0081477

RECEIVED JANUARY 14, 2009

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 9, 2009

RECEIVED
APR 0 2 2009
EDMC

From: WSCF Laboratory
WSCF Analytical Chemistry

CC:

Subject: FINAL RESULT FOR SAMPLE DELIVERY GROUP WSCF80038

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 WCSF80038

* 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

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF Number Cross Reference

Group # WSCF80038
Data Deliverable Date 12/05/08

SAF #	Sample ID	Sample #	Matrix	Sampled	Received
S09-010	B1X6Y3	80038001	WATER	10/21/08	10/21/08
S09-010	B1X6Y5	80038002	WATER	10/21/08	10/21/08
S09-010	B1X6Y6	80038003	WATER	10/21/08	10/21/08
S09-010	B1X6Y7	80038004	WATER	10/21/08	10/21/08
I09-003	B1XC45	80038005	WATER	10/21/08	10/21/08
W09-010	B1XF07	80038006	WATER	10/21/08	10/21/08
W09-010	B1XF08	80038007	WATER	10/21/08	10/21/08

ATTACHMENT 2

NARRATIVE

Consisting of 3 pages
Including cover page

Attachment 2
Narrative
WSCF80038

Introduction

Seven (7) Groundwater samples were received at the WSCF Laboratory on October 21, 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):

- Fluoride spike recovery outside acceptance limits, resulting in "N" flag.
- Fluoride duplicate precision criteria not met, 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):

- Iron preparation blank yielded a result above the MDL, resulting in "C" flag.
- Magnesium, Calcium and Sodium high check standard used to insure calibration curve linearity due to high sample results.
- Calcium and Magnesium sample results exceed spiking level by a factor of 4, invalidation spike recovery data.

All other QC controls are within the established limits.

Attachment 2
Narrative
WSCF80038

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.

Organic Comments

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.

All QC controls are within the established limits.

Radiochemistry Comments

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

- Matrix Spike recovery outside acceptance limits, however sample results exceeded spiking level by factor of 4, invalidating the spike recovery results.

All 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 47 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 #	WSCF80038
Report Date	January 9, 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 # WSCF80038
Project Number S09-010

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
5648	5648	2	BLANK	1539	BLANK		Anions by Ion Chromatography (Water)
5648	5648	3	LCS	1540	LCS		Anions by Ion Chromatography (Water)
5648	5648	5	DUP	1541	B1XFB1(80039003DUP)	80039003	Anions by Ion Chromatography (Water)
5648	5648	6	MS	1542	B1XFB1(80039003MS)	80039003	Anions by Ion Chromatography (Water)
5648	5648	7	MSD	1543	B1XFB1(80039003MSD)	80039003	Anions by Ion Chromatography (Water)
5648	5648	8	SAMPLE	80038004	B1X6Y7		Anions by Ion Chromatography (Water)
5648	5648	9	SAMPLE	80038007	B1XF08		Anions by Ion Chromatography (Water)
5648	5648	10	SAMPLE	80038007	B1XF08		Anions by Ion Chromatography (Water)
5648	5648	11	SAMPLE	80038003	B1X6Y6		Anions by Ion Chromatography (Water)
5648	5648	12	SAMPLE	80038002	B1X6Y5		Anions by Ion Chromatography (Water)
5648	5648	13	SAMPLE	80038001	B1X6Y3		Anions by Ion Chromatography (Water)
5716	5949	4	BLANK	1633	BLANK		ICP-2008 MS All possible metal
5716	5949	6	LCS	1634	LCS		ICP-2008 MS All possible metal
5716	5949	12	MS	1635	B1XF16(80013001MS)	80013001	ICP-2008 MS All possible metal
5716	5949	13	MSD	1636	B1XF16(80013001MSD)	80013001	ICP-2008 MS All possible metal
5716	5949	16	SAMPLE	80038004	B1X6Y7		ICP-2008 MS All possible metal
5723	5949	5	BLANK	1647	BLANK		ICP-2008 MS All possible metal
5723	5949	7	LCS	1648	LCS		ICP-2008 MS All possible metal
5723	5949	9	MS	1649	B1X8K9(80005010MS)	80005010	ICP-2008 MS All possible metal
5723	5949	10	MSD	1650	B1X8K9(80005010MSD)	80005010	ICP-2008 MS All possible metal
5723	5949	58	SAMPLE	80038001	B1X6Y3		ICP-2008 MS All possible metal
5794	5912	13	BLANK	1867	BLANK		ICP-2008 MS All possible metal
5794	5912	15	LCS	1868	LCS		ICP-2008 MS All possible metal

