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Data Validation Report for CH2M Hill Plateau Remediation Company

VSR10-016
Project CERC10, SURV10

Chemical Validation - Level C

Validation Performed By: Carl Schlosser **Date:** 5-12-2010

Validation Reviewed By: Cheryl A. Schlosser **Date:** 5-12-2010

TABLE OF CONTENTS

Volatile Organics

Memorandum 1
Appendix 1 – Glossary of Data Reporting Qualifiers 5
Appendix 2 – Summary of Data Qualification 7
Appendix 3 – Annotated Laboratory Reports 9
Appendix 4 – Laboratory Narrative and Chain-of-Custody Documentation 13
Appendix 5 – Data Validation Supporting Documentation 22
Appendix 6 – Additional Documentation Requested By Client 27

Inorganics

Memorandum 34
Appendix 1 – Glossary of Data Reporting Qualifiers 38
Appendix 2 – Summary of Data Qualification 40
Appendix 3 – Annotated Laboratory Reports 42
Appendix 4 – Laboratory Narrative and Chain-of-Custody Documentation 95
Appendix 5 – Data Validation Supporting Documentation 119
Appendix 6 – Additional Documentation Requested By Client 125

Date: 12 May 2010
To: CH2M Hill (technical representative)
From: Analytical Quality Associates, Inc.
Project: CERC10, SURV10
Subject: Volatile Organics - Sample Data Group (SDG) WSCF91532

INTRODUCTION

This memorandum presents the results of data validation for SDG WSCF91532 prepared by WSCF. The sample validated along with the analytical method is provided in the following table. It should be noted that methylene chloride was the only analyte chosen for validation.

Sample ID	Sample Date	Media	Validation Level	Analytical Methods
B225H1	11/05/2009	Water	C	8260B

Data validation was conducted in accordance with the CHPRC validation statement of work and the Sampling and Analysis Plan for the 100-DR-1, 100-DR-2, 100-HR-1, 100-HR-2, and 100-HR-3 Operable Units Remedial Investigation/Feasibility Study, DOE/RL-2009-40, Rev. 0 (SAP). Appendices 1 through 6 provide the following information as indicated below:

Appendix 1. Glossary of Data Reporting Qualifiers
Appendix 2. Summary of Data Qualification
Appendix 3. Annotated Laboratory Reports
Appendix 4. Laboratory Narrative and Chain-of-Custody Documentation
Appendix 5. Data Validation Supporting Documentation
Appendix 6. Additional Documentation Requested By Client

DATA QUALITY OBJECTIVES

- **Holding Times and Sample Preservation**

Holding times are calculated from Chain-of-Custody forms to determine the validity of the results. The holding time requirements for volatile organics are analysis within 14 days of sample collection. Sample preservation requires chilling to 4 degrees Celsius and acid preservation with hydrochloric or sulfuric acid to pH <2.

The sample was analyzed within the prescribed holding time and properly preserved.

- **Blanks**

The blank data results are reviewed to assess the extent of contamination introduced through sampling, sample preparation, and analysis.

Laboratory Blanks

The methylene chloride laboratory blank result was > the MDL. The methylene chloride result for sample B225H1 was a detect > the PQL (SAP required detection limit not provided) and <10X the blank result and should be qualified as a non-detect at the measured sample concentrations and flagged "U."

Trip Blanks

No trip blanks were submitted for analysis.

Field Blanks

No field blanks were submitted for analysis.

Equipment Blanks

No equipment blanks were submitted for analysis.

- **Accuracy**

Accuracy is evaluated by reviewing surrogate results, matrix spike sample results, and laboratory control sample results. According to the SAP, the laboratory control sample accuracy limits are 80% to 120% at a minimum, and the statistical ones established by the analytical laboratory if more stringent. The matrix spike sample accuracy limits are ones specified by the DV procedure. The limits for reported analytes not listed in the SAP are specified by the DV procedure.

Surrogates

All surrogate recoveries were acceptable.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

The methylene chloride MS and MSD recoveries were acceptable. It should be noted that methylene chloride was not spiked in the MS/MSD, but was represented by spiked compound 1,1-dichloroethene.

Laboratory Control Samples (LCSs)

The methylene chloride LCS recovery was acceptable. It should be noted that methylene chloride was not spiked in the LCS, but was represented by spiked compound 1,1-dichloroethene.

- **Precision**

Precision is evaluated by reviewing MS/MSD results, field duplicate sample results, and field split sample results. These QC results provide information on the laboratory reproducibility and whether sampling activities are adequate to acquire consistent sample results. According to the SAP, the relative percent difference (RPD) limits are ±20%. The RPD limits for reported analytes not listed in the SAP are specified by the DV procedure. When duplicate RPDs exceed the limits and have associated results <5X the required detection limits with differences <1X the required detection limits no precision infraction occurred.

MS/MSD Samples

The methylene chloride MS/MSD relative percent difference value was acceptable.

Field Duplicate Samples

No field duplicates were submitted for analysis.

Field Split Samples

No field splits were submitted for analysis.

- **Detection Limits**

Reported MDLs are compared against the contractually required detection limits (CRDLs) to ensure that laboratory detection limits meet the required criteria.

A CRDL (or estimated quantitation limit) for methylene chloride was not provided in Table 2-19 of the SAP.

- **Completeness**

SDG WSCF91532 was submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

MAJOR DEFICIENCIES

None found.

MINOR DEFICIENCIES

A minor deficiency leading to qualification of the methylene chloride result for sample B225H1 as a non-detect was due to a laboratory blank infraction.

REFERENCES

HNF-20433, Rev. 0, *Data Validation Procedure for Chemical Analyses*, June 2004.

DOE/RL-2009-40, Rev. 0, *Sampling and Analysis Plan for the 100-DR-1, 100-DR-2, 100-HR-1, 100-HR-2, and 100-HR-3 Operable Units Remedial Investigation/Feasibility Study*, March 2010.

Appendix 1

Glossary of Data Reporting Qualifiers

Qualifiers that may be applied by data validators in compliance with the CHPRC statement of work are as follows:

- **U** — The constituent was analyzed for and was not detected. The data should be considered usable for decision-making purposes.

- **UJ** — The constituent was analyzed for and was not detected. Due to a quality control deficiency identified during data validation the value reported may not accurately reflect the MDL. The data should be considered usable for decision-making purposes.

- **J** — Indicates the constituent was analyzed for and detected. The associated value is estimated due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.

- **UR** — Indicates the constituent was analyzed for and not detected; however, due to an identified quality control deficiency the data should be considered unusable for decision-making purposes.

- **R** — Indicates the constituent was analyzed for and detected; however, due to an identified quality control deficiency the data should be considered unusable for decision-making purposes.

Appendix 2

Summary of Data Qualification

Volatile Organics Data Qualification Summary			
SDG: WSCF91532	Reviewer: AQA	Project: CERC10, SURV10	Page 1 of 1
Analyte(s)	**Qualifier**	**Samples Affected**	**Reason**
Methylene chloride	11U	B225H1	Laboratory blank contamination

Comments: None

Appendix 3

Annotated Laboratory Reports

WSCF Analytical Results Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF91532

Sample # 91532004
SAF# X10-003
Sample ID B225H1

Matrix WATER
Sampled 11/05/09
Received 11/05/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
8260 Prep										**11/05/09**
SW-846 8260B										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
Trichloroethene	79-01-6	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
1,1-Dichloroethane	75-34-3	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
Ethylbenzene	100-41-4	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
Styrene	100-42-5	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
cis-1,3-Dichloropropene	10061-01-5	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
trans-1,3-Dichloropropene	10061-02-6	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
1,2-Dichloroethane	107-06-2	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
Methyl isobutyl ketone	108-10-1	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
Dibromochloromethane	124-48-1	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
Tetrachloroethene	127-18-4	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
Total Xylenes	1330-20-7	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
Total 1,2-Dichloroethene	540-59-0	LA-523-455	U	<1	<5	ug/L	1	1	5	11/10/09

Methylene chloride validated only 5-12-2010

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

B - Analyte was detected in both the BLANK and SAMPLE
D - Analyte was reported at a secondary diltution factor.
E - The calibration exceeds the calibration range (GC/MS).
J - Analyte < lowest calibration but >= MDL.
N - Presumptive compound based on MS Library search.

T - MS and/or MSD sample recovery outside control limits.
U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91532 -

WSCF Analytical Results Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF91532

Sample # 91532004
SAF# X10-003
Sample ID B225H1

Matrix WATER
Sampled 11/05/09
Received 11/05/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Carbon tetrachloride	56-23-5	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
2-Hexanone	591-78-6	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
Acetone	67-64-1	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
Chloroform	67-66-3	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
Bromomethane	74-83-9	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
Chloromethane	74-87-3	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
Chloroethane	75-00-3	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
Vinyl chloride	75-01-4	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
Methylene chloride	75-09-2	LA-523-455	B	11	11U	ug/L	1	1	5	11/10/09
Carbon disulfide	75-15-0	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
Bromoform	75-25-2	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
Bromodichloromethane	75-27-4	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
1,2-Dichloropropane	78-87-5	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
Methyl ethyl ketone	78-93-3	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
1,1,2,2-Tetrachloroethane	79-34-5	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
1-Butanol	71-36-3	LA-523-455	U	<100	<5	ug/L	1	100	500	11/10/09
Tetrahydrofuran	109-99-9	LA-523-455	U	<2		ug/L	1	2	10	11/10/09

Methylene chloride validated only 5-12-2010

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

B - Analyte was detected in both the BLANK and SAMPLE
D - Analyte was reported at a secondary diltution factor.
E - The calibration exceeds the calibration range (GC/MS).
J - Analyte < lowest calibration but >= MDL.
N - Presumptive compound based on MS Library search.

T - MS and/or MSD sample recovery outside control limits.
U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91532 -

WSCF Analytical Results Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF91532

Sample # 91532004
SAF# X10-003
Sample ID B225H1

Matrix WATER
Sampled 11/05/09
Received 11/05/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
trans-1,2-Dichloroethene	156-60-5	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
cis-1,2-Dichloroethene	156-59-2	LA-523-455	U	<1		ug/L	1	1	5	11/10/09
Propionitrile	107-12-0	LA-523-455	U	<2		ug/L	1	2	10	11/10/09
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	<1		ug/L	1	1	5	11/10/09

Methylene chloride validated only <5 5-12-2010

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

B - Analyte was detected in both the BLANK and SAMPLE
D - Analyte was reported at a secondary diltution factor.
E - The calibration exceeds the calibration range (GC/MS).
J - Analyte < lowest calibration but >= MDL.
N - Presumptive compound based on MS Library search.

T - MS and/or MSD sample recovery outside control limits.
U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

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Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

Attachment 2
Rev 01 Narrative
WSCF91532

P & D Correction – Case Narrative Replaces the Prior

Revision 01

In addition to the P & D Corrections, this report is being issued as a revision, at the client's request, to provide analytical results for additional parameters not originally requested on the Chain of Custody.

Introduction

Four (4) groundwater samples were received at the WSCF Laboratory on November 5, 2009. The samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Statement of Work (SOW), Modification No. 2 to Agreement 36587, Release 3, "FH WSCF ANALYTICAL SERVICES FOR GROUNDWATER."*

The narrative (Attachment 2) will address sample characteristics, analyses requested and general information in performance of the analytical methods. A Data Summary Report (Attachment 3) includes analytical results, a comment report detailing method abnormalities, tentatively identified peaks if applicable, method references, and Laboratory QC information as applicable. Copies of the chain of custody and sample receipt documentation are included as Attachment 4. Additionally, a copy of the completed P & D's: # 91532 is included with the narrative.

It should be noted that the attached chain of custody was stamped "ICED" by the WSCF Laboratory Sample Custodian during sample receiving, indicating the presence of ice in the transport container.

The following generic data qualifiers (i.e., B, D, and J) may be applicable to this report, as appropriate

- **B** – Sample results with a concentration greater than the MDL but less than the PQL are B flagged (applies to inorganic and wet chemical analyses), as appropriate.
- **D** – Sample results are D flagged if dilution(s) were required, as appropriate.
- **J** – Sample results with a concentration greater than the MDL but less than the PQL are J flagged (applies to organic analyses), as appropriate.
- **U** – Analyzed for but not detected above limiting criteria. Relative Percent Difference (RPD) values associated with an analyte qualified with a "U" are not applicable.

Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report,* pages for a complete listing of approved analytical methods.

Inorganic Comments

Narrative

Attachment 2
Rev 01 Narrative
WSCF91532

Anions – Hold time requirements for this analysis were met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- Batch QC 70853 analyzed on sample# B22F49

All QC controls are within the established limits.

Cyanide – The hold time requirement for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- Batch QC 71956 analyzed on sample# B22F49

All QC controls are within the established limits.

ICP-AES Metals – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- Batch QC 71459 analyzed on sample# B22K93
    - Copper contamination was detected in the Blank and was evaluated. Copper was not detected in associated samples, no flag applied.
    - Calcium, Potassium, Silicon and Sodium –exceeded spiking levels by a factor of 4. Spike recoveries are not valid.

All other QC controls are within the established limits.

ICP-MS Metals – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- Batch QC 73794 analyzed on sample# B22MX7
    - At the time of analysis, the analyst was "diluting" the LCS to mimic the dilution factor performed on client samples. A "D" flag was applied to the LCS in the final report.

All QC controls are within the established limits.

Total Alkalinity – The hold time requirement for this analysis was met. A Duplicate and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- Batch QC 71956 analyzed on sample# B22F49

All QC controls are within the established limits.

Attachment 2
Rev 01 Narrative
WSCF91532

Organic Comments

Semi-VOA – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- Batch QC 69856 analyzed on sample# B225H1

All QC controls are within the established limits.

VOA – The hold time requirement for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- Batch QC 70757 analyzed on sample# B22967
    - Methylene Chloride contamination was detected in the Blank and was evaluated. Affected sample results in this batch were "B" Flagged.

All other QC controls are within the established limits.

Radiochemistry Comments

Rad Chem – The hold time requirement for this analysis was met. A Duplicate, Matrix Spike (Matrix Spikes apply only to Technetium & Tritium), Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- Tritium: Batch QC 70952 analyzed on sample# B22MX7
    - All QC controls are within the established limits.
- Gross Alpha / Gross Beta: Batch QC 72790 analyzed on sample# B225H1
    - Gross beta detected in the blank at a level that is less than 2X the MDC. Flagging is unnecessary.
    - Gross Alpha – Duplicate Relative Percent Difference (RPD) does not apply to results below 5X the minimum detectable activity. No flags issued.
    - Gross Beta - The Beta duplicate is flagged for poor RPD; but is only slightly out of range. The scientist has reviewed and approved this batch.
    - All other QC controls are within the established limits.
- Technetium-99: Batch QC 72958 analyzed on sample# B22F54
    - Technetium-99 – Duplicate Relative Percent Difference (RPD) does not apply to results below 5X the minimum detectable activity. No flags issued.

Narrative

- All other QC controls are within the established limits.

- Strontium-89/90: Batch QC 73183 analyzed on sample# B22MX7
  - Strontium-85 is used as a tracer to determine chemical yield. RPD is monitored in sample duplicate and is not required for tracer recovery per SOW.
  - All other QC controls are within the established limits.

We certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this data package has been authorized by the Analytical Laboratory Manager (or designee) and the Client Services representative as verified by electronic signatures shown on the WSCF ANALYTICAL RESULTS REPORT.

Narrative

Attachment 2
Rev 01 Narrative
WSCF91532

Problem and Discrepancy Report

WSCF

SDG WSCF91532

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1. The data package has the following issues:

a) Narrative, Rad Chem, Narrative incorrectly states gross alpha blank was above the MDC. It was actually gross beta that had the blank result.

Resolution: *Provide correction.*

Lab Response: **The narrative has been corrected to address the issues discussed in 1.a.**

b) QC, SVOA, No recovery limits were given for MS/MSD. Please provide limits.

Resolution: *Provide limits.*

Lab Response: **Percent recovery limits are now included on the final report for SVOA MS/MSD.**

Please correct the issues and resubmit the hard copy data package.

5

Narrative

Attachment 2
Rev 01 Narrative
WSCF91532

Problem and Discrepancy Report

WSCF

SDG WSCF91532b

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1. The EDD has the following issues:

a) All electronic results are missing.

Resolution: *Provide results.*

Lab Response: **The laboratory has revised the work order for additional analytes requested by the client. The EDD has been re-submitted.**

Please correct the issues and resubmit the electronic data package.

6

Friday, November 06, 2009 5:36:35 AM
Page 3 of 4

CHPRC	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X10-008-36 Page 1 of 1

Collector: RD Julian CHPRC	Contact/Requester: Dana Widrig	Telephone No.: 509-376-2858
SAF No.: X10-008	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 3001161S20
Project Title: 100HR3RUM, SPECIAL SAMPLING	Logbook No: HNF-N-506 27/21	Ice Chest No.: N/A
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Government Vehicle	Bill of Lading/Air Bill No.: N/A
Protocol: SURV	Priority: 45 Days	Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

91532

SPECIAL INSTRUCTIONS Hold Time — Total Activity Exemption: Yes ☑ No ☐
Do not combine X SAF samples with other sets. Need SDG to be stand alone.
100 Area Generator Knowledge Information Form applies.

Sample No	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B22MX6	Y 001	W	11/5/09	1145	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B22MX7	N 002	W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2
B22MX7	N	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B22MX7	N	W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B22MX7	N	W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	28 Days/48 Hours	Cool~4C
B22MX7	N	W			1x1-L G/P	Strontium-89,90 -- Total Sr	6 Months	HNO3 to pH <2
B22MX7	N	W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	6 Months	HCl to pH <2
B22MX7	N	W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	6 Months	None

KEH 11/5/09

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
RD Julian CHPRC			1235 NOV 05 2009				1235 NOV 05 2009
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liquid	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

Chain of Custody

CHPRC	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X10-003-200 Page 1 of 1

Collector: RD Julian CHPRC	Contact/Requester: Dana Widrig	Telephone No.: 509-376-2858
SAF No.: X10-003	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300110ES20
Project Title: D HDURA OCTOBER 2009	Logbook No.: HNF-N-506 27 / 21	Ice Chest No.: N/A
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Government Vehicle	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 45 Days	Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material of concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS Hold Time — Total Activity Exemption: Yes ☑ No
Do not combine X SAF samples with other sets. Need SDG to be stand alone.
100 Area Generator Knowledge Information Form applies.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B225H0	Y 003	W	11/05/09	1032	1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B225H0	Y	W			1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B225H1	N 004	W			3x40-mL aGe*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2 Cool~4C
B225H1	N	W			1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B225H1	N	W			1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B225H1	N	W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2); ALPHABETA_GPC: Alpha discrete + Beta (2)	6 Months	HNO3 to pH <2
B225H1	N	W			4x1000-mL aG	8270_SVOA_GCMS: List-1 (13)	7/40 Days	Cool~4C
B225H1	N	W			1x250-mL G/P	335.2_CYANIDE: Cyanide (1)	14 Days	NaOH to pH >= 12 Cool~4C

PSH 11/05/09

ICED

Relinquished By	Date/Time	Received By	Date/Time
Print: RD Julian CHPRC; Sign: [signature]	NOV 05 2009 1235	Print: MO Kessler; Sign: [signature]	NOV 05 2009 1235
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

Matrix *: S = Soil; SE = Sediment; SO = Solid; SL = Sludge; W = Water; O = Oil; A = Air; DS = Drum Solid; DL = Drum Liquid; T = Tissue; WI = Wipe; L = Liquid; V = Vegetation; X = Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

Friday, November 06, 2009 5:36:35 AM
Page 4 of 4

Appendix 5

Data Validation Supporting Documentation

GC/MS ORGANIC DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E
PROJECT: CERC10, SURV10			DATA PACKAGE: VSR10-016		
VALIDATOR: Carl Schloesslin		LAB: WSCF		DATE: 5-12-2010	
			SDG: WSCF91532		
ANALYSES PERFORMED					
SW-846 8260 X		SW-846 8260 (TCLP)	SW-846 8270		SW-846 8270 (TCLP)

SAMPLES/MATRIX Water sample B225H1

Per VSR instructions, only methylene chloride was validated for the SDG.

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Technical verification documentation present? ..... Yes No N/A

Comments: None

2. INSTRUMENT TUNING AND CALIBRATION (Levels D and E)

GC/MS tuning/performance check acceptable? ..... Yes No N/A

Initial calibrations acceptable? ..... Yes No N/A

Continuing calibrations acceptable? ..... Yes No N/A

Standards traceable? ..... Yes No N/A

Standards expired? ..... Yes No N/A

Calculation check acceptable? ..... Yes No N/A

Comments:

GC/MS ORGANIC DATA VALIDATION CHECKLIST

3. BLANKS (Levels B, C, D, and E)

Calibration blanks analyzed? (Levels D, E) ..... Yes No N/A

Calibration blank results acceptable? (Levels D, E) ..... Yes No N/A

Laboratory blanks analyzed? ..... Yes No N/A

Laboratory blank results acceptable? ..... Yes No N/A

Field/trip blanks analyzed? (Levels C, D, E) ..... Yes No N/A

Field/trip blank results acceptable? (Levels C, D, E) ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments:

MB Detection: Methylene chloride 5.3 ug/L

4. ACCURACY (Levels C, D, and E)

Surrogates/system monitoring compounds analyzed? ..... Yes No N/A

Surrogate/system monitoring compound recoveries acceptable? ..... Yes No N/A

Surrogates traceable? (Levels D, E) ..... Yes No N/A

Surrogates expired? (Levels D, E) ..... Yes No N/A

MS/MSD samples analyzed? ..... Yes No N/A

MS/MSD results acceptable? ..... Yes No N/A

MS/MSD standards NIST traceable? (Levels D, E) ..... Yes No N/A

MS/MSD standards? (Levels D, E) ..... Yes No N/A

LCS/BSS samples analyzed? ..... Yes No N/A

LCS/BSS results acceptable? ..... Yes No N/A

Standards traceable? (Levels D, E) ..... Yes No N/A

Standards expired? (Levels D, E) ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Performance audit sample(s) analyzed? ..... Yes No N/A

Performance audit sample results acceptable? ..... Yes No N/A

Comments: None

GC/MS ORGANIC DATA VALIDATION CHECKLIST

5. PRECISION (Levels C, D, and E)

MS/MSD samples analyzed? ..... Yes No N/A

MS/MSD RPD values acceptable? ..... Yes No N/A

MS/MSD standards NIST traceable? (Levels D, E) ..... Yes No N/A

MS/MSD standards expired? (Levels D, E) ..... Yes No N/A

Field duplicate RPD values acceptable? ..... Yes No N/A

Field split RPD values acceptable? ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments: None

6. SYSTEM PERFORMANCE (Levels D and E)

Internal standards analyzed? ..... Yes No N/A

Iinternal standard areas acceptable? ..... Yes No N/A

Internal standard retention times acceptable? ..... Yes No N/A

Standards traceable? ..... Yes No N/A

Standards expired? ..... Yes No N/A

Transcription/calculation errors? ..... Yes No N/A

Comments:

7. HOLDING TIMES (all levels)

Samples properly preserved? ..... Yes No N/A

Sample holding times acceptable? ..... Yes No N/A

Comments: None

GC/MS ORGANIC DATA VALIDATION CHECKLIST

8. COMPOUND IDENTIFICATION, QUANTITATION, AND DETECTION LIMITS (all levels)

Compound identification acceptable? (Levels D, E) ..... Yes No N/A

Compound quantitation acceptable? (Levels D, E) ..... Yes No N/A

Results reported for all requested analyses? ..... Yes No N/A

Results supported in the raw data? (Levels D, E) ..... Yes No N/A

Samples properly prepared? (Levels D, E) ..... Yes No N/A

Laboratory properly identified and coded all TIC? (Levels D, E) ..... Yes No N/A

Detection limits meet RDL? ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments:

CRDL (EQL) not provided for methylene chloride in Table 2-19 of the SAP.

