RECEIVED JANUARY 16, 2009

0080199

WSCF Laboratory

PO Box 1000 S3-30
Richland, WA 99352
(509) 373-7005
(509) 372-0456

Memorandum

To: Michael Neely
CH2M-HILL PRC
PO Box 1600
Richland, WA 99352

Date: January 15, 2009

From: WSCF Laboratory
WSCF Analytical Chemistry

CC:

Subject: FINAL RESULT FOR SAMPLE DELIVERY GROUP WSCF80074

Reference: (1) MOA-FH-CHPRC-2008
(2) HNF-SD-CD-QAPP-017, Rev 9, Waste Sampling & Characterization Facility Quality Assurance Plan

This letter contains the following information for sample delivery group WCSF80074

* Cover Sheet (Attachment 1)
* Narrative (Attachment 2)
* Analytical Results (Attachment 3)
* Sample Receipt Information (Attachment 4)

Electronically signed by Bill Baird
For Lab Manager

Attachments 4

RECEIVED
FEB 03 2009
EDMC

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF Number Cross Reference

Group # WSCF80074
Data Deliverable Date 12/15/08

SAF #	Sample ID	Sample #	Matrix	Sampled	Received
X08-048	B1W558	80074001	WATER	10/31/08	10/31/08
X08-048	B1W594	80074002	WATER	10/31/08	10/31/08
X08-048	B1W5B0	80074003	WATER	10/31/08	10/31/08
X08-048	B1W559	80074004	WATER	10/31/08	10/31/08
X08-048	B1W595	80074005	WATER	10/31/08	10/31/08
X08-048	B1W5B1	80074006	WATER	10/31/08	10/31/08

ATTACHMENT 2

NARRATIVE

Consisting of 3 pages
Including cover page

Attachment 2
Narrative
WSCF80074

Introduction

Six (6) Groundwater samples were received at the WSCF Laboratory on October 31, 2008. Samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Memorandum of Agreement (MOA-FH-CHPRC-2008, Rev.0)*, referenced in the cover letter.

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.

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.

Analytical Methodology for Requested Analyses

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

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):

- Chloride Matrix Spike recovery outside acceptance limits, resulting in application of "N" flags.
- Sample spike duplicate precision for Chloride and Nitrite-N outside acceptance criteria, no flag required.

All other 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):

- Elevated preparation Blank for Silver resulted in application of "C" flags if appropriate.
- High check standard used to ensure linearity of calibration curve due to sample results exceeding the calibration standard.
- Iron and Magnesium spike recoveries for samples B1W558, B1W594 and B1W5B0 exceeded acceptance limits, resulting in application of "N" flags.

- Calcium and Sodium sample results for samples B1W558, B1W594 and B1W5B0 exceeded spiking levels by more that 4 times, invalidating spike recoveries.

- Calcium, Sodium and Magnesium sample results for samples B1W599, B1W595 and B1W5B1 exceeded spiking levels by more that 4 times, invalidating spike recoveries.

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.

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.

All QC controls are within the established limits.

Radiochemistry Comments

Rad Chem – There are no hold times associated with WSCF's radiochemical methods. A Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group, including a Matrix Spike for Technetium-99 and Tritium. Analytical Note(s):

- Technetium-99 Duplicate Relative Percent Difference exceeded normal acceptance limits, however results were near the detection limit so the acceptance limits do not apply.

- Gross Alpha Duplicate Relative Percent Difference exceeded normal acceptance limits, however results were near the detection limit so the acceptance limits do not apply.

All other QC controls are within the established limits.

I certify that this data package is in compliance with the MOA, 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 Laboratory Analytical Manager and Client Services.

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 49 pages
Including cover page

WSCF ANALYTICAL RESULTS REPORT

For

CH2M Hill Plateau Remediation

PO Box 1600
Richland, WA 99352

Attention: Michael Neely

Contract #	MOA-FH-CHPRC-2008
Group #	WSCF80074
Report Date	January 15, 2009

Analytical: Electronically signed by Bill Baird

Client Services: Electronically signed by John Trechter

All radiochemistry results are reported on an "as received" basis.

This information is intended for the use of the addressee only. If the reader of this report is not the intended recipient or is not authorized by the recipient to receive the report, you are hereby notified that any dissemination, distribution or copying of this report is strictly prohibited. If you have received this report in error, please notify WSCF Laboratory immediately by telephone at (509) 373-7020 or (509) 531-8004. Information designation of this report is the responsibility of the customer.

Batch QC List

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
5826	5826	2	BLANK	1944	BLANK		Anions by Ion Chromatography (Water)
5826	5826	3	LCS	1945	LCS		Anions by Ion Chromatography (Water)
5826	5826	4	SAMPLE	80074006	B1W5B1		Anions by Ion Chromatography (Water)
5826	5826	5	DUP	1946	B1W559(80074004DUP)	80074004	Anions by Ion Chromatography (Water)
5826	5826	6	MS	1947	B1W559(80074004MS)	80074004	Anions by Ion Chromatography (Water)
5826	5826	7	MSD	1948	B1W559(80074004MSD)	80074004	Anions by Ion Chromatography (Water)
5826	5826	8	SAMPLE	80074005	B1W595		Anions by Ion Chromatography (Water)
5826	5826	9	SAMPLE	80074004	B1W559		Anions by Ion Chromatography (Water)
5865	5882	55	SAMPLE	80074001	B1W558		ICP-6010 - All possible metals
5865	5882	56	SAMPLE	80074002	B1W594		ICP-6010 - All possible metals
5865	5882	57	SAMPLE	80074003	B1W5B0		ICP-6010 - All possible metals
5865	5882	95	BLANK	2036	BLANK		ICP-6010 - All possible metals
5865	5882	96	LCS	2037	LCS		ICP-6010 - All possible metals
5865	5882	98	MS	2038	B1WX92(80070021MS)	80070021	ICP-6010 - All possible metals
5865	5882	99	MSD	2039	B1WX92(80070021MSD)	80070021	ICP-6010 - All possible metals
5868	5882	78	SAMPLE	80074004	B1W559		ICP-6010 - All possible metals
5868	5882	79	SAMPLE	80074005	B1W595		ICP-6010 - All possible metals
5868	5882	80	SAMPLE	80074006	B1W5B1		ICP-6010 - All possible metals
5868	5882	110	BLANK	2046	BLANK		ICP-6010 - All possible metals
5868	5882	111	LCS	2047	LCS		ICP-6010 - All possible metals
5868	5882	126	MS	2048	B1W559(80074004MS)	80074004	ICP-6010 - All possible metals
5868	5882	127	MSD	2049	B1W559(80074004MSD)	80074004	ICP-6010 - All possible metals
12887	13287	6	BLANK	2774	BLANK		ICP-2008 MS All possible metal

Batch QC List

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
12887	13287	9	LCS	2777	LCS		ICP-2008 MS All possible metal
12887	13287	24	MS	2782	B1XC27(80032005MS)	80032005	ICP-2008 MS All possible metal
12887	13287	25	MSD	2783	B1XC27(80032005MSD)	80032005	ICP-2008 MS All possible metal
12887	13287	43	SAMPLE	80074004	B1W559		ICP-2008 MS All possible metal
12887	13287	52	SAMPLE	80074003	B1W5B0		ICP-2008 MS All possible metal
12887	13287	54	SAMPLE	80074006	B1W5B1		ICP-2008 MS All possible metal
12887	13287	56	SAMPLE	80074002	B1W594		ICP-2008 MS All possible metal
12887	13287	58	SAMPLE	80074005	B1W595		ICP-2008 MS All possible metal
12887	13287	62	SAMPLE	80074001	B1W558		ICP-2008 MS All possible metal

Batch QC List

Attention Michael Neely
Department Radiochemistry

Group # WSCF80074
Project Number X08-048

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
5822	5919	1	BLANK	1923	BLANK		Strontium 89/90 (GPC/GEA)
5822	5919	2	LCS	1924	LCS		Strontium 89/90 (GPC/GEA)
5822	5919	4	DUP	1925	B1V7W8(80071003DUP)	80071003	Strontium 89/90 (GPC/GEA)
5822	5919	16	SAMPLE	80074004	B1W559		Strontium 89/90 (GPC/GEA)
5822	5919	17	SAMPLE	80074005	B1W595		Strontium 89/90 (GPC/GEA)
5822	5919	18	SAMPLE	80074006	B1W5B1		Strontium 89/90 (GPC/GEA)
5877	5986	1	BLANK	2058	BLANK		Tritium by LSC
5877	5986	2	LCS	2059	LCS		Tritium by LSC
5877	5986	5	DUP	2060	B1XJV3(80065010DUP)	80065010	Tritium by LSC
5877	5986	6	MS	2061	B1XJV3(80065010MS)	80065010	Tritium by LSC
5877	5986	13	SAMPLE	80074004	B1W559		Tritium by LSC
5877	5986	14	SAMPLE	80074005	B1W595		Tritium by LSC
5877	5986	15	SAMPLE	80074006	B1W5B1		Tritium by LSC
5887	6004	1	BLANK	2082	BLANK		TC99 by Liquid Scintillation
5887	6004	2	LCS	2083	LCS		TC99 by Liquid Scintillation
5887	6004	3	DUP	2084	B1X658(80057018DUP)	80057018	TC99 by Liquid Scintillation
5887	6004	4	MS	2085	B1X658(80057018MS)	80057018	TC99 by Liquid Scintillation
5887	6004	9	SAMPLE	80074004	B1W559		TC99 by Liquid Scintillation
5887	6004	10	SAMPLE	80074005	B1W595		TC99 by Liquid Scintillation
5887	6004	11	SAMPLE	80074006	B1W5B1		TC99 by Liquid Scintillation
11489	13687	1	DUP	2199	B1X7C0(80018012DUP)	80074004	Gross Alpha/Gross Beta
11489	13687	2	BLANK	2735	BLANK		Gross Alpha/Gross Beta
11489	13687	3	LCS	2736	LCS		Gross Alpha/Gross Beta