Batch QC List

Attention Michael Neely
Department Inorganic

Group # WSCF80038
Project Number S09-010

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
5794	5912	19	MS	1869	MS	80013017	ICP-2008 MS All possible metal
5794	5912	20	MSD	1870	MSD	80013017	ICP-2008 MS All possible metal
5794	5912	21	SAMPLE	80038002	B1X6Y5		ICP-2008 MS All possible metal
5794	5912	34	SAMPLE	80038003	B1X6Y6		ICP-2008 MS All possible metal
5932	5937	10	LCS	2216	LCS		ICP-6010 - All possible metals
5932	5937	11	BLANK	2215	BLANK		ICP-6010 - All possible metals
5932	5937	13	MS	2217	PFP-11-04-08-S-...(80081	80081001	ICP-6010 - All possible metals
5932	5937	15	MSD	2218	PFP-11-04-08-S...(80081	80081001	ICP-6010 - All possible metals
5932	5937	23	SAMPLE	80038006	B1XF07		ICP-6010 - All possible metals
5932	5937	25	SAMPLE	80038007	B1XF08		ICP-6010 - All possible metals

Batch QC List

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF80038
Project Number S09-010

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
5867	5870	4	BLANK	2040	BLANK		SW-846 8260B Volatiles, separate prep
5867	5870	5	LCS	2045	LCS		SW-846 8260B Volatiles, separate prep
5867	5870	9	MS	2043	B1WXY1(80037009MS)	80037009	SW-846 8260B Volatiles, separate prep
5867	5870	10	MSD	2044	B1WXY1(80037009MSD)	80037009	SW-846 8260B Volatiles, separate prep
5867	5870	13	SAMPLE	80038005	B1XC45		SW-846 8260B Volatiles, separate prep
5867	5870	15	SAMPLE	80038005	B1XC45		SW-846 8260B Volatiles, separate prep

Batch QC List

Attention Michael Neely
Department Radiochemistry

Group # WSCF80038
Project Number S09-010

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
5669	5821	1	BLANK	1566	BLANK		TC99 by Liquid Scintillation
5669	5821	2	LCS	1567	LCS		TC99 by Liquid Scintillation
5669	5821	5	DUP	1568	B1XDW4(80029038DUP)	80029038	TC99 by Liquid Scintillation
5669	5821	6	MS	1569	B1XDW4(80029038MS)	80029038	TC99 by Liquid Scintillation
5669	5821	19	SAMPLE	80038005	B1XC45		TC99 by Liquid Scintillation
5674	5776	1	BLANK	1587	BLANK		Tritium by LSC
5674	5776	2	LCS	1588	LCS		Tritium by LSC
5674	5776	3	DUP	1589	B1WXY1(80037009DUP)	80037009	Tritium by LSC
5674	5776	4	MS	1590	B1WXY1(80037009MS)	80037009	Tritium by LSC
5674	5776	9	SAMPLE	80038005	B1XC45		Tritium by LSC
6091	13087	1	BLANK	2376	BLANK		Gross Alpha/Gross Beta
6091	13087	2	LCS	2377	LCS		Gross Alpha/Gross Beta
6091	13087	3	DUP	2378	B1V7W8(80071003DUP)	80071003	Gross Alpha/Gross Beta
6091	13087	12	SAMPLE	80038007	B1XF08		Gross Alpha/Gross Beta
6091	13087	13	SAMPLE	80038007	B1XF08		Gross Alpha/Gross Beta