9. SAMPLE CLEANUP (Levels D and E)

GPC cleanup performed? ..... Yes No N/A

GPC check performed? ..... Yes No N/A

GPC check recoveries acceptable? ..... Yes No N/A

GPC calibration performed? ..... Yes No N/A

GPC calibration check performed? ..... Yes No N/A

GPC calibration check retention times acceptable? ..... Yes No N/A

Check/calibration materials traceable? ..... Yes No N/A

Check/calibration materials Expired? ..... Yes No N/A

Analytical batch QC given similar cleanup? ..... Yes No N/A

Transcription/Calculation Errors? ..... Yes No N/A

Comments:

Appendix 6

Additional Documentation Requested By Client

Batch QC List

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF91532

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
70757	70758	1	BLANK	18674	BLANK		SW-846 8260B Volatiles, separate prep
70757	70758	2	LCS	18675	LCS		SW-846 8260B Volatiles, separate prep
70757	70758	3	MS	18676	B22967(91526001MS)	91526001	SW-846 8260B Volatiles, separate prep
70757	70758	4	MSD	18677	B22967(91526001MSD)	91526001	SW-846 8260B Volatiles, separate prep
70757	70758	11	SAMPLE	91532004	B225H1		SW-846 8260B Volatiles, separate prep

Quality Control Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF91532

QC Batch 70757
Associated Samples 91532004

Test SW-846 8260B Volatiles, separate prep

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #18674**							
1,1-Dichloroethene	75-35-4		<1	ug/L					U	11/10/09
Trichloroethene	79-01-6		<1	ug/L					U	11/10/09
Benzene	71-43-2		<1	ug/L					U	11/10/09
Toluene	108-88-3		<1	ug/L					U	11/10/09
Chlorobenzene	108-90-7		<1	ug/L					U	11/10/09
1,1-Dichloroethane	75-34-3		<1	ug/L					U	11/10/09
Ethylbenzene	100-41-4		<1	ug/L					U	11/10/09
Styrene	100-42-5		<1	ug/L					U	11/10/09
cis-1,3-Dichloropropene	10061-01-5		<1	ug/L					U	11/10/09
trans-1,3-Dichloropropene	10061-02-6		<1	ug/L					U	11/10/09
1,2-Dichloroethane	107-06-2		<1	ug/L					U	11/10/09
Methyl isobutyl ketone	108-10-1		<1	ug/L					U	11/10/09
Dibromochloromethane	124-48-1		<1	ug/L					U	11/10/09
Tetrachloroethene	127-18-4		<1	ug/L					U	11/10/09
Total Xylenes	1330-20-7		<1	ug/L					U	11/10/09
Total 1,2-Dichloroethene	540-59-0		<1	ug/L					U	11/10/09
Carbon tetrachloride	56-23-5		<1	ug/L					U	11/10/09

REVISED91532 -

Quality Control Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF91532

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
2-Hexanone	591-78-6		<1	ug/L					U	11/10/09
Acetone	67-64-1		<1	ug/L					U	11/10/09
Chloroform	67-66-3		<1	ug/L					U	11/10/09
1,1,1-Trichloroethane	71-55-6		<1	ug/L					U	11/10/09
Bromomethane	74-83-9		<1	ug/L					U	11/10/09
Chloromethane	74-87-3		<1	ug/L					U	11/10/09
Chloroethane	75-00-3		<1	ug/L					U	11/10/09
Vinyl chloride	75-01-4		<1	ug/L					U	11/10/09
Methylene chloride	75-09-2		5.3	ug/L						11/10/09
Carbon disulfide	75-15-0		<1	ug/L					U	11/10/09
Bromoform	75-25-2		<1	ug/L					U	11/10/09
Bromodichloromethane	75-27-4		<1	ug/L					U	11/10/09
1,2-Dichloropropane	78-87-5		<1	ug/L					U	11/10/09
Methyl ethyl ketone	78-93-3		<1	ug/L					U	11/10/09
1,1,2-Trichloroethane	79-00-5		<1	ug/L					U	11/10/09
1,1,2,2-Tetrachloroethane	79-34-5		<1	ug/L					U	11/10/09
1-Butanol	71-36-3		<100	ug/L					U	11/10/09
Tetrahydrofuran	109-99-9		<2	ug/L					U	11/10/09
trans-1,2-Dichloroethene	156-60-5		<1	ug/L					U	11/10/09
cis-1,2-Dichloroethene	156-59-2		<1	ug/L					U	11/10/09
Propionitrile	107-12-0		<2	ug/L					U	11/10/09
1,4-Dichlorobenzene	106-46-7		<1	ug/L					U	11/10/09

Quality Control Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF91532

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
LCS			**QC Sample #18675**							
1,1-Dichloroethene	75-35-4		29	ug/L	114.2	75 - 125				11/10/09
Trichloroethene	79-01-6		26	ug/L	102.6	75 - 125				11/10/09
Benzene	71-43-2		25	ug/L	100.1	75 - 125				11/10/09
Toluene	108-88-3		28	ug/L	111.8	75 - 125				11/10/09
Chlorobenzene	108-90-7		27	ug/L	106.3	75 - 125				11/10/09
MS			**QC Sample #18676**							
			Original 91526001							
1,1-Dichloroethene	75-35-4		24	ug/L	98	75 - 125				11/10/09
Trichloroethene	79-01-6		23	ug/L	93.9	75 - 125				11/10/09
Benzene	71-43-2		25	ug/L	99.5	75 - 125				11/10/09
Toluene	108-88-3		28	ug/L	110.2	75 - 125				11/10/09
Chlorobenzene	108-90-7		26	ug/L	103.3	75 - 125				11/10/09
MSD			**QC Sample #18677**							
			Original 91526001					**Paired**	**18676**	
1,1-Dichloroethene	75-35-4		28	ug/L	110.6	75 - 125	12.10	20		11/10/09
Trichloroethene	79-01-6		26	ug/L	105.8	75 - 125	11.90	20		11/10/09
Benzene	71-43-2		27	ug/L	109.3	75 - 125	9.40	20		11/10/09
Toluene	108-88-3		30	ug/L	119.8	75 - 125	8.30	20		11/10/09
Chlorobenzene	108-90-7		28	ug/L	113.3	75 - 125	9.20	20		11/10/09

Quality Control Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF91532

QC Batch 70757
Associated Samples 91532004

Test SW-846 8260B Volatiles, separate prep

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #18674**							
1,2-Dichloroethane-d4	17060-07-0				113.4	75 - 125				11/10/09
Toluene-d8	2037-26-5				99.6	75 - 125				11/10/09
4-Bromofluorobenzene	460-00-4				105.2	75 - 125				11/10/09
LCS			**QC Sample #18675**							
1,2-Dichloroethane-d4	17060-07-0				113.3	75 - 125				11/10/09
Toluene-d8	2037-26-5				99.4	75 - 125				11/10/09
4-Bromofluorobenzene	460-00-4				104.9	75 - 125				11/10/09
MS			**QC Sample #18676**							
			Original 91526001							
1,2-Dichloroethane-d4	17060-07-0				117.5	75 - 125				11/10/09
Toluene-d8	2037-26-5				101	75 - 125				11/10/09
4-Bromofluorobenzene	460-00-4				104.4	75 - 125				11/10/09
MSD			**QC Sample #18677**							
			Original 91526001					**Paired**	**18676**	
1,2-Dichloroethane-d4	17060-07-0				118.6	75 - 125	0.90	20		11/10/09
Toluene-d8	2037-26-5				100.4	75 - 125	0.60	20		11/10/09

Quality Control Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF91532

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
4-Bromofluorobenzene	460-00-4				102.7	75 - 125	1.60	20		11/10/09
SAMPLE			**Sample #91532004**							
1,2-Dichloroethane-d4	17060-07-0				120.3	75 - 125				11/10/09
Toluene-d8	2037-26-5				103.5	75 - 125				11/10/09
4-Bromofluorobenzene	460-00-4				106.8	75 - 125				11/10/09

Date: 12 May 2010
To: CH2M Hill (technical representative)
From: Analytical Quality Associates, Inc.
Project: CERC10, SURV10
Subject: Inorganics - Sample Data Groups (SDGs) WSCF91275 and WSCF91306

INTRODUCTION

This memorandum presents the results of data validation for SDGs WSCF91275 and WSCF91306 prepared by WSCF Analytical Laboratories. A list of samples validated along with the analytical methods is provided in the following table. It should be noted that cobalt was the only analyte chosen for validation for SDG WSCF91275, and thallium was the only analyte chosen for validation for SDG WSCF91306.

Sample ID	Sample Date	Media	Validation Level	Analytical Methods
B22508	10/08/2009	Water	C	6010C, 200.8
B22509	10/08/2009	Water	C	6010C, 200.8
B224Y3	10/08/2009	Water	C	6010C, 200.8
B224Y4	10/08/2009	Water	C	6010C, 200.8
B224Y7	10/08/2009	Water	C	6010C, 200.8
B224Y8	10/08/2009	Water	C	6010C, 200.8
B225C4	10/11/2009	Water	C	6010C, 200.8
B225C5	10/11/2009	Water	C	6010C, 200.8
B225B5	10/11/2009	Water	C	6010C, 200.8
B225B6	10/11/2009	Water	C	6010C, 200.8
B225C1	10/11/2009	Water	C	6010C, 200.8
B225C2	10/11/2009	Water	C	6010C, 200.8
B225J4	10/11/2009	Water	C	6010C, 200.8
B225J5	10/11/2009	Water	C	6010C, 200.8
B225C8	10/11/2009	Water	C	6010C, 200.8
B225C9	10/11/2009	Water	C	6010C, 200.8
B225D2	10/11/2009	Water	C	6010C, 200.8
B225D3	10/11/2009	Water	C	6010C, 200.8
B225F1	10/11/2009	Water	C	6010C, 200.8
B225F2	10/11/2009	Water	C	6010C, 200.8
B225J1	10/11/2009	Water	C	6010C, 200.8
B225J2	10/11/2009	Water	C	6010C, 200.8
B225H5	10/11/2009	Water	C	6010C, 200.8
B225H6	10/11/2009	Water	C	6010C, 200.8

Data validation was conducted in accordance with the CHPRC validation statement of work and the Sampling and Analysis Plan for the 100-DR-1, 100-DR-2, 100-HR-1, 100-HR-2, and 100-HR-3 Operable Units Remedial Investigation/Feasibility Study, DOE/RL-2009-40, Rev. 0 (SAP). Appendices 1 through 6 provide the following information as indicated below:

Appendix 1. Glossary of Data Reporting Qualifiers
Appendix 2. Summary of Data Qualification
Appendix 3. Annotated Laboratory Reports
Appendix 4. Laboratory Narrative and Chain-of-Custody Documentation
Appendix 5. Data Validation Supporting Documentation
Appendix 6. Additional Documentation Requested By Client

DATA QUALITY OBJECTIVES

- **Holding Times and Sample Preservation**

Holding times are calculated from Chain-of-Custody forms to determine the validity of the results. The holding time requirement for ICP metals are analysis within 180 days of sample collection. Sample preservation for water samples requires acid preservation with nitric acid to pH <2.

The samples were analyzed within the prescribed holding time and properly preserved.

- **Blanks**

The blank data results are reviewed to assess the extent of contamination introduced through sampling, sample preparation, and analysis.

Laboratory Blanks

All Co and Tl laboratory blank results were acceptable.

Trip Blanks

All Co trip blank results were acceptable.

Field Blanks

No field blanks were submitted for analysis.

Equipment Blanks

No equipment blanks were submitted for analysis.

- **Accuracy**

Accuracy is evaluated by reviewing matrix spike sample results and laboratory control sample results. According to the SAP, the matrix spike sample accuracy limits are 80% to 120%. The laboratory control sample accuracy limits are ones specified by the DV procedure. The limits for reported analytes not listed in the SAP are specified by the DV procedure.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

The Co and Tl MS and MSD recoveries were acceptable.

Laboratory Control Samples (LCSs)

The Co and Tl LCS recoveries were acceptable.

- **Precision**

Precision is evaluated by reviewing MS/MSD results, field duplicate sample results, and field split sample results. These QC results provide information on the laboratory reproducibility and whether sampling activities are adequate to acquire consistent sample results. According to the SAP, the relative percent difference (RPD) limits are ±20%. The limits for reported analytes not listed in the SAP are specified by the DV procedure. When duplicate RPDs exceed the limits and have associated results <5X the required detection limits with differences <1X the required detection limits no precision infraction occurred.

MS/MSD Samples

The Co and Tl MS/MSD RPD values were acceptable.

Field Duplicate Samples

All Tl field duplicate results were acceptable.

Field Split Samples

No field splits were submitted for analysis.

- **Detection Limits**

Reported MDLs are compared against the contractually required detection limits (CRDLs) to ensure that laboratory detection limits meet the required criteria.

All reported sample MDLs were below the CRDLs (EQLs) provided in Table 2-19 of the SAP. It should be noted that the Tl EQL of 2 ug/L was not met by ICP-AES analysis, but was met by ICP-MS analysis. All 18 field samples were analyzed for Tl by ICP-MS.

- **Completeness**

SDGs WSCF91275 and WSCF91306 were submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

MAJOR DEFICIENCIES

None found.

MINOR DEFICIENCIES

None found.

REFERENCES

HNF-20433, Rev. 0, *Data Validation Procedure for Chemical Analyses*, June 2004.

DOE/RL-2009-40, Rev. 0, *Sampling and Analysis Plan for the 100-DR-1, 100-DR-2, 100-HR-1, 100-HR-2, and 100-HR-3 Operable Units Remedial Investigation/Feasibility Study*, March 2010.

Appendix 1

Glossary of Data Reporting Qualifiers

Qualifiers that may be applied by data validators in compliance with the CHPRC statement of work are as follows:

- **U** — The constituent was analyzed for and was not detected. The data should be considered usable for decision-making purposes.

- **UJ** — The constituent was analyzed for and was not detected. Due to a quality control deficiency identified during data validation the value reported may not accurately reflect the MDL. The data should be considered usable for decision-making purposes.

- **J** — Indicates the constituent was analyzed for and detected. The associated value is estimated due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.

- **UR** — Indicates the constituent was analyzed for and not detected; however, due to an identified quality control deficiency the data should be considered unusable for decision-making purposes.

- **R** — Indicates the constituent was analyzed for and detected; however, due to an identified quality control deficiency the data should be considered unusable for decision-making purposes.

Appendix 2

Summary of Data Qualification

Inorganic Data Qualification Summary			
SDGs: WSCF91275, WSCF91306	Reviewer: AQA	Project: CERC10, SURV10	Page 1 of 1
Analyte(s)	**Qualifier**	**Samples Affected**	**Reason**
Co & Tl	None	N/A	N/A

Comments: None

Appendix 3

Annotated Laboratory Reports

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91275

Sample # 91275001
SAF# X10-003
Sample ID B22508

Matrix WATER
Sampled 10/08/09
Received 10/08/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPMS Prep										**10/13/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	UD	<10		ug/L	2	10	200	10/18/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/18/09
Antimony	7440-36-0	LA-505-412	U	<0.30		ug/L	1	0.30	3.0	11/11/09
Barium	7440-39-3	LA-505-412	D	42.8		ug/L	2	0.40	4.0	10/18/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/18/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/18/09
Chromium	7440-47-3	LA-505-412	D	63.1		ug/L	2	1.0	10	10/18/09
Cobalt	7440-48-4	LA-505-412	D	2.82		ug/L	2	0.10	0.50	10/18/09
Copper	7440-50-8	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/18/09
Lead	7439-92-1	LA-505-412	U	<0.10		ug/L	1	0.10	1.0	11/11/09
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/18/09
Thallium	7440-28-0	LA-505-412	U	<0.050		ug/L	1	0.050	0.50	11/11/09
Uranium	7440-61-1	LA-505-412	D	3.56		ug/L	2	0.10	0.40	10/18/09
Arsenic	7440-38-2	LA-505-412	BD	0.927		ug/L	2	0.80	8.0	10/18/09
Selenium	7782-49-2	LA-505-412	B	0.809		ug/L	1	0.30	3.0	11/11/09

Cobalt validated only LS 5-12-2010

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

B - Analyte < the RDL but >= the IDL/MDL. (Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91275 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91275

Sample # 91275002
SAF# X10-003
Sample ID B22509

Matrix WATER
Sampled 10/08/09
Received 10/08/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPMS Prep										**10/13/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	UD	<10		ug/L	2	10	200	10/18/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/18/09
Antimony	7440-36-0	LA-505-412	U	<0.30		ug/L	1	0.30	3.0	11/11/09
Barium	7440-39-3	LA-505-412	D	42.5		ug/L	2	0.40	4.0	10/18/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/18/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/18/09
Chromium	7440-47-3	LA-505-412	D	70.9		ug/L	2	1.0	10	10/18/09
Cobalt	7440-48-4	LA-505-412	D	2.81		ug/L	2	0.10	0.50	10/18/09
Copper	7440-50-8	LA-505-412	BD	0.226		ug/L	2	0.20	2.0	10/18/09
Lead	7439-92-1	LA-505-412	B	0.366		ug/L	1	0.10	1.0	11/11/09
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/18/09
Thallium	7440-28-0	LA-505-412	U	<0.050		ug/L	1	0.050	0.50	11/11/09
Uranium	7440-61-1	LA-505-412	D	3.55		ug/L	2	0.10	0.40	10/18/09
Arsenic	7440-38-2	LA-505-412	BD	0.981		ug/L	2	0.80	8.0	10/18/09
Selenium	7782-49-2	LA-505-412	B	0.756		ug/L	1	0.30	3.0	11/11/09

Cobalt validated only LS 5-12-2010

MDL = Minimum Detection
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TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

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C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
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U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91275 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91275

Sample # 91275003
SAF# X10-003
Sample ID B224Y4

Matrix WATER
Sampled 10/08/09
Received 10/08/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
~~**Anions by IC**~~										~~**10/08/09**~~
Anions by IC										
Fluoride	16984-48-8	LA-533-410	BD	0.0603		ug/mL	2	0.060	0.40	10/08/09
Chloride	16887-00-6	LA-533-410	D	9.88		ug/mL	2	0.086	0.80	10/08/09
Nitrite-N	NO2-N	LA-533-410	UD	<0.036		ug/mL	2	0.036	0.20	10/08/09
Bromide	24959-67-9	LA-533-410	BD	0.102		ug/mL	2	0.090	1.0	10/08/09
Nitrate-N	NO3-N	LA-533-410	D	6.86		ug/mL	2	0.062	0.20	10/08/09
Phosphate-P	PO4-P	LA-533-410	UD	<0.14		ug/mL	2	0.14	0.80	10/08/09
~~Sulfate~~	~~14808-79-8~~	~~LA-533-410~~	~~D~~	~~81.0~~		~~ug/mL~~	~~2~~	~~0.13~~	~~2.0~~	~~10/08/09~~
ICP Prep										**10/09/09**
ICP-AES										
Iron	7439-89-6	LA-505-411	B	22.5		ug/L	1	18	90	10/19/09
Magnesium	7439-95-4	LA-505-411		14500		ug/L	1	16	80	10/19/09
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Potassium	7440-09-7	LA-505-411		4440		ug/L	1	55	280	10/19/09
Silver	7440-22-4	LA-505-411	U	<5.0		ug/L	1	5.0	25	10/19/09
Sodium	7440-23-5	LA-505-411		12900		ug/L	1	23	120	10/19/09
Antimony	7440-36-0	LA-505-411	U	<38		ug/L	1	38	190	10/19/09

Cobalt validated only 5-12-2010

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X,Y or Z - See comment detail and/or narrative.

REVISED91275 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91275

Sample # 91275003
SAF# X10-003
Sample ID B224Y4

Matrix WATER
Sampled 10/08/09
Received 10/08/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Barium	7440-39-3	LA-505-411		54.8		ug/L	1	4.0	20	10/19/09
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Chromium	7440-47-3	LA-505-411	U	<13		ug/L	1	13	65	10/19/09
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Vanadium	7440-62-2	LA-505-411	B	17.6		ug/L	1	12	60	10/19/09
Zinc	7440-66-6	LA-505-411	U	<6.0		ug/L	1	6.0	30	10/19/09
Calcium	7440-70-2	LA-505-411		55400		ug/L	1	39	200	10/19/09
Lead	7439-92-1	LA-505-411	U	<23		ug/L	1	23	120	10/19/09
Lithium	7439-93-2	LA-505-411	B	14.9		ug/L	1	4.0	20	10/19/09
Molybdenum	7439-98-7	LA-505-411	B	8.70		ug/L	1	4.0	20	10/19/09
Strontium	7440-24-6	LA-505-411	N	363		ug/L	1	4.0	20	10/19/09
Thallium	7440-28-0	LA-505-411	U	<35		ug/L	1	35	180	10/19/09
Tin	7440-31-5	LA-505-411	U	<39		ug/L	1	39	200	10/19/09
Arsenic	7440-38-2	LA-505-411	U	<65		ug/L	1	65	320	10/19/09
Beryllium	7440-41-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Boron	7440-42-8	LA-505-411	U	<19		ug/L	1	19	95	10/19/09
Bismuth	7440-69-9	LA-505-411	U	<23		ug/L	1	23	120	10/19/09
Silicon	7440-21-3	LA-505-411		16100	LS	ug/L	1	61	300	10/19/09

Cobalt validated only 5-12-2010

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X,Y or Z - See comment detail and/or narrative.

REVISED91275 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91275

Sample # 91275003
SAF# X10-003
Sample ID B224Y4

Matrix WATER
Sampled 10/08/09
Received 10/08/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Selenium	7782-49-2	LA-505-411	U	<45		ug/L	1	45	220	10/19/09
ICPMS Prep										**10/13/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	BD	17.3		ug/L	2	10	200	10/18/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/18/09
Antimony	7440-36-0	LA-505-412	U	<0.30		ug/L	1	0.30	3.0	11/11/09
Barium	7440-39-3	LA-505-412	D	53.4		ug/L	2	0.40	4.0	10/18/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/18/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/18/09
Chromium	7440-47-3	LA-505-412	BD	7.71		ug/L	2	1.0	10	10/18/09
Cobalt	7440-48-4	LA-505-412	UD	<0.10		ug/L	2	0.10	0.50	10/18/09
Copper	7440-50-8	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/18/09
Lead	7439-92-1	LA-505-412	U	<0.10		ug/L	1	0.10	1.0	11/11/09
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/18/09
Thallium	7440-28-0	LA-505-412	U	<0.050		ug/L	1	0.050	0.50	11/11/09
Uranium	7440-61-1	LA-505-412	D	2.43		ug/L	2	0.10	0.40	10/18/09
Arsenic	7440-38-2	LA-505-412	BD	2.32		ug/L	2	0.80	8.0	10/18/09
Selenium	7782-49-2	LA-505-412	B	1.07		ug/L	1	0.30	3.0	11/11/09

LS 5-12-2010

Cobalt validated only

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X,Y or Z - See comment detail and/or narrative.

REVISED91275 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91275

Sample # 91275004
SAF# X10-003
Sample ID B224Y8

Matrix WATER
Sampled 10/08/09
Received 10/08/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
~~**Anions by IC**~~										~~**10/08/09**~~
Anions by IC										
Fluoride	16984-48-8	LA-533-410	UD	<0.060		ug/mL	2	0.060	0.40	10/08/09
Chloride	16887-00-6	LA-533-410	UD	<0.086		ug/mL	2	0.086	0.80	10/08/09
Nitrite-N	NO2-N	LA-533-410	UD	<0.036		ug/mL	2	0.036	0.20	10/08/09
Bromide	24959-67-9	LA-533-410	UD	<0.090		ug/mL	2	0.090	1.0	10/08/09
Nitrate-N	NO3-N	LA-533-410	UD	<0.062		ug/mL	2	0.062	0.20	10/08/09
Phosphate-P	PO4-P	LA-533-410	UD	<0.14		ug/mL	2	0.14	0.80	10/08/09
~~Sulfate~~	~~14808-79-8~~	~~LA-533-410~~	~~UD~~	~~<0.13~~		~~ug/mL~~	~~2~~	~~0.13~~	~~2.0~~	~~10/08/09~~
ICP Prep										**10/09/09**
ICP-AES										
Iron	7439-89-6	LA-505-411	U	<18		ug/L	1	18	90	10/19/09
Magnesium	7439-95-4	LA-505-411	B	65.1		ug/L	1	16	80	10/19/09
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Potassium	7440-09-7	LA-505-411	U	<55		ug/L	1	55	280	10/19/09
Silver	7440-22-4	LA-505-411	U	<5.0		ug/L	1	5.0	25	10/19/09
Sodium	7440-23-5	LA-505-411	B	45.8		ug/L	1	23	120	10/19/09
Antimony	7440-36-0	LA-505-411	U	<38	<5	ug/L	1	38	190	10/19/09

Cobalt validated only 5-12-2010

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X,Y or Z - See comment detail and/or narrative.