Batch QC List

Attention Michael Neely
Department Radiochemistry

Group # WSCF80074
Project Number X08-048

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
11489	13687	4	SAMPLE	80074004	B1W559		Gross Alpha/Gross Beta
11489	13687	5	SAMPLE	80074004	B1W559		Gross Alpha/Gross Beta
11489	13687	6	SAMPLE	80074005	B1W595		Gross Alpha/Gross Beta
11489	13687	7	SAMPLE	80074005	B1W595		Gross Alpha/Gross Beta
11489	13687	8	SAMPLE	80074006	B1W5B1		Gross Alpha/Gross Beta
11489	13687	9	SAMPLE	80074006	B1W5B1		Gross Alpha/Gross Beta

Batch QC List

Attention Michael Neely
Department Wet Chemistry

Group # WSCF80074
Project Number X08-048

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
	5900	3	DUP	2132	B1X793(80050001DUP)	80050001	Total Alkalinity as mg/L CaCO3 (Water)
	5900	13	LCS	2133	LCS		Total Alkalinity as mg/L CaCO3 (Water)
	5900	17	SAMPLE	80074006	B1W5B1		Total Alkalinity as mg/L CaCO3 (Water)
	5900	18	SAMPLE	80074005	B1W595		Total Alkalinity as mg/L CaCO3 (Water)
	5900	19	SAMPLE	80074004	B1W559		Total Alkalinity as mg/L CaCO3 (Water)
	5900	24	LCS	2134	LCS		Total Alkalinity as mg/L CaCO3 (Water)

Method Reference

Attention	Michael Neely	**Group #**	WSCF80074
Department	Inorganic	**Project Number**	X08-048

The results provided in this report were generated using the following WSCF Laboratory procedures. For your convenience, this table provides a listing of the regulatory, industry methods or HEIS methods that are referenced by each of these WSCF procedures. Please note that the most recent version of the regulatory or industry method is listed here even though WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

LA-505-411	Elemental Analysis by ICP Atomic Emission Spectroscopy (ICP-AES)		
	EPA SW-846	6010C	Inductively Coupled Plasma-Atomic Emmision Spectrometry
	HEIS	6010_METALS_ICP	Inductively Coupled Plasma-Atomic Emmision Spectrometry
LA-505-412	Determination of Trace Elements in Waters & Wastes by ICP-Mass Spectrometry		
	EPA-600/R-94-111	200.8	Determination of Trace Elements in Waters and Waste by Inductively Coupled Plasma
	HEIS	200.8_METALS_ICPMS	Determination of Trace Elements in Waters and Waste by Inductively Coupled Plasma, Mass Spec.
LA-533-410	Anion Analysis by Ion Chromatography		
	EPA-600/R-94-111	300.0	Determination of Inorganic Anions by Ion Chromatography
	HEIS	300.0_ANIONS_IC	Determination of Inorganic Anions by Ion Chromatography

Note: A complete list of WSCF analytical procedures and reference regulatory or industry methods is available online at http://www7.rl.gov/rapidweb/AS-DOL/index.cfm

Method Reference

Attention	Michael Neely	**Group #**	WSCF80074
Department	Radiochemistry	**Project Number**	X08-048

The results provided in this report were generated using the following WSCF Laboratory procedures. For your convenience, this table provides a listing of the regulatory, industry methods or HEIS methods that are referenced by each of these WSCF procedures. Please note that the most recent version of the regulatory or industry method is listed here even though WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

LA-220-406	Strontium-89 and 90 in Aqueous Samples by SR-SPEC Separation		
	HEIS	SRTOT_SEP_PRECIP_GPC	Strontium 89/90, by Sr-Spec Sep.
LA-508-415	Operation Of The Protean 2-Inch Alpha/Beta Counting System For Gross Alpha/ Beta Samples		
	HEIS	ALPHA_GPC	Gross Alpha by GPC
	HEIS	BETA_GPC	Gross Beta by GPC
	HEIS	SRTOT_SEP_PRECIP_GPC	Strontium beta isotopic, GPC
LA-508-421	Operation of the Tri-Carb Model 2500TR Liquid Scintillation Analyzer		
	HEIS	ALPHA_LSC	A/B Liquid Scintillation
	HEIS	BETA_LSC	A/B Liquid Scintillation
	HEIS	TC99_3MDSK_LSC	TC99 by Liquid Scintillation
	HEIS	TRITIUM_EIE_LSC	Tritium, by Eichrome ion exchange, LSC

Note: A complete list of WSCF analytical procedures and reference regulatory or industry methods is available online at http://www7.rl.gov/rapidweb/AS-DOL/index.cfm

Method Reference

Attention	Michael Neely	**Group #**	WSCF80074
Department	Wet Chemistry	**Project Number**	X08-048

The results provided in this report were generated using the following WSCF Laboratory procedures. For your convenience, this table provides a listing of the regulatory, industry methods or HEIS methods that are referenced by each of these WSCF procedures. Please note that the most recent version of the regulatory or industry method is listed here even though WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

LA-531-411	Alkalinity		
	EPA-600/4-79-020	310.1	Alkalinity
	HEIS	2320_ALKALINITY	Alkalinity

Note: A complete list of WSCF analytical procedures and reference regulatory or industry methods is available online at http://www7.rl.gov/rapidweb/AS-DOL/index.cfm

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

Sample # 80074001
SAF# X08-048
Sample ID B1W558

Matrix WATER
Sampled 10/31/08
Received 10/31/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICP Prep										**11/04/08**
ICP-AES										
Antimony	7440-36-0	LA-505-411	U	<60		ug/L	1	60	280	11/05/08
Barium	7440-39-3	LA-505-411		80.9		ug/L	1	4	20	11/05/08
Beryllium	7440-41-7	LA-505-411	U	<4		ug/L	1	4	20	11/05/08
Cadmium	7440-43-9	LA-505-411	U	<4		ug/L	1	4	20	11/05/08
Calcium	7440-70-2	LA-505-411		37700		ug/L	1	70	360	11/05/08
Chromium	7440-47-3	LA-505-411	U	<10		ug/L	1	10	20	11/05/08
Cobalt	7440-48-4	LA-505-411	U	<5		ug/L	1	5	25	11/05/08
Copper	7440-50-8	LA-505-411	U	<6		ug/L	1	6	30	11/05/08
Iron	7439-89-6	LA-505-411	N	1080		ug/L	1	20	120	11/05/08
Magnesium	7439-95-4	LA-505-411	N	11900		ug/L	1	50	250	11/05/08
Manganese	7439-96-5	LA-505-411		31.8		ug/L	1	4	20	11/05/08
Nickel	7440-02-0	LA-505-411	U	<6		ug/L	1	6	30	11/05/08
Potassium	7440-09-7	LA-505-411		6250		ug/L	1	200	850	11/05/08
Silver	7440-22-4	LA-505-411	U	<5		ug/L	1	5	25	11/05/08
Sodium	7440-23-5	LA-505-411		16000		ug/L	1	50	260	11/05/08
Strontium	7440-24-6	LA-505-411		229		ug/L	1	4	20	11/05/08
Vanadium	7440-62-2	LA-505-411	U	<10		ug/L	1	10	60	11/05/08

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.

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

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

Sample # 80074001
SAF# X08-048
Sample ID B1W558

Matrix WATER
Sampled 10/31/08
Received 10/31/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Zinc	7440-66-6	LA-505-411	U	<9		ug/L	1	9	45	11/05/08
ICPMS Prep										**11/18/08**
ICP-MS										
Arsenic	7440-38-2	LA-505-412	B	1.87		ug/L	1	0.4	4.0	11/18/08
Lead	7439-92-1	LA-505-412	U	<0.1		ug/L	1	0.1	1.0	11/18/08
Thallium	7440-28-0	LA-505-412	U	<0.05		ug/L	1	0.05	0.50	11/18/08

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.