Batch QC List

Attention Michael Neely
Department Wet Chemistry

Group # WSCF80038
Project Number S09-010

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
	5766	1	LCS	1763	LCS		Total Alkalinity as mg/L CaCO3 (Water)
	5766	3	DUP	1764	B1XDX2(80029039DUP)	80029039	Total Alkalinity as mg/L CaCO3 (Water)
	5766	10	SAMPLE	80038004	B1X6Y7		Total Alkalinity as mg/L CaCO3 (Water)
	5766	13	LCS	1765	LCS		Total Alkalinity as mg/L CaCO3 (Water)
	5766	16	SAMPLE	80038007	B1XF08		Total Alkalinity as mg/L CaCO3 (Water)
	5766	18	SAMPLE	80038003	B1X6Y6		Total Alkalinity as mg/L CaCO3 (Water)
	5766	19	SAMPLE	80038002	B1X6Y5		Total Alkalinity as mg/L CaCO3 (Water)
	5766	20	SAMPLE	80038001	B1X6Y3		Total Alkalinity as mg/L CaCO3 (Water)
	5766	24	LCS	1766	LCS		Total Alkalinity as mg/L CaCO3 (Water)

Method Reference

Attention	Michael Neely	**Group #**	WSCF80038
Department	Inorganic	**Project Number**	S09-010

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 #**	WSCF80038
Department	Organic, Volatiles	**Project Number**	S09-010

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-523-455	Volatile Sample Analysis by SW-846 Method 8260B		
	EPA SW-846	8000B	Determinative Chromographic Separations
	EPA SW-846	8260B	Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)
	HEIS	8260_VOA_GCMS	Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

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 #**	WSCF80038
Department	Radiochemistry	**Project Number**	S09-010

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-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 #**	WSCF80038
Department	Wet Chemistry	**Project Number**	S09-010

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 # WSCF80038
Project Number S09-010

Sample # 80038001
SAF# S09-010
Sample ID B1X6Y3

Matrix WATER
Sampled 10/21/08
Received 10/21/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**10/22/08**
Anions by IC										
Fluoride	16984-48-8	LA-533-410	BDN	0.171		ug/mL	2	0.05	0.40	10/22/08
Chloride	16887-00-6	LA-533-410	D	17.9		ug/mL	2	0.09	0.80	10/22/08
Nitrite-N	NO2-N	LA-533-410	UD	<0.03		ug/mL	2	0.03	0.20	10/22/08
Nitrate-N	NO3-N	LA-533-410	D	5.96		ug/mL	2	0.02	0.20	10/22/08
Sulfate	14808-79-8	LA-533-410	D	56.4		ug/mL	2	0.3	2.0	10/22/08
ICPMS Prep										**10/28/08**
ICP-MS										
Uranium	7440-61-1	LA-505-412		53.9		ug/L	1	0.05	0.20	10/29/08

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 # WSCF80038
Project Number S09-010

Sample # 80038002
SAF# S09-010
Sample ID B1X6Y5

Matrix WATER
Sampled 10/21/08
Received 10/21/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**10/22/08**
Anions by IC										
Chloride	16887-00-6	LA-533-410	D	18.7		ug/mL	2	0.09	0.80	10/22/08
Fluoride	16984-48-8	LA-533-410	BDN	0.0892		ug/mL	2	0.05	0.40	10/22/08
Nitrate-N	NO3-N	LA-533-410	D	6.46		ug/mL	2	0.02	0.20	10/22/08
Nitrite-N	NO2-N	LA-533-410	UD	<0.03		ug/mL	2	0.03	0.20	10/22/08
Sulfate	14808-79-8	LA-533-410	D	57.3		ug/mL	2	0.3	2.0	10/22/08
ICPMS Prep										**10/28/08**
ICP-MS										
Uranium	7440-61-1	LA-505-412		85.1		ug/L	1	0.05	0.20	10/29/08