REVISED91275 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91275

Sample # 91275004
SAF# X10-003
Sample ID B224Y8

Matrix WATER
Sampled 10/08/09
Received 10/08/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Barium	7440-39-3	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Chromium	7440-47-3	LA-505-411	U	<13		ug/L	1	13	65	10/19/09
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Vanadium	7440-62-2	LA-505-411	U	<12		ug/L	1	12	60	10/19/09
Zinc	7440-66-6	LA-505-411	U	<6.0		ug/L	1	6.0	30	10/19/09
Calcium	7440-70-2	LA-505-411		221		ug/L	1	39	200	10/19/09
Lead	7439-92-1	LA-505-411	U	<23		ug/L	1	23	120	10/19/09
Lithium	7439-93-2	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Molybdenum	7439-98-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Strontium	7440-24-6	LA-505-411	UN	<4.0		ug/L	1	4.0	20	10/19/09
Thallium	7440-28-0	LA-505-411	U	<35		ug/L	1	35	180	10/19/09
Tin	7440-31-5	LA-505-411	U	<39		ug/L	1	39	200	10/19/09
Arsenic	7440-38-2	LA-505-411	U	<65		ug/L	1	65	320	10/19/09
Beryllium	7440-41-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Boron	7440-42-8	LA-505-411	U	<19		ug/L	1	19	95	10/19/09
Bismuth	7440-69-9	LA-505-411	U	<23		ug/L	1	23	120	10/19/09
Silicon	7440-21-3	LA-505-411	B	70.4	LS	ug/L	1	61	300	10/19/09

Cobalt validated only 5-12-2010

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REVISED91275 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91275

Sample # 91275004
SAF# X10-003
Sample ID B224Y8

Matrix WATER
Sampled 10/08/09
Received 10/08/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Selenium	7782-49-2	LA-505-411	U	<45		ug/L	1	45	220	10/19/09
ICPMS Prep										**10/13/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	UD	<10		ug/L	2	10	200	10/18/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/18/09
Antimony	7440-36-0	LA-505-412	U	<0.30		ug/L	1	0.30	3.0	11/11/09
Barium	7440-39-3	LA-505-412	UD	<0.40		ug/L	2	0.40	4.0	10/18/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/18/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/18/09
Chromium	7440-47-3	LA-505-412	UD	<1.0		ug/L	2	1.0	10	10/18/09
Cobalt	7440-48-4	LA-505-412	UD	<0.10		ug/L	2	0.10	0.50	10/18/09
Copper	7440-50-8	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/18/09
Lead	7439-92-1	LA-505-412	U	<0.10		ug/L	1	0.10	1.0	11/11/09
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/18/09
Thallium	7440-28-0	LA-505-412	U	<0.050		ug/L	1	0.050	0.50	11/11/09
Uranium	7440-61-1	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/18/09
Arsenic	7440-38-2	LA-505-412	UD	<0.80		ug/L	2	0.80	8.0	10/18/09
Selenium	7782-49-2	LA-505-412	U	<0.30		ug/L	1	0.30	3.0	11/11/09

LS 5-12-2010

Cobalt validated only

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REVISED91275 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91275

Sample # 91275005
SAF# X10-003
Sample ID B224Y3

Matrix WATER
Sampled 10/08/09
Received 10/08/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICP Prep										**10/09/09**
ICP-AES										
Iron	7439-89-6	LA-505-411	U	<18		ug/L	1	18	90	10/19/09
Magnesium	7439-95-4	LA-505-411		14000		ug/L	1	16	80	10/19/09
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Potassium	7440-09-7	LA-505-411		4330		ug/L	1	55	280	10/19/09
Silver	7440-22-4	LA-505-411	U	<5.0		ug/L	1	5.0	25	10/19/09
Sodium	7440-23-5	LA-505-411		12600		ug/L	1	23	120	10/19/09
Antimony	7440-36-0	LA-505-411	U	<38		ug/L	1	38	190	10/19/09
Barium	7440-39-3	LA-505-411		52.9		ug/L	1	4.0	20	10/19/09
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Chromium	7440-47-3	LA-505-411	U	<13		ug/L	1	13	65	10/19/09
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Vanadium	7440-62-2	LA-505-411	B	15.7		ug/L	1	12	60	10/19/09
Zinc	7440-66-6	LA-505-411	U	<6.0		ug/L	1	6.0	30	10/19/09
Calcium	7440-70-2	LA-505-411		54700		ug/L	1	39	200	10/19/09
Lead	7439-92-1	LA-505-411	U	<23		ug/L	1	23	120	10/19/09

Cobalt validated only 5-12-2010

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TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

B - Analyte < the RDL but >= the IDL/MDL. (Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91275 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91275

Sample # 91275005
SAF# X10-003
Sample ID B224Y3

Matrix WATER
Sampled 10/08/09
Received 10/08/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Lithium	7439-93-2	LA-505-411	B	14.2		ug/L	1	4.0	20	10/19/09
Molybdenum	7439-98-7	LA-505-411	B	9.60		ug/L	1	4.0	20	10/19/09
Strontium	7440-24-6	LA-505-411	N	353		ug/L	1	4.0	20	10/19/09
Thallium	7440-28-0	LA-505-411	U	<35		ug/L	1	35	180	10/19/09
Tin	7440-31-5	LA-505-411	U	<39		ug/L	1	39	200	10/19/09
Arsenic	7440-38-2	LA-505-411	U	<65		ug/L	1	65	320	10/19/09
Beryllium	7440-41-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Boron	7440-42-8	LA-505-411	U	<19		ug/L	1	19	95	10/19/09
Bismuth	7440-69-9	LA-505-411	U	<23		ug/L	1	23	120	10/19/09
Silicon	7440-21-3	LA-505-411		15800		ug/L	1	61	300	10/19/09
Selenium	7782-49-2	LA-505-411	U	<45		ug/L	1	45	220	10/19/09
ICPMS Prep										**10/13/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	UD	<10		ug/L	2	10	200	10/18/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/18/09
Antimony	7440-36-0	LA-505-412	U	<0.30		ug/L	1	0.30	3.0	11/11/09
Barium	7440-39-3	LA-505-412	D	57.8		ug/L	2	0.40	4.0	10/18/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/18/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/18/09

Cobalt validated only 5-12-2010

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

B - Analyte < the RDL but >= the IDL/MDL. (Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91275 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91275

Sample # 91275005
SAF# X10-003
Sample ID B224Y3

Matrix WATER
Sampled 10/08/09
Received 10/08/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Chromium	7440-47-3	LA-505-412	BD	7.83		ug/L	2	1.0	10	10/18/09
Cobalt	7440-48-4	LA-505-412	UD	<0.10		ug/L	2	0.10	0.50	10/18/09
Copper	7440-50-8	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/18/09
Lead	7439-92-1	LA-505-412	U	<0.10		ug/L	1	0.10	1.0	11/11/09
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/18/09
Thallium	7440-28-0	LA-505-412	U	<0.050		ug/L	1	0.050	0.50	11/11/09
Uranium	7440-61-1	LA-505-412	D	2.68		ug/L	2	0.10	0.40	10/18/09
Arsenic	7440-38-2	LA-505-412	BD	2.54		ug/L	2	0.80	8.0	10/18/09
Selenium	7782-49-2	LA-505-412	B	1.30		ug/L	1	0.30	3.0	11/11/09

Cobalt validated only LS 5-12-2010

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

B - Analyte < the RDL but >= the IDL/MDL. (Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91275 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91275

Sample # 91275006
SAF# X10-003
Sample ID B224Y7

Matrix WATER
Sampled 10/08/09
Received 10/08/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICP Prep										**10/09/09**
ICP-AES										
Iron	7439-89-6	LA-505-411	U	<18		ug/L	1	18	90	10/19/09
Magnesium	7439-95-4	LA-505-411	B	39.7		ug/L	1	16	80	10/19/09
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Potassium	7440-09-7	LA-505-411	U	<55		ug/L	1	55	280	10/19/09
Silver	7440-22-4	LA-505-411	U	<5.0		ug/L	1	5.0	25	10/19/09
Sodium	7440-23-5	LA-505-411	B	36.7		ug/L	1	23	120	10/19/09
Antimony	7440-36-0	LA-505-411	U	<38		ug/L	1	38	190	10/19/09
Barium	7440-39-3	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Chromium	7440-47-3	LA-505-411	U	<13		ug/L	1	13	65	10/19/09
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Vanadium	7440-62-2	LA-505-411	U	<12		ug/L	1	12	60	10/19/09
Zinc	7440-66-6	LA-505-411	U	<6.0		ug/L	1	6.0	30	10/19/09
Calcium	7440-70-2	LA-505-411	B	92.8		ug/L	1	39	200	10/19/09
Lead	7439-92-1	LA-505-411	U	<23		ug/L	1	23	120	10/19/09

Cobalt validated only LS 5-12-2010

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

B - Analyte < the RDL but >= the IDL/MDL. (Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91275 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91275

Sample # 91275006
SAF# X10-003
Sample ID B224Y7

Matrix WATER
Sampled 10/08/09
Received 10/08/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Lithium	7439-93-2	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Molybdenum	7439-98-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Strontium	7440-24-6	LA-505-411	UN	<4.0		ug/L	1	4.0	20	10/19/09
Thallium	7440-28-0	LA-505-411	U	<35		ug/L	1	35	180	10/19/09
Tin	7440-31-5	LA-505-411	U	<39		ug/L	1	39	200	10/19/09
Arsenic	7440-38-2	LA-505-411	U	<65		ug/L	1	65	320	10/19/09
Beryllium	7440-41-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/19/09
Boron	7440-42-8	LA-505-411	U	<19		ug/L	1	19	95	10/19/09
Bismuth	7440-69-9	LA-505-411	U	<23		ug/L	1	23	120	10/19/09
Silicon	7440-21-3	LA-505-411	B	62.6		ug/L	1	61	300	10/19/09
Selenium	7782-49-2	LA-505-411	U	<45		ug/L	1	45	220	10/19/09
ICPMS Prep										**10/13/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	UD	<10		ug/L	2	10	200	10/18/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/18/09
Antimony	7440-36-0	LA-505-412	U	<0.30		ug/L	1	0.30	3.0	11/11/09
Barium	7440-39-3	LA-505-412	UD	<0.40		ug/L	2	0.40	4.0	10/18/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/18/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/18/09

Cobalt validated only LS 5-12-2010

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

B - Analyte < the RDL but >= the IDL/MDL. (Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91275 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91275

Sample # 91275006
SAF# X10-003
Sample ID B224Y7

Matrix WATER
Sampled 10/08/09
Received 10/08/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Chromium	7440-47-3	LA-505-412	UD	<1.0		ug/L	2	1.0	10	10/18/09
Cobalt	7440-48-4	LA-505-412	UD	<0.10		ug/L	2	0.10	0.50	10/18/09
Copper	7440-50-8	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/18/09
Lead	7439-92-1	LA-505-412	U	<0.10		ug/L	1	0.10	1.0	11/11/09
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/18/09
Thallium	7440-28-0	LA-505-412	U	<0.050		ug/L	1	0.050	0.50	11/11/09
Uranium	7440-61-1	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/18/09
Arsenic	7440-38-2	LA-505-412	UD	<0.80		ug/L	2	0.80	8.0	10/18/09
Selenium	7782-49-2	LA-505-412	U	<0.30		ug/L	1	0.30	3.0	11/11/09

Cobalt validated only LS 5-12-2010

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
DF = Dilution Factor
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C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91275 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306001
SAF# X10-003
Sample ID B225C4

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICP Prep										**10/13/09**
ICP-AES										
Iron	7439-89-6	LA-505-411	BC	23.0		ug/L	1	18	90	10/22/09
Magnesium	7439-95-4	LA-505-411		13200		ug/L	1	16	80	10/22/09
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/22/09
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/22/09
Potassium	7440-09-7	LA-505-411		4600		ug/L	1	55	280	10/22/09
Silver	7440-22-4	LA-505-411	U	<5.0		ug/L	1	5.0	25	10/22/09
Sodium	7440-23-5	LA-505-411		14600		ug/L	1	23	120	10/22/09
Antimony	7440-36-0	LA-505-411	U	<38		ug/L	1	38	190	10/22/09
Barium	7440-39-3	LA-505-411		54.1		ug/L	1	4.0	20	10/22/09
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/22/09
Chromium	7440-47-3	LA-505-411	B	54.1		ug/L	1	13	65	10/22/09
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/22/09
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/22/09
Vanadium	7440-62-2	LA-505-411	U	<12		ug/L	1	12	60	10/22/09
Zinc	7440-66-6	LA-505-411	U	<6.0		ug/L	1	6.0	30	10/22/09
Calcium	7440-70-2	LA-505-411		62700		ug/L	1	39	200	10/22/09
Lead	7439-92-1	LA-505-411	U	<23	<5	ug/L	1	23	120	10/22/09

Thallium validated only 5-12-2010

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

B - Analyte < the RDL but >= the IDL/MDL. (Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306001
SAF# X10-003
Sample ID B225C4

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Lithium	7439-93-2	LA-505-411	B	14.4		ug/L	1	4.0	20	10/22/09
Molybdenum	7439-98-7	LA-505-411	B	5.30		ug/L	1	4.0	20	10/22/09
Strontium	7440-24-6	LA-505-411		324		ug/L	1	4.0	20	10/22/09
Thallium	7440-28-0	LA-505-411	U	<35		ug/L	1	35	180	10/22/09
Tin	7440-31-5	LA-505-411	U	<39		ug/L	1	39	200	10/22/09
Arsenic	7440-38-2	LA-505-411	U	<65		ug/L	1	65	320	10/22/09
Beryllium	7440-41-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/22/09
Boron	7440-42-8	LA-505-411	U	<19		ug/L	1	19	95	10/22/09
Bismuth	7440-69-9	LA-505-411	U	<23		ug/L	1	23	120	10/22/09
Silicon	7440-21-3	LA-505-411		14900		ug/L	1	61	300	10/22/09
Selenium	7782-49-2	LA-505-411	U	<45		ug/L	1	45	220	10/22/09
ICPMS Prep										**10/13/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	UD	<10		ug/L	2	10	200	10/19/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/19/09
Antimony	7440-36-0	LA-505-412	BD	0.716		ug/L	2	0.60	6.0	10/19/09
Barium	7440-39-3	LA-505-412	DD	57.8		ug/L	2	0.40	4.0	10/19/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/19/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20	LS	ug/L	2	0.20	2.0	10/19/09

Thallium validated only 5-12-2010

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

B - Analyte < the RDL but >= the IDL/MDL. (Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306001
SAF# X10-003
Sample ID B225C4

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Chromium	7440-47-3	LA-505-412	D	51.7		ug/L	2	1.0	10	10/19/09
Cobalt	7440-48-4	LA-505-412	D	0.546		ug/L	2	0.10	0.50	10/19/09
Copper	7440-50-8	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/19/09
Lead	7439-92-1	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/19/09
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/19/09
Thallium	7440-28-0	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/19/09
Uranium	7440-61-1	LA-505-412	D	2.41		ug/L	2	0.10	0.40	10/19/09
Arsenic	7440-38-2	LA-505-412	BD	2.27		ug/L	2	0.80	8.0	10/19/09
Selenium	7782-49-2	LA-505-412	BD	1.79		ug/L	2	0.60	6.0	10/19/09

Thallium validated only LS 5-12-2010

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

B - Analyte < the RDL but >= the IDL/MDL. (Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306002
SAF# X10-003
Sample ID B225B5

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICP Prep										**10/13/09**
ICP-AES										
Iron	7439-89-6	LA-505-411	BC	25.0		ug/L	1	18	90	10/22/09
Magnesium	7439-95-4	LA-505-411		10900		ug/L	1	16	80	10/22/09
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/22/09
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/22/09
Potassium	7440-09-7	LA-505-411		4330		ug/L	1	55	280	10/22/09
Silver	7440-22-4	LA-505-411	U	<5.0		ug/L	1	5.0	25	10/22/09
Sodium	7440-23-5	LA-505-411		11400		ug/L	1	23	120	10/22/09
Antimony	7440-36-0	LA-505-411	U	<38		ug/L	1	38	190	10/22/09
Barium	7440-39-3	LA-505-411		42.3		ug/L	1	4.0	20	10/22/09
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/22/09
Chromium	7440-47-3	LA-505-411	U	<13		ug/L	1	13	65	10/22/09
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/22/09
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/22/09
Vanadium	7440-62-2	LA-505-411	U	<12		ug/L	1	12	60	10/22/09
Zinc	7440-66-6	LA-505-411	U	<6.0		ug/L	1	6.0	30	10/22/09
Calcium	7440-70-2	LA-505-411		52500		ug/L	1	39	200	10/22/09
Lead	7439-92-1	LA-505-411	U	<23	<5	ug/L	1	23	120	10/22/09

Thallium validated only 5-12-2010

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

B - Analyte < the RDL but >= the IDL/MDL. (Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306002
SAF# X10-003
Sample ID B225B5

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Lithium	7439-93-2	LA-505-411	B	13.1		ug/L	1	4.0	20	10/22/09
Molybdenum	7439-98-7	LA-505-411	B	6.50		ug/L	1	4.0	20	10/22/09
Strontium	7440-24-6	LA-505-411		268		ug/L	1	4.0	20	10/22/09
Thallium	7440-28-0	LA-505-411	U	<35		ug/L	1	35	180	10/22/09
Tin	7440-31-5	LA-505-411	U	<39		ug/L	1	39	200	10/22/09
Arsenic	7440-38-2	LA-505-411	U	<65		ug/L	1	65	320	10/22/09
Beryllium	7440-41-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/22/09
Boron	7440-42-8	LA-505-411	U	<19		ug/L	1	19	95	10/22/09
Bismuth	7440-69-9	LA-505-411	U	<23		ug/L	1	23	120	10/22/09
Silicon	7440-21-3	LA-505-411		13600		ug/L	1	61	300	10/22/09
Selenium	7782-49-2	LA-505-411	U	<45		ug/L	1	45	220	10/22/09
ICPMS Prep										**10/13/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	UD	<10		ug/L	2	10	200	10/19/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/19/09
Antimony	7440-36-0	LA-505-412	UD	<0.60		ug/L	2	0.60	6.0	10/19/09
Barium	7440-39-3	LA-505-412	D	47.0		ug/L	2	0.40	4.0	10/19/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/19/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20	LS	ug/L	2	0.20	2.0	10/19/09

Thallium validated only 5-12-2010

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

B - Analyte < the RDL but >= the IDL/MDL. (Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306002
SAF# X10-003
Sample ID B225B5

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Chromium	7440-47-3	LA-505-412		11.6		ug/L	2	1.0	10	10/19/09
Cobalt	7440-48-4	LA-505-412	UD	<0.10		ug/L	2	0.10	0.50	10/19/09
Copper	7440-50-8	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/19/09
Lead	7439-92-1	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/19/09
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/19/09
Thallium	7440-28-0	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/19/09
Uranium	7440-61-1	LA-505-412	D	0.897		ug/L	2	0.10	0.40	10/19/09
Arsenic	7440-38-2	LA-505-412	BD	2.01		ug/L	2	0.80	8.0	10/19/09
Selenium	7782-49-2	LA-505-412	BD	0.892		ug/L	2	0.60	6.0	10/19/09

Thallium validated only LS 5-12-2010

MDL = Minimum Detection
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TP Err = Total Propagated
DF = Dilution Factor
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E - Analyte is an estimate, see comment section.
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U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306003
SAF# X10-003
Sample ID B225C1

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICP Prep										**10/13/09**
ICP-AES										
Iron	7439-89-6	LA-505-411	BC	25.0		ug/L	1	18	90	10/22/09
Magnesium	7439-95-4	LA-505-411		11400		ug/L	1	16	80	10/22/09
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/22/09
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/22/09
Potassium	7440-09-7	LA-505-411		4500		ug/L	1	55	280	10/22/09
Silver	7440-22-4	LA-505-411	U	<5.0		ug/L	1	5.0	25	10/22/09
Sodium	7440-23-5	LA-505-411		11800		ug/L	1	23	120	10/22/09
Antimony	7440-36-0	LA-505-411	U	<38		ug/L	1	38	190	10/22/09
Barium	7440-39-3	LA-505-411		44.3		ug/L	1	4.0	20	10/22/09
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/22/09
Chromium	7440-47-3	LA-505-411	U	<13		ug/L	1	13	65	10/22/09
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/22/09
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/22/09
Vanadium	7440-62-2	LA-505-411	U	<12		ug/L	1	12	60	10/22/09
Zinc	7440-66-6	LA-505-411	U	<6.0		ug/L	1	6.0	30	10/22/09
Calcium	7440-70-2	LA-505-411		55700		ug/L	1	39	200	10/22/09
Lead	7439-92-1	LA-505-411	U	<23	<5	ug/L	1	23	120	10/22/09

Thallium validated only 5-12-2010

MDL = Minimum Detection
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C - Analyte was found in the Associated Blank. (Inorganic)
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E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306003
SAF# X10-003
Sample ID B225C1

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Lithium	7439-93-2	LA-505-411	B	13.7		ug/L	1	4.0	20	10/22/09
Molybdenum	7439-98-7	LA-505-411	B	7.60		ug/L	1	4.0	20	10/22/09
Strontium	7440-24-6	LA-505-411		279		ug/L	1	4.0	20	10/22/09
Thallium	7440-28-0	LA-505-411	U	<35		ug/L	1	35	180	10/22/09
Tin	7440-31-5	LA-505-411	U	<39		ug/L	1	39	200	10/22/09
Arsenic	7440-38-2	LA-505-411	U	<65		ug/L	1	65	320	10/22/09
Beryllium	7440-41-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/22/09
Boron	7440-42-8	LA-505-411	U	<19		ug/L	1	19	95	10/22/09
Bismuth	7440-69-9	LA-505-411	U	<23		ug/L	1	23	120	10/22/09
Silicon	7440-21-3	LA-505-411		14300		ug/L	1	61	300	10/22/09
Selenium	7782-49-2	LA-505-411	U	<45		ug/L	1	45	220	10/22/09
ICPMS Prep										**10/13/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	UD	<10		ug/L	2	10	200	10/19/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/19/09
Antimony	7440-36-0	LA-505-412	UD	<0.60		ug/L	2	0.60	6.0	10/19/09
Barium	7440-39-3	LA-505-412	D	42.8		ug/L	2	0.40	4.0	10/19/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/19/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20	LS	ug/L	2	0.20	2.0	10/19/09

Thallium validated only 5-12-2010

MDL = Minimum Detection
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TP Err = Total Propagated
DF = Dilution Factor
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E - Analyte is an estimate, see comment section.
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U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306003
SAF# X10-003
Sample ID B225C1

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Chromium	7440-47-3	LA-505-412	D	10.1		ug/L	2	1.0	10	10/19/09
Cobalt	7440-48-4	LA-505-412	UD	<0.10		ug/L	2	0.10	0.50	10/19/09
Copper	7440-50-8	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/19/09
Lead	7439-92-1	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/19/09
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/19/09
Thallium	7440-28-0	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/19/09
Uranium	7440-61-1	LA-505-412	D	0.802		ug/L	2	0.10	0.40	10/19/09
Arsenic	7440-38-2	LA-505-412	BD	1.90		ug/L	2	0.80	8.0	10/19/09
Selenium	7782-49-2	LA-505-412	BD	0.887		ug/L	2	0.60	6.0	10/19/09

Thallium validated only LS 5-12-2010

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X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306004
SAF# X10-003
Sample ID B225J4

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICP Prep										**10/13/09**
ICP-AES										
Iron	7439-89-6	LA-505-411	BC	30.0		ug/L	1	18	90	10/22/09
Magnesium	7439-95-4	LA-505-411		16300		ug/L	1	16	80	10/22/09
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/22/09
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/22/09
Potassium	7440-09-7	LA-505-411		5730		ug/L	1	55	280	10/22/09
Silver	7440-22-4	LA-505-411	U	<5.0		ug/L	1	5.0	25	10/22/09
Sodium	7440-23-5	LA-505-411		15600		ug/L	1	23	120	10/22/09
Antimony	7440-36-0	LA-505-411	U	<38		ug/L	1	38	190	10/22/09
Barium	7440-39-3	LA-505-411		43.2		ug/L	1	4.0	20	10/22/09
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/22/09
Chromium	7440-47-3	LA-505-411	B	20.5		ug/L	1	13	65	10/22/09
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/22/09
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/22/09
Vanadium	7440-62-2	LA-505-411	U	<12		ug/L	1	12	60	10/22/09
Zinc	7440-66-6	LA-505-411	U	<6.0		ug/L	1	6.0	30	10/22/09
Calcium	7440-70-2	LA-505-411		78400		ug/L	1	39	200	10/22/09
Lead	7439-92-1	LA-505-411	U	<23	<5	ug/L	1	23	120	10/22/09

Thallium validated only 5-12-2010

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TP Err = Total Propagated
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E - Analyte is an estimate, see comment section.
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U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306004
SAF# X10-003
Sample ID B225J4

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Lithium	7439-93-2	LA-505-411	B	18.7		ug/L	1	4.0	20	10/22/09
Molybdenum	7439-98-7	LA-505-411	B	6.10		ug/L	1	4.0	20	10/22/09
Strontium	7440-24-6	LA-505-411		472		ug/L	1	4.0	20	10/22/09
Thallium	7440-28-0	LA-505-411	U	<35		ug/L	1	35	180	10/22/09
Tin	7440-31-5	LA-505-411	U	<39		ug/L	1	39	200	10/22/09
Arsenic	7440-38-2	LA-505-411	U	<65		ug/L	1	65	320	10/22/09
Beryllium	7440-41-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/22/09
Boron	7440-42-8	LA-505-411	B	35.0		ug/L	1	19	95	10/22/09
Bismuth	7440-69-9	LA-505-411	U	<23		ug/L	1	23	120	10/22/09
Silicon	7440-21-3	LA-505-411		14800		ug/L	1	61	300	10/22/09
Selenium	7782-49-2	LA-505-411	U	<45		ug/L	1	45	220	10/22/09
ICPMS Prep										**10/13/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	UD	<10		ug/L	2	10	200	10/19/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/19/09
Antimony	7440-36-0	LA-505-412	UD	<0.60		ug/L	2	0.60	6.0	10/19/09
Barium	7440-39-3	LA-505-412	D	46.3		ug/L	2	0.40	4.0	10/19/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/19/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20	<5	ug/L	2	0.20	2.0	10/19/09

Thallium validated only 5-12-2010

MDL = Minimum Detection
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TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

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E - Analyte is an estimate, see comment section.
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X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306004
SAF# X10-003
Sample ID B225J4

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Chromium	7440-47-3	LA-505-412	D	20.2		ug/L	2	1.0	10	10/19/09
Cobalt	7440-48-4	LA-505-412	BD	0.250		ug/L	2	0.10	0.50	10/19/09
Copper	7440-50-8	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/19/09
Lead	7439-92-1	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/19/09
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/19/09
Thallium	7440-28-0	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/19/09
Uranium	7440-61-1	LA-505-412	D	6.01		ug/L	2	0.10	0.40	10/19/09
Arsenic	7440-38-2	LA-505-412	BD	2.98		ug/L	2	0.80	8.0	10/19/09
Selenium	7782-49-2	LA-505-412	BD	1.68		ug/L	2	0.60	6.0	10/19/09

Thallium validated only LS 5-12-2010

MDL = Minimum Detection
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TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

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N - MS and/or MSD sample recovery outside control limits.