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

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

Sample # 80074002
SAF# X08-048
Sample ID B1W594

Matrix WATER
Sampled 10/31/08
Received 10/31/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICP Prep										**11/04/08**
ICP-AES										
Antimony	7440-36-0	LA-505-411	U	<60		ug/L	1	60	280	11/05/08
Barium	7440-39-3	LA-505-411		45.5		ug/L	1	4	20	11/05/08
Beryllium	7440-41-7	LA-505-411	U	<4		ug/L	1	4	20	11/05/08
Cadmium	7440-43-9	LA-505-411	U	<4		ug/L	1	4	20	11/05/08
Calcium	7440-70-2	LA-505-411		47800		ug/L	1	70	360	11/05/08
Chromium	7440-47-3	LA-505-411	B	16.8		ug/L	1	10	20	11/05/08
Cobalt	7440-48-4	LA-505-411	U	<5		ug/L	1	5	25	11/05/08
Copper	7440-50-8	LA-505-411	U	<6		ug/L	1	6	30	11/05/08
Iron	7439-89-6	LA-505-411	N	211		ug/L	1	20	120	11/05/08
Magnesium	7439-95-4	LA-505-411	N	13300		ug/L	1	50	250	11/05/08
Manganese	7439-96-5	LA-505-411	U	<4		ug/L	1	4	20	11/05/08
Nickel	7440-02-0	LA-505-411	U	<6		ug/L	1	6	30	11/05/08
Potassium	7440-09-7	LA-505-411		6750		ug/L	1	200	850	11/05/08
Silver	7440-22-4	LA-505-411	U	<5		ug/L	1	5	25	11/05/08
Sodium	7440-23-5	LA-505-411		21900		ug/L	1	50	260	11/05/08
Strontium	7440-24-6	LA-505-411		292		ug/L	1	4	20	11/05/08
Vanadium	7440-62-2	LA-505-411	B	22.5		ug/L	1	10	60	11/05/08

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.

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

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

Sample # 80074002
SAF# X08-048
Sample ID B1W594

Matrix WATER
Sampled 10/31/08
Received 10/31/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Zinc	7440-66-6	LA-505-411	U	<9		ug/L	1	9	45	11/05/08
ICPMS Prep										**11/18/08**
ICP-MS										
Arsenic	7440-38-2	LA-505-412		4.38		ug/L	1	0.4	4.0	11/18/08
Lead	7439-92-1	LA-505-412	U	<0.1		ug/L	1	0.1	1.0	11/18/08
Thallium	7440-28-0	LA-505-412	U	<0.05		ug/L	1	0.05	0.50	11/18/08

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 dilution factor.
E - Analyte is an estimate, see comment section.
N - MS and/or MSD sample recovery outside control limits.

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

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

Sample # 80074003
SAF# X08-048
Sample ID B1W5B0

Matrix WATER
Sampled 10/31/08
Received 10/31/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICP Prep										**11/04/08**
ICP-AES										
Antimony	7440-36-0	LA-505-411	U	<60		ug/L	1	60	280	11/05/08
Barium	7440-39-3	LA-505-411		53.1		ug/L	1	4	20	11/05/08
Beryllium	7440-41-7	LA-505-411	U	<4		ug/L	1	4	20	11/05/08
Cadmium	7440-43-9	LA-505-411	U	<4		ug/L	1	4	20	11/05/08
Calcium	7440-70-2	LA-505-411		49500		ug/L	1	70	360	11/05/08
Chromium	7440-47-3	LA-505-411		71.5		ug/L	1	10	20	11/05/08
Cobalt	7440-48-4	LA-505-411	U	<5		ug/L	1	5	25	11/05/08
Copper	7440-50-8	LA-505-411	U	<6		ug/L	1	6	30	11/05/08
Iron	7439-89-6	LA-505-411	BN	72.0		ug/L	1	20	120	11/05/08
Magnesium	7439-95-4	LA-505-411	N	14100		ug/L	1	50	250	11/05/08
Manganese	7439-96-5	LA-505-411	U	<4		ug/L	1	4	20	11/05/08
Nickel	7440-02-0	LA-505-411	U	<6		ug/L	1	6	30	11/05/08
Potassium	7440-09-7	LA-505-411		5710		ug/L	1	200	850	11/05/08
Silver	7440-22-4	LA-505-411	U	<5		ug/L	1	5	25	11/05/08
Sodium	7440-23-5	LA-505-411		19700		ug/L	1	50	260	11/05/08
Strontium	7440-24-6	LA-505-411		294		ug/L	1	4	20	11/05/08
Vanadium	7440-62-2	LA-505-411	B	25.8		ug/L	1	10	60	11/05/08

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.

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

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

Sample # 80074003
SAF# X08-048
Sample ID B1W5B0

Matrix WATER
Sampled 10/31/08
Received 10/31/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Zinc	7440-66-6	LA-505-411		50.6		ug/L	1	9	45	11/05/08
ICPMS Prep										**11/18/08**
ICP-MS										
Arsenic	7440-38-2	LA-505-412	B	3.49		ug/L	1	0.4	4.0	11/18/08
Lead	7439-92-1	LA-505-412	U	<0.1		ug/L	1	0.1	1.0	11/18/08
Thallium	7440-28-0	LA-505-412	U	<0.05		ug/L	1	0.05	0.50	11/18/08

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.

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

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

Sample # 80074004
SAF# X08-048
Sample ID B1W559

Matrix WATER
Sampled 10/31/08
Received 10/31/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**10/31/08**
Anions by IC										
Chloride	16887-00-6	LA-533-410	DN	3.62		ug/mL	2	0.09	0.80	10/31/08
Fluoride	16984-48-8	LA-533-410	BD	0.291		ug/mL	2	0.05	0.40	10/31/08
Nitrate-N	NO3-N	LA-533-410	D	1.14		ug/mL	2	0.02	0.20	10/31/08
Nitrite-N	NO2-N	LA-533-410	UD	<0.03		ug/mL	2	0.03	0.20	10/31/08
Sulfate	14808-79-8	LA-533-410	D	20.9		ug/mL	2	0.3	2.0	10/31/08
ICP Prep										**11/04/08**
ICP-AES										
Antimony	7440-36-0	LA-505-411	U	<60		ug/L	1	60	280	11/05/08
Barium	7440-39-3	LA-505-411		81.6		ug/L	1	4	20	11/05/08
Beryllium	7440-41-7	LA-505-411	U	<4		ug/L	1	4	20	11/05/08
Cadmium	7440-43-9	LA-505-411	U	<4		ug/L	1	4	20	11/05/08
Calcium	7440-70-2	LA-505-411		37400		ug/L	1	70	360	11/05/08
Chromium	7440-47-3	LA-505-411	U	<10		ug/L	1	10	20	11/05/08
Cobalt	7440-48-4	LA-505-411	U	<5		ug/L	1	5	25	11/05/08
Copper	7440-50-8	LA-505-411	U	<6		ug/L	1	6	30	11/05/08
Iron	7439-89-6	LA-505-411		328		ug/L	1	20	120	11/05/08
Magnesium	7439-95-4	LA-505-411		12300		ug/L	1	50	250	11/05/08

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.

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

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

Sample # 80074004
SAF# X08-048
Sample ID B1W559

Matrix WATER
Sampled 10/31/08
Received 10/31/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Manganese	7439-96-5	LA-505-411		34.3		ug/L	1	4	20	11/05/08
Nickel	7440-02-0	LA-505-411	U	<6		ug/L	1	6	30	11/05/08
Potassium	7440-09-7	LA-505-411		6550		ug/L	1	200	850	11/05/08
Silver	7440-22-4	LA-505-411	BC	5.30		ug/L	1	5	25	11/05/08
Sodium	7440-23-5	LA-505-411		16300		ug/L	1	50	260	11/05/08
Strontium	7440-24-6	LA-505-411		231		ug/L	1	4	20	11/05/08
Vanadium	7440-62-2	LA-505-411	U	<10		ug/L	1	10	60	11/05/08
Zinc	7440-66-6	LA-505-411	U	<9		ug/L	1	9	45	11/05/08
ICPMS Prep										**11/18/08**
ICP-MS										
Arsenic	7440-38-2	LA-505-412	B	1.83		ug/L	1	0.4	4.0	11/18/08
Lead	7439-92-1	LA-505-412	U	<0.1		ug/L	1	0.1	1.0	11/18/08
Thallium	7440-28-0	LA-505-412	U	<0.05		ug/L	1	0.05	0.50	11/18/08
Uranium	7440-61-1	LA-505-412		1.55		ug/L	1	0.05	0.20	11/18/08

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.