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 # WSCF80038
Project Number S09-010

Sample # 80038003
SAF# S09-010
Sample ID B1X6Y6

Matrix WATER
Sampled 10/21/08
Received 10/21/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**10/22/08**
Anions by IC										
Chloride	16887-00-6	LA-533-410	D	20.9		ug/mL	2	0.09	0.80	10/22/08
Fluoride	16984-48-8	LA-533-410	BDN	0.165		ug/mL	2	0.05	0.40	10/22/08
Nitrate-N	NO3-N	LA-533-410	D	6.09		ug/mL	2	0.02	0.20	10/22/08
Nitrite-N	NO2-N	LA-533-410	UD	<0.03		ug/mL	2	0.03	0.20	10/22/08
Sulfate	14808-79-8	LA-533-410	D	57.1		ug/mL	2	0.3	2.0	10/22/08
ICPMS Prep										**10/28/08**
ICP-MS										
Uranium	7440-61-1	LA-505-412		84.0		ug/L	1	0.05	0.20	10/30/08

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 # WSCF80038
Project Number S09-010

Sample # 80038004
SAF# S09-010
Sample ID B1X6Y7

Matrix WATER
Sampled 10/21/08
Received 10/21/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**10/22/08**
Anions by IC										
Fluoride	16984-48-8	LA-533-410	UDN	<0.05		ug/mL	2	0.05	0.40	10/22/08
Chloride	16887-00-6	LA-533-410	UD	<0.09		ug/mL	2	0.09	0.80	10/22/08
Nitrite-N	NO2-N	LA-533-410	UD	<0.03		ug/mL	2	0.03	0.20	10/22/08
Nitrate-N	NO3-N	LA-533-410	UD	<0.02		ug/mL	2	0.02	0.20	10/22/08
Sulfate	14808-79-8	LA-533-410	UD	<0.3		ug/mL	2	0.3	2.0	10/22/08
ICPMS Prep										**10/28/08**
ICP-MS										
Uranium	7440-61-1	LA-505-412	U	<0.05		ug/L	1	0.05	0.20	10/29/08

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 # WSCF80038
Project Number S09-010

Sample # 80038006
SAF# W09-010
Sample ID B1XF07

Matrix WATER
Sampled 10/21/08
Received 10/21/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICP Prep										**11/05/08**
ICP-AES										
Antimony	7440-36-0	LA-505-411	U	<60		ug/L	1	60	280	11/12/08
Barium	7440-39-3	LA-505-411		94.9		ug/L	1	4	20	11/12/08
Beryllium	7440-41-7	LA-505-411	U	<4		ug/L	1	4	20	11/12/08
Cadmium	7440-43-9	LA-505-411	U	<4		ug/L	1	4	20	11/12/08
Calcium	7440-70-2	LA-505-411		83900		ug/L	1	70	360	11/12/08
Chromium	7440-47-3	LA-505-411	U	<10		ug/L	1	10	20	11/12/08
Cobalt	7440-48-4	LA-505-411	U	<5		ug/L	1	5	25	11/12/08
Copper	7440-50-8	LA-505-411	U	<6		ug/L	1	6	30	11/12/08
Iron	7439-89-6	LA-505-411	BC	21.6		ug/L	1	20	120	11/12/08
Magnesium	7439-95-4	LA-505-411		24400		ug/L	1	50	250	11/12/08
Manganese	7439-96-5	LA-505-411	U	<4		ug/L	1	4	20	11/12/08
Nickel	7440-02-0	LA-505-411	B	14.0		ug/L	1	6	30	11/12/08
Potassium	7440-09-7	LA-505-411		6860		ug/L	1	200	850	11/12/08
Silver	7440-22-4	LA-505-411	U	<5		ug/L	1	5	25	11/12/08
Sodium	7440-23-5	LA-505-411		34600		ug/L	1	50	260	11/12/08
Strontium	7440-24-6	LA-505-411		458		ug/L	1	4	20	11/12/08
Vanadium	7440-62-2	LA-505-411	B	23.3		ug/L	1	10	60	11/12/08

