1-4-2010_10-26-17
243521009	936843	1	axc2	1/4/2010 11:25:47	OM_1-4-2010_10-26-17
243521010	936843	1	axc2	1/4/2010 11:26:40	OM_1-4-2010_10-26-17
243521011	936843	1	axc2	1/4/2010 11:27:33	OM_1-4-2010_10-26-17
CCV		1	axc2	1/4/2010 11:28:25	OM_1-4-2010_10-26-17
CCB		1	axc2	1/4/2010 11:30:15	OM_1-4-2010_10-26-17

243547002	936843	1	axc2	1/4/2010	11:32:04	OM_1-4-2010_10-26-17
243547003	936843	1	axc2	1/4/2010	11:32:56	OM_1-4-2010_10-26-17
243549002	936843	1	axc2	1/4/2010	11:33:49	OM_1-4-2010_10-26-17
243550001	936843	1	axc2	1/4/2010	11:34:41	OM_1-4-2010_10-26-17
243550002	936843	1	axc2	1/4/2010	11:35:33	OM_1-4-2010_10-26-17
243550003	936843	1	axc2	1/4/2010	11:36:25	OM_1-4-2010_10-26-17
243550004	936843	1	axc2	1/4/2010	11:37:19	OM_1-4-2010_10-26-17
CCV		1	axc2	1/4/2010	11:38:11	OM_1-4-2010_10-26-17
CCB		1	axc2	1/4/2010	11:40:02	OM_1-4-2010_10-26-17

Author: axc2

Date : 1/4/2010

Original Run Filename: OM\_1-4-2010\_10-26-17.OMN created 1/4/2010 10:26:17  
 Original Run Author's Signature: [axc2]  
 Current Run Filename: OM\_1-4-2010\_10-26-17.OMN last modified 1/4/2010 11:41:07  
 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		Detection Time	ADF	MDF	Description
			TCYANIDE Conc. (ug/L)	Area (Vs)				
WCN100104-01	1	S1	200	7.63	1/4/2010@10:29:37			200 ppb
WCN100104-02	1	S2	150	5.81	1/4/2010@10:30:29			150 ppb
WCN100104-03	1	S3	100	3.99	1/4/2010@10:31:22			100 ppb
WCN100104-04	1	S4	50.0	2.09	1/4/2010@10:32:15			50 ppb
WCN100104-05	1	S5	10.0	0.463	1/4/2010@10:33:08			10 ppb
WCN100104-06	1	S6	5.00	0.277	1/4/2010@10:34:02			CRDL 5.0 ppb
WCN100104-08	1	S7	0.00	0.0108	1/4/2010@10:34:56			0.0 ppb
DQM Test: Minimum Correlation Coefficient								
Result:			0.99973 > 0.99500					
Message			Pass					
Action			Continue					
WCN100104-07	1	S8	137	5.30	1/4/2010@10:36:47			ICV
Known Conc:			150					
DQM Test: > + Percent Relative Difference								
Result:			-8.9 < 10.0					
Message			ICV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			-8.9 < 10.0					
Message			ICV Passed					
Action			Continue					
Calibration:			Table/Fig. 1					
WCN100104-08	1	S7	-3.10	-0.0205	1/4/2010@10:38:37			ICB/CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-3.10 < 5.01					
Message			ICB/CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-3.10 > -5.01					
Message			ICB/CCB Passed					
Action			Continue					
WCN100104-06	1	S6	5.20	0.295	1/4/2010@10:40:27			CRDL
Known Conc:			5.00					
DQM Test: > + Concentration Limit								
Result:			5.20 < 7.50					
Message			CRDL Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			5.20 > 2.50					
Message			Pass					
Action			None					
1202005554 937245 MB	1	1	-1.46	0.0418	1/4/2010@10:42:17			
1202005558 LCS	1	2	44.5	1.79	1/4/2010@10:43:10			
243585002	1	3	-0.484	0.0790	1/4/2010@10:44:03			
243608001	1	4	-2.24	0.0123	1/4/2010@10:44:56			
1202005555 DUP	1	5	-1.58	0.0374	1/4/2010@10:45:49			
1202005556 MS	1	6	94.9	3.71	1/4/2010@10:46:42			
1202005557 MSD	1	7	100	3.91	1/4/2010@10:47:34			
243627001	1	8	-1.51	0.0399	1/4/2010@10:48:27			
243629001	1	9	-1.99	0.0217	1/4/2010@10:49:19			
243631001	1	10	-2.35	0.00803	1/4/2010@10:50:12			
WCN100104-03	1	S3	109	4.23	1/4/2010@10:51:04			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			8.6 < 10.0					