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X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306005
SAF# X10-003
Sample ID B225C8

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICP Prep										**10/15/09**
ICP-AES										
Iron	7439-89-6	LA-505-411	U	<18		ug/L	1	18	90	10/23/09
Magnesium	7439-95-4	LA-505-411		12000		ug/L	1	16	80	10/23/09
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Potassium	7440-09-7	LA-505-411		4380		ug/L	1	55	280	10/23/09
Silver	7440-22-4	LA-505-411	U	<5.0		ug/L	1	5.0	25	10/23/09
Sodium	7440-23-5	LA-505-411		18500		ug/L	1	23	120	10/23/09
Antimony	7440-36-0	LA-505-411	U	<38		ug/L	1	38	190	10/23/09
Barium	7440-39-3	LA-505-411		55.2		ug/L	1	4.0	20	10/23/09
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Chromium	7440-47-3	LA-505-411		68.8		ug/L	1	13	65	10/23/09
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Vanadium	7440-62-2	LA-505-411	U	<12		ug/L	1	12	60	10/23/09
Zinc	7440-66-6	LA-505-411	U	<6.0		ug/L	1	6.0	30	10/23/09
Calcium	7440-70-2	LA-505-411		65100		ug/L	1	39	200	10/23/09
Lead	7439-92-1	LA-505-411	U	<23	<5	ug/L	1	23	120	10/23/09

Thallium validated only 5-12-2010

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

B - Analyte < the RDL but >= the IDL/MDL. (Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306005
SAF# X10-003
Sample ID B225C8

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Lithium	7439-93-2	LA-505-411	B	13.5		ug/L	1	4.0	20	10/23/09
Molybdenum	7439-98-7	LA-505-411	B	9.10		ug/L	1	4.0	20	10/23/09
Strontium	7440-24-6	LA-505-411		305		ug/L	1	4.0	20	10/23/09
Thallium	7440-28-0	LA-505-411	U	<35		ug/L	1	35	180	10/23/09
Tin	7440-31-5	LA-505-411	U	<39		ug/L	1	39	200	10/23/09
Arsenic	7440-38-2	LA-505-411	U	<65		ug/L	1	65	320	10/23/09
Beryllium	7440-41-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Boron	7440-42-8	LA-505-411	B	23.7		ug/L	1	19	95	10/23/09
Bismuth	7440-69-9	LA-505-411	U	<23		ug/L	1	23	120	10/23/09
Silicon	7440-21-3	LA-505-411		14300		ug/L	1	61	300	10/23/09
Selenium	7782-49-2	LA-505-411	U	<45		ug/L	1	45	220	10/23/09
ICPMS Prep										**10/13/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	UD	<10		ug/L	2	10	200	10/19/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/19/09
Antimony	7440-36-0	LA-505-412	BD	0.693		ug/L	2	0.60	6.0	10/19/09
Barium	7440-39-3	LA-505-412	D	61.0		ug/L	2	0.40	4.0	10/19/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/19/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20	<5	ug/L	2	0.20	2.0	10/19/09

Thallium validated only 5-12-2010

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

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C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306005
SAF# X10-003
Sample ID B225C8

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Chromium	7440-47-3	LA-505-412	D	70.7		ug/L	2	1.0	10	10/19/09
Cobalt	7440-48-4	LA-505-412	BD	0.235		ug/L	2	0.10	0.50	10/19/09
Copper	7440-50-8	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/19/09
Lead	7439-92-1	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/19/09
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/19/09
Thallium	7440-28-0	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/19/09
Uranium	7440-61-1	LA-505-412	D	4.02		ug/L	2	0.10	0.40	10/19/09
Arsenic	7440-38-2	LA-505-412	BD	2.08		ug/L	2	0.80	8.0	10/19/09
Selenium	7782-49-2	LA-505-412	BD	1.41		ug/L	2	0.60	6.0	10/19/09

Thallium validated only LS 5-12-2010

MDL = Minimum Detection
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DF = Dilution Factor
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U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306006
SAF# X10-003
Sample ID B225D2

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPMS Prep										**10/13/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	UD	<10		ug/L	2	10	200	10/19/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/19/09
Antimony	7440-36-0	LA-505-412	UD	<0.60		ug/L	2	0.60	6.0	10/19/09
Barium	7440-39-3	LA-505-412	D	63.0		ug/L	2	0.40	4.0	10/19/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/19/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/19/09
Chromium	7440-47-3	LA-505-412	D	25.9		ug/L	2	1.0	10	10/19/09
Cobalt	7440-48-4	LA-505-412	BD	0.335		ug/L	2	0.10	0.50	10/19/09
Copper	7440-50-8	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/19/09
Lead	7439-92-1	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/19/09
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/19/09
Thallium	7440-28-0	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/19/09
Uranium	7440-61-1	LA-505-412	D	1.46		ug/L	2	0.10	0.40	10/19/09
Arsenic	7440-38-2	LA-505-412	BD	1.28		ug/L	2	0.80	8.0	10/19/09
Selenium	7782-49-2	LA-505-412	BD	0.897		ug/L	2	0.60	6.0	10/19/09

Thallium validated only LS 5-12-2010

MDL = Minimum Detection
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E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306007
SAF# X10-003
Sample ID B225C5

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICP Prep										**10/15/09**
ICP-AES										
Iron	7439-89-6	LA-505-411	U	<18		ug/L	1	18	90	10/23/09
Magnesium	7439-95-4	LA-505-411		13000		ug/L	1	16	80	10/23/09
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Potassium	7440-09-7	LA-505-411		4490		ug/L	1	55	280	10/23/09
Silver	7440-22-4	LA-505-411	U	<5.0		ug/L	1	5.0	25	10/23/09
Sodium	7440-23-5	LA-505-411		14600		ug/L	1	23	120	10/23/09
Antimony	7440-36-0	LA-505-411	U	<38		ug/L	1	38	190	10/23/09
Barium	7440-39-3	LA-505-411		54.6		ug/L	1	4.0	20	10/23/09
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Chromium	7440-47-3	LA-505-411	B	52.5		ug/L	1	13	65	10/23/09
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Vanadium	7440-62-2	LA-505-411	B	19.1		ug/L	1	12	60	10/23/09
Zinc	7440-66-6	LA-505-411	U	<6.0		ug/L	1	6.0	30	10/23/09
Calcium	7440-70-2	LA-505-411		63100		ug/L	1	39	200	10/23/09
Lead	7439-92-1	LA-505-411	U	<23	<5	ug/L	1	23	120	10/23/09

Thallium validated only 5-12-2010

MDL = Minimum Detection
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E - Analyte is an estimate, see comment section.
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X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306007
SAF# X10-003
Sample ID B225C5

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Lithium	7439-93-2	LA-505-411	B	15.5		ug/L	1	4.0	20	10/23/09
Molybdenum	7439-98-7	LA-505-411	B	12.2		ug/L	1	4.0	20	10/23/09
Strontium	7440-24-6	LA-505-411		320		ug/L	1	4.0	20	10/23/09
Thallium	7440-28-0	LA-505-411	U	<35		ug/L	1	35	180	10/23/09
Tin	7440-31-5	LA-505-411	U	<39		ug/L	1	39	200	10/23/09
Arsenic	7440-38-2	LA-505-411	U	<65		ug/L	1	65	320	10/23/09
Beryllium	7440-41-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Boron	7440-42-8	LA-505-411	U	<19		ug/L	1	19	95	10/23/09
Bismuth	7440-69-9	LA-505-411	U	<23		ug/L	1	23	120	10/23/09
Silicon	7440-21-3	LA-505-411		14900		ug/L	1	61	300	10/23/09
Selenium	7782-49-2	LA-505-411	U	<45		ug/L	1	45	220	10/23/09
ICPMS Prep										**10/13/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	UD	<10		ug/L	2	10	200	10/19/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/19/09
Antimony	7440-36-0	LA-505-412	BD	0.729		ug/L	2	0.60	6.0	10/19/09
Barium	7440-39-3	LA-505-412	D	54.5		ug/L	2	0.40	4.0	10/19/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/19/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20	LS	ug/L	2	0.20	2.0	10/19/09

Thallium validated only 5-12-2010

MDL = Minimum Detection
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TP Err = Total Propagated
DF = Dilution Factor
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E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306007
SAF# X10-003
Sample ID B225C5

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Chromium	7440-47-3	LA-505-412	D	50.1		ug/L	2	1.0	10	10/19/09
Cobalt	7440-48-4	LA-505-412	UD	<0.10		ug/L	2	0.10	0.50	10/19/09
Copper	7440-50-8	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/19/09
Lead	7439-92-1	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/19/09
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/19/09
Thallium	7440-28-0	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/19/09
Uranium	7440-61-1	LA-505-412	D	2.27		ug/L	2	0.10	0.40	10/19/09
Arsenic	7440-38-2	LA-505-412	BD	2.03		ug/L	2	0.80	8.0	10/19/09
Selenium	7782-49-2	LA-505-412	BD	2.23		ug/L	2	0.60	6.0	10/19/09

Thallium validated only LS 5-12-2010

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DF = Dilution Factor
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X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306008
SAF# X10-003
Sample ID B225B6

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICP Prep										**10/15/09**
ICP-AES										
Iron	7439-89-6	LA-505-411	B	22.5		ug/L	1	18	90	10/23/09
Magnesium	7439-95-4	LA-505-411		11300		ug/L	1	16	80	10/23/09
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Potassium	7440-09-7	LA-505-411		4370		ug/L	1	55	280	10/23/09
Silver	7440-22-4	LA-505-411	U	<5.0		ug/L	1	5.0	25	10/23/09
Sodium	7440-23-5	LA-505-411		11800		ug/L	1	23	120	10/23/09
Antimony	7440-36-0	LA-505-411	U	<38		ug/L	1	38	190	10/23/09
Barium	7440-39-3	LA-505-411		44.1		ug/L	1	4.0	20	10/23/09
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Chromium	7440-47-3	LA-505-411	U	<13		ug/L	1	13	65	10/23/09
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Vanadium	7440-62-2	LA-505-411	B	12.2		ug/L	1	12	60	10/23/09
Zinc	7440-66-6	LA-505-411	U	<6.0		ug/L	1	6.0	30	10/23/09
Calcium	7440-70-2	LA-505-411		56200		ug/L	1	39	200	10/23/09
Lead	7439-92-1	LA-505-411	U	<23	<5	ug/L	1	23	120	10/23/09

Thallium validated only 5-12-2010

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U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306008
SAF# X10-003
Sample ID B225B6

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Lithium	7439-93-2	LA-505-411	B	13.1		ug/L	1	4.0	20	10/23/09
Molybdenum	7439-98-7	LA-505-411	B	6.70		ug/L	1	4.0	20	10/23/09
Strontium	7440-24-6	LA-505-411		277		ug/L	1	4.0	20	10/23/09
Thallium	7440-28-0	LA-505-411	U	<35		ug/L	1	35	180	10/23/09
Tin	7440-31-5	LA-505-411	U	<39		ug/L	1	39	200	10/23/09
Arsenic	7440-38-2	LA-505-411	U	<65		ug/L	1	65	320	10/23/09
Beryllium	7440-41-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Boron	7440-42-8	LA-505-411	B	27.7		ug/L	1	19	95	10/23/09
Bismuth	7440-69-9	LA-505-411	U	<23		ug/L	1	23	120	10/23/09
Silicon	7440-21-3	LA-505-411		14300		ug/L	1	61	300	10/23/09
Selenium	7782-49-2	LA-505-411	U	<45		ug/L	1	45	220	10/23/09
ICPMS Prep										**10/20/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	UD	<10		ug/L	2	10	200	10/28/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Antimony	7440-36-0	LA-505-412	UD	<0.60		ug/L	2	0.60	6.0	10/28/09
Barium	7440-39-3	LA-505-412	D	44.5		ug/L	2	0.40	4.0	10/28/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/28/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20	LS	ug/L	2	0.20	2.0	10/28/09

Thallium validated only 5-12-2010

MDL = Minimum Detection
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TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

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C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306008
SAF# X10-003
Sample ID B225B6

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Chromium	7440-47-3	LA-505-412	D	14.6		ug/L	2	1.0	10	10/28/09
Cobalt	7440-48-4	LA-505-412	BD	0.119		ug/L	2	0.10	0.50	10/28/09
Copper	7440-50-8	LA-505-412	BDC	0.760		ug/L	2	0.20	2.0	10/28/09
Lead	7439-92-1	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/28/09
Thallium	7440-28-0	LA-505-412	BD	0.276		ug/L	2	0.10	1.0	10/28/09
Uranium	7440-61-1	LA-505-412	D	0.945		ug/L	2	0.10	0.40	10/28/09
Arsenic	7440-38-2	LA-505-412	BD	2.12		ug/L	2	0.80	8.0	10/28/09
Selenium	7782-49-2	LA-505-412	BD	2.70		ug/L	2	0.60	6.0	10/28/09

Thallium validated only LS 5-12-2010

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RQ = Result Qualifier
TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

B - Analyte < the RDL but >= the IDL/MDL. (Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306009
SAF# X10-003
Sample ID B225C2

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICP Prep										**10/15/09**
ICP-AES										
Iron	7439-89-6	LA-505-411	B	22.0		ug/L	1	18	90	10/23/09
Magnesium	7439-95-4	LA-505-411		11200		ug/L	1	16	80	10/23/09
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Potassium	7440-09-7	LA-505-411		4320		ug/L	1	55	280	10/23/09
Silver	7440-22-4	LA-505-411	U	<5.0		ug/L	1	5.0	25	10/23/09
Sodium	7440-23-5	LA-505-411		11700		ug/L	1	23	120	10/23/09
Antimony	7440-36-0	LA-505-411	U	<38		ug/L	1	38	190	10/23/09
Barium	7440-39-3	LA-505-411		43.3		ug/L	1	4.0	20	10/23/09
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Chromium	7440-47-3	LA-505-411	U	<13		ug/L	1	13	65	10/23/09
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Vanadium	7440-62-2	LA-505-411	U	<12		ug/L	1	12	60	10/23/09
Zinc	7440-66-6	LA-505-411	U	<6.0		ug/L	1	6.0	30	10/23/09
Calcium	7440-70-2	LA-505-411		55700		ug/L	1	39	200	10/23/09
Lead	7439-92-1	LA-505-411	U	<23	<5	ug/L	1	23	120	10/23/09

Thallium validated only 5-12-2010

MDL = Minimum Detection
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DF = Dilution Factor
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U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306009
SAF# X10-003
Sample ID B225C2

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Lithium	7439-93-2	LA-505-411	B	12.8		ug/L	1	4.0	20	10/23/09
Molybdenum	7439-98-7	LA-505-411	B	5.70		ug/L	1	4.0	20	10/23/09
Strontium	7440-24-6	LA-505-411		275		ug/L	1	4.0	20	10/23/09
Thallium	7440-28-0	LA-505-411	U	<35		ug/L	1	35	180	10/23/09
Tin	7440-31-5	LA-505-411	U	<39		ug/L	1	39	200	10/23/09
Arsenic	7440-38-2	LA-505-411	U	<65		ug/L	1	65	320	10/23/09
Beryllium	7440-41-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Boron	7440-42-8	LA-505-411	B	19.1		ug/L	1	19	95	10/23/09
Bismuth	7440-69-9	LA-505-411	U	<23		ug/L	1	23	120	10/23/09
Silicon	7440-21-3	LA-505-411		14200		ug/L	1	61	300	10/23/09
Selenium	7782-49-2	LA-505-411	U	<45		ug/L	1	45	220	10/23/09
ICPMS Prep										**10/20/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	UD	<10		ug/L	2	10	200	10/28/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Antimony	7440-36-0	LA-505-412	BD	0.622		ug/L	2	0.60	6.0	10/28/09
Barium	7440-39-3	LA-505-412	D	47.0		ug/L	2	0.40	4.0	10/28/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/28/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20	LS	ug/L	2	0.20	2.0	10/28/09

Thallium validated only 5-12-2010

MDL = Minimum Detection
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E - Analyte is an estimate, see comment section.
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X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306009
SAF# X10-003
Sample ID B225C2

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Chromium	7440-47-3	LA-505-412	D	14.7		ug/L	2	1.0	10	10/28/09
Cobalt	7440-48-4	LA-505-412	BD	0.110		ug/L	2	0.10	0.50	10/28/09
Copper	7440-50-8	LA-505-412	BDC	0.928		ug/L	2	0.20	2.0	10/28/09
Lead	7439-92-1	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Mercury	7439-97-6	LA-505-412	BD	0.110		ug/L	2	0.10	0.40	10/28/09
Thallium	7440-28-0	LA-505-412	BD	0.194		ug/L	2	0.10	1.0	10/28/09
Uranium	7440-61-1	LA-505-412	D	0.979		ug/L	2	0.10	0.40	10/28/09
Arsenic	7440-38-2	LA-505-412	BD	2.19		ug/L	2	0.80	8.0	10/28/09
Selenium	7782-49-2	LA-505-412	BD	1.87		ug/L	2	0.60	6.0	10/28/09

Thallium validated only LS 5-12-2010

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REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306010
SAF# X10-003
Sample ID B225J5

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
~~**Anions by IC**~~										~~**10/12/09**~~
Anions by IC										
Fluoride	16984-48-8	LA-533-410	UD	<0.060		ug/mL	2	0.060	0.40	10/12/09
Chloride	16887-00-6	LA-533-410	D	25.6		ug/mL	2	0.086	0.80	10/12/09
Nitrite-N	NO2-N	LA-533-410	UD	<0.036		ug/mL	2	0.036	0.20	10/12/09
Bromide	24959-67-9	LA-533-410	BD	0.167		ug/mL	2	0.090	1.0	10/12/09
Nitrate-N	NO3-N	LA-533-410	D	10.6		ug/mL	2	0.062	0.20	10/12/09
Phosphate-P	PO4-P	LA-533-410	UD	<0.14		ug/mL	2	0.14	0.80	10/12/09
~~Sulfate~~	~~14808-79-8~~	~~LA-533-410~~	~~D~~	~~88.7~~		~~ug/mL~~	~~2~~	~~0.13~~	~~2.0~~	~~10/12/09~~
ICP Prep										**10/15/09**
ICP-AES										
Iron	7439-89-6	LA-505-411	B	18.4		ug/L	1	18	90	10/23/09
Magnesium	7439-95-4	LA-505-411		15600		ug/L	1	16	80	10/23/09
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Potassium	7440-09-7	LA-505-411		5560		ug/L	1	55	280	10/23/09
Silver	7440-22-4	LA-505-411	U	<5.0		ug/L	1	5.0	25	10/23/09
Sodium	7440-23-5	LA-505-411		15400		ug/L	1	23	120	10/23/09
Antimony	7440-36-0	LA-505-411	U	<38	<5	ug/L	1	38	190	10/23/09

Thallium validated only 5-12-2010

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X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306010
SAF# X10-003
Sample ID B225J5

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Barium	7440-39-3	LA-505-411		41.4		ug/L	1	4.0	20	10/23/09
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Chromium	7440-47-3	LA-505-411	B	20.6		ug/L	1	13	65	10/23/09
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Vanadium	7440-62-2	LA-505-411	U	<12		ug/L	1	12	60	10/23/09
Zinc	7440-66-6	LA-505-411	U	<6.0		ug/L	1	6.0	30	10/23/09
Calcium	7440-70-2	LA-505-411		76300		ug/L	1	39	200	10/23/09
Lead	7439-92-1	LA-505-411	U	<23		ug/L	1	23	120	10/23/09
Lithium	7439-93-2	LA-505-411	B	18.5		ug/L	1	4.0	20	10/23/09
Molybdenum	7439-98-7	LA-505-411	B	7.60		ug/L	1	4.0	20	10/23/09
Strontium	7440-24-6	LA-505-411		458		ug/L	1	4.0	20	10/23/09
Thallium	7440-28-0	LA-505-411	U	<35		ug/L	1	35	180	10/23/09
Tin	7440-31-5	LA-505-411	U	<39		ug/L	1	39	200	10/23/09
Arsenic	7440-38-2	LA-505-411	U	<65		ug/L	1	65	320	10/23/09
Beryllium	7440-41-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Boron	7440-42-8	LA-505-411	B	42.8		ug/L	1	19	95	10/23/09
Bismuth	7440-69-9	LA-505-411	U	<23		ug/L	1	23	120	10/23/09
Silicon	7440-21-3	LA-505-411		14500	<5	ug/L	1	61	300	10/23/09

Thallium validated only 5-12-2010

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X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306010
SAF# X10-003
Sample ID B225J5

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Selenium	7782-49-2	LA-505-411	U	<45		ug/L	1	45	220	10/23/09
ICPMS Prep										**10/20/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	BD	12.4		ug/L	2	10	200	10/28/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Antimony	7440-36-0	LA-505-412	UD	<0.60		ug/L	2	0.60	6.0	10/28/09
Barium	7440-39-3	LA-505-412	D	44.9		ug/L	2	0.40	4.0	10/28/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/28/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Chromium	7440-47-3	LA-505-412	D	22.0		ug/L	2	1.0	10	10/28/09
Cobalt	7440-48-4	LA-505-412	BD	0.165		ug/L	2	0.10	0.50	10/28/09
Copper	7440-50-8	LA-505-412	BDC	1.04		ug/L	2	0.20	2.0	10/28/09
Lead	7439-92-1	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/28/09
Thallium	7440-28-0	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/28/09
Uranium	7440-61-1	LA-505-412	D	6.09		ug/L	2	0.10	0.40	10/28/09
Arsenic	7440-38-2	LA-505-412	BD	3.13		ug/L	2	0.80	8.0	10/28/09
Selenium	7782-49-2	LA-505-412	BD	2.12		ug/L	2	0.60	6.0	10/28/09

LS

Thallium validated only 5-12-2010

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X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306011
SAF# X10-003
Sample ID B225C9

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICP Prep										**10/15/09**
ICP-AES										
Iron	7439-89-6	LA-505-411	U	<18		ug/L	1	18	90	10/23/09
Magnesium	7439-95-4	LA-505-411		12700		ug/L	1	16	80	10/23/09
Manganese	7439-96-5	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Nickel	7440-02-0	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Potassium	7440-09-7	LA-505-411		4750		ug/L	1	55	280	10/23/09
Silver	7440-22-4	LA-505-411	U	<5.0		ug/L	1	5.0	25	10/23/09
Sodium	7440-23-5	LA-505-411		20800		ug/L	1	23	120	10/23/09
Antimony	7440-36-0	LA-505-411	U	<38		ug/L	1	38	190	10/23/09
Barium	7440-39-3	LA-505-411		58.0		ug/L	1	4.0	20	10/23/09
Cadmium	7440-43-9	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Chromium	7440-47-3	LA-505-411		68.0		ug/L	1	13	65	10/23/09
Cobalt	7440-48-4	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Copper	7440-50-8	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Vanadium	7440-62-2	LA-505-411	B	13.0		ug/L	1	12	60	10/23/09
Zinc	7440-66-6	LA-505-411	U	<6.0		ug/L	1	6.0	30	10/23/09
Calcium	7440-70-2	LA-505-411		63100		ug/L	1	39	200	10/23/09
Lead	7439-92-1	LA-505-411	U	<23	<5	ug/L	1	23	120	10/23/09

Thallium validated only 5-12-2010

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X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306011
SAF# X10-003
Sample ID B225C9

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Lithium	7439-93-2	LA-505-411	B	14.5		ug/L	1	4.0	20	10/23/09
Molybdenum	7439-98-7	LA-505-411	B	4.50		ug/L	1	4.0	20	10/23/09
Strontium	7440-24-6	LA-505-411		324		ug/L	1	4.0	20	10/23/09
Thallium	7440-28-0	LA-505-411	U	<35		ug/L	1	35	180	10/23/09
Tin	7440-31-5	LA-505-411	U	<39		ug/L	1	39	200	10/23/09
Beryllium	7440-41-7	LA-505-411	U	<4.0		ug/L	1	4.0	20	10/23/09
Boron	7440-42-8	LA-505-411	U	<19		ug/L	1	19	95	10/23/09
Bismuth	7440-69-9	LA-505-411	U	<23		ug/L	1	23	120	10/23/09
Silicon	7440-21-3	LA-505-411		14900		ug/L	1	61	300	10/23/09
Selenium	7782-49-2	LA-505-411	U	<45		ug/L	1	45	220	10/23/09
ICPMS Prep										**10/20/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	UD	<10		ug/L	2	10	200	10/28/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Antimony	7440-36-0	LA-505-412	BD	0.951		ug/L	2	0.60	6.0	10/28/09
Barium	7440-39-3	LA-505-412	D	61.5		ug/L	2	0.40	4.0	10/28/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/28/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Chromium	7440-47-3	LA-505-412	D	76.9	<5	ug/L	2	1.0	10	10/28/09

Thallium validated only 5-12-2010

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X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306011
SAF# X10-003
Sample ID B225C9

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Cobalt	7440-48-4	LA-505-412	BD	0.110		ug/L	2	0.10	0.50	10/28/09
Copper	7440-50-8	LA-505-412	BDC	0.982		ug/L	2	0.20	2.0	10/28/09
Lead	7439-92-1	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/28/09
Thallium	7440-28-0	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/28/09
Uranium	7440-61-1	LA-505-412	D	4.25		ug/L	2	0.10	0.40	10/28/09
Arsenic	7440-38-2	LA-505-412	BD	2.39		ug/L	2	0.80	8.0	10/28/09
Selenium	7782-49-2	LA-505-412	BD	1.98		ug/L	2	0.60	6.0	10/28/09

Thallium validated only LS 5-12-2010

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

B - Analyte < the RDL but >= the IDL/MDL. (Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306012
SAF# X10-003
Sample ID B225D3

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPMS Prep										**10/20/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	BD	15.5		ug/L	2	10	200	10/28/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Antimony	7440-36-0	LA-505-412	UD	<0.60		ug/L	2	0.60	6.0	10/28/09
Barium	7440-39-3	LA-505-412	D	68.2		ug/L	2	0.40	4.0	10/28/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/28/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Chromium	7440-47-3	LA-505-412	D	29.2		ug/L	2	1.0	10	10/28/09
Cobalt	7440-48-4	LA-505-412	BD	0.119		ug/L	2	0.10	0.50	10/28/09
Copper	7440-50-8	LA-505-412	BDC	0.935		ug/L	2	0.20	2.0	10/28/09
Lead	7439-92-1	LA-505-412	BD	0.235		ug/L	2	0.20	2.0	10/28/09
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/28/09
Thallium	7440-28-0	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/28/09
Uranium	7440-61-1	LA-505-412	D	1.64		ug/L	2	0.10	0.40	10/28/09
Arsenic	7440-38-2	LA-505-412	BD	1.53		ug/L	2	0.80	8.0	10/28/09
Selenium	7782-49-2	LA-505-412	BD	1.06		ug/L	2	0.60	6.0	10/28/09

Thallium validated only LS 5-12-2010

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

B - Analyte < the RDL but >= the IDL/MDL. (Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306013
SAF# X10-003
Sample ID B225F1

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPMS Prep										**10/20/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	UD	<10		ug/L	2	10	200	10/28/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Antimony	7440-36-0	LA-505-412	UD	<0.60		ug/L	2	0.60	6.0	10/28/09
Barium	7440-39-3	LA-505-412	D	32.5		ug/L	2	0.40	4.0	10/28/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/28/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Chromium	7440-47-3	LA-505-412	D	15.0		ug/L	2	1.0	10	10/28/09
Cobalt	7440-48-4	LA-505-412	BD	0.171		ug/L	2	0.10	0.50	10/28/09
Copper	7440-50-8	LA-505-412	BDC	0.851		ug/L	2	0.20	2.0	10/28/09
Lead	7439-92-1	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/28/09
Thallium	7440-28-0	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/28/09
Uranium	7440-61-1	LA-505-412	D	2.88		ug/L	2	0.10	0.40	10/28/09
Arsenic	7440-38-2	LA-505-412	BD	1.73		ug/L	2	0.80	8.0	10/28/09
Selenium	7782-49-2	LA-505-412	BD	1.68		ug/L	2	0.60	6.0	10/28/09