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 # WSCF80038
Project Number S09-010

Sample # 80038006
SAF# W09-010
Sample ID B1XF07

Matrix WATER
Sampled 10/21/08
Received 10/21/08

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	11/12/08

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 # WSCF80038
Project Number S09-010

Sample # 80038007
SAF# W09-010
Sample ID B1XF08

Matrix WATER
Sampled 10/21/08
Received 10/21/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**10/22/08**
Anions by IC										
Chloride	16887-00-6	LA-533-410	D	40.7		ug/mL	2	0.09	0.80	10/22/08
Fluoride	16984-48-8	LA-533-410	BDN	0.398		ug/mL	2	0.05	0.40	10/22/08
Nitrate-N	NO3-N	LA-533-410	D	50.4		ug/mL	10	0.1	1.0	10/22/08
Nitrite-N	NO2-N	LA-533-410	UD	<0.03		ug/mL	2	0.03	0.20	10/22/08
Sulfate	14808-79-8	LA-533-410	D	48.8		ug/mL	2	0.3	2.0	10/22/08
ICP Prep										**11/05/08**
ICP-AES										
Antimony	7440-36-0	LA-505-411	U	<60		ug/L	1	60	280	11/12/08
Barium	7440-39-3	LA-505-411		97.5		ug/L	1	4	20	11/12/08
Beryllium	7440-41-7	LA-505-411	U	<4		ug/L	1	4	20	11/12/08
Cadmium	7440-43-9	LA-505-411	U	<4		ug/L	1	4	20	11/12/08
Calcium	7440-70-2	LA-505-411		83600		ug/L	1	70	360	11/12/08
Chromium	7440-47-3	LA-505-411	B	18.3		ug/L	1	10	20	11/12/08
Cobalt	7440-48-4	LA-505-411	U	<5		ug/L	1	5	25	11/12/08
Copper	7440-50-8	LA-505-411	U	<6		ug/L	1	6	30	11/12/08
Iron	7439-89-6	LA-505-411	BC	106		ug/L	1	20	120	11/12/08
Magnesium	7439-95-4	LA-505-411		25200		ug/L	1	50	250	11/12/08

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 # WSCF80038
Project Number S09-010

Sample # 80038007
SAF# W09-010
Sample ID B1XF08

Matrix WATER
Sampled 10/21/08
Received 10/21/08

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	11/12/08
Nickel	7440-02-0	LA-505-411	B	15.0		ug/L	1	6	30	11/12/08
Potassium	7440-09-7	LA-505-411		7200		ug/L	1	200	850	11/12/08
Silver	7440-22-4	LA-505-411	U	<5		ug/L	1	5	25	11/12/08
Sodium	7440-23-5	LA-505-411		36700		ug/L	1	50	260	11/12/08
Strontium	7440-24-6	LA-505-411		464		ug/L	1	4	20	11/12/08
Vanadium	7440-62-2	LA-505-411	B	19.0		ug/L	1	10	60	11/12/08
Zinc	7440-66-6	LA-505-411	U	<9		ug/L	1	9	45	11/12/08