		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	8.6 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100104-08	1	S7	-2.04	0.0199	1/4/2010@10:52:55			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-2.04 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-2.04 > -5.00					
		Message	CCB Passed					
		Action	Continue					
1202005558  LCS	1	2	45.4	1.83	1/4/2010@10:54:44			
243632001	1	11	-1.49	0.0405	1/4/2010@10:55:36			
243633001	1	12	-1.66	0.0344	1/4/2010@10:56:28			
243633002	1	13	-1.45	0.0422	1/4/2010@10:57:20			
243633006	1	14	-2.75	-0.00712	1/4/2010@10:58:12			
1202006217  DUP	1	15	-1.99	0.0215	1/4/2010@10:59:04			
1202006218  MS	1	16	96.0	3.75	1/4/2010@10:59:57			
1202006219  MSD	1	17	100	3.91	1/4/2010@11:00:51			
243633009	1	18	-1.26	0.0496	1/4/2010@11:01:44			
1202004497 936843 MB	1	19	-1.90	0.0251	1/4/2010@11:02:37			
WCN100104-03	1	S3	103	4.01	1/4/2010@11:03:30			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	2.9 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	2.9 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100104-08	1	S7	-2.70	-0.00550	1/4/2010@11:05:20			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-2.70 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-2.70 > -5.00					
		Message	CCB Passed					
		Action	Continue					
1202004504  LCS	1	20	30.2	1.25	1/4/2010@11:07:10		25.00	
243517008	1	21	-0.543	0.0767	1/4/2010@11:08:03			
1202004498  DUP	1	22	0.103	0.101	1/4/2010@11:08:56			
1202004500  MS	1	23	91.7	3.59	1/4/2010@11:09:48			
1202004502  MSD	1	24	92.4	3.61	1/4/2010@11:10:41			
243517009	1	25	0.220	0.106	1/4/2010@11:11:34			
1202004499  DUP	1	26	1.82	0.166	1/4/2010@11:12:26			
1202004501  MS	1	27	92.4	3.61	1/4/2010@11:13:18			
1202004503  MSD	1	28	79.5	3.12	1/4/2010@11:14:10			
243521001	1	29	-0.679	0.0715	1/4/2010@11:15:02			
WCN100104-03	1	S3	103	4.02	1/4/2010@11:15:55			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	3.0 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	3.0 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100104-08	1	S7	-1.79	0.0294	1/4/2010@11:17:45			CCB
		Known Conc:	0.00					



DQM Test: > + Concentration Limit						
Result:		-1.79 < 5.00				
Message		CCB Passed				
Action		Continue				
DQM Test: < - Concentration Limit						
Result:		-1.79 > -5.00				
Message		CCB Passed				
Action		Continue				
243521002	1	30	-1.46	0.0420	1/4/2010@11:19:33	
243521003	1	31	-0.362	0.0836	1/4/2010@11:20:27	
243521004	1	32	1.22	0.144	1/4/2010@11:21:21	
243521005	1	33	-0.936	0.0618	1/4/2010@11:22:14	
243521006	1	34	3.33	0.224	1/4/2010@11:23:08	
243521007	1	35	-1.34	0.0463	1/4/2010@11:24:01	
243521008	1	36	-0.707	0.0705	1/4/2010@11:24:54	
243521009	1	37	-1.63	0.0352	1/4/2010@11:25:47	
243521010	1	38	0.857	0.130	1/4/2010@11:26:40	
243521011	1	39	-1.68	0.0334	1/4/2010@11:27:33	
WCN100104-03	1	S3	103	4.01	1/4/2010@11:28:25	CCV
Known Conc:			100			
DQM Test: > + Percent Relative Difference						
Result:		2.7 < 10.0				
Message		CCV Passed				
Action		Continue				
DQM Test: < - Percent Relative Difference						
Result:		2.7 < 10.0				
Message		CCV Passed				
Action		Continue				
WCN100104-08	1	S7	-2.53	9.28e-4	1/4/2010@11:30:15	CCB
Known Conc:			0.00			
DQM Test: > + Concentration Limit						
Result:		-2.53 < 5.00				
Message		CCB Passed				
Action		Continue				
DQM Test: < - Concentration Limit						
Result:		-2.53 > -5.00				
Message		CCB Passed				
Action		Continue				
243547002	1	40	-1.86	0.0265	1/4/2010@11:32:04	
243547003	1	41	-1.82	0.0282	1/4/2010@11:32:56	
243549002	1	42	1.59	0.158	1/4/2010@11:33:49	
243550001	1	43	-1.68	0.0335	1/4/2010@11:34:41	
243550002	1	44	-1.41	0.0438	1/4/2010@11:35:33	
243550003	1	45	-1.87	0.0261	1/4/2010@11:36:25	
243550004	1	46	-1.49	0.0406	1/4/2010@11:37:19	
WCN100104-03	1	S3	104	4.04	1/4/2010@11:38:11	CCV
Known Conc:			100			
DQM Test: > + Percent Relative Difference						
Result:		3.5 < 10.0				
Message		CCV Passed				
Action		Continue				
DQM Test: < - Percent Relative Difference						
Result:		3.5 < 10.0				
Message		CCV Passed				
Action		Continue				
WCN100104-08	1	S7	-2.65	-0.00342	1/4/2010@11:40:02	CCB
Known Conc:			0.00			
DQM Test: > + Concentration Limit						
Result:		-2.65 < 5.00				
Message		CCB Passed				
Action		Continue				
DQM Test: < - Concentration Limit						
Result:		-2.65 > -5.00				
Message		CCB Passed				
Action		Continue				