Thallium validated only LS 5-12-2010

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

B - Analyte < the RDL but >= the IDL/MDL. (Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306014
SAF# X10-003
Sample ID B225J1

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPMS Prep										**10/20/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	BD	21.0		ug/L	2	10	200	10/28/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Antimony	7440-36-0	LA-505-412	UD	<0.60		ug/L	2	0.60	6.0	10/28/09
Barium	7440-39-3	LA-505-412	D	26.5		ug/L	2	0.40	4.0	10/28/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/28/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Chromium	7440-47-3	LA-505-412	BD	7.67		ug/L	2	1.0	10	10/28/09
Cobalt	7440-48-4	LA-505-412	BD	0.126		ug/L	2	0.10	0.50	10/28/09
Copper	7440-50-8	LA-505-412	BDC	0.684		ug/L	2	0.20	2.0	10/28/09
Lead	7439-92-1	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/28/09
Thallium	7440-28-0	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/28/09
Uranium	7440-61-1	LA-505-412	D	2.04		ug/L	2	0.10	0.40	10/28/09
Arsenic	7440-38-2	LA-505-412	BD	1.99		ug/L	2	0.80	8.0	10/28/09
Selenium	7782-49-2	LA-505-412	BD	1.68		ug/L	2	0.60	6.0	10/28/09

Thallium validated only LS 5-12-2010

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

B - Analyte < the RDL but >= the IDL/MDL. (Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306015
SAF# X10-003
Sample ID B225H5

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPMS Prep										**10/20/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	UD	<10		ug/L	2	10	200	10/28/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Antimony	7440-36-0	LA-505-412	UD	<0.60		ug/L	2	0.60	6.0	10/28/09
Barium	7440-39-3	LA-505-412	D	26.1		ug/L	2	0.40	4.0	10/28/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/28/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Chromium	7440-47-3	LA-505-412	BD	7.68		ug/L	2	1.0	10	10/28/09
Cobalt	7440-48-4	LA-505-412	BD	0.140		ug/L	2	0.10	0.50	10/28/09
Copper	7440-50-8	LA-505-412	BDC	0.744		ug/L	2	0.20	2.0	10/28/09
Lead	7439-92-1	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/28/09
Thallium	7440-28-0	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/28/09
Uranium	7440-61-1	LA-505-412	D	2.00		ug/L	2	0.10	0.40	10/28/09
Arsenic	7440-38-2	LA-505-412	BD	1.92		ug/L	2	0.80	8.0	10/28/09
Selenium	7782-49-2	LA-505-412	BD	2.38		ug/L	2	0.60	6.0	10/28/09

Thallium validated only LS 5-12-2010

MDL = Minimum Detection
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TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

B - Analyte < the RDL but >= the IDL/MDL. (Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306016
SAF# X10-003
Sample ID B225F2

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPMS Prep										**10/20/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	BD	38.3		ug/L	2	10	200	10/28/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Antimony	7440-36-0	LA-505-412	UD	<0.60		ug/L	2	0.60	6.0	10/28/09
Barium	7440-39-3	LA-505-412	D	37.5		ug/L	2	0.40	4.0	10/28/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/28/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Chromium	7440-47-3	LA-505-412	D	16.5		ug/L	2	1.0	10	10/28/09
Cobalt	7440-48-4	LA-505-412	BD	0.222		ug/L	2	0.10	0.50	10/28/09
Copper	7440-50-8	LA-505-412	BDC	1.15		ug/L	2	0.20	2.0	10/28/09
Lead	7439-92-1	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/28/09
Thallium	7440-28-0	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/28/09
Uranium	7440-61-1	LA-505-412	D	3.04		ug/L	2	0.10	0.40	10/28/09
Arsenic	7440-38-2	LA-505-412	BD	1.80		ug/L	2	0.80	8.0	10/28/09
Selenium	7782-49-2	LA-505-412	BD	3.00		ug/L	2	0.60	6.0	10/28/09

Thallium validated only LS 5-12-2010

MDL = Minimum Detection
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TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

B - Analyte < the RDL but >= the IDL/MDL. (Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306017
SAF# X10-003
Sample ID B225J2

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPMS Prep										**10/20/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	BD	41.3		ug/L	2	10	200	10/28/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Antimony	7440-36-0	LA-505-412	UD	<0.60		ug/L	2	0.60	6.0	10/28/09
Barium	7440-39-3	LA-505-412	D	24.3		ug/L	2	0.40	4.0	10/28/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/28/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Chromium	7440-47-3	LA-505-412	D	10.0		ug/L	2	1.0	10	10/28/09
Cobalt	7440-48-4	LA-505-412	BD	0.165		ug/L	2	0.10	0.50	10/28/09
Copper	7440-50-8	LA-505-412	BDC	0.818		ug/L	2	0.20	2.0	10/28/09
Lead	7439-92-1	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/28/09
Thallium	7440-28-0	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/28/09
Uranium	7440-61-1	LA-505-412	D	1.83		ug/L	2	0.10	0.40	10/28/09
Arsenic	7440-38-2	LA-505-412	BD	1.81		ug/L	2	0.80	8.0	10/28/09
Selenium	7782-49-2	LA-505-412	BD	1.68		ug/L	2	0.60	6.0	10/28/09

Thallium validated only LS 5-12-2010

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

B - Analyte < the RDL but >= the IDL/MDL. (Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Sample # 91306018
SAF# X10-003
Sample ID B225H6

Matrix WATER
Sampled 10/11/09
Received 10/11/09

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPMS Prep										**10/20/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	BD	37.4		ug/L	2	10	200	10/28/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Antimony	7440-36-0	LA-505-412	UD	<0.60		ug/L	2	0.60	6.0	10/28/09
Barium	7440-39-3	LA-505-412	D	26.7		ug/L	2	0.40	4.0	10/28/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/28/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Chromium	7440-47-3	LA-505-412	D	11.1		ug/L	2	1.0	10	10/28/09
Cobalt	7440-48-4	LA-505-412	BD	0.161		ug/L	2	0.10	0.50	10/28/09
Copper	7440-50-8	LA-505-412	BDC	1.25		ug/L	2	0.20	2.0	10/28/09
Lead	7439-92-1	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	10/28/09
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	10/28/09
Thallium	7440-28-0	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	10/28/09
Uranium	7440-61-1	LA-505-412	D	2.01		ug/L	2	0.10	0.40	10/28/09
Arsenic	7440-38-2	LA-505-412	BD	1.94		ug/L	2	0.80	8.0	10/28/09
Selenium	7782-49-2	LA-505-412	BD	1.65		ug/L	2	0.60	6.0	10/28/09

Thallium validated only LS 5-12-2010

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
DF = Dilution Factor
+ - Indicates more than nine qualifier

B - Analyte < the RDL but >= the IDL/MDL. (Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.

REVISED91306 -

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

Attachment 2
Rev Narrative
WSCF91275

P & D Correction – Case Narrative Replaces the Prior

Revision 01

In addition to the P & D Corrections, this report is being issued as a revision, at the client's request, to provide analytical results for additional parameters not originally requested on the Chain of Custody.

Introduction

Six (6) groundwater samples were received at the WSCF Laboratory on October 8, 2009. The samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Statement of Work (SOW), Modification No. 2 to Agreement 36587, Release 3, "FH WSCF ANALYTICAL SERVICES FOR GROUNDWATER."*

The narrative (Attachment 2) will address sample characteristics, analyses requested and general information in performance of the analytical methods. A Data Summary Report (Attachment 3) includes analytical results, a comment report detailing method abnormalities, tentatively identified peaks if applicable, method references, and Laboratory QC information as applicable. Copies of the chain of custody and sample receipt documentation are included as Attachment 4. Additionally, a copy of the completed P & D # 91275 is included with the narrative.

It should be noted that the attached chain of custody was stamped "ICED" by the WSCF Laboratory Sample Custodian during sample receiving, indicating the presence of ice in the transport container.

The following generic data qualifiers (i.e., B, D, and J) may be applicable to this report, as appropriate

- **B** – Sample results with a concentration greater than the MDL but less than the PQL are B flagged (applies to inorganic and wetchem analyses), as appropriate.
- **D** – Sample results are D flagged if dilution(s) were required, as appropriate.
- **J** – Sample results with a concentration greater than the MDL but less than the PQL are J flagged (applies to organic analyses), as appropriate.
- **U** – Analyzed for but not detected above limiting criteria. Relative Percent Difference (RPD) values associated with an analyte qualified with a "U" are not applicable.

Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report,* pages for a complete listing of approved analytical methods.

Attachment 2
Rev Narrative
WSCF91275

Inorganic Comments

Anions – Hold time requirements for this analysis were met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- Batch QC 65654 analyzed on sample# B21TB6

All QC controls are within the established limits.

ICP-AES Metals – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- Batch QC 65442 analyzed on sample# B22143
    - Potassium, Magnesium, Silicon, Chromium and Sodium –exceeded spiking levels by a factor of 4 or greater. Spike recoveries are not valid.
    - Strontium – MS and MSD sample recovery is outside the control limits. Results are "N" flagged.

All other QC controls are within the established limits.

ICP-MS Metals – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- Batch QC 65672 analyzed on sample# B220F1
    - Chromium –exceeded spiking levels by a factor of 4 or greater. Spike recoveries are not valid.

All QC controls are within the established limits.

Total Alkalinity – The hold time requirement for this analysis was met. A Duplicate and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- Batch QC 65836 analyzed on sample# B22531

All QC controls are within the established limits.

Organic Comments

Attachment 2
Rev Narrative
WSCF91275

Semi-VOA – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- Batch QC 66240 analyzed on sample# B22531
  - The MSD percent recovery for 1,4-dichlorobenzene is 96.9 %; which is outside the statistical acceptance criteria of 30-96 %. The LIMS has "T" flagged the QC sample and all associated laboratory samples. Since the percent recovery achieved for this compound is closer to 100%; the analytical data associated with this MSD "failure" is not impacted.
  - 2-nitrophenol – Duplicate Relative Percent Difference (RPD) does not apply to results near or below the minimum detectable level. No flags issued.
  - 2,4,6-Tribromophenol is added as a surrogate monitoring compound to evaluate method performance. RPD is monitored in sample duplicates and is not required to be monitored for surrogate compounds.

All other QC controls are within the established limits.

VOA – The hold time requirement for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- Batch QC 65535 analyzed on sample# B22509

All QC controls are within the established limits.

Radiochemistry Comments

Rad Chem – The hold time requirement for this analysis was met. A Duplicate, Matrix Spike (Matrix Spikes apply only to Neptunium, Technetium & Tritium and Matrix Spike Duplicate applies to Neptunium), Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- Tritium: Batch QC 65241 analyzed on sample# B21N77
  - Tritium contamination was detected in the Blank and was evaluated. The blank result is less than two times the MDC and is acceptable. No flags issued.
  - Tritium – Duplicate Relative Percent Difference (RPD) does not apply to results below 5X the minimum detectable activity. No flags issued.
  - All other QC controls are within the established limits.
- Technetium-99: Batch QC 65635 analyzed on sample# B22534

Narrative

Attachment 2
Rev Narrative
WSCF91275

- All QC controls are within the established limits.

- Strontium-89/90: Batch QC 65445 analyzed on sample# B22519
  - Strontium-85 is used as a tracer to determine chemical yield. RPD is monitored in sample duplicate and is not required for tracer recovery per SOW.
  - All QC controls are within the established limits.
- Gross Alpha/Gross Beta: Batch QC 66137 analyzed on sample# B21TB6
  - Gross Alpha / Gross Beta - Duplicate Relative Percent Difference (RPD) does not apply to results below 5X the minimum detectable activity. No flags issued.
  - All other QC controls are within the established limits.

We certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this data package has been authorized by the Analytical Laboratory Manager (or designee) and the Client Services representative as verified by electronic signatures shown on the WSCF ANALYTICAL RESULTS REPORT.

Narrative

Attachment 2
Rev Narrative
WSCF91275

2/8/2010

Problem and Discrepancy Report

WSCF

SDGWSCF91275

1. The EDD has the following issues:

a) All electronic results are missing.

Resolution: *Provide results.*

Lab Response: The laboratory has revised the laboratory report and narrative to account for additional analysis requested by the client. The EDD was re-issued.

Please correct the issues and resubmit the electronic data package.

5

CHPRC	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X10-003-24 Page 1 of 1

Collector: S. Overdahl CHPRC	Contact/Requester: Dana Widing	Telephone No.: 509-376-2858
SAF No.: X10-003	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300110ES20
Project Title: D. LIDURA OCTOBER 2009	Logbook No.: HNF-N-506 89 / 91	Ice Chest No.: N/A
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Government Vehicle	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 45 Days	Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

91275

SPECIAL INSTRUCTIONS Hold Time — Total Activity Exemption: Yes ☑ No ☐
Do not combine X SAF samples with other sets. Need SDG to be stand alone.
100 Area Generator Knowledge Information Form applies

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B22508	Y 001	W	10/8/09	0951	1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B22508	Y ↓	W			1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B22509	N 002	W			3x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2 Cool~4C
B22509	N	W			1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B22509	N	W			1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B22509	N	W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B22509	N	W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2); ALPHABETA_GPC: Alpha discrete + Beta (2)	6 Months	HNO3 to pH <2
B22509	N	W			1x1-L G/P	Strontium-89,90 -- Total Sr	6 Months	HNO3 to pH <2
B22509	N	W			1x1000-mL G/P	TC99_3MOSK_LSC: Tc-99 (1)	6 Months	HCl to pH <2
B22509	N ↓	W	10/8/09	0951	4x1000-mL aG	8270_SVOA_GCMS: List-1 (13)	7/40 Days	Cool~4C

DJW 10/8/09

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
S. Overdahl CHPRC			OCT 08 2009 1350	T A Frazier			OCT 08 2009 1350
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil	DS = Drum Solid		
SD = Sediment	DL = Drum Liquid		
SO = Solid	T = Tissue		
SL = Sludge	WI = Wipe		
W = Water	L = Liquid		
O = Oil	V = Vegetation		
A = Air	X = Other		

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

Friday, October 09, 2009 1:25:16 AM
Page 3 of 5

ChemWare

Chain of Custody

CHPRC	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X10-003-4 Page 1 of 1

Collector: S. Overdahl CHPRC	Contact/Requester: Dana Wirtig	Telephone No.: 509-376-2858
SAF No.: X10-003	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300110ES20
Project Title: D. HDURA. OCTOBER 2009	Logbook No.: HNF-N-506 24 / 91	Ice Chest No.: N/A
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Government Vehicle	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 45 Days	Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption Yes ☑ No ☐
Do not combine X SAF samples with other sets. Need SDG to be stand alone.
100 Area Generator Knowledge Information Form applies

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B224Y3	Y 005	W	10/8/09	1238	1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B224Y3	Y	W			1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B224Y3	Y	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B224Y4	N 003	W			3x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2 Cool~4C
B224Y4	N	W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2c
B224Y4	N	W			1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B224Y4	N	W			1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B224Y4	N	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B224Y4	N	W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B224Y4	N	W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	28 Days/48 Hours	Cool~4C
B224Y4	N	W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2) ALPHABETA_GPC: Alpha discrete + Beta (2)	5 Months	HNO3 to pH <2
B224Y4	N	W			1x1-L G/P	Strontium-89,90 -- Total Sr	6 Months	HNO3 to pH <2
B224Y4	N	W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	6 Months	HCl to pH <2
B224Y4	N	W	10/8/09	1238	1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	6 Months	None

Relinquished By	Date/Time	Received By	Date/Time
Print: S. Overdahl CHPRC Sign: [signature]	OCT 08 2009 1350	Print: T A Frazier Sign: [signature]	OCT 08 2009 1350
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

ICED

Matrix: S = Soil, SD = Drum Solid, SE = Sediment, SL = Sludge, SO = Solid, T = Tissue, W = Water, WI = Wine, O = Oil, L = Liquid, A = Air, V = Vegetation, X = Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

Friday, October 09, 2009 1:25:16 AM
Page 4 of 5

ChemWare

Chain of Custody

CHPRC

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # X10-003-5

Page 1 of 1

Collector: S. Overdahl, CHPRC	Contact/Requester: Dana Widne	Telephone No.: 509-376-2858
SAF No.: X10-003	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 3001110-S20
Project Title: D. HEJURA, OCTOBER 2009	Logbook No.: HNF-N-506 24 (9)	Ice Chest No.: N/A
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Government Vehicle	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 45 Days	Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS Hold Time
Do not combine X SAF samples with other sets. Need SDG to be stand alone.
100 Area Generator Knowledge Information Form applies.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B224Y7	Y 606	W	10/8/09	0155	1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B224Y7	Y	W			1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B224Y7	Y	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B224Y8	N 607	W			3x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2 Cool~4C
B224Y8	N	W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2c
B224Y8	N	W			1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B224Y8	N	W			1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B224Y8	N	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B224Y8	N	W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B224Y8	N	W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	28 Days/48 Hours	Cool~4C
B224Y8	N	W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2); ALPHABETA_GPC: Alpha discrete + Beta (2)	6 Months	HNO3 to pH <2
B224Y8	N	W			1x1-L G/P	Strontium-89,90 -- Total Sr	6 Months	HNO3 to pH <2
B224Y8	N	W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	6 Months	HCl to pH <2
B224Y8	N	W	10/8/09	0155	1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	6 Months	None

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
S. Overdahl, CHPRC			OCT 08 2009 1350	T A Frazier			OCT 08 2009 1350
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix*
S = Soil; SE = Sediment; SO = Solid; SL = Sludge; W = Water; O = Oil; A = Air; DS = Drum Solid; DL = Drum Liquid; T = Tissue; WI = Wipe; L = Liquid; V = Vegetation; X = Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g. Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

Friday, October 09, 2009 1:25:17 AM
Page 5 of 5

ChemWare

Attachment 2
Rev 01 Narrative
WSCF91306

P & D Correction – Case Narrative Replaces the Prior

Revision 01

In addition to the P & D Corrections, this report is being issued as a revision, at the client's request, to provide analytical results for additional parameters not originally requested on the Chain of Custody.

Introduction

Eighteen (18) groundwater samples were received at the WSCF Laboratory on October 11, 2009. The samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Statement of Work (SOW), Modification No. 2 to Agreement 36587, Release 3, "FH WSCF ANALYTICAL SERVICES FOR GROUNDWATER."*

The narrative (Attachment 2) will address sample characteristics, analyses requested and general information in performance of the analytical methods. A Data Summary Report (Attachment 3) includes analytical results, a comment report detailing method abnormalities, tentatively identified peaks if applicable, method references, and Laboratory QC information as applicable. Copies of the chain of custody and sample receipt documentation are included as Attachment 4. Additionally, a copy of the completed P & D's: # 91306 is included with the narrative.

It should be noted that the attached chain of custody was stamped "ICED" by the WSCF Laboratory Sample Custodian during sample receiving, indicating the presence of ice in the transport container.

The following generic data qualifiers (i.e., B, D, and J) may be applicable to this report, as appropriate

- **B** – Sample results with a concentration greater than the MDL but less than the PQL are B flagged (applies to inorganic and wet chemical analyses), as appropriate.
- **D** – Sample results are D flagged if dilution(s) were required, as appropriate.
- **J** – Sample results with a concentration greater than the MDL but less than the PQL are J flagged (applies to organic analyses), as appropriate.
- **U** – Analyzed for but not detected above limiting criteria. Relative Percent Difference (RPD) values associated with an analyte qualified with a "U" are not applicable.

Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report,* pages for a complete listing of approved analytical methods.

Attachment 2
Rev 01 Narrative
WSCF91306

Inorganic Comments

Anions – Hold time requirements for this analysis were met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- Batch QC 65764 analyzed on sample# B221C2

All QC controls are within the established limits.

ICP-AES Metals – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- Batch QC 65741 analyzed on sample# B225F6
    - Iron contamination was detected in the Blank and was evaluated. Affected sample results in this batch were "C" Flagged.
    - Calcium, Magnesium, Silicon and Sodium –exceeded spiking levels by a factor of 4. Spike recoveries are not valid.
- Batch QC 66845 analyzed on sample# B225C8
    - Calcium, Magnesium, Silicon and Sodium –exceeded spiking levels by a factor of 4. Spike recoveries are not valid.

All other QC controls are within the established limits.

ICP-MS Metals – The hold time requirements (28 days [Hg] and 6 months) for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- Batch QC 65682 analyzed on sample# B225J9

All QC controls are within the established limits.

- Batch QC 67236 analyzed on sample# B225B6
    - Copper contamination was detected in the Blank and was evaluated. Affected sample results in this batch were "C" Flagged.
    - At the time of analysis, the analyst was "diluting" the LCS to mimic the dilution factor performed on client samples. A "D" flag was applied to the LCS in the final report

Attachment 2
Rev 01 Narrative
WSCF91306

All other QC controls are within the established limits.

Total Alkalinity – The hold time requirement for this analysis was met. A Duplicate and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- Batch QC 66849 analyzed on sample# B225L2

All QC controls are within the established limits.

Organic Comments

Semi-VOA – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- Batch QC 66240 analyzed on sample# B22531
  - The MSD percent recovery for 1,4-dichlorobenzene is 96.9 %; which is outside the statistical acceptance criteria of 30-96 %. The LIMS has "T" flagged the QC sample and all associated laboratory samples. Since the percent recovery achieved for this compound is closer to 100%; the analytical data associated with this MSD "failure" is not impacted.
  - 2-nitrophenol – Duplicate Relative Percent Difference (RPD) does not apply to results near or below the minimum detectable level. No flags issued.
  - 2,4,6-Tribromophenol is added as a surrogate monitoring compound to evaluate method performance. RPD is monitored in sample duplicates and is not required to be monitored for surrogate compounds.
  - Surrogate recovery failures slightly outside acceptance criteria:
    - Phenol-d5 in sample B225B6 (91306008) were outside recovery limits. Percent recovered 58% - acceptable limits: 59-116%.
    - 2-Fluorophenol in sample B225H6 (91303018) were outside recovery limits. Percent recovered 49% - acceptable limits: 50-110%.
    - All other surrogates monitored were within limits. No flags assigned.

All other QC controls are within the established limits.

VOA – The hold time requirement for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- Batch QC 66862 analyzed on sample# B225C5

Attachment 2
Rev 01 Narrative
WSCF91306

All QC controls are within the established limits.

Radiochemistry Comments

Rad Chem – The hold time requirement for this analysis was met. A Duplicate, Matrix Spike (Matrix Spikes apply only to Technetium & Tritium), Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- Tritium: Batch QC 65742 analyzed on sample# B221K1
  - Tritium detected in the blank, but less than 2X the MDC and is acceptable. No flags issued.
  - All QC controls are within the established limits.
- Technetium-99: Batch QC 65760 analyzed on sample# B225M3
  - Technetium-99 – Duplicate Relative Percent Difference (RPD) does not apply to results below 5X the minimum detectable activity. No flags issued.
  - All other QC controls are within the established limits.
- Technetium-99: Batch QC 65837 analyzed on sample# B225D3
  - Technetium-99 – Duplicate Relative Percent Difference (RPD) does not apply to results below 5X the minimum detectable activity. No flags issued.
  - All other QC controls are within the established limits.
- Strontium-89/90: Batch QC 67551 analyzed on sample# B225L2
  - Strontium-89/90 – Duplicate Relative Percent Difference (RPD) does not apply to results below 5X the minimum detectable activity. No flags issued.
  - Strontium-85 is used as a tracer to determine chemical yield. RPD is monitored in sample duplicate and is not required for tracer recovery per SOW.
  - All other QC controls are within the established limits.
- Gross Alpha/Gross Beta: Batch QC 67461 analyzed on sample# B221J4
  - Gross Alpha & Gross Beta detected in the blank, but less than 2X the MDC and is acceptable. No Flags issued.
  - Gross Alpha & Gross Beta- Duplicate Relative Percent Difference (RPD) does not apply to results below 5X the minimum detectable activity. No flags issued.
  - All other QC controls are within the established limits.

Narrative

Attachment 2
Rev 01 Narrative
WSCF91306

We certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this data package has been authorized by the Analytical Laboratory Manager (or designee) and the Client Services representative as verified by electronic signatures shown on the WSCF ANALYTICAL RESULTS REPORT.

12/22/2009

Attachment 2
Rev 01 Narrative
WSCF91306

Problem and Discrepancy Report
WSCF
SDG WSCF91306

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1. The data package has the following issues:

a) Acknowledgement of samples received, samples B225F1 (91306013) through B225H6 (91306018) have incorrect received time of 14:00. Should be 14:20.

Resolution: *Provide correction.*

Lab Response: **The receipt time for samples, B225F1 (91306013) through B225H6 (91306018) has been corrected to 1420.**

b) QC results, Anions, remove D qualifier from the blank.

Resolution: *Provide correction.*

Lab Response: **The "D" qualifier has been removed from the anion blank on QC Batch 65764.**

c) QC results, SVOA, No recovery limits are given for MS/MSD starting on pg 110.

Resolution: *Provide limits.*

Lab Response: **The recovery limits for the SVOA MS/MSD are now included on the final report.**

d) Analytical results, ICP-MS, Pg 49-51, Uranium should have a D qualifier since a dilution is indicated for samples B225F2, B225J23, B225H6.

Resolution: *Provide qualifiers.*

Lab Response: **The "D" qualifier has been added to uranium for the following samples: B225F2, B225J2, and B225H6.**

Please correct the issues and resubmit the hard copy and electronic data package.