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

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

Sample # 80074005
SAF# X08-048
Sample ID B1W595

Matrix WATER
Sampled 10/31/08
Received 10/31/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**10/31/08**
Anions by IC										
Chloride	16887-00-6	LA-533-410	DN	8.28		ug/mL	2	0.09	0.80	10/31/08
Fluoride	16984-48-8	LA-533-410	BD	0.340		ug/mL	2	0.05	0.40	10/31/08
Nitrate-N	NO3-N	LA-533-410	D	4.28		ug/mL	2	0.02	0.20	10/31/08
Nitrite-N	NO2-N	LA-533-410	UD	<0.03		ug/mL	2	0.03	0.20	10/31/08
Sulfate	14808-79-8	LA-533-410	D	39.5		ug/mL	2	0.3	2.0	10/31/08
ICP Prep										**11/04/08**
ICP-AES										
Antimony	7440-36-0	LA-505-411	U	<60		ug/L	1	60	280	11/05/08
Barium	7440-39-3	LA-505-411		43.6		ug/L	1	4	20	11/05/08
Beryllium	7440-41-7	LA-505-411	U	<4		ug/L	1	4	20	11/05/08
Cadmium	7440-43-9	LA-505-411	U	<4		ug/L	1	4	20	11/05/08
Calcium	7440-70-2	LA-505-411		44600		ug/L	1	70	360	11/05/08
Chromium	7440-47-3	LA-505-411		20.5		ug/L	1	10	20	11/05/08
Cobalt	7440-48-4	LA-505-411	U	<5		ug/L	1	5	25	11/05/08
Copper	7440-50-8	LA-505-411	U	<6		ug/L	1	6	30	11/05/08
Iron	7439-89-6	LA-505-411	U	<20		ug/L	1	20	120	11/05/08
Magnesium	7439-95-4	LA-505-411		12700		ug/L	1	50	250	11/05/08

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.

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

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

Sample # 80074005
SAF# X08-048
Sample ID B1W595

Matrix WATER
Sampled 10/31/08
Received 10/31/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Manganese	7439-96-5	LA-505-411	U	<4		ug/L	1	4	20	11/05/08
Nickel	7440-02-0	LA-505-411	U	<6		ug/L	1	6	30	11/05/08
Potassium	7440-09-7	LA-505-411		6440		ug/L	1	200	850	11/05/08
Silver	7440-22-4	LA-505-411	BC	5.90		ug/L	1	5	25	11/05/08
Sodium	7440-23-5	LA-505-411		20800		ug/L	1	50	260	11/05/08
Strontium	7440-24-6	LA-505-411		277		ug/L	1	4	20	11/05/08
Vanadium	7440-62-2	LA-505-411	B	20.5		ug/L	1	10	60	11/05/08
Zinc	7440-66-6	LA-505-411	U	<9		ug/L	1	9	45	11/05/08
ICPMS Prep										**11/18/08**
ICP-MS										
Arsenic	7440-38-2	LA-505-412		4.39		ug/L	1	0.4	4.0	11/18/08
Lead	7439-92-1	LA-505-412	U	<0.1		ug/L	1	0.1	1.0	11/18/08
Thallium	7440-28-0	LA-505-412	U	<0.05		ug/L	1	0.05	0.50	11/18/08
Uranium	7440-61-1	LA-505-412		6.79		ug/L	1	0.05	0.20	11/18/08

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.

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

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

Sample # 80074006
SAF# X08-048
Sample ID B1W5B1

Matrix WATER
Sampled 10/31/08
Received 10/31/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**10/31/08**
Anions by IC										
Chloride	16887-00-6	LA-533-410	DN	7.22		ug/mL	2	0.09	0.80	10/31/08
Fluoride	16984-48-8	LA-533-410	BD	0.287		ug/mL	2	0.05	0.40	10/31/08
Nitrate-N	NO3-N	LA-533-410	D	3.45		ug/mL	2	0.02	0.20	10/31/08
Nitrite-N	NO2-N	LA-533-410	UD	<0.03		ug/mL	2	0.03	0.20	10/31/08
Sulfate	14808-79-8	LA-533-410	D	24.0		ug/mL	2	0.3	2.0	10/31/08
ICP Prep										**11/04/08**
ICP-AES										
Antimony	7440-36-0	LA-505-411	U	<60		ug/L	1	60	280	11/05/08
Barium	7440-39-3	LA-505-411		52.5		ug/L	1	4	20	11/05/08
Beryllium	7440-41-7	LA-505-411	U	<4		ug/L	1	4	20	11/05/08
Cadmium	7440-43-9	LA-505-411	U	<4		ug/L	1	4	20	11/05/08
Calcium	7440-70-2	LA-505-411		48200		ug/L	1	70	360	11/05/08
Chromium	7440-47-3	LA-505-411		70.1		ug/L	1	10	20	11/05/08
Cobalt	7440-48-4	LA-505-411	U	<5		ug/L	1	5	25	11/05/08
Copper	7440-50-8	LA-505-411	U	<6		ug/L	1	6	30	11/05/08
Iron	7439-89-6	LA-505-411	U	<20		ug/L	1	20	120	11/05/08
Magnesium	7439-95-4	LA-505-411		13400		ug/L	1	50	250	11/05/08

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.

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

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

Sample # 80074006
SAF# X08-048
Sample ID B1W5B1

Matrix WATER
Sampled 10/31/08
Received 10/31/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Manganese	7439-96-5	LA-505-411	U	<4		ug/L	1	4	20	11/05/08
Nickel	7440-02-0	LA-505-411	U	<6		ug/L	1	6	30	11/05/08
Potassium	7440-09-7	LA-505-411		5420		ug/L	1	200	850	11/05/08
Silver	7440-22-4	LA-505-411	BC	5.90		ug/L	1	5	25	11/05/08
Sodium	7440-23-5	LA-505-411		18600		ug/L	1	50	260	11/05/08
Strontium	7440-24-6	LA-505-411		285		ug/L	1	4	20	11/05/08
Vanadium	7440-62-2	LA-505-411	B	28.9		ug/L	1	10	60	11/05/08
Zinc	7440-66-6	LA-505-411		50.1		ug/L	1	9	45	11/05/08
ICPMS Prep										**11/18/08**
ICP-MS										
Arsenic	7440-38-2	LA-505-412	B	3.40		ug/L	1	0.4	4.0	11/18/08
Lead	7439-92-1	LA-505-412	U	<0.1		ug/L	1	0.1	1.0	11/18/08
Thallium	7440-28-0	LA-505-412	U	<0.05		ug/L	1	0.05	0.50	11/18/08
Uranium	7440-61-1	LA-505-412		3.28		ug/L	1	0.05	0.20	11/18/08

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.

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

WSCF Analytical Results Report

Attention Michael Neely
Department Radiochemistry

Group # WSCF80074
Project Number X08-048

Sample # 80074004
SAF# X08-048
Sample ID B1W559

Matrix WATER
Sampled 10/31/08
Received 10/31/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Alpha/Beta Prep										**11/20/08**
Gross Alpha/Beta										
Gross Alpha	12587-46-1	LA-508-415	U	0.492	1.02	pCi/L	1	1.8		12/02/08
Gross Beta	12587-47-2	LA-508-415		5.81	1.82	pCi/L	1	2.4		12/02/08
H3 EICHROM										**11/04/08**
TRI-CARB LSC										
Tritium	10028-17-8	LA-508-421	U	95.0	160	pCi/L	1	210		11/07/08
SR-89/90										**11/03/08**
SR-89/90										
Strontium-89/90	SR-RAD	LA-220-406	U	-2.97	1.82	pCi/L	1	0.90		11/13/08
Tc-99										**11/04/08**
TRI-CARB LSC										
Technetium-99	14133-76-7	LA-508-421	U	-2.60	3.6	pCi/L	1	6.0		11/07/08

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
U - Analyzed for but not detected above limiting criteria.
N - Spike Recovery is Outside Control Limits.
X,Y or Z - See comment detail and/or narrative.

WSCF Analytical Results Report

Attention Michael Neely
Department Radiochemistry

Group # WSCF80074
Project Number X08-048

Sample # 80074005
SAF# X08-048
Sample ID B1W595

Matrix WATER
Sampled 10/31/08
Received 10/31/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Alpha/Beta Prep										**11/20/08**
Gross Alpha/Beta										
Gross Alpha	12587-46-1	LA-508-415		2.93	1.68	pCi/L	1	2.2		12/02/08
Gross Beta	12587-47-2	LA-508-415		21.8	3.74	pCi/L	1	3.5		12/02/08
H3 EICHROM										**11/04/08**
TRI-CARB LSC										
Tritium	10028-17-8	LA-508-421		23000	4600	pCi/L	1	210		11/07/08
SR-89/90										**11/03/08**
SR-89/90										
Strontium-89/90	SR-RAD	LA-220-406	U	-0.680	1.78	pCi/L	1	1.0		11/13/08
Tc-99										**11/04/08**
TRI-CARB LSC										
Technetium-99	14133-76-7	LA-508-421		22.0	5.9	pCi/L	1	6.0		11/07/08

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
U - Analyzed for but not detected above limiting criteria.
N - Spike Recovery is Outside Control Limits.
X,Y or Z - See comment detail and/or narrative.