Analyte Properties Table for OM\_1-4-2010\_10-26-17.OMN

Property	Channel 1 TCYANIDE
Concentration Units	ug/L
Calibration Fit Type	First Order
Clear Calibration	True
Force Through Zero	False
Calibration Weighting	None
Auto Dilution Trigger	True
% of High Standard	100
Quik Chem Method	10-204-00-1-A
Chemistry	Direct/Bipolar
Calibration by Height	False
Inject to Peak Start	22
Peak Base Width	39

Channel 1: Current View

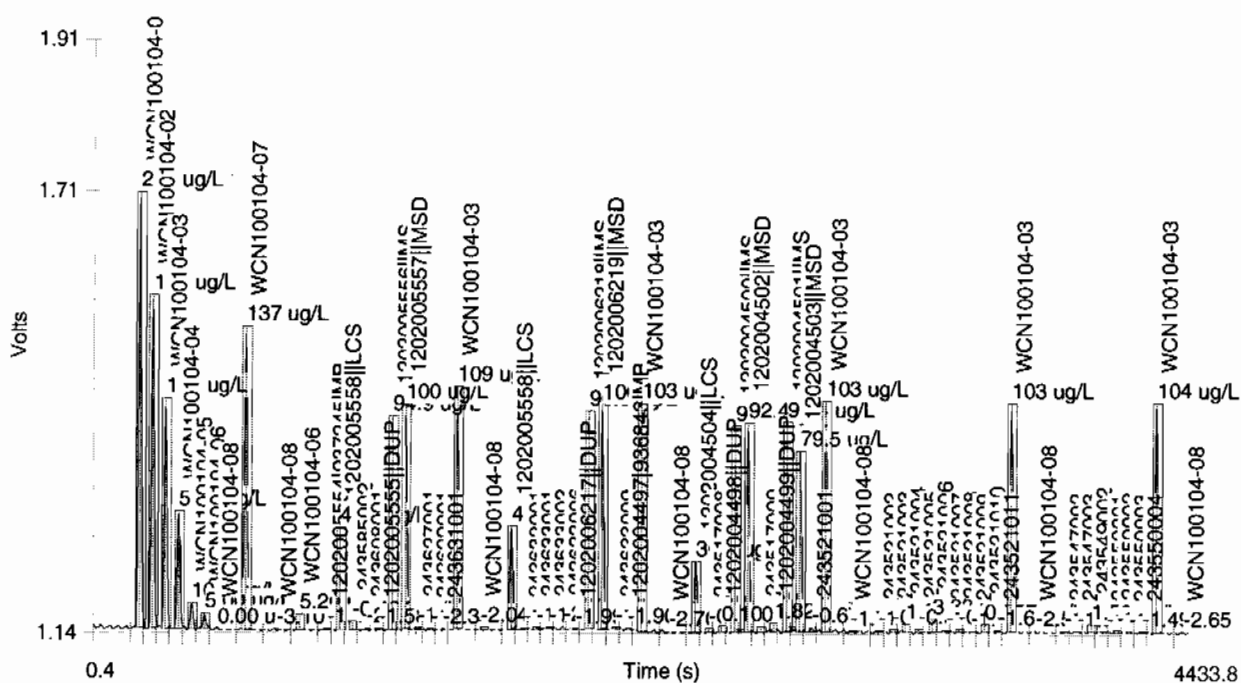


Table 1: TCYANIDE

	Conc. (ug/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	200	1	7.63	0.565	0.9	1/4/2010	10:30:40
2	150	1	5.81	0.432	-0.2	1/4/2010	10:31:33
3	100	1	3.99	0.297	-2.2	1/4/2010	10:32:25
4	50.0	1	2.09	0.153	-4.6	1/4/2010	10:33:18
5	10.0	1	0.463	0.0341	3.3	1/4/2010	10:34:11
6	5.00	1	0.277	0.0211	4.2	1/4/2010	10:35:05
7	0.00	1	0.0108	7.90e-4		1/4/2010	10:35:59

Figure 1: TCYANIDE