6

CHPRC	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 91306	C.O.C. # X10-003-158 Page 1 of 1

Collector: FM Hall CHPRC	Contact/Requester: Dana Widrie	Telephone No.: 509-376-2858
SAF No.: X10-003	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300110ES20
Project Title: D HDURA, OCTOBER 2009	Logbook No: HNF-N-506 27 / 7	Ice Chest No.: N/A
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Government Vehicle	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 45 Days	Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ✓ No
Do not combine X SAF samples with other sets. Need SDG to be stand alone
100 Area Generator Knowledge Information Form applies.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B225C4 001	Y	W	10/1/09	0932	1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B225C4	Y	W			1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B225C4	Y	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B225C5 002	N	W			3x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2 Cool~4C
B225C5	N	W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2c
B225C5	N	W			1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B225C5	N	W			1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B225C5	N	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B225C5	N	W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B225C5	N	W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2); ALPHABETA_GPC: Alpha discrete + Beta (2)	6 Months	HNO3 to pH <2
B225C5	N	W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	6 Months	HCl to pH <2

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Relinquished By	Print	Sign	Date/Time	Received By	Print	Date/Time
FM Hall CHPRC		OCT 11 2009	1400	Victor Sims	OCT 11 2009	1400
Relinquished By			Date/Time	Received By		Date/Time
Relinquished By			Date/Time	Received By		Date/Time
Relinquished By			Date/Time	Received By		Date/Time

Matrix *
S = Soil; SE = Sediment; SO = Solid; SL = Sludge; W = Water; O = Oil; A = Air; DS = Drum Solid; DL = Drum Liquid; T = Tissue; WI = Wipe; L = Liquid; V = Vegetation; X = Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

Chain of Custody

CHPRC	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X10-003-152 Page 1 of 1

Collector: FM Hall, CHPRC	Contact/Requester: Dana Widrig	Telephone No.: 509-376-2858
SAF No.: X10-003	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300110ES20
Project Title: D HIDURA, OCTOBER 2009	Logbook No.: HNF-N-506 27 / 7	Ice Chest No.: N/A
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Government Vehicle	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 45 Days	Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** * Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
Do not combine X SAF samples with other sets. Need SDG to be stand alone.
100 Area Generator Knowledge Information Form applies.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B225B5 002	Y	W	10/11/09	1122	1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B225B5	Y	W			1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B225B5	Y	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B225B6 005	N	W			3x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2 Cool~4C
B225B6	N	W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2c
B225B6	N	W			1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B225B6	N	W			1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B225B6	N	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B225B6	N	W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B225B6	N	W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2); ALPHABETA_GPC: Alpha discrete + Beta (2)	6 Months	HNO3 to pH <2
B225B6	N	W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	6 Months	HCl to pH <2
B225B6	N	W			4x1000-mL aG	8270_SVOA_GCMS: List-1 (13)	7/40 Days	Cool~4C

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Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
FM Hall, CHPRC			OCT 11 2009 1400				OCT 11 2009 1400
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *
S = Soil, SE = Sediment, SO = Solid, SL = Sludge, W = Water, O = Oil, A = Air, DS = Drum Solid, DL = Drum Liquid, T = Tissue, WI = Wipe, L = Liquid, V = Vegetation, X = Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

Sample Receipt

Chain of Custody

CHPRC	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X10-003-153 Page 1 of 1

Collector: FM Hall CHPRC	Contact/Requester: Dana Widrig	Telephone No.: 509-376-2858
SAF No.: X10-003	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300110FS20
Project Title: D HDURA OCTOBER 2009	Logbook No: HNF-N-506 27 / 7	Ice Chest No.: N/A
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Government Vehicle	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 45 Days	Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
Do not combine X SAF samples with other sets. Need SDG to be stand alone
100 Area Generator Knowledge Information Form applies.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B225C1 003	Y	W	10/11/9	1122	1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B225C1	Y	W			1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B225C1	Y	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B225C2 009	N	W			3x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2 Cool~4C
B225C2	N	W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2c
B225C2	N	W			1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B225C2	N	W			1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B225C2	N	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B225C2	N	W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B225C2	N	W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2) ALPHABETA_GPC: Alpha discrete + Beta (2)	6 Months	HNO3 to pH <2
B225C2	N	W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	6 Months	HCl to pH <2
B225C2	N	W			4x1000-mL aG	8270_SVOA_GCMS: List-1 (13)	7/40 Days	Cool~4C

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Relinquished By	Print	Date/Time	Received By	Print	Sign	Date/Time
FM Hall CHPRC	[signature]	OCT 1 2009 / 1400	Victor [signature]			OCT 1 1 2009 / 1400
Relinquished By		Date/Time	Received By			Date/Time
Relinquished By		Date/Time	Received By			Date/Time
Relinquished By		Date/Time	Received By			Date/Time

Matrix *
S = Soil; SE = Sediment; SO = Solid; SL = Sludge; W = Water; O = Oil; A = Air; DS = Drum Solid; DL = Drum Liquid; T = Tissue; WI = Wine; L = Liquid; V = Vegetation; X = Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

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Monday, March 01, 2010 7:56:32 AM
Page 5 of 11

Chain of Custody

CHPRC	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X10-003-214 Page 1 of 1

Collector FM Hall CHPRC	Contact/Requester Dana Widrig	Telephone No. 509-376-2858
SAF No. X10-003	Sampling Origin Hanford Site	Purchase Order/Charge Code 300110ES20
Project Title D. HDURA, OCTOBER 2009	Logbook No: HNF-N-506 27 / 7	Ice Chest No. N/A
Shipped To (Lab) Waste Sampling & Characterization	Method of Shipment Government Vehicle	Bill of Lading/Air Bill No. N/A
Protocol CERCLA	Priority: 45 Days	Offsite Property No. N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
Do not combine X SAF samples with other sets. Need SDG to be stand alone.
100 Area Generator Knowledge Information Form applies.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B225J4 004	Y	W	10/11/09	0835	1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B225J4	Y	W			1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B225J4	Y	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B225J5 010	N	W			3x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2 Cool~4C
B225J5	N	W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2c
B225J5	N	W			1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B225J5	N	W			1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B225J5	N	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B225J5	N	W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B225J5	N	W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	28 Days/48 Hours	Cool~4C
B225J5	N	W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2) ALPHABETA_GPC: Alpha discrete + Beta (2)	6 Months	HNO3 to pH <2
B225J5	N	W			1x1-L G/P	Strontium-89,90 – Total Sr	6 Months	HNO3 to pH <2
B225J5	N	W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	6 Months	HCl to pH <2
B225J5	N	W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	6 Months	None

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Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
FM Hall CHPRC	[signature]	OCT 11 2009	1400	Victor [signature]		OCT 11 2009	1400
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *
S = Soil; SE = Sediment; SO = Solid; SL = Sludge; W = Water; O = Oil; A = Air; DS = Drum Solid; DL = Drum Liquid; T = Tissue; WI = Wine; L = Liquid; V = Vegetation; X = Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

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Monday, March 01, 2010 7:56:32 AM
Page 6 of 11

Chain of Custody

CHPRC	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X10-003-164 Page 1 of 1

Collector: FM Hall CHPRC	Contact/Requester: Dana Widrig	Telephone No.: 509-376-2858
SAF No.: X10-003	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300110ES20
Project Title: D_HDURA OCTOBER 2009	Logbook No.: HNF-N-506 27 / 7	Ice Chest No.: N/A
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Government Vehicle	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 45 Days	Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Do not combine X SAF samples with other sets. Need SDG to be stand alone.
100 Area Generator Knowledge Information Form applies.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B225C8 005	Y	W	10/11/9	1031	1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B225C8	Y	W			1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B225C8	Y	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B225C9 011	N	W			3x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2 Cool~4C
B225C9	N	W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2c
B225C9	N	W			1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B225C9	N	W			1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B225C9	N	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B225C9	N	W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B225C9	N	W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2), ALPHABETA_GPC: Alpha discrete + Beta (2)	6 Months	HNO3 to pH <2
B225C9	N	W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	6 Months	HCl to pH <2

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Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
FM Hall CHPRC	[signature]	OCT 11 2009	1400	Victor [signature]		OCT 11 2009	1400
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *
S = Soil; SF = Sediment; SO = Solid; SL = Sludge; W = Water; O = Oil; A = Air; DS = Drum Solid; DL = Drum Liquid; T = Tissue; WI = Wine; L = Liquid; V = Vegetation; X = Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer; per lab procedure, used in process)	Disposed By	Date/Time

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Monday, March 01, 2010 7:56:32 AM
Page 7 of 11

Chain of Custody

CHPRC	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X10-003-172 Page 1 of 1

Collector: FM Hall CHPRC	Contact/Requester: Dana Widrig	Telephone No.: 509-376-2858
SAF No.: X10-003	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300110E520
Project Title: D HDURA OCTOBER 2009	Logbook No.: HNF-N-506 27 / 7	Ice Chest No.: N/A
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Government Vehicle	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 45 Days	Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
Do not combine X SAF samples with other sets. Need SDG to be stand alone.
100 Area Generator Knowledge Information Form applies.

Sample No	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B225D2	Y	W	10/11/9	1241	1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B225D2	Y	W			1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B225D3	N	W			3x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2 Cool~4C
B225D3	N	W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2c
B225D3	N	W			1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B225D3	N	W			1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B225D3	N	W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B225D3	N	W			1x1-L G/P	Strontium-89,90 -- Total Sr	6 Months	HNO3 to pH <2
B225D3	N	W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	6 Months	HCl to pH <2
B225D3	N	W			4x1000-mL aG	8270_SVOA_GCMS: List-1 (13)	7/40 Days	Cool~4C

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Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
FM Hall CHPRC			OCT 11 2009 1400	Victor Bins			OCT 11 2009 1400
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *
S = Soil, Sd = Sediment, SO = Solid, Sl = Sludge, W = Water, O = Oil, A = Air, DS = Drum Solid, DL = Drum Liquid, T = Tissue, WI = Wipe, L = Liquid, V = Vegetation, X = Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

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Monday, March 01, 2010 7:56:33 AM
Page 8 of 11

Chain of Custody

CHPRC	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X10-003-186 Page 1 of 1

Collector	Contact/Requester: Dann Widrig	Telephone No.: 509-376-2858
SAF No.: X10-003	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300310ES20
Project Title: D HDURA OCTOBER 2009	Logbook No.: HNF-N-506 23173	Ice Chest No.: N/A
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Government Vehicle	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 45 Days	Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
Do not combine X SAF samples with other sets. Need SDG to be stand alone.
100 Area Generator Knowledge Information Form applies

Sample No	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B225F1 013	Y	W	10/11/09	1201	1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B225F1 ↓	Y	W	↓	↓	1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B225F2 016	N	W	↓	↓	3x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2 Cool~4C
B225F2 ↓	N	W	↓	↓	1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2c
B225F2 ↓	N	W	↓	↓	1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B225F2 ↓	N	W	↓	↓	1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B225F2 ↓	N	W	↓	↓	1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B225F2 ↓	N	W	↓	↓	1x1-L G/P	Strontium-89,90 -- Total Sr	6 Months	HNO3 to pH <2
B225F2 ↓	N	W	↓	↓	1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	6 Months	HCl to pH <2
B225F2 ↓	N	W	↓	↓	4x1000-mL aG	8270_SVOA_GCMS: List-1 (13)	7/40 Days	Cool~4C
						N/A 10/11/09	ICED	ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
			OCT 1 2009 1420				OCT 1 2009 1420
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liquid	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

Chain of Custody

CHPRC

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # X10-003-209

Page 1 of 1

Collector: DJ Woehle CHPRC	Contact/Requester: Dana Widrig	Telephone No.: 509-376-2858
SAF No.: X10-003	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300110-520
Project Title: D HDURA OCTOBER 2009	Logbook No.: HNF-N-506 23173	Ice Chest No.: N/A
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Government Vehicle	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 45 Days	Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (09/01/93)

SPECIAL INSTRUCTIONS Hold Time
Do not combine X SAF samples with other sets. Need SDG to be stand alone.
100 Area Generator Knowledge Information Form applies.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B225J1 014	Y	W	10/1/09	1306	1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B225J1 ↓	Y	W			1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B225J2 017	N	W			3x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2 Cool~4C
B225J2	N	W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2c
B225J2	N	W			1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B225J2	N	W			1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B225J2	N	W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B225J2	N	W			1x1-L G/P	Strontium-89,90 – Total Sr	6 Months	HNO3 to pH <2
B225J2	N	W			1x1000-mL G/P	TC99_3MDSK: LSC: Tc-99 (1)	6 Months	HCl to pH <2
B225J2 ↓	N	W	↓	↓	4x1000-mL aG	8270_SVOA_GCMS: List-1 (13)	7/40 Days	Cool~4C
						HA 10/1/09	ICED	ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
DJ Woehle			OCT 1 1 2009 1420				OCT 1 1 2009 1420
Relinquished By: CHPRC			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liquid	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

ChemWare

Chain of Custody

CHPRC	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X10-003-208 Page 1 of 1

Collector CHPRC	Contact/Requester Dana Widrig	Telephone No. 509-376-2858
SAF No. X10-003	Sampling Origin Hanford Site	Purchase Order/Charge Code 300110FS20
Project Title D UDURA, OCTOBER 2009	Logbook No: HNF-N-506 23173	Ice Chest No. N/A
Shipped To (Lab) Waste Sampling & Characterization	Method of Shipment Government Vehicle	Bill of Lading/Air Bill No. N/A
Protocol CERCLA	Priority: 45 Days	Offsite Property No. N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
Do not combine X SAF samples with other sets. Need SDG to be stand alone
100 Area Generator Knowledge Information Form applies

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B225H5 015	Y	W	10/11/09	1306	1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B225H5 ↓	Y	W			1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B225H6 018	N	W			3x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2 Cool~4C
B225H6	N	W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2c
B225H6	N	W			1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	6 Months	HNO3 to pH <2c
B225H6	N	W			1x500-mL G/P	200.8_METALS_ICPMS: List-2 (9)	6 Months	HNO3 to pH <2c
B225H6	N	W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B225H6	N	W			1x1-L G/P	Strontium-89,90 -- Total Sr	6 Months	HNO3 to pH <2
B225H6	N	W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	6 Months	HCl to pH <2
B225H6 ↓	N	W	↓	↓	4x1000-mL aG	8270_SVOA_GCMS: List-1 (13)	7/40 Days	Cool~4C

N/A 10/11/09 [illegible]

ICED ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
DJ Woehle CHPRC	[signature]		OCT 11 2009 1420	Victor Bims	[signature]		OCT 11 2009 1420
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *
S = Soil; SE = Sediment; SO = Solid; SL = Sludge; W = Water; O = Oil; A = Air; DS = Drum Solid; DL = Drum Liquid; T = Tissue; WI = Wine; L = Liquid; V = Vegetation; X = Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

Monday, March 01, 2010 7:56:33 AM
Page 11 of 11

ChemWare

Appendix 5

Data Validation Supporting Documentation

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

ALIDATION LEVEL:	A	B	C	D	E
PROJECT: CERC10, SURV10			DATA PACKAGE: VSR10-016		
VALIDATOR: Carl Schloesslin		LAB: WSCF		DATE: 5-12-2010	
			SDG: WSCF91275, WSCF91306		
ANALYSES PERFORMED					
SW-846/ICP X	SW-846/GFAA	SW-846/Hg	SW-846 Cyanide	EPA 200.8 ICP/MS X	

SAMPLES/MATRIX Water samples

SDG WSCF91275: B22508, B22509, B224Y3, B224Y4, B224Y7, B224Y8

SDG WSCF91306: B225C4, B225C5, B225B5, B225B6, B225C1, B225C2, B225J4, B225J5, B225C8, B225C9, B225D2, B225D3, B225F1, B225F2, B225J1, B225J2, B225H5, B225H6

Per VSR instructions, only cobalt was validated for SDG WSCF91275, and only thallium was validated for SDG WSCF91306.

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Technical verification documentation present? ..... (Yes) No N/A

Comments: None

2. INSTRUMENT PERFORMANCE AND CALIBRATIONS (Levels D and E)

Initial calibrations performed on all instruments? ..... Yes No (N/A)

Initial calibrations acceptable? ..... Yes No (N/A)

ICP interference checks acceptable? ..... Yes No (N/A)

ICV and CCV checks performed on all instruments? ..... Yes No (N/A)

ICV and CCV checks acceptable? ..... Yes No (N/A)

Standards traceable? ..... Yes No (N/A)

Standards expired? ..... Yes No (N/A)

Calculation check acceptable? ..... Yes No (N/A)

Comments:

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

3. BLANKS (Levels B, C, D, and E)

ICB and CCB checks performed for all applicable analyses? (Levels D, E) ..... Yes No N/A

ICB and CCB results acceptable? (Levels D, E) ..... Yes No N/A

Laboratory blanks analyzed? ..... Yes No N/A

Laboratory blank results acceptable? ..... Yes No N/A

Field blanks analyzed? (Levels C, D, E) ..... Yes No N/A

Field blank results acceptable? (Levels C, D, E) ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments: None

4. ACCURACY (Levels C, D, and E)

MS/MSD samples analyzed? ..... Yes No N/A

MS/MSD results acceptable? ..... Yes No N/A

MS/MSD standards NIST traceable? (Levels D, E) ..... Yes No N/A

MS/MSD standards expired? (Levels D, E) ..... Yes No N/A

LCS/BSS samples analyzed? ..... Yes No N/A

LCS/BSS results acceptable? ..... Yes No N/A

Standards traceable? (Levels D, E) ..... Yes No N/A

Standards expired? (Levels D, E) ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Performance audit sample(s) analyzed? ..... Yes No N/A

Performance audit sample results acceptable? ..... Yes No N/A

Comments: None

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

5. PRECISION (Levels C, D, and E)

Duplicate RPD values acceptable? ..... Yes No N/A

Duplicate results acceptable? ..... Yes No N/A

MS/MSD standards NIST traceable? (Levels D, E) ..... Yes No N/A

MS/MSD standards expired? (Levels D, E) ..... Yes No N/A

Field duplicate RPD values acceptable? ..... Yes No N/A

Field split RPD values acceptable? ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments: None

6. ICP QUALITY CONTROL (Levels D and E)

ICP serial dilution samples analyzed? ..... Yes No N/A

ICP serial dilution %D values acceptable? ..... Yes No N/A

ICP post digestion spike required? ..... Yes No N/A

ICP post digestion spike values acceptable? ..... Yes No N/A

Standards traceable? ..... Yes No N/A

Standards expired? ..... Yes No N/A

Transcription/calculation errors? ..... Yes No N/A

Comments:

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

7. FURNACE AA QUALITY CONTROL (Levels D and E)

Duplicate injections performed as required? ..... Yes No N/A

Duplicate injection %RSD values acceptable? ..... Yes No N/A

Analytical spikes performed as required? ..... Yes No N/A

Analytical spike recoveries acceptable? ..... Yes No N/A

Standards traceable? ..... Yes No N/A

Standards expired? ..... Yes No N/A

MSA performed as required? ..... Yes No N/A

MSA results acceptable? ..... Yes No N/A

Transcription/calculation errors? ..... Yes No N/A

Comments:

8. HOLDING TIMES (all levels)

Samples properly preserved? ..... Yes No N/A

Sample holding times acceptable? ..... Yes No N/A

Comments: None

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

9. RESULT QUANTITATION AND DETECTION LIMITS (all levels)

Results reported for all requested analyses? ..... Yes No N/A

Rresults supported in the raw data? (Levels D, E)..... Yes No N/A

Samples properly prepared? (Levels D, E) ..... Yes No N/A

Detection limits meet RDL? ..... Yes No N/A

Transcription/calculation errors? (Levels D, E)..... Yes No N/A

Comments:

CRDLs (EQLs) provided in Table 2-19 of the SAP. The Tl EQL of 2 ug/L was not met by ICP-AES analysis, but was met by ICP-MS analysis. All 18 samples were analyzed for Tl by ICP-MS, and 10 of the samples were analyzed for Tl by ICP-AES.

Appendix 6

Additional Documentation Requested By Client

Batch QC List

Attention Michael Neely
Department Inorganic

Group # WSCF91275

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
65442	67160	1	LCS	16529	LCS		ICP-6010 - All possible metals
65442	67160	2	BLANK	16528	BLANK		ICP-6010 - All possible metals
65442	67160	3	MS	16533	B22143(91259003MS)	91259003	ICP-6010 - All possible metals
65442	67160	4	MSD	16534	B22143(91259003MSD)	91259003	ICP-6010 - All possible metals
65442	67160	17	SAMPLE	91275003	B224Y4		ICP-6010 - All possible metals
65442	67160	18	SAMPLE	91275004	B224Y8		ICP-6010 - All possible metals
65442	67160	19	SAMPLE	91275005	B224Y3		ICP-6010 - All possible metals
65442	67160	20	SAMPLE	91275006	B224Y7		ICP-6010 - All possible metals
~~65654~~	~~65654~~	~~2~~	~~BLANK~~	~~16661~~	~~BLANK~~		~~Anions by Ion Chromatography (Water)~~
65654	65654	3	LCS	16662	LCS		Anions by Ion Chromatography (Water)
65654	65654	4	DUP	16663	B21TB6(91268002DUP)	91268002	Anions by Ion Chromatography (Water)
65654	65654	5	MS	16664	B21TB6(91268002MS)	91268002	Anions by Ion Chromatography (Water)
65654	65654	6	MSD	16665	B21TB6(91268002MSD)	91268002	Anions by Ion Chromatography (Water)
65654	65654	7	SAMPLE	91275004	B224Y8		Anions by Ion Chromatography (Water)
~~65654~~	~~65654~~	~~16~~	~~SAMPLE~~	~~91275003~~	~~B224Y4~~		~~Anions by Ion Chromatography (Water)~~
65672	65673	1	BLANK	16760	BLANK		ICP-2008 MS All possible metal
65672	65673	2	LCS	16761	LCS		ICP-2008 MS All possible metal
65672	65673	4	MS	16762	B220F1(91257005MS)	91257005	ICP-2008 MS All possible metal
65672	65673	5	MSD	16763	B220F1(91257005MSD)	91257005	ICP-2008 MS All possible metal
65672	65673	16	SAMPLE	91275001	B22508		ICP-2008 MS All possible metal
65672	65673	17	SAMPLE	91275002	B22509		ICP-2008 MS All possible metal
65672	65673	18	SAMPLE	91275003	B224Y4		ICP-2008 MS All possible metal
65672	65673	19	SAMPLE	91275004	B224Y8		ICP-2008 MS All possible metal

LS 5-12-2010

Page 126 of 154

REVISED91275 -

Batch QC List

Attention Michael Neely
Department Inorganic

Group # WSCF91275

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
65672	65673	20	SAMPLE	91275005	B224Y3		ICP-2008 MS All possible metal
65672	65673	21	SAMPLE	91275006	B224Y7		ICP-2008 MS All possible metal
65672	65673	31	BLANK	16760	BLANK		ICP-2008 MS All possible metal
65672	65673	32	LCS	16761	LCS		ICP-2008 MS All possible metal
65672	65673	33	SAMPLE	91275001	B22508		ICP-2008 MS All possible metal
65672	65673	34	SAMPLE	91275002	B22509		ICP-2008 MS All possible metal
65672	65673	35	SAMPLE	91275003	B224Y4		ICP-2008 MS All possible metal
65672	65673	36	SAMPLE	91275004	B224Y8		ICP-2008 MS All possible metal
65672	65673	37	SAMPLE	91275005	B224Y3		ICP-2008 MS All possible metal
65672	65673	38	SAMPLE	91275006	B224Y7		ICP-2008 MS All possible metal

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91275

QC Batch 65442
Associated Samples 91275003, 91275004, 91275005, 91275006

Test ICP-6010 - All possible metals

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #16528**							
Iron	7439-89-6		<18	ug/L					U	10/19/09
Magnesium	7439-95-4		<16	ug/L					U	10/19/09
Manganese	7439-96-5		<4.0	ug/L					U	10/19/09
Nickel	7440-02-0		<4.0	ug/L					U	10/19/09
Potassium	7440-09-7		<55	ug/L					U	10/19/09
Silver	7440-22-4		<5.0	ug/L					U	10/19/09
Sodium	7440-23-5		<23	ug/L					U	10/19/09
Antimony	7440-36-0		<38	ug/L					U	10/19/09
Barium	7440-39-3		<4.0	ug/L					U	10/19/09
Cadmium	7440-43-9		<4.0	ug/L					U	10/19/09
Chromium	7440-47-3		<13	ug/L					U	10/19/09
Cobalt	7440-48-4		<4.0	ug/L					U	10/19/09
Copper	7440-50-8		<4.0	ug/L					U	10/19/09
Vanadium	7440-62-2		<12	ug/L					U	10/19/09
Zinc	7440-66-6		<6.0	ug/L					U	10/19/09
Calcium	7440-70-2		<39	ug/L					U	10/19/09
Lead	7439-92-1		<23	ug/L					U	10/19/09
Lithium	7439-93-2		<4.0	ug/L					U	10/19/09
Molybdenum	7439-98-7		<4.0	ug/L					U	10/19/09

REVISED91275 -

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91275

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Strontium	7440-24-6		<4.0	ug/L					U	10/19/09
Thallium	7440-28-0		<35	ug/L					U	10/19/09
Tin	7440-31-5		<39	ug/L					U	10/19/09
Arsenic	7440-38-2		<65	ug/L					U	10/19/09
Beryllium	7440-41-7		<4.0	ug/L					U	10/19/09
Boron	7440-42-8		<19	ug/L					U	10/19/09
Bismuth	7440-69-9		<23	ug/L					U	10/19/09
Silicon	7440-21-3		<61	ug/L					U	10/19/09
Selenium	7782-49-2		<45	ug/L					U	10/19/09
LCS			**QC Sample #16529**							
Iron	7439-89-6		997	ug/L	99.7	80 - 120				10/19/09
Magnesium	7439-95-4		1020	ug/L	101.8	80 - 120				10/19/09
Manganese	7439-96-5		1020	ug/L	101.6	80 - 120				10/19/09
Nickel	7440-02-0		999	ug/L	99.9	80 - 120				10/19/09
Potassium	7440-09-7		10300	ug/L	103.1	80 - 120				10/19/09
Silver	7440-22-4		975	ug/L	97.5	80 - 120				10/19/09
Sodium	7440-23-5		1070	ug/L	107.4	80 - 120				10/19/09
Antimony	7440-36-0		1000	ug/L	100.5	80 - 120				10/19/09
Barium	7440-39-3		506	ug/L	101.3	80 - 120				10/19/09
Cadmium	7440-43-9		989	ug/L	98.9	80 - 120				10/19/09
Chromium	7440-47-3		1070	ug/L	107.1	80 - 120				10/19/09
Cobalt	7440-48-4		1020	ug/L	102	80 - 120				10/19/09
Copper	7440-50-8		1030	ug/L	102.8	80 - 120				10/19/09
Vanadium	7440-62-2		1010	ug/L	100.9	80 - 120				10/19/09