WSCF Analytical Results Report

Attention Michael Neely
Department Radiochemistry

Group # WSCF80074
Project Number X08-048

Sample # 80074006
SAF# X08-048
Sample ID B1W5B1

Matrix WATER
Sampled 10/31/08
Received 10/31/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Alpha/Beta Prep										**11/20/08**
Gross Alpha/Beta										
Gross Alpha	12587-46-1	LA-508-415		2.20	1.56	pCi/L	1	2.2		12/02/08
Gross Beta	12587-47-2	LA-508-415		174	18.6	pCi/L	1	3.5		12/02/08
H3 EICHROM										**11/04/08**
TRI-CARB LSC										
Tritium	10028-17-8	LA-508-421		7400	1500	pCi/L	1	210		11/07/08
SR-89/90										**11/03/08**
SR-89/90										
Strontium-89/90	SR-RAD	LA-220-406	U	-3.17	1.77	pCi/L	1	0.92		11/13/08
Tc-99										**11/04/08**
TRI-CARB LSC										
Technetium-99	14133-76-7	LA-508-421	U	1.80	3.6	pCi/L	1	6.0		11/07/08

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
U - Analyzed for but not detected above limiting criteria.
N - Spike Recovery is Outside Control Limits.
X,Y or Z - See comment detail and/or narrative.

WSCF Analytical Results Report

Attention Michael Neely
Department Wet Chemistry

Group # WSCF80074
Project Number X08-048

Sample # 80074004
SAF# X08-048
Sample ID B1W559

Matrix WATER
Sampled 10/31/08
Received 10/31/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Alkalinity										
Total Alkalinity as CaCO3	ALKALINITY	LA-531-411		140		mg/L	1	1.0	10	11/04/08

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.
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
N - MS and/or MSD sample recovery outside control limits.
U - Analyzed for but not detected above limiting criteria.

N - Spike Recovery is Outside Control Limits.
X,Y or Z - See comment detail and/or narrative.

WSCF Analytical Results Report

Attention Michael Neely
Department Wet Chemistry

Group # WSCF80074
Project Number X08-048

Sample # 80074005
SAF# X08-048
Sample ID B1W595

Matrix WATER
Sampled 10/31/08
Received 10/31/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Alkalinity										
Total Alkalinity as CaCO3	ALKALINITY	LA-531-411		150		mg/L	1	1.0	10	11/04/08

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.
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
N - MS and/or MSD sample recovery outside control limits.
U - Analyzed for but not detected above limiting criteria.

N - Spike Recovery is Outside Control Limits.
X,Y or Z - See comment detail and/or narrative.

WSCF Analytical Results Report

Attention Michael Neely
Department Wet Chemistry

Group # WSCF80074
Project Number X08-048

Sample # 80074006
SAF# X08-048
Sample ID B1W5B1

Matrix WATER
Sampled 10/31/08
Received 10/31/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Alkalinity										
Total Alkalinity as CaCO3	ALKALINITY	LA-531-411		170		mg/L	1	1.0	10	11/04/08

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.
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
N - MS and/or MSD sample recovery outside control limits.
U - Analyzed for but not detected above limiting criteria.

N - Spike Recovery is Outside Control Limits.
X,Y or Z - See comment detail and/or narrative.

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

QC Batch 5826
Associated Samples 80074004, 80074005, 80074006

Test Anions by Ion Chromatography (Water)

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #1944**							
Fluoride	16984-48-8		<0.023	ug/mL					U	10/31/08
Chloride	16887-00-6		<0.047	ug/mL					U	10/31/08
Nitrite-N	NO2-N		<0.013	ug/mL					U	10/31/08
Nitrate-N	NO3-N		<0.012	ug/mL					U	10/31/08
Sulfate	14808-79-8		<0.13	ug/mL					U	10/31/08
LCS			**QC Sample #1945**							
Fluoride	16984-48-8		0.929	ug/mL	91	90 - 110				10/31/08
Chloride	16887-00-6		1.85	ug/mL	92.7	90 - 110				10/31/08
Nitrite-N	NO2-N		0.958	ug/mL	95.8	90 - 110				10/31/08
Nitrate-N	NO3-N		0.863	ug/mL	96	90 - 110				10/31/08
Sulfate	14808-79-8		3.64	ug/mL	91	90 - 110				10/31/08
DUP			**QC Sample #1946**							
			Original 80074004							
Fluoride	16984-48-8	.291	0.293	ug/mL			0.69	20	BD	10/31/08
Chloride	16887-00-6	3.62	3.68	ug/mL			1.64	20	D	10/31/08
Nitrite-N	NO2-N	0	<0.026	ug/mL			0.00	20	UD	10/31/08
Nitrate-N	NO3-N	1.14	1.14	ug/mL			0.00	20	D	10/31/08
Sulfate	14808-79-8	20.9	20.9	ug/mL			0.00	20	D	10/31/08
MS			**QC Sample #1947**							
			Original 80074004							

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit		RQ	Analyzed
Fluoride	16984-48-8	.291	1.27	ug/mL	96	80 - 120				D	10/31/08
Chloride	16887-00-6	3.62	6.25	ug/mL	132	80 - 120				DN1	10/31/08
Nitrite-N	NO2-N	0	1.18	ug/mL	118	80 - 120				D1	10/31/08
Nitrate-N	NO3-N	1.14	2.09	ug/mL	105	80 - 120				D	10/31/08
Sulfate	14808-79-8	20.9	25.0	ug/mL	100	80 - 120				D	10/31/08
MSD			**QC Sample #1948**								
			Original 80074004						**Paired**	**1947**	
Fluoride	16984-48-8	.291	1.27	ug/mL	96.5	80 - 120	0.52	20		D	10/31/08
Chloride	16887-00-6	3.62	5.65	ug/mL	102	80 - 120	25.60	20	*	D	10/31/08
Nitrite-N	NO2-N	0	0.962	ug/mL	96.3	80 - 120	20.30	20	*	D	10/31/08
Nitrate-N	NO3-N	1.14	2.03	ug/mL	98.4	80 - 120	6.49	20		D	10/31/08
Sulfate	14808-79-8	20.9	25.0	ug/mL	101	80 - 120	1.00	20		D	10/31/08

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

QC Batch 5865
Associated Samples 80074001, 80074002, 80074003

Test ICP-6010 - All possible metals

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #2036**							
Iron	7439-89-6		<25	ug/L					U	12/03/08
Magnesium	7439-95-4		<50	ug/L					U	12/03/08
Manganese	7439-96-5		<4.0	ug/L					U	12/03/08
Nickel	7440-02-0		<6.0	ug/L					U	12/03/08
Potassium	7440-09-7		<170	ug/L					U	12/03/08
Silver	7440-22-4		11.7	ug/L					B	12/03/08
Sodium	7440-23-5		<51	ug/L					U	12/03/08
Antimony	7440-36-0		<56	ug/L					U	12/03/08
Barium	7440-39-3		<4.0	ug/L					U	12/03/08
Cadmium	7440-43-9		<4.0	ug/L					U	12/03/08
Chromium	7440-47-3		<13	ug/L					U	12/03/08
Cobalt	7440-48-4		<5.0	ug/L					U	12/03/08
Copper	7440-50-8		<6.0	ug/L					U	12/03/08
Vanadium	7440-62-2		<12	ug/L					U	12/03/08
Zinc	7440-66-6		<9.0	ug/L					U	12/03/08
Calcium	7440-70-2		<73	ug/L					U	12/03/08
Strontium	7440-24-6		<4.0	ug/L					U	12/03/08
Beryllium	7440-41-7		<4.0	ug/L					U	12/03/08
LCS			**QC Sample #2037**							
Iron	7439-89-6		944	ug/L	94.4	80 - 120				11/05/08

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Magnesium	7439-95-4		938	ug/L	93.8	80 - 120				11/05/08
Manganese	7439-96-5		957	ug/L	95.7	80 - 120				11/05/08
Nickel	7440-02-0		978	ug/L	97.8	80 - 120				11/05/08
Potassium	7440-09-7		10100	ug/L	101	80 - 120				11/05/08
Silver	7440-22-4		946	ug/L	94.6	80 - 120				11/05/08
Sodium	7440-23-5		960	ug/L	96	80 - 120				11/05/08
Antimony	7440-36-0		984	ug/L	98.4	80 - 120				11/05/08
Barium	7440-39-3		444	ug/L	88.8	80 - 120				11/05/08
Cadmium	7440-43-9		986	ug/L	98.6	80 - 120				11/05/08
Chromium	7440-47-3		944	ug/L	94.4	80 - 120				11/05/08
Cobalt	7440-48-4		969	ug/L	96.9	80 - 120				11/05/08
Copper	7440-50-8		930	ug/L	93	80 - 120				11/05/08
Vanadium	7440-62-2		951	ug/L	95.1	80 - 120				11/05/08
Zinc	7440-66-6		970	ug/L	97	80 - 120				11/05/08
Calcium	7440-70-2		988	ug/L	98.8	80 - 120				11/05/08
Strontium	7440-24-6		474	ug/L	94.7	80 - 120				11/05/08
Beryllium	7440-41-7		509	ug/L	102	80 - 120				11/05/08
MS			**QC Sample #2038**							
			Original 80070021							
Iron	7439-89-6		1050	ug/L	22.2	75 - 125			N	11/05/08
Magnesium	7439-95-4		5140	ug/L	145	75 - 125			N	11/05/08
Manganese	7439-96-5		1050	ug/L	104	75 - 125				11/05/08
Nickel	7440-02-0		966	ug/L	95.9	75 - 125				11/05/08
Potassium	7440-09-7		18400	ug/L	101	75 - 125				11/05/08
Silver	7440-22-4		1020	ug/L	102	75 - 125				11/05/08
Sodium	7440-23-5		1.02E6	ug/L	-2200	75 - 125				11/05/08
Antimony	7440-36-0		932	ug/L	93.2	75 - 125				11/05/08
Barium	7440-39-3		519	ug/L	103	75 - 125				11/05/08