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 Organic, Volatiles

Group # WSCF80038
Project Number S09-010

Sample # 80038005
SAF# I09-003
Sample ID B1XC45

Matrix WATER
Sampled 10/21/08
Received 10/21/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
8260 Prep										**10/28/08**
SW-846 8260B										
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<1.0		ug/L	1	1.0	5.0	10/23/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	<1.0		ug/L	1	1.0	5.0	10/23/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	<1.0		ug/L	1	1.0	5.0	10/23/08
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1.0		ug/L	1	1.0	5.0	10/23/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	<1.0		ug/L	1	1.0	5.0	10/23/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	<1.0		ug/L	1	1.0	5.0	10/23/08
1-Butanol	71-36-3	LA-523-455	U	<100		ug/L	1	100	500	10/23/08
Acetone	67-64-1	LA-523-455	U	<1.0		ug/L	1	1.0	5.0	10/23/08
Benzene	71-43-2	LA-523-455	U	<1.0		ug/L	1	1.0	5.0	10/23/08
Carbon disulfide	75-15-0	LA-523-455	U	<1.0		ug/L	1	1.0	5.0	10/23/08
Carbon tetrachloride	56-23-5	LA-523-455		674		ug/L	1	25	120	10/28/08
Chlorobenzene	108-90-7	LA-523-455	U	<1.0		ug/L	1	1.0	5.0	10/23/08
Chloroform	67-66-3	LA-523-455		11.2		ug/L	1	1.0	5.0	10/23/08
Ethylbenzene	100-41-4	LA-523-455	U	<1.0		ug/L	1	1.0	5.0	10/23/08
Methyl ethyl ketone	78-93-3	LA-523-455	U	<1.0		ug/L	1	1.0	5.0	10/23/08
Methyl isobutyl ketone	108-10-1	LA-523-455	U	<1.0		ug/L	1	1.0	5.0	10/23/08
Methylene chloride	75-09-2	LA-523-455	U	<1.0		ug/L	1	1.0	5.0	10/23/08

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
D - Analyte was reported at a secondary dilution 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.

WSCF Analytical Results Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF80038
Project Number S09-010

Sample # 80038005
SAF# I09-003
Sample ID B1XC45

Matrix WATER
Sampled 10/21/08
Received 10/21/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Propionitrile	107-12-0	LA-523-455	U	<2.0		ug/L	1	2.0	10	10/23/08
Tetrachloroethene	127-18-4	LA-523-455	U	<1.0		ug/L	1	1.0	5.0	10/23/08
Tetrahydrofuran	109-99-9	LA-523-455	U	<2.0		ug/L	1	2.0	10	10/23/08
Toluene	108-88-3	LA-523-455	U	<1.0		ug/L	1	1.0	5.0	10/23/08
Total Xylenes	1330-20-7	LA-523-455	U	<1.0		ug/L	1	1.0	5.0	10/23/08
Trichloroethene	79-01-6	LA-523-455	J	1.99		ug/L	1	1.0	5.0	10/23/08
Vinyl chloride	75-01-4	LA-523-455	U	<1.0		ug/L	1	1.0	5.0	10/23/08
cis-1,2-Dichloroethene	156-59-2	LA-523-455	U	<1.0		ug/L	1	1.0	5.0	10/23/08
trans-1,2-Dichloroethene	156-60-5	LA-523-455	U	<1.0		ug/L	1	1.0	5.0	10/23/08

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
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.

WSCF Analytical Results Report

Attention Michael Neely
Department Radiochemistry

Group # WSCF80038
Project Number S09-010

Sample # 80038005
SAF# I09-003
Sample ID B1XC45

Matrix WATER
Sampled 10/21/08
Received 10/21/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
H3 EICHROM										**10/24/08**
TRI-CARB LSC										
Tritium	10028-17-8	LA-508-421		16000	3320	pCi/L	1	220		10/28/08
Tc-99										**10/24/08**
TRI-CARB LSC										
Technetium-99	14133-76-7	LA-508-421		1700	344.04	pCi/L	1	6.4		10/30/08

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 # WSCF80038
Project Number S09-010