REVISED91275 -

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91275

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Zinc	7440-66-6		1020	ug/L	102.3	80 - 120				10/19/09
Calcium	7440-70-2		927	ug/L	92.7	80 - 120				10/19/09
Lead	7439-92-1		1020	ug/L	102.2	80 - 120				10/19/09
Lithium	7439-93-2		522	ug/L	104.5	80 - 120				10/19/09
Molybdenum	7439-98-7		978	ug/L	97.8	80 - 120				10/19/09
Strontium	7440-24-6		515	ug/L	102.9	80 - 120				10/19/09
Thallium	7440-28-0		952	ug/L	95.2	80 - 120				10/19/09
Tin	7440-31-5		980	ug/L	98	80 - 120				10/19/09
Arsenic	7440-38-2		1080	ug/L	107.8	80 - 120				10/19/09
Beryllium	7440-41-7		525	ug/L	105	80 - 120				10/19/09
Boron	7440-42-8		954	ug/L	95.4	80 - 120				10/19/09
Bismuth	7440-69-9		1010	ug/L	100.8	80 - 120				10/19/09
Silicon	7440-21-3		1000	ug/L	100	80 - 120				10/19/09
Selenium	7782-49-2		1030	ug/L	102.7	80 - 120				10/19/09
MS			**QC Sample #16533**							
			Original 91259003							
Iron	7439-89-6		921	ug/L	92.1	75 - 125				10/19/09
Magnesium	7439-95-4		-2220	ug/L	-222	75 - 125			1X	10/19/09
Manganese	7439-96-5		944	ug/L	94.4	75 - 125				10/19/09
Nickel	7440-02-0		929	ug/L	92.9	75 - 125				10/19/09
Potassium	7440-09-7		7820	ug/L	78.2	75 - 125			2X	10/19/09
Silver	7440-22-4		891	ug/L	89.1	75 - 125				10/19/09
Sodium	7440-23-5		-1510	ug/L	-151	75 - 125			3X	10/19/09
Antimony	7440-36-0		964	ug/L	96.4	75 - 125				10/19/09
Barium	7440-39-3		435	ug/L	86.9	75 - 125				10/19/09

REVISED91275 -

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91275

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Cadmium	7440-43-9		946	ug/L	94.6	75 - 125				10/19/09
Chromium	7440-47-3		969	ug/L	96.9	75 - 125				10/19/09
Cobalt	7440-48-4		947	ug/L	94.7	75 - 125				10/19/09
Copper	7440-50-8		890	ug/L	89	75 - 125				10/19/09
Vanadium	7440-62-2		918	ug/L	91.8	75 - 125				10/19/09
Zinc	7440-66-6		978	ug/L	97.8	75 - 125				10/19/09
Calcium	7440-70-2		1220	ug/L	122	75 - 125				10/19/09
Lead	7439-92-1		954	ug/L	95.4	75 - 125				10/19/09
Lithium	7439-93-2		431	ug/L	86.2	75 - 125				10/19/09
Molybdenum	7439-98-7		917	ug/L	91.7	75 - 125				10/19/09
Strontium	7440-24-6		368	ug/L	73.7	75 - 125			N	10/19/09
Thallium	7440-28-0		890	ug/L	89	75 - 125				10/19/09
Tin	7440-31-5		924	ug/L	92.4	75 - 125				10/19/09
Arsenic	7440-38-2		1000	ug/L	100.3	75 - 125				10/19/09
Beryllium	7440-41-7		478	ug/L	95.7	75 - 125				10/19/09
Boron	7440-42-8		870	ug/L	87	75 - 125				10/19/09
Bismuth	7440-69-9		916	ug/L	91.6	75 - 125				10/19/09
Silicon	7440-21-3		-480	ug/L	-48	75 - 125			4X	10/19/09
Selenium	7782-49-2		966	ug/L	96.6	75 - 125				10/19/09
MSD			**QC Sample #16534**							
			Original	**91259003**				**Paired**	**16533**	
Iron	7439-89-6		908	ug/L	90.8	75 - 125	1.40	20		10/19/09
Magnesium	7439-95-4		-3410	ug/L	-341	75 - 125	-42.30	20	1X	10/19/09
Manganese	7439-96-5		922	ug/L	92.2	75 - 125	2.40	20		10/19/09
Nickel	7440-02-0		899	ug/L	89.9	75 - 125	3.30	20		10/19/09

REVISED91275 -

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91275

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Potassium	7440-09-7		7340	ug/L	73.4	75 - 125	6.30	20	2X	10/19/09
Silver	7440-22-4		868	ug/L	86.8	75 - 125	2.60	20		10/19/09
Sodium	7440-23-5		-2070	ug/L	-207	75 - 125	-31.30	20	3X	10/19/09
Antimony	7440-36-0		925	ug/L	92.5	75 - 125	4.10	20		10/19/09
Barium	7440-39-3		409	ug/L	81.7	75 - 125	6.20	20		10/19/09
Cadmium	7440-43-9		922	ug/L	92.2	75 - 125	2.60	20		10/19/09
Chromium	7440-47-3		905	ug/L	90.5	75 - 125	6.80	20		10/19/09
Cobalt	7440-48-4		910	ug/L	91	75 - 125	4.00	20		10/19/09
Copper	7440-50-8		853	ug/L	85.3	75 - 125	4.20	20		10/19/09
Vanadium	7440-62-2		898	ug/L	89.8	75 - 125	2.20	20		10/19/09
Zinc	7440-66-6		938	ug/L	93.8	75 - 125	4.20	20		10/19/09
Calcium	7440-70-2		1230	ug/L	123	75 - 125	0.80	20		10/19/09
Lead	7439-92-1		943	ug/L	94.3	75 - 125	1.20	20		10/19/09
Lithium	7439-93-2		410	ug/L	81.9	75 - 125	5.10	20		10/19/09
Molybdenum	7439-98-7		872	ug/L	87.2	75 - 125	5.00	20		10/19/09
Strontium	7440-24-6		332	ug/L	66.5	75 - 125	10.30	20	N	10/19/09
Thallium	7440-28-0		858	ug/L	85.8	75 - 125	3.70	20		10/19/09
Tin	7440-31-5		927	ug/L	92.7	75 - 125	0.30	20		10/19/09
Arsenic	7440-38-2		978	ug/L	97.8	75 - 125	2.50	20		10/19/09
Beryllium	7440-41-7		471	ug/L	94.3	75 - 125	1.50	20		10/19/09
Boron	7440-42-8		810	ug/L	81	75 - 125	7.10	20		10/19/09
Bismuth	7440-69-9		884	ug/L	88.4	75 - 125	3.60	20		10/19/09
Silicon	7440-21-3		-1100	ug/L	-110	75 - 125	-78.50	20	4X	10/19/09
Selenium	7782-49-2		886	ug/L	88.6	75 - 125	8.60	20		10/19/09

REVISED91275 -

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91275

QC Batch 65672 **Test** ICP-2008 MS All possible metal
Associated Samples 91275001, 91275002, 91275003, 91275004, 91275005, 91275006

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #16760**							
Aluminum	7429-90-5		<5.0	ug/L					U	10/18/09
Silver	7440-22-4		<0.10	ug/L					U	10/18/09
Antimony	7440-36-0		<0.30	ug/L					U	11/11/09
Barium	7440-39-3		<0.20	ug/L					U	10/18/09
Beryllium	7440-41-7		<0.050	ug/L					U	10/18/09
Cadmium	7440-43-9		<0.10	ug/L					U	10/18/09
Chromium	7440-47-3		<0.50	ug/L					U	10/18/09
Cobalt	7440-48-4		<0.050	ug/L					U	10/18/09
Copper	7440-50-8		<0.10	ug/L					U	10/18/09
Lead	7439-92-1		<0.10	ug/L					U	11/11/09
Mercury	7439-97-6		<0.050	ug/L					U	10/18/09
Thallium	7440-28-0		<0.050	ug/L					U	11/11/09
Uranium	7440-61-1		<0.050	ug/L					U	10/18/09
Arsenic	7440-38-2		<0.40	ug/L					U	10/18/09
Selenium	7782-49-2		<0.30	ug/L					U	11/11/09
LCS			**QC Sample #16761**							
Aluminum	7429-90-5		414	ug/L	103.6	85 - 115				10/18/09
Silver	7440-22-4		41.1	ug/L	102.6	85 - 115				10/18/09

REVISED91275 -

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91275

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Antimony	7440-36-0		42.4	ug/L	106	85 - 115				11/11/09
Barium	7440-39-3		40.7	ug/L	101.7	85 - 115				10/18/09
Beryllium	7440-41-7		38.1	ug/L	95.3	85 - 115				10/18/09
Cadmium	7440-43-9		38.4	ug/L	96.1	85 - 115				10/18/09
Chromium	7440-47-3		38.9	ug/L	97.3	85 - 115				10/18/09
Cobalt	7440-48-4		38.2	ug/L	95.6	85 - 115				10/18/09
Copper	7440-50-8		37.8	ug/L	94.6	85 - 115				10/18/09
Lead	7439-92-1		40.1	ug/L	100.2	85 - 115				11/11/09
Mercury	7439-97-6		1.95	ug/L	97.7	85 - 115				10/18/09
Thallium	7440-28-0		39.5	ug/L	98.8	85 - 115				11/11/09
Uranium	7440-61-1		41.2	ug/L	103	85 - 115				10/18/09
Arsenic	7440-38-2		36.4	ug/L	90.9	85 - 115				10/18/09
Selenium	7782-49-2		39.4	ug/L	98.4	85 - 115				11/11/09
MS			**QC Sample #16762**							
			Original 91257005							
Aluminum	7429-90-5		834	ug/L	104.2	70 - 130			D	10/18/09
Silver	7440-22-4		79.3	ug/L	99.1	70 - 130			D	10/18/09
Antimony	7440-36-0		78.7	ug/L	98.4	70 - 130			D	10/18/09
Barium	7440-39-3		86.0	ug/L	107.5	70 - 130			D	10/18/09
Beryllium	7440-41-7		78.0	ug/L	97.6	70 - 130			D	10/18/09
Cadmium	7440-43-9		75.4	ug/L	94.2	70 - 130			D	10/18/09
Chromium	7440-47-3		90.0	ug/L	112.5	70 - 130			D1X	10/18/09
Cobalt	7440-48-4		76.1	ug/L	95.1	70 - 130			D	10/18/09
Copper	7440-50-8		73.5	ug/L	91.9	70 - 130			D	10/18/09
Lead	7439-92-1		85.3	ug/L	106.7	70 - 130			D	10/18/09

REVISED91275 -

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91275

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Mercury	7439-97-6		3.85	ug/L	96.3	70 - 130			D	10/18/09
Thallium	7440-28-0		86.8	ug/L	108.4	70 - 130			D	10/18/09
Uranium	7440-61-1		87.4	ug/L	109.3	70 - 130			D	10/18/09
Arsenic	7440-38-2		73.2	ug/L	91.5	70 - 130			D	10/18/09
Selenium	7782-49-2		66.4	ug/L	83	70 - 130			D	10/18/09
MSD			**QC Sample #16763**							
			Original	**91257005**				**Paired**	**16762**	
Aluminum	7429-90-5		835	ug/L	104.3	70 - 130	0.10	20	D	10/18/09
Silver	7440-22-4		79.1	ug/L	98.9	70 - 130	0.20	20	D	10/18/09
Antimony	7440-36-0		77.9	ug/L	97.3	70 - 130	1.10	20	D	10/18/09
Barium	7440-39-3		83.9	ug/L	104.9	70 - 130	2.40	20	D	10/18/09
Beryllium	7440-41-7		79.5	ug/L	99.3	70 - 130	1.70	20	D	10/18/09
Cadmium	7440-43-9		75.1	ug/L	93.8	70 - 130	0.40	20	D	10/18/09
Chromium	7440-47-3		84.2	ug/L	105.2	70 - 130	6.70	20	D1X	10/18/09
Cobalt	7440-48-4		75.7	ug/L	94.6	70 - 130	0.50	20	D	10/18/09
Copper	7440-50-8		73.0	ug/L	91.3	70 - 130	0.70	20	D	10/18/09
Lead	7439-92-1		85.0	ug/L	106.3	70 - 130	0.40	20	D	10/18/09
Mercury	7439-97-6		3.87	ug/L	96.6	70 - 130	0.30	20	D	10/18/09
Thallium	7440-28-0		86.9	ug/L	108.6	70 - 130	0.20	20	D	10/18/09
Uranium	7440-61-1		87.9	ug/L	109.8	70 - 130	0.50	20	D	10/18/09
Arsenic	7440-38-2		71.9	ug/L	89.9	70 - 130	1.80	20	D	10/18/09
Selenium	7782-49-2		65.3	ug/L	81.7	70 - 130	1.60	20	D	10/18/09

Batch QC List

Attention Michael Neely
Department Inorganic

Group # WSCF91306

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
65682	65683	1	BLANK	16812	BLANK		ICP-2008 MS All possible metal
65682	65683	2	LCS	16813	LCS		ICP-2008 MS All possible metal
65682	65683	4	MS	16814	B225J9(91302004MS)	91302004	ICP-2008 MS All possible metal
65682	65683	5	MSD	16815	B225J9(91302004MSD)	91302004	ICP-2008 MS All possible metal
65682	65683	20	SAMPLE	91306001	B225C4		ICP-2008 MS All possible metal
65682	65683	21	SAMPLE	91306002	B225B5		ICP-2008 MS All possible metal
65682	65683	22	SAMPLE	91306003	B225C1		ICP-2008 MS All possible metal
65682	65683	25	SAMPLE	91306004	B225J4		ICP-2008 MS All possible metal
65682	65683	26	SAMPLE	91306005	B225C8		ICP-2008 MS All possible metal
65682	65683	27	SAMPLE	91306006	B225D2		ICP-2008 MS All possible metal
65682	65683	28	SAMPLE	91306007	B225C5		ICP-2008 MS All possible metal
65741	67648	1	BLANK	16884	BLANK		ICP-6010 - All possible metals
65741	67648	2	LCS	16885	LCS		ICP-6010 - All possible metals
65741	67648	3	MS	16890	B225F6(91302001MS)	91302001	ICP-6010 - All possible metals
65741	67648	4	MSD	16891	B225F6(91302001MSD)	91302001	ICP-6010 - All possible metals
65741	67648	21	SAMPLE	91306001	B225C4		ICP-6010 - All possible metals
65741	67648	22	SAMPLE	91306002	B225B5		ICP-6010 - All possible metals
65741	67648	23	SAMPLE	91306003	B225C1		ICP-6010 - All possible metals
65741	67648	24	SAMPLE	91306004	B225J4		ICP-6010 - All possible metals
~~65764~~	~~65764~~	~~2~~	~~BLANK~~	~~16941~~	~~BLANK~~		~~Anions by Ion Chromatography (Water)~~
65764	65764	3	LCS	16942	LCS		Anions by Ion Chromatography (Water)
65764	65764	4	DUP	~~16943~~	B221C2(91308009DUP)	91308009	Anions by Ion Chromatography (Water)
~~65764~~	~~65764~~	~~5~~	~~MS~~	~~16944~~	~~B221C2(91308009MS)~~	~~91308009~~	~~Anions by Ion Chromatography (Water)~~

LS 5-12-2010

REVISED91306 -

Batch QC List

Attention Michael Neely
Department Inorganic

Group # WSCF91306

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
~~65764~~	~~65764~~	~~6~~	~~MSD~~	~~16945~~	~~B221C2(91306009MSD)~~	~~91306009~~	~~Anions by Ion Chromatography (Water)~~
~~65764~~	~~65764~~	~~16~~	~~SAMPLE~~	~~91306010~~	~~B225J5~~		~~Anions by Ion Chromatography (Water)~~
66845	67857	1	BLANK	17201	BLANK		ICP-6010 - All possible metals
66845	67857	2	LCS	17202	LCS		ICP-6010 - All possible metals
66845	67857	3	MS	17206	B225C8(91306005MS)	91306005	ICP-6010 - All possible metals
66845	67857	4	MSD	17207	B225C8(91306005MSD)	91306005	ICP-6010 - All possible metals
66845	67857	5	SAMPLE	91306005	B225C8		ICP-6010 - All possible metals
66845	67857	6	SAMPLE	91306007	B225C5		ICP-6010 - All possible metals
66845	67857	7	SAMPLE	91306008	B225B6		ICP-6010 - All possible metals
66845	67857	8	SAMPLE	91306009	B225C2		ICP-6010 - All possible metals
66845	67857	9	SAMPLE	91306010	B225J5		ICP-6010 - All possible metals
66845	67857	10	SAMPLE	91306011	B225C9		ICP-6010 - All possible metals
67236	67237	4	BLANK	17375	BLANK		ICP-2008 MS All possible metal
67236	67237	5	LCS	17376	LCS		ICP-2008 MS All possible metal
67236	67237	6	SAMPLE	91306008	B225B6		ICP-2008 MS All possible metal
67236	67237	7	MS	17377	B225B6(91306008MS)	91306008	ICP-2008 MS All possible metal
67236	67237	8	MSD	17378	B225B6(91306008MSD)	91306008	ICP-2008 MS All possible metal
67236	67237	9	SAMPLE	91306009	B225C2		ICP-2008 MS All possible metal
67236	67237	10	SAMPLE	91306010	B225J5		ICP-2008 MS All possible metal
67236	67237	11	SAMPLE	91306011	B225C9		ICP-2008 MS All possible metal
67236	67237	12	SAMPLE	91306012	B225D3		ICP-2008 MS All possible metal
67236	67237	13	SAMPLE	91306013	B225F1		ICP-2008 MS All possible metal
67236	67237	16	SAMPLE	91306014	B225J1		ICP-2008 MS All possible metal

LS
5-12-2010

REVISED91306 -

Batch QC List

Attention Michael Neely
Department Inorganic

Group # WSCF91306

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
67236	67237	17	SAMPLE	91306015	B225H5		ICP-2008 MS All possible metal
67236	67237	18	SAMPLE	91306016	B225F2		ICP-2008 MS All possible metal
67236	67237	19	SAMPLE	91306017	B225J2		ICP-2008 MS All possible metal
67236	67237	20	SAMPLE	91306018	B225H6		ICP-2008 MS All possible metal

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

QC Batch 65682 **Test** ICP-2008 MS All possible metal
Associated Samples 91306001, 91306002, 91306003, 91306004, 91306005, 91306006, 91306007

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #16812**							
Aluminum	7429-90-5		<5.0	ug/L					U	10/18/09
Silver	7440-22-4		<0.10	ug/L					U	10/18/09
Antimony	7440-36-0		<0.30	ug/L					U	10/18/09
Barium	7440-39-3		<0.20	ug/L					U	10/18/09
Beryllium	7440-41-7		<0.050	ug/L					U	10/18/09
Cadmium	7440-43-9		<0.10	ug/L					U	10/18/09
Chromium	7440-47-3		<0.50	ug/L					U	10/18/09
Cobalt	7440-48-4		<0.050	ug/L					U	10/18/09
Copper	7440-50-8		<0.10	ug/L					U	10/18/09
Lead	7439-92-1		<0.10	ug/L					U	10/18/09
Mercury	7439-97-6		<0.050	ug/L					U	10/18/09
Thallium	7440-28-0		<0.050	ug/L					U	10/18/09
Uranium	7440-61-1		<0.050	ug/L					U	10/18/09
Arsenic	7440-38-2		<0.40	ug/L					U	10/18/09
Selenium	7782-49-2		<0.30	ug/L					U	10/18/09
LCS			**QC Sample #16813**							
Aluminum	7429-90-5		424	ug/L	106	85 - 115				10/18/09
Silver	7440-22-4		40.8	ug/L	102.1	85 - 115				10/18/09

REVISED91306 -

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Antimony	7440-36-0		41.9	ug/L	104.6	85 - 115				10/18/09
Barium	7440-39-3		40.1	ug/L	100.4	85 - 115				10/18/09
Beryllium	7440-41-7		36.8	ug/L	92.1	85 - 115				10/18/09
Cadmium	7440-43-9		37.8	ug/L	94.4	85 - 115				10/18/09
Chromium	7440-47-3		38.6	ug/L	96.6	85 - 115				10/18/09
Cobalt	7440-48-4		37.6	ug/L	94	85 - 115				10/18/09
Copper	7440-50-8		37.5	ug/L	93.7	85 - 115				10/18/09
Lead	7439-92-1		41.1	ug/L	102.8	85 - 115				10/18/09
Mercury	7439-97-6		1.96	ug/L	98.2	85 - 115				10/18/09
Thallium	7440-28-0		41.0	ug/L	102.4	85 - 115				10/18/09
Uranium	7440-61-1		40.8	ug/L	102	85 - 115				10/18/09
Arsenic	7440-38-2		35.8	ug/L	89.6	85 - 115				10/18/09
Selenium	7782-49-2		37.6	ug/L	94.1	85 - 115				10/18/09
MS			**QC Sample #16814**							
			Original 91302004							
Aluminum	7429-90-5		847	ug/L	105.8	70 - 130			D	10/18/09
Silver	7440-22-4		77.9	ug/L	97.4	70 - 130			D	10/18/09
Antimony	7440-36-0		84.5	ug/L	105.6	70 - 130			D	10/18/09
Barium	7440-39-3		81.7	ug/L	102.1	70 - 130			D	10/18/09
Beryllium	7440-41-7		72.7	ug/L	90.9	70 - 130			D	10/18/09
Cadmium	7440-43-9		73.7	ug/L	92.2	70 - 130			D	10/18/09
Chromium	7440-47-3		76.7	ug/L	95.8	70 - 130			D	10/18/09
Cobalt	7440-48-4		73.2	ug/L	91.5	70 - 130			D	10/18/09
Copper	7440-50-8		70.5	ug/L	88.2	70 - 130			D	10/18/09
Lead	7439-92-1		80.4	ug/L	100.5	70 - 130			D	10/18/09

REVISED91306 -

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Mercury	7439-97-6		3.88	ug/L	97	70 - 130			D	10/18/09
Thallium	7440-28-0		80.0	ug/L	100	70 - 130			D	10/18/09
Uranium	7440-61-1		85.0	ug/L	106.2	70 - 130			D	10/18/09
Arsenic	7440-38-2		71.6	ug/L	89.6	70 - 130			D	10/18/09
Selenium	7782-49-2		75.0	ug/L	93.7	70 - 130			D	10/18/09
MSD			**QC Sample #16815**							
			Original	**91302004**				**Paired**	**16814**	
Aluminum	7429-90-5		840	ug/L	105	70 - 130	0.80	20	D	10/18/09
Silver	7440-22-4		77.6	ug/L	97	70 - 130	0.40	20	D	10/18/09
Antimony	7440-36-0		84.2	ug/L	105.3	70 - 130	0.30	20	D	10/18/09
Barium	7440-39-3		82.0	ug/L	102.5	70 - 130	0.40	20	D	10/18/09
Beryllium	7440-41-7		73.2	ug/L	91.4	70 - 130	0.50	20	D	10/18/09
Cadmium	7440-43-9		73.7	ug/L	92.1	70 - 130	0.10	20	D	10/18/09
Chromium	7440-47-3		77.1	ug/L	96.4	70 - 130	0.60	20	D	10/18/09
Cobalt	7440-48-4		72.6	ug/L	90.7	70 - 130	0.90	20	D	10/18/09
Copper	7440-50-8		70.1	ug/L	87.6	70 - 130	0.70	20	D	10/18/09
Lead	7439-92-1		80.2	ug/L	100.3	70 - 130	0.20	20	D	10/18/09
Mercury	7439-97-6		3.86	ug/L	96.4	70 - 130	0.60	20	D	10/18/09
Thallium	7440-28-0		80.4	ug/L	100.6	70 - 130	0.60	20	D	10/18/09
Uranium	7440-61-1		85.0	ug/L	106.3	70 - 130	0.10	20	D	10/18/09
Arsenic	7440-38-2		72.2	ug/L	90.3	70 - 130	0.80	20	D	10/18/09
Selenium	7782-49-2		76.4	ug/L	95.5	70 - 130	1.90	20	D	10/18/09

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

QC Batch 65741
Associated Samples 91306001, 91306002, 91306003, 91306004

Test ICP-6010 - All possible metals

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #16884**							
Iron	7439-89-6		21.1	ug/L					B	10/22/09
Magnesium	7439-95-4		<16	ug/L					U	10/22/09
Manganese	7439-96-5		<4.0	ug/L					U	10/22/09
Nickel	7440-02-0		<4.0	ug/L					U	10/22/09
Potassium	7440-09-7		<55	ug/L					U	10/22/09
Silver	7440-22-4		<5.0	ug/L					U	10/22/09
Sodium	7440-23-5		<23	ug/L					U	10/22/09
Antimony	7440-36-0		<38	ug/L					U	10/22/09
Barium	7440-39-3		<4.0	ug/L					U	10/22/09
Cadmium	7440-43-9		<4.0	ug/L					U	10/22/09
Chromium	7440-47-3		<13	ug/L					U	10/22/09
Cobalt	7440-48-4		<4.0	ug/L					U	10/22/09
Copper	7440-50-8		<4.0	ug/L					U	10/22/09
Vanadium	7440-62-2		<12	ug/L					U	10/22/09
Zinc	7440-66-6		<6.0	ug/L					U	10/22/09
Calcium	7440-70-2		<39	ug/L					U	10/22/09
Lead	7439-92-1		<23	ug/L					U	10/22/09
Lithium	7439-93-2		<4.0	ug/L					U	10/22/09
Molybdenum	7439-98-7		<4.0	ug/L					U	10/22/09