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit		RQ	Analyzed
Cadmium	7440-43-9		1030	ug/L	103	75 - 125					11/05/08
Chromium	7440-47-3		1030	ug/L	103	75 - 125					11/05/08
Cobalt	7440-48-4		973	ug/L	97.3	75 - 125					11/05/08
Copper	7440-50-8		967	ug/L	96.7	75 - 125					11/05/08
Vanadium	7440-62-2		1020	ug/L	102	75 - 125					11/05/08
Zinc	7440-66-6		1030	ug/L	103	75 - 125					11/05/08
Calcium	7440-70-2		10000	ug/L	170	75 - 125					11/05/08
Strontium	7440-24-6		826	ug/L	114	75 - 125					11/05/08
Beryllium	7440-41-7		524	ug/L	105	75 - 125					11/05/08
MSD			**QC Sample #2039**								
			Original 80070021						**Paired**	**2038**	
Iron	7439-89-6		1160	ug/L	33.5	75 - 125	40.60	20	*	N	11/05/08
Magnesium	7439-95-4		4980	ug/L	129	75 - 125	11.70	20			11/05/08
Manganese	7439-96-5		1030	ug/L	102	75 - 125	1.94	20			11/05/08
Nickel	7440-02-0		954	ug/L	94.8	75 - 125	1.15	20			11/05/08
Potassium	7440-09-7		17900	ug/L	95.6	75 - 125	5.49	20			11/05/08
Silver	7440-22-4		997	ug/L	99.7	75 - 125	2.28	20			11/05/08
Sodium	7440-23-5		1.16E6	ug/L	12000	75 - 125	290.00	20	*		11/05/08
Antimony	7440-36-0		913	ug/L	91.3	75 - 125	2.06	20			11/05/08
Barium	7440-39-3		506	ug/L	99.9	75 - 125	3.06	20			11/05/08
Cadmium	7440-43-9		1010	ug/L	101	75 - 125	1.96	20			11/05/08
Chromium	7440-47-3		1020	ug/L	102	75 - 125	0.98	20			11/05/08
Cobalt	7440-48-4		959	ug/L	95.9	75 - 125	1.45	20			11/05/08
Copper	7440-50-8		945	ug/L	94.5	75 - 125	2.30	20			11/05/08
Vanadium	7440-62-2		1010	ug/L	101	75 - 125	0.99	20			11/05/08
Zinc	7440-66-6		1010	ug/L	101	75 - 125	1.96	20			11/05/08
Calcium	7440-70-2		9650	ug/L	136	75 - 125	22.20	20	*		11/05/08
Strontium	7440-24-6		797	ug/L	109	75 - 125	4.48	20			11/05/08

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Beryllium	7440-41-7		515	ug/L	103	75 - 125	1.92	20		11/05/08

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

QC Batch 5868
Associated Samples 80074004, 80074005, 80074006

Test ICP-6010 - All possible metals

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #2046**							
Iron	7439-89-6		<25	ug/L					U	12/03/08
Magnesium	7439-95-4		<50	ug/L					U	12/03/08
Manganese	7439-96-5		<4.0	ug/L					U	12/03/08
Nickel	7440-02-0		<6.0	ug/L					U	12/03/08
Potassium	7440-09-7		<170	ug/L					U	12/03/08
Silver	7440-22-4		5.70	ug/L					B	12/03/08
Sodium	7440-23-5		<51	ug/L					U	12/03/08
Antimony	7440-36-0		<56	ug/L					U	12/03/08
Barium	7440-39-3		<4.0	ug/L					U	12/03/08
Cadmium	7440-43-9		<4.0	ug/L					U	12/03/08
Chromium	7440-47-3		<13	ug/L					U	12/03/08
Cobalt	7440-48-4		<5.0	ug/L					U	12/03/08
Copper	7440-50-8		<6.0	ug/L					U	12/03/08
Vanadium	7440-62-2		<12	ug/L					U	12/03/08
Zinc	7440-66-6		<9.0	ug/L					U	12/03/08
Calcium	7440-70-2		<73	ug/L					U	12/03/08
Strontium	7440-24-6		<4.0	ug/L					U	12/03/08
Beryllium	7440-41-7		<4.0	ug/L					U	12/03/08
LCS			**QC Sample #2047**							
Iron	7439-89-6		981	ug/L	98.1	80 - 120				11/05/08

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Magnesium	7439-95-4		970	ug/L	97	80 - 120				11/05/08
Manganese	7439-96-5		1010	ug/L	101	80 - 120				11/05/08
Nickel	7440-02-0		1030	ug/L	103	80 - 120				11/05/08
Potassium	7440-09-7		10200	ug/L	102	80 - 120				11/05/08
Silver	7440-22-4		976	ug/L	97.6	80 - 120				11/05/08
Sodium	7440-23-5		965	ug/L	96.5	80 - 120				11/05/08
Antimony	7440-36-0		999	ug/L	99.9	80 - 120				11/05/08
Barium	7440-39-3		471	ug/L	94.3	80 - 120				11/05/08
Cadmium	7440-43-9		1030	ug/L	103	80 - 120				11/05/08
Chromium	7440-47-3		1000	ug/L	100	80 - 120				11/05/08
Cobalt	7440-48-4		1040	ug/L	104	80 - 120				11/05/08
Copper	7440-50-8		972	ug/L	97.2	80 - 120				11/05/08
Vanadium	7440-62-2		991	ug/L	99.1	80 - 120				11/05/08
Zinc	7440-66-6		1020	ug/L	102	80 - 120				11/05/08
Calcium	7440-70-2		1060	ug/L	106	80 - 120				11/05/08
Strontium	7440-24-6		500	ug/L	100	80 - 120				11/05/08
Beryllium	7440-41-7		535	ug/L	107	80 - 120				11/05/08
MS			**QC Sample #2048**							
			Original 80074004							
Iron	7439-89-6	328	1320	ug/L	99.2	75 - 125				11/05/08
Magnesium	7439-95-4	12300	13000	ug/L	74	75 - 125				11/05/08
Manganese	7439-96-5	34.3	1050	ug/L	102	75 - 125				11/05/08
Nickel	7440-02-0	1.7	1010	ug/L	101	75 - 125				11/05/08
Potassium	7440-09-7	6550	16500	ug/L	99.7	75 - 125				11/05/08
Silver	7440-22-4	5.3	981	ug/L	97.6	75 - 125				11/05/08
Sodium	7440-23-5	16300	16600	ug/L	30	75 - 125				11/05/08
Antimony	7440-36-0	26.5	1020	ug/L	102	75 - 125				11/05/08
Barium	7440-39-3	81.6	559	ug/L	95.6	75 - 125				11/05/08

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Cadmium	7440-43-9	2.8	1020	ug/L	102	75 - 125				11/05/08
Chromium	7440-47-3	7.8	999	ug/L	99.9	75 - 125				11/05/08
Cobalt	7440-48-4	1.1	1010	ug/L	101	75 - 125				11/05/08
Copper	7440-50-8	-.3	972	ug/L	97.2	75 - 125				11/05/08
Vanadium	7440-62-2	2.2	990	ug/L	99	75 - 125				11/05/08
Zinc	7440-66-6	-5.8	1020	ug/L	102	75 - 125				11/05/08
Calcium	7440-70-2	37400	38200	ug/L	85	75 - 125				11/05/08
Strontium	7440-24-6	231	743	ug/L	102	75 - 125				11/05/08
Beryllium	7440-41-7	.9	529	ug/L	106	75 - 125				11/05/08
MSD			**QC Sample #2049**							
			Original 80074004						**Paired 2048**	
Iron	7439-89-6	328	1450	ug/L	112	75 - 125	12.10	20		11/05/08
Magnesium	7439-95-4	12300	12800	ug/L	52	75 - 125	34.90	20	*	11/05/08
Manganese	7439-96-5	34.3	1040	ug/L	100	75 - 125	1.98	20		11/05/08
Nickel	7440-02-0	1.7	995	ug/L	99.5	75 - 125	1.50	20		11/05/08
Potassium	7440-09-7	6550	16400	ug/L	98.7	75 - 125	1.01	20		11/05/08
Silver	7440-22-4	5.3	972	ug/L	96.7	75 - 125	0.93	20		11/05/08
Sodium	7440-23-5	16300	16400	ug/L	9	75 - 125	108.00	20	*	11/05/08
Antimony	7440-36-0	26.5	987	ug/L	98.7	75 - 125	3.29	20		11/05/08
Barium	7440-39-3	81.6	556	ug/L	95	75 - 125	0.63	20		11/05/08
Cadmium	7440-43-9	2.8	1000	ug/L	100	75 - 125	1.98	20		11/05/08
Chromium	7440-47-3	7.8	996	ug/L	99.6	75 - 125	0.30	20		11/05/08
Cobalt	7440-48-4	1.1	993	ug/L	99.3	75 - 125	1.70	20		11/05/08
Copper	7440-50-8	-.3	964	ug/L	96.4	75 - 125	0.83	20		11/05/08
Vanadium	7440-62-2	2.2	982	ug/L	98.2	75 - 125	0.81	20		11/05/08
Zinc	7440-66-6	-5.8	1000	ug/L	100	75 - 125	1.98	20		11/05/08
Calcium	7440-70-2	37400	37500	ug/L	15	75 - 125	140.00	20	*	11/05/08
Strontium	7440-24-6	231	740	ug/L	102	75 - 125	0.00	20		11/05/08