REVISED91306 -

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Strontium	7440-24-6		<4.0	ug/L					U	10/22/09
Thallium	7440-28-0		<35	ug/L					U	10/22/09
Tin	7440-31-5		<39	ug/L					U	10/22/09
Arsenic	7440-38-2		<65	ug/L					U	10/22/09
Beryllium	7440-41-7		<4.0	ug/L					U	10/22/09
Boron	7440-42-8		<19	ug/L					U	10/22/09
Bismuth	7440-69-9		<23	ug/L					U	10/22/09
Silicon	7440-21-3		<61	ug/L					U	10/22/09
Selenium	7782-49-2		<45	ug/L					U	10/22/09
LCS			**QC Sample #16885**							
Iron	7439-89-6		986	ug/L	98.6	80 - 120				10/22/09
Magnesium	7439-95-4		980	ug/L	98	80 - 120				10/22/09
Manganese	7439-96-5		999	ug/L	99.9	80 - 120				10/22/09
Nickel	7440-02-0		984	ug/L	98.4	80 - 120				10/22/09
Potassium	7440-09-7		10100	ug/L	101.3	80 - 120				10/22/09
Silver	7440-22-4		983	ug/L	98.3	80 - 120				10/22/09
Sodium	7440-23-5		1050	ug/L	105.2	80 - 120				10/22/09
Antimony	7440-36-0		971	ug/L	97.1	80 - 120				10/22/09
Barium	7440-39-3		490	ug/L	98	80 - 120				10/22/09
Cadmium	7440-43-9		981	ug/L	98.1	80 - 120				10/22/09
Chromium	7440-47-3		1030	ug/L	102.8	80 - 120				10/22/09
Cobalt	7440-48-4		992	ug/L	99.2	80 - 120				10/22/09
Copper	7440-50-8		1010	ug/L	100.6	80 - 120				10/22/09
Vanadium	7440-62-2		978	ug/L	97.8	80 - 120				10/22/09

REVISED91306 -

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Zinc	7440-66-6		999	ug/L	99.9	80 - 120				10/22/09
Calcium	7440-70-2		892	ug/L	89.2	80 - 120				10/22/09
Lead	7439-92-1		974	ug/L	97.4	80 - 120				10/22/09
Lithium	7439-93-2		512	ug/L	102.4	80 - 120				10/22/09
Molybdenum	7439-98-7		983	ug/L	98.3	80 - 120				10/22/09
Strontium	7440-24-6		508	ug/L	101.5	80 - 120				10/22/09
Thallium	7440-28-0		940	ug/L	94	80 - 120				10/22/09
Tin	7440-31-5		947	ug/L	94.7	80 - 120				10/22/09
Arsenic	7440-38-2		1010	ug/L	100.9	80 - 120				10/22/09
Beryllium	7440-41-7		525	ug/L	105	80 - 120				10/22/09
Boron	7440-42-8		948	ug/L	94.8	80 - 120				10/22/09
Bismuth	7440-69-9		1010	ug/L	100.6	80 - 120				10/22/09
Silicon	7440-21-3		997	ug/L	99.7	80 - 120				10/22/09
Selenium	7782-49-2		1000	ug/L	100.3	80 - 120				10/22/09
MS			**QC Sample #16890**							
			Original 91302001							
Iron	7439-89-6		957	ug/L	95.7	75 - 125				10/22/09
Magnesium	7439-95-4		1080	ug/L	107.6	75 - 125			1X	10/22/09
Manganese	7439-96-5		987	ug/L	98.7	75 - 125				10/22/09
Nickel	7440-02-0		957	ug/L	95.7	75 - 125				10/22/09
Potassium	7440-09-7		10000	ug/L	100	75 - 125				10/22/09
Silver	7440-22-4		963	ug/L	96.3	75 - 125				10/22/09
Sodium	7440-23-5		1120	ug/L	112	75 - 125			2X	10/22/09
Antimony	7440-36-0		992	ug/L	99.2	75 - 125				10/22/09
Barium	7440-39-3		495	ug/L	99	75 - 125				10/22/09

REVISED91306 -

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit		RQ	Analyzed
Cadmium	7440-43-9		966	ug/L	96.6	75 - 125					10/22/09
Chromium	7440-47-3		1020	ug/L	101.5	75 - 125					10/22/09
Cobalt	7440-48-4		965	ug/L	96.5	75 - 125					10/22/09
Copper	7440-50-8		998	ug/L	99.8	75 - 125					10/22/09
Vanadium	7440-62-2		971	ug/L	97.1	75 - 125					10/22/09
Zinc	7440-66-6		996	ug/L	99.6	75 - 125					10/22/09
Calcium	7440-70-2		550	ug/L	55	75 - 125				3X	10/22/09
Lead	7439-92-1		962	ug/L	96.2	75 - 125					10/22/09
Lithium	7439-93-2		512	ug/L	102.4	75 - 125					10/22/09
Molybdenum	7439-98-7		972	ug/L	97.2	75 - 125					10/22/09
Strontium	7440-24-6		515	ug/L	103	75 - 125					10/22/09
Thallium	7440-28-0		909	ug/L	90.9	75 - 125					10/22/09
Tin	7440-31-5		958	ug/L	95.8	75 - 125					10/22/09
Arsenic	7440-38-2		1040	ug/L	104	75 - 125					10/22/09
Beryllium	7440-41-7		521	ug/L	104.3	75 - 125					10/22/09
Boron	7440-42-8		955	ug/L	95.5	75 - 125					10/22/09
Bismuth	7440-69-9		995	ug/L	99.5	75 - 125					10/22/09
Silicon	7440-21-3		1070	ug/L	107	75 - 125				4X	10/22/09
Selenium	7782-49-2		1020	ug/L	101.9	75 - 125					10/22/09
MSD			**QC Sample #16891**								
			Original 91302001						**Paired**	**16890**	
Iron	7439-89-6		966	ug/L	96.6	75 - 125	0.90	20			10/22/09
Magnesium	7439-95-4		856	ug/L	85.6	75 - 125	22.80	20	*	1X	10/22/09
Manganese	7439-96-5		998	ug/L	99.8	75 - 125	1.10	20			10/22/09
Nickel	7440-02-0		959	ug/L	95.9	75 - 125	0.20	20			10/22/09

REVISED91306 -

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit		RQ	Analyzed
Potassium	7440-09-7		9830	ug/L	98.3	75 - 125	1.70	20			10/22/09
Silver	7440-22-4		968	ug/L	96.8	75 - 125	0.50	20			10/22/09
Sodium	7440-23-5		770	ug/L	77	75 - 125	37.00	20	*	2X	10/22/09
Antimony	7440-36-0		1010	ug/L	101.1	75 - 125	1.90	20			10/22/09
Barium	7440-39-3		496	ug/L	99.3	75 - 125	0.30	20			10/22/09
Cadmium	7440-43-9		971	ug/L	97.1	75 - 125	0.50	20			10/22/09
Chromium	7440-47-3		1030	ug/L	103.1	75 - 125	1.60	20			10/22/09
Cobalt	7440-48-4		976	ug/L	97.6	75 - 125	1.10	20			10/22/09
Copper	7440-50-8		1000	ug/L	100.1	75 - 125	0.30	20			10/22/09
Vanadium	7440-62-2		981	ug/L	98.1	75 - 125	1.00	20			10/22/09
Zinc	7440-66-6		1000	ug/L	100.1	75 - 125	0.50	20			10/22/09
Calcium	7440-70-2		-620	ug/L	-62	75 - 125	-3342.90	20		3X	10/22/09
Lead	7439-92-1		957	ug/L	95.7	75 - 125	0.50	20			10/22/09
Lithium	7439-93-2		507	ug/L	101.4	75 - 125	1.00	20			10/22/09
Molybdenum	7439-98-7		981	ug/L	98.1	75 - 125	0.90	20			10/22/09
Strontium	7440-24-6		509	ug/L	101.8	75 - 125	1.20	20			10/22/09
Thallium	7440-28-0		930	ug/L	93	75 - 125	2.30	20			10/22/09
Tin	7440-31-5		981	ug/L	98.1	75 - 125	2.40	20			10/22/09
Arsenic	7440-38-2		1020	ug/L	101.9	75 - 125	2.00	20			10/22/09
Beryllium	7440-41-7		523	ug/L	104.6	75 - 125	0.30	20			10/22/09
Boron	7440-42-8		977	ug/L	97.7	75 - 125	2.30	20			10/22/09
Bismuth	7440-69-9		978	ug/L	97.8	75 - 125	1.70	20			10/22/09
Silicon	7440-21-3		790	ug/L	79	75 - 125	30.10	20	*	4X	10/22/09
Selenium	7782-49-2		1010	ug/L	101.2	75 - 125	0.70	20			10/22/09

REVISED91306 -

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

QC Batch 66845 **Test** ICP-6010 - All possible metals
Associated Samples 91306005, 91306007, 91306008, 91306009, 91306010, 91306011

Analyte	CAS #	Original Found	QC Found	Units	% Recov Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #17201**						
Iron	7439-89-6		<18	ug/L				U	10/23/09
Magnesium	7439-95-4		<16	ug/L				U	10/23/09
Manganese	7439-96-5		<4.0	ug/L				U	10/23/09
Nickel	7440-02-0		<4.0	ug/L				U	10/23/09
Potassium	7440-09-7		<55	ug/L				U	10/23/09
Silver	7440-22-4		<5.0	ug/L				U	10/23/09
Sodium	7440-23-5		<23	ug/L				U	10/23/09
Antimony	7440-36-0		<38	ug/L				U	10/23/09
Barium	7440-39-3		<4.0	ug/L				U	10/23/09
Cadmium	7440-43-9		<4.0	ug/L				U	10/23/09
Chromium	7440-47-3		<13	ug/L				U	10/23/09
Cobalt	7440-48-4		<4.0	ug/L				U	10/23/09
Copper	7440-50-8		<4.0	ug/L				U	10/23/09
Vanadium	7440-62-2		<12	ug/L				U	10/23/09
Zinc	7440-66-6		<6.0	ug/L				U	10/23/09
Calcium	7440-70-2		<39	ug/L				U	10/23/09
Lead	7439-92-1		<23	ug/L				U	10/23/09
Lithium	7439-93-2		<4.0	ug/L				U	10/23/09
Molybdenum	7439-98-7		<4.0	ug/L				U	10/23/09

REVISED91306 -

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Strontium	7440-24-6		<4.0	ug/L					U	10/23/09
Thallium	7440-28-0		<35	ug/L					U	10/23/09
Tin	7440-31-5		<39	ug/L					U	10/23/09
Arsenic	7440-38-2		<65	ug/L					U	10/23/09
Beryllium	7440-41-7		<4.0	ug/L					U	10/23/09
Boron	7440-42-8		<19	ug/L					U	10/23/09
Bismuth	7440-69-9		<23	ug/L					U	10/23/09
Silicon	7440-21-3		<61	ug/L					U	10/23/09
Selenium	7782-49-2		<45	ug/L					U	10/23/09
LCS			**QC Sample #17202**							
Iron	7439-89-6		1010	ug/L	101.1	80 - 120				10/23/09
Magnesium	7439-95-4		959	ug/L	95.9	80 - 120				10/23/09
Manganese	7439-96-5		1030	ug/L	102.9	80 - 120				10/23/09
Nickel	7440-02-0		1030	ug/L	102.7	80 - 120				10/23/09
Potassium	7440-09-7		9380	ug/L	93.8	80 - 120				10/23/09
Silver	7440-22-4		970	ug/L	97	80 - 120				10/23/09
Sodium	7440-23-5		987	ug/L	98.7	80 - 120				10/23/09
Antimony	7440-36-0		967	ug/L	96.7	80 - 120				10/23/09
Barium	7440-39-3		469	ug/L	93.8	80 - 120				10/23/09
Cadmium	7440-43-9		1020	ug/L	102	80 - 120				10/23/09
Chromium	7440-47-3		1050	ug/L	105.1	80 - 120				10/23/09
Cobalt	7440-48-4		1040	ug/L	103.5	80 - 120				10/23/09
Copper	7440-50-8		955	ug/L	95.5	80 - 120				10/23/09
Vanadium	7440-62-2		990	ug/L	99	80 - 120				10/23/09

REVISED91306 -

Quality Control Report

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Department Inorganic

Group # WSCF91306

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Zinc	7440-66-6		1050	ug/L	105.2	80 - 120				10/23/09
Calcium	7440-70-2		1170	ug/L	116.8	80 - 120				10/23/09
Lead	7439-92-1		1060	ug/L	106.5	80 - 120				10/23/09
Lithium	7439-93-2		465	ug/L	92.9	80 - 120				10/23/09
Molybdenum	7439-98-7		1000	ug/L	100.3	80 - 120				10/23/09
Strontium	7440-24-6		492	ug/L	98.5	80 - 120				10/23/09
Thallium	7440-28-0		990	ug/L	99	80 - 120				10/23/09
Tin	7440-31-5		1010	ug/L	100.6	80 - 120				10/23/09
Arsenic	7440-38-2		1020	ug/L	102.5	80 - 120				10/23/09
Beryllium	7440-41-7		532	ug/L	106.4	80 - 120				10/23/09
Boron	7440-42-8		922	ug/L	92.2	80 - 120				10/23/09
Bismuth	7440-69-9		1010	ug/L	100.7	80 - 120				10/23/09
Silicon	7440-21-3		987	ug/L	98.7	80 - 120				10/23/09
Selenium	7782-49-2		1010	ug/L	100.8	80 - 120				10/23/09
MS			**QC Sample #17206**							
			Original 91306005							
Iron	7439-89-6	<18	993	ug/L	99.3	75 - 125				10/23/09
Magnesium	7439-95-4	12000	1680	ug/L	168	75 - 125			1X	10/23/09
Manganese	7439-96-5	<4.0	1010	ug/L	101.1	75 - 125				10/23/09
Nickel	7440-02-0	<4.0	987	ug/L	98.7	75 - 125				10/23/09
Potassium	7440-09-7	4380	9970	ug/L	99.7	75 - 125				10/23/09
Silver	7440-22-4	<5.0	969	ug/L	96.9	75 - 125				10/23/09
Sodium	7440-23-5	18500	2560	ug/L	256	75 - 125			2X	10/23/09
Antimony	7440-36-0	<38	988	ug/L	98.8	75 - 125				10/23/09
Barium	7440-39-3	55.2	491	ug/L	98.3	75 - 125				10/23/09

REVISED91306 -

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Cadmium	7440-43-9	<4.0	998	ug/L	99.8	75 - 125				10/23/09
Chromium	7440-47-3	68.8	1040	ug/L	103.6	75 - 125				10/23/09
Cobalt	7440-48-4	<4.0	999	ug/L	99.9	75 - 125				10/23/09
Copper	7440-50-8	<4.0	980	ug/L	98	75 - 125				10/23/09
Vanadium	7440-62-2	<12	996	ug/L	99.6	75 - 125				10/23/09
Zinc	7440-66-6	<6.0	1030	ug/L	103	75 - 125				10/23/09
Calcium	7440-70-2	65100	650	ug/L	65	75 - 125			3X	10/23/09
Lead	7439-92-1	<23	1000	ug/L	100.2	75 - 125				10/23/09
Lithium	7439-93-2	13.5	495	ug/L	98.9	75 - 125				10/23/09
Molybdenum	7439-98-7	9.10	993	ug/L	99.3	75 - 125				10/23/09
Strontium	7440-24-6	305	528	ug/L	105.7	75 - 125				10/23/09
Thallium	7440-28-0	<35	967	ug/L	96.7	75 - 125				10/23/09
Tin	7440-31-5	<39	995	ug/L	99.5	75 - 125				10/23/09
Arsenic	7440-38-2	<65	1060	ug/L	105.5	75 - 125				10/23/09
Beryllium	7440-41-7	<4.0	535	ug/L	106.9	75 - 125				10/23/09
Boron	7440-42-8	23.7	958	ug/L	95.8	75 - 125				10/23/09
Bismuth	7440-69-9	<23	993	ug/L	99.3	75 - 125				10/23/09
Silicon	7440-21-3	14300	1870	ug/L	187	75 - 125			4X	10/23/09
Selenium	7782-49-2	<45	989	ug/L	98.9	75 - 125				10/23/09
MSD			**QC Sample #17207**							
			Original 91306005					**Paired**	**17206**	
Iron	7439-89-6	<18	998	ug/L	99.8	75 - 125	0.50	20		10/23/09
Magnesium	7439-95-4	12000	1610	ug/L	161	75 - 125	4.30	20	1X	10/23/09
Manganese	7439-96-5	<4.0	1020	ug/L	101.8	75 - 125	0.70	20		10/23/09
Nickel	7440-02-0	<4.0	984	ug/L	98.4	75 - 125	0.30	20		10/23/09

REVISED91306 -

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91306

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit		RQ	Analyzed
Potassium	7440-09-7	4380	9830	ug/L	98.3	75 - 125	1.40	20			10/23/09
Silver	7440-22-4	<5.0	965	ug/L	96.5	75 - 125	0.40	20			10/23/09
Sodium	7440-23-5	18500	2080	ug/L	208	75 - 125	20.70	20	*	2X	10/23/09
Antimony	7440-36-0	<38	985	ug/L	98.5	75 - 125	0.30	20			10/23/09
Barium	7440-39-3	55.2	494	ug/L	98.8	75 - 125	0.50	20			10/23/09
Cadmium	7440-43-9	<4.0	991	ug/L	99.1	75 - 125	0.70	20			10/23/09
Chromium	7440-47-3	68.8	1060	ug/L	105.5	75 - 125	1.80	20			10/23/09
Cobalt	7440-48-4	<4.0	1000	ug/L	100.2	75 - 125	0.30	20			10/23/09
Copper	7440-50-8	<4.0	968	ug/L	96.8	75 - 125	1.20	20			10/23/09
Vanadium	7440-62-2	<12	1000	ug/L	100	75 - 125	0.40	20			10/23/09
Zinc	7440-66-6	<6.0	1040	ug/L	103.5	75 - 125	0.50	20			10/23/09
Calcium	7440-70-2	65100	-460	ug/L	-46	75 - 125	1168.40	20	*	3X	10/23/09
Lead	7439-92-1	<23	1010	ug/L	101	75 - 125	0.80	20			10/23/09
Lithium	7439-93-2	13.5	487	ug/L	97.4	75 - 125	1.50	20			10/23/09
Molybdenum	7439-98-7	9.10	1000	ug/L	100.3	75 - 125	1.00	20			10/23/09
Strontium	7440-24-6	305	516	ug/L	103.1	75 - 125	2.50	20			10/23/09
Thallium	7440-28-0	<35	946	ug/L	94.6	75 - 125	2.20	20			10/23/09
Tin	7440-31-5	<39	1030	ug/L	103.1	75 - 125	3.60	20			10/23/09
Arsenic	7440-38-2	<65	1040	ug/L	104.2	75 - 125	1.20	20			10/23/09
Beryllium	7440-41-7	<4.0	530	ug/L	106	75 - 125	0.80	20			10/23/09
Boron	7440-42-8	23.7	965	ug/L	96.5	75 - 125	0.70	20			10/23/09
Bismuth	7440-69-9	<23	994	ug/L	99.4	75 - 125	0.10	20			10/23/09
Silicon	7440-21-3	14300	1510	ug/L	151	75 - 125	21.30	20	*	4X	10/23/09
Selenium	7782-49-2	<45	1000	ug/L	100.3	75 - 125	1.40	20			10/23/09

Quality Control Report

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Department Inorganic

Group # WSCF91306

QC Batch 67236 **Test** ICP-2008 MS All possible metal
Associated Samples 91306008, 91306009, 91306010, 91306011, 91306012, 91306013, 91306014, 91306015, 91306016, 91306017, 91306018

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #17375**							
Aluminum	7429-90-5		<5.0	ug/L					U	10/28/09
Silver	7440-22-4		<0.10	ug/L					U	10/28/09
Antimony	7440-36-0		<0.30	ug/L					U	10/28/09
Barium	7440-39-3		<0.20	ug/L					U	10/28/09
Beryllium	7440-41-7		<0.050	ug/L					U	10/28/09
Cadmium	7440-43-9		<0.10	ug/L					U	10/28/09
Chromium	7440-47-3		<0.50	ug/L					U	10/28/09
Cobalt	7440-48-4		<0.050	ug/L					U	10/28/09
Copper	7440-50-8		0.297	ug/L					B	10/28/09
Lead	7439-92-1		<0.10	ug/L					U	10/28/09
Mercury	7439-97-6		<0.050	ug/L					U	10/28/09
Thallium	7440-28-0		<0.050	ug/L					U	10/28/09
Uranium	7440-61-1		<0.050	ug/L					U	10/28/09
Arsenic	7440-38-2		<0.40	ug/L					U	10/28/09
Selenium	7782-49-2		<0.30	ug/L					U	10/28/09
LCS			**QC Sample #17376**							
Aluminum	7429-90-5		403	ug/L	100.8	85 - 115			D	10/28/09
Silver	7440-22-4		39.7	ug/L	99.3	85 - 115			D	10/28/09

REVISED91306 -

Quality Control Report

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Group # WSCF91306

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Antimony	7440-36-0		38.1	ug/L	95.2	85 - 115			D	10/28/09
Barium	7440-39-3		38.8	ug/L	97	85 - 115			D	10/28/09
Beryllium	7440-41-7		36.3	ug/L	90.8	85 - 115			D	10/28/09
Cadmium	7440-43-9		36.6	ug/L	91.4	85 - 115			D	10/28/09
Chromium	7440-47-3		39.6	ug/L	99	85 - 115			D	10/28/09
Cobalt	7440-48-4		39.6	ug/L	99	85 - 115			D	10/28/09
Copper	7440-50-8		40.1	ug/L	100.2	85 - 115			D	10/28/09
Lead	7439-92-1		40.2	ug/L	100.6	85 - 115			D	10/28/09
Mercury	7439-97-6		3.79	ug/L	94.8	85 - 115			D	10/28/09
Thallium	7440-28-0		39.6	ug/L	99	85 - 115			D	10/28/09
Uranium	7440-61-1		40.1	ug/L	100.2	85 - 115			D	10/28/09
Arsenic	7440-38-2		37.1	ug/L	92.7	85 - 115			D	10/28/09
Selenium	7782-49-2		36.1	ug/L	90.3	85 - 115			D	10/28/09
MS			**QC Sample #17377**							
			Original 91306008							
Aluminum	7429-90-5	<10	387	ug/L	96.8	70 - 130			D	10/28/09
Silver	7440-22-4	<0.20	36.9	ug/L	92.2	70 - 130			D	10/28/09
Antimony	7440-36-0	<0.60	38.4	ug/L	96	70 - 130			D	10/28/09
Barium	7440-39-3	44.5	41.0	ug/L	102.6	70 - 130			D	10/28/09
Beryllium	7440-41-7	<0.10	35.6	ug/L	89	70 - 130			D	10/28/09
Cadmium	7440-43-9	<0.20	35.1	ug/L	87.8	70 - 130			D	10/28/09
Chromium	7440-47-3	14.6	38.9	ug/L	97.2	70 - 130			D	10/28/09
Cobalt	7440-48-4	0.119	37.2	ug/L	93.1	70 - 130			D	10/28/09
Copper	7440-50-8	0.760	35.9	ug/L	89.7	70 - 130			D	10/28/09
Lead	7439-92-1	<0.20	39.9	ug/L	99.8	70 - 130			D	10/28/09

REVISED91306 -

Quality Control Report

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Group # WSCF91306

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Mercury	7439-97-6	<0.10	3.89	ug/L	97.2	70 - 130			D	10/28/09
Thallium	7440-28-0	0.276	40.1	ug/L	100.4	70 - 130			D	10/28/09
Uranium	7440-61-1	0.945	42.1	ug/L	105.2	70 - 130			D	10/28/09
Arsenic	7440-38-2	2.12	36.3	ug/L	90.7	70 - 130			D	10/28/09
Selenium	7782-49-2	2.70	36.6	ug/L	91.4	70 - 130			D	10/28/09
MSD			**QC Sample #17378**							
			Original	**91306008**				**Paired**	**17377**	
Aluminum	7429-90-5	<10	387	ug/L	96.8	70 - 130	0.00	20	D	10/28/09
Silver	7440-22-4	<0.20	36.8	ug/L	92	70 - 130	0.20	20	D	10/28/09
Antimony	7440-36-0	<0.60	38.5	ug/L	96.2	70 - 130	0.20	20	D	10/28/09
Barium	7440-39-3	44.5	39.4	ug/L	98.5	70 - 130	4.10	20	D	10/28/09
Beryllium	7440-41-7	<0.10	36.1	ug/L	90.2	70 - 130	1.30	20	D	10/28/09
Cadmium	7440-43-9	<0.20	35.2	ug/L	88	70 - 130	0.20	20	D	10/28/09
Chromium	7440-47-3	14.6	38.2	ug/L	95.5	70 - 130	1.80	20	D	10/28/09
Cobalt	7440-48-4	0.119	37.1	ug/L	92.8	70 - 130	0.30	20	D	10/28/09
Copper	7440-50-8	0.760	35.6	ug/L	89.1	70 - 130	0.70	20	D	10/28/09
Lead	7439-92-1	<0.20	40.0	ug/L	100.1	70 - 130	0.30	20	D	10/28/09
Mercury	7439-97-6	<0.10	3.93	ug/L	98.2	70 - 130	1.00	20	D	10/28/09
Thallium	7440-28-0	0.276	40.4	ug/L	101	70 - 130	0.60	20	D	10/28/09
Uranium	7440-61-1	0.945	41.9	ug/L	104.7	70 - 130	0.50	20	D	10/28/09
Arsenic	7440-38-2	2.12	36.5	ug/L	91.2	70 - 130	0.50	20	D	10/28/09
Selenium	7782-49-2	2.70	36.3	ug/L	90.7	70 - 130	0.80	20	D	10/28/09