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Beryllium	7440-41-7	.9	525	ug/L	105	75 - 125	0.95	20		11/05/08

Quality Control Report

Attention Michael Neely
Department Wet Chemistry

Group # WSCF80074
Project Number X08-048

QC Batch 5900
Associated Samples 80074004, 80074005, 80074006

Test Total Alkalinity as mg/L CaCO3 (Water)

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
DUP			**QC Sample #2132**							
			Original 80050001							
Total Alkalinity as	ALKALINITY		98.0	mg/L			0.00	20		11/04/08
LCS			**QC Sample #2133**							
Total Alkalinity as	ALKALINITY		31.4	mg/L	105	80 - 120				11/04/08
LCS			**QC Sample #2134**							
Total Alkalinity as	ALKALINITY		31.5	mg/L	105	80 - 120				11/04/08

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

QC Batch 12887 **Test** ICP-2008 MS All possible metal
Associated Samples 80074001, 80074002, 80074003, 80074004, 80074005, 80074006

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #2774**							
Lead	7439-92-1		<0.10	ug/L					U	11/18/08
Thallium	7440-28-0		<0.050	ug/L					U	11/18/08
Uranium	7440-61-1		<0.050	ug/L					U	11/18/08
Arsenic	7440-38-2		<0.40	ug/L					U	11/18/08
LCS			**QC Sample #2777**							
Lead	7439-92-1		41.4	ug/L	104	85 - 115				11/18/08
Thallium	7440-28-0		39.8	ug/L	99.4	85 - 115				11/18/08
Uranium	7440-61-1		40.0	ug/L	100	85 - 115				11/18/08
Arsenic	7440-38-2		40.6	ug/L	102	85 - 115				11/18/08
MS			**QC Sample #2782**							
			Original 80032005							
Lead	7439-92-1		41.2	ug/L	103	70 - 130				11/18/08
Thallium	7440-28-0		40.2	ug/L	100	70 - 130				11/18/08
Uranium	7440-61-1		42.6	ug/L	103	70 - 130				11/18/08
Arsenic	7440-38-2		44.0	ug/L	106	70 - 130				11/18/08
MSD			**QC Sample #2783**							
			Original 80032005					**Paired**	**2782**	
Lead	7439-92-1		41.4	ug/L	103	70 - 130	0.00	20		11/18/08
Thallium	7440-28-0		40.2	ug/L	100	70 - 130	0.00	20		11/18/08
Uranium	7440-61-1		42.4	ug/L	102	70 - 130	0.98	20		11/18/08

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF80074
Project Number X08-048

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Arsenic	7440-38-2		42.7	ug/L	102	70 - 130	3.85	20		11/18/08

Quality Control Report

Attention Michael Neely
Department Radiochemistry

Group # WSCF80074
Project Number X08-048

QC Batch 5822
Associated Samples 80074004, 80074005, 80074006

Test Strontium 89/90 (GPC/GEA)

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #1923**							
Strontium-89/90	SR-RAD		0.103	pCi/L						11/13/08
LCS			**QC Sample #1924**							
Strontium-89/90	SR-RAD		153	pCi/L	110.9	80 - 120				11/13/08
DUP			**QC Sample #1925**							
			Original 80071003							
Strontium-89/90	SR-RAD		520	pCi/L			0.38	-20 - 20		11/05/08

Quality Control Report

Attention Michael Neely
Department Radiochemistry

Group # WSCF80074
Project Number X08-048

QC Batch 5877
Associated Samples 80074004, 80074005, 80074006

Test Tritium by LSC

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #2058**							
Tritium	10028-17-8		34.0	pCi/L						11/07/08
LCS			**QC Sample #2059**							
Tritium	10028-17-8		2330	pCi/L	80.71	80 - 120				11/07/08
DUP			**QC Sample #2060**							
			Original 80065010							
Tritium	10028-17-8		1300	pCi/L			5.24	-20 - 20		11/07/08
MS			**QC Sample #2061**							
			Original 80065010							
Tritium	10028-17-8		21300	pCi/L	88.33	75 - 125				11/07/08

Quality Control Report

Attention Michael Neely
Department Radiochemistry

Group # WSCF80074
Project Number X08-048

QC Batch 5887
Associated Samples 80074004, 80074005, 80074006

Test TC99 by Liquid Scintillation

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit		RQ	Analyzed
BLANK			**QC Sample #2082**								
Technetium-99	14133-76-7		-2.40	pCi/L						U	11/07/08
LCS			**QC Sample #2083**								
Technetium-99	14133-76-7		169	pCi/L	106.3	80 - 120					11/07/08
DUP			**QC Sample #2084**								
			Original 80057018								
Technetium-99	14133-76-7		-0.200	pCi/L			228.57	-20 - 20	*	U1	11/07/08
MS			**QC Sample #2085**								
			Original 80057018								
Technetium-99	14133-76-7		690	pCi/L	107.91	75 - 125					11/07/08

Quality Control Report

Attention Michael Neely
Department Radiochemistry

Group # WSCF80074
Project Number X08-048

QC Batch 11489
Associated Samples 80074004, 80074005, 80074006

Test Gross Alpha/Gross Beta

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit		RQ	Analyzed
DUP			**QC Sample #2199**								
			Original 80074004								
Gross Alpha	12587-46-1	.492	1.58	pCi/L			105.02	-20 - 20	*	1	12/02/08
Gross Beta	12587-47-2	5.81	5.30	pCi/L			9.18	-20 - 20			12/02/08
BLANK			**QC Sample #2735**								
Gross Alpha	12587-46-1		0.477	pCi/L							12/02/08
Gross Beta	12587-47-2		0.100	pCi/L							12/02/08
LCS			**QC Sample #2736**								
Gross Alpha	12587-46-1		48.3	pCi/L	93.48	80 - 120					12/02/08
Gross Beta	12587-47-2		168	pCi/L	112.5	80 - 120					12/02/08

Quality Control Report

Attention Michael Neely
Department Radiochemistry

Group # WSCF80074
Project Number X08-048

QC Batch 5822
Associated Samples 80074004, 80074005, 80074006

Test Strontium 89/90 (GPC/GEA)

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #1923**							
Strontium-85	13967-73-2				82.8	25 - 102.5				11/13/08
LCS			**QC Sample #1924**							
Strontium-85	13967-73-2				83.7	25 - 102.5				11/13/08
DUP			**QC Sample #1925**							
			Original 80071003							
Strontium-85	13967-73-2				89.6	25 - 102.5	4.70			11/05/08
SAMPLE			**Sample #80074004**							
Strontium-85	13967-73-2				93.4	25 - 102.5				11/13/08
SAMPLE			**Sample #80074005**							
Strontium-85	13967-73-2				84	25 - 102.5				11/13/08
SAMPLE			**Sample #80074006**							
Strontium-85	13967-73-2				90.8	25 - 102.5				11/13/08

Analytical Comment Report

Attention Michael Neely

Group # WSCF80074
Project Number X08-048

80074001	B1W558

ICP-AES: High/Check standard used to ensure linearity
due to sample results exceeding the calibration standard
for the following elements: magnesium, sodium, and calcium.
ICP-AES: The following elements sample concentraton
exceed spiking level by a factor of 4. Spike recoveries
are not valid: sodium and calcium.

80074002	B1W594

ICP-AES: High/Check standard used to ensure linearity
due to sample results exceeding the calibration standard
for the following elements: magnesium, sodium, and calcium.
ICP-AES: The following elements sample concentraton
exceed spiking level by a factor of 4. Spike recoveries
are not valid: sodium and calcium.

80074003	B1W5B0

ICP-AES: High/Check standard used to ensure linearity
due to sample results exceeding the calibration standard
for the following elements: magnesium, sodium, and calcium.
ICP-AES: The following elements sample concentraton
exceed spiking level by a factor of 4. Spike recoveries
are not valid: sodium and calcium.

80074004	B1W559

ICP-AES: High/Check standard used to ensure linearity
due to sample results exceeding the calibration standard
for the following elements: magnesium, sodium, and calcium.
ICP-AES: The following elements sample concentraton
exceed spiking level by a factor of 4. Spike recoveries
are not valid: magnesium, sodium, and calcium.

80074005	B1W595

Analytical Comment Report

Attention Michael Neely

Group # WSCF80074
Project Number X08-048

ICP-AES: High/Check standard used to ensure linearity
due to sample results exceeding the calibration standard
for the following elements: magnesium, sodium, and calcium.
ICP-AES: The following elements sample concentraton
exceed spiking level by a factor of 4. Spike recoveries
are not valid: magnesium, sodium, and calcium.

80074006 **B1W5B1**

ICP-AES: High/Check standard used to ensure linearity
due to sample results exceeding the calibration standard
for the following elements: magnesium, sodium, and calcium.
ICP-AES: The following elements sample concentraton
exceed spiking level by a factor of 4. Spike recoveries
are not valid: magnesium, sodium, and calcium.

Quality Control Comments

Department Inorganic

1947 B1W559(80074004MS)

Analyte Chloride - Anions by Ion Chromatography (Water)
[1] Sample spike duplicate precision criteria not met. No flag required. DTS

1947 B1W559(80074004MS)

Analyte Nitrite-N - Anions by Ion Chromatography (Water)
[1] Sample spike duplicate precision criteria not met. No flag required. DTS

Analytical Comment Report

Attention Michael Neely

Group # WSCF80074
Project Number X08-048

Quality Control Comments

Department Radiochemistry

2084 B1X658(80057018DUP)

Analyte Technetium-99 - TC99 by Liquid Scintillation
[1] Duplicate RPD out-of-limits. RPD limit does not apply to results near the Minimum Detectable Concentration.

Department Radiochemistry

2199 B1X7C0(80018012DUP)

Analyte Gross Alpha - Gross Alpha/Gross Beta
[1] Duplicate RPD out-of-limits. RPD limit does not apply to results near the Minimum Detectable Concentration.

ATTACHMENT4

SAMPLE RECEIPT

Consisting of 6 pages
Including cover page

Waste Sampling and Characterization Facility
P.O. Box 1970 S3-30, Richland WA 99352
Phone: (509) 373-7004/FAX: (509) 373-7134

ACKNOWLEDGEMENT OF SAMPLES RECEIVED

WSCF Laboratory
PO Box 1000 S3-30
Richland, WA 99352

ATTN: Michael Neely

Customer Code:	CHPRC
PO #:	300071
Work Order #:	80074
Profile #:	X08-048-120
Proj. Mgr.:	
Phone:	

The following samples were received from you on 10/31/2008 1:30:00 PM. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Waste Sampling and Characterization Facility.

Sample #	Sample ID	Matrix	Collected	Received
		Tests scheduled		
80074001	B1W558	WATER	10/31/2008 12:37	10/31/2008 13
		2008-W; 6010-W		
80074002	B1W594	WATER	10/31/2008 11:02	10/31/2008 13
		2008-W; 6010-W		
80074003	B1W5B0	WATER	10/31/2008 09:36	10/31/2008 13
		2008-W; 6010-W		
80074004	B1W559	WATER	10/31/2008 12:37	10/31/2008 13
		2008-W; 6010-W; ALK-W; GAB-AO-W; GAB-BO-W; H3-COL-W; IC-W; SR89/90-W; TC99-W		
80074005	B1W595	WATER	10/31/2008 11:02	10/31/2008 13
		2008-W; 6010-W; ALK-W; GAB-AO-W; GAB-BO-W; H3-COL-W; IC-W; SR89/90-W; TC99-W		
80074006	B1W5B1	WATER	10/31/2008 09:36	10/31/2008 13
		2008-W; 6010-W; ALK-W; GAB-AO-W; GAB-BO-W; H3-COL-W; IC-W; SR89/90-W; TC99-W		

Test Acronym Description

Test Acronym	Description
2008-W	ICP-MS (W)
6010-W	ICP-AES (W)
ALK-W	Total Alkalinity (W)
GAB-AO-W	Gross Alpha/Beta (A only)(W)
GAB-BO-W	Gross Alpha/Beta (B only)(W)

Waste Sampling and Characterization Facility
P.O. Box 1970 S3-30, Richland WA 99352
Phone: (509) 373-7004/FAX: (509) 373-7134

H3-COL-W	Tritium by EICHROM Column (W)
IC-W	Anions by IC (W)
SR89/90-W	Strontium 89/90 (GPC) (W)
TC99-W	Technetium-99 (W)

FLUOR HANFORD	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X08-048-120 Page 1 of 1

Collector: FLUOR HANFORD R.F. CARRIGAN	Contact/Requester: Steve Treat	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: X08-048	Sampline Origin: Hanford Site	Purchase Order/Charge Code
Project Title: 2P01 CHARACTERIZATION	HNF-N-506-17 Pg 66	Ice Chest No.: SML-442 Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: SURV	Priority: 45 Days	Offsite Property No.

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)

80074

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

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1W568 (F)	001	W	10/31/08	1237	1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1); 200.8_METALS_ICPMS: Lead (1); 200.8_METALS_ICPMS: Thallium (1)	HNO3 to pH <2
B1W558 (F)	002	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1W559	004	W			1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1); 200.8_METALS_ICPMS: Lead (1); 200.8_METALS_ICPMS: Thallium (1)	HNO3 to pH <2
B1W559		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2
B1W559		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1W559		W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool-4C
B1W559		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool-4C
B1W559		W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2); ALPHABETA_GPC: Alpha discrete + Beta (2)	HNO3 to pH <2
B1W559		W			1x1-L G/P	Strontium-89,90 -- Total Sr	HNO3 to pH <2
B1W559		W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	HCl to pH <2
B1W559		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
FLUOR HANFORD R.F. CARRIGAN	R.F. Carrigan		OCT 31 2008 1330	Victor Bias			OCT 31 2008 1330
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	

FLUOR HANFORD	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C.# X08-048-150 Page 1 of 1

Collector: FLUOR HANFORD R.F. CARRIGAN	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: X08-048	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: 2P01 CHARACTERIZATION	HNF-N-506-17 Pg 66	Ice Chest No.: SML-442 Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: SURV	Priority: 45 Days	Offsite Property No.

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.
Site-Wide Generator Knowledge Information Form applies.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1W594 (F)	002	W	10/31/08	1102	1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1); 200.8_METALS_ICPMS: Lead (1); 200.8_METALS_ICPMS: Thallium (1)	HNO3 to pH <2
B1W594 (F)		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1W595	005	W			1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1); 200.8_METALS_ICPMS: Lead (1); 200.8_METALS_ICPMS: Thallium (1)	HNO3 to pH <2
B1W595		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2
B1W595		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1W595		W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1W595		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1W595		W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2); ALPHABETA_GPC: Alpha discrete + Beta (2)	HNO3 to pH <2
B1W595		W			1x1-L G/P	Strontium-89,90 – Total Sr	HNO3 to pH <2
B1W595		W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	HCl to pH <2
B1W595		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None

ICED

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
FLUOR HANFORD R.F. CARRIGAN / R.F. Carrigan	OCT 31 2008 1330	Victor Bins / Bins	OCT 31 2008 1330
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		

FLUOR HANFORD	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C.# X08-048-155
FLUOR HANFORD		Page 1 of 1

Collector: R.F. CARRIGAN	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: X08-048	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: 2POI CHARACTERIZATION	HNF-N-506-17 Pg 66	Ice Chest No.: SML-442 Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: SURV	Priority: 45 Days	Offsite Property No.

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.
Site-Wide Generator Knowledge Information Form applies.

Sample No.	Lab ID	*	Date	Time	No/Type Containers	Sample Analysis	Preservative
B1W5B0 (F)	003	W	10/31/08	0936	1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1); 200.8_METALS_ICPMS: Lead (1); 200.8_METALS_ICPMS: Thallium (1)	HNO3 to pH <2
B1W5B0 (F)		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1W5B1	004	W			1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1); 200.8_METALS_ICPMS: Lead (1); 200.8_METALS_ICPMS: Thallium (1)	HNO3 to pH <2
B1W5B1		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2
B1W5B1		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1W5B1		W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool-4C
B1W5B1		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool-4C
B1W5B1		W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2); ALPHABETA_GPC: Alpha discrete + Beta (2)	HNO3 to pH <2
B1W5B1		W			1x1-L G/P	Strontium-89,90 – Total Sr	HNO3 to pH <2
B1W5B1		W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	HCl to pH <2
B1W5B1		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
FLUOR HANFORD	R.F. CARRIGAN	R.F. Carrigan	OCT 31 2008 1332	Victor Ramos			OCT 31 2008 1330
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	