Sample # 80038007
SAF# W09-010
Sample ID B1XF08

Matrix WATER
Sampled 10/21/08
Received 10/21/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Alpha/Beta Prep										**11/12/08**
Gross Alpha/Beta										
Gross Alpha	12587-46-1	LA-508-415	U	1.20	1.88	pCi/L	1	3.2		11/21/08
Gross Beta	12587-47-2	LA-508-415		760	77.4	pCi/L	1	4.2		11/21/08

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 # WSCF80038
Project Number S09-010

Sample # 80038001
SAF# S09-010
Sample ID B1X6Y3

Matrix WATER
Sampled 10/21/08
Received 10/21/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Alkalinity										
Total Alkalinity as CaCO3	ALKALINITY	LA-531-411		130		mg/L	1	1.0	10	10/28/08

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 # WSCF80038
Project Number S09-010

Sample # 80038002
SAF# S09-010
Sample ID B1X6Y5

Matrix WATER
Sampled 10/21/08
Received 10/21/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Alkalinity										
Total Alkalinity as CaCO3	ALKALINITY	LA-531-411		130		mg/L	1	1.0	10	10/28/08

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 # WSCF80038
Project Number S09-010

Sample # 80038003
SAF# S09-010
Sample ID B1X6Y6

Matrix WATER
Sampled 10/21/08
Received 10/21/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Alkalinity										
Total Alkalinity as CaCO3	ALKALINITY	LA-531-411		130		mg/L	1	1.0	10	10/28/08

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 # WSCF80038
Project Number S09-010

Sample # 80038004
SAF# S09-010
Sample ID B1X6Y7

Matrix WATER
Sampled 10/21/08
Received 10/21/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Alkalinity										
Total Alkalinity as CaCO3	ALKALINITY	LA-531-411	U	<1.0		mg/L	1	1.0	10	10/28/08

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 dilution 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 # WSCF80038
Project Number S09-010

Sample # 80038007
SAF# W09-010
Sample ID B1XF08

Matrix WATER
Sampled 10/21/08
Received 10/21/08

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Alkalinity										
Total Alkalinity as CaCO3	ALKALINITY	LA-531-411		110		mg/L	1	1.0	10	10/28/08

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 # WSCF80038
Project Number S09-010

QC Batch 5648
Associated Samples 80038001, 80038002, 80038003, 80038004, 80038007

Test Anions by Ion Chromatography (Water)

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #1539**							
Fluoride	16984-48-8		<0.023	ug/mL					U	10/22/08
Chloride	16887-00-6		<0.047	ug/mL					U	10/22/08
Nitrite-N	NO2-N		<0.013	ug/mL					U	10/22/08
Nitrate-N	NO3-N		<0.012	ug/mL					U	10/22/08
Sulfate	14808-79-8		<0.13	ug/mL					U	10/22/08
LCS			**QC Sample #1540**							
Fluoride	16984-48-8		0.981	ug/mL	96.1	90 - 110				10/22/08
Chloride	16887-00-6		1.91	ug/mL	95.8	90 - 110				10/22/08
Nitrite-N	NO2-N		0.933	ug/mL	93.4	90 - 110				10/22/08
Nitrate-N	NO3-N		0.866	ug/mL	96.4	90 - 110				10/22/08
Sulfate	14808-79-8		3.89	ug/mL	97.3	90 - 110				10/22/08
DUP			**QC Sample #1541**							
			Original 80039003							
Fluoride	16984-48-8		0.191	ug/mL			12.80	20	BD	10/22/08
Chloride	16887-00-6		8.14	ug/mL			0.25	20	D	10/22/08
Nitrite-N	NO2-N		<0.026	ug/mL			0.00	20	UD	10/22/08
Nitrate-N	NO3-N		4.71	ug/mL			0.42	20	D	10/22/08
Sulfate	14808-79-8		41.9	ug/mL			0.00	20	D	10/22/08
MS			**QC Sample #1542**							
			Original 80039003							

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF80038
Project Number S09-010

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit		RQ	Analyzed
Fluoride	16984-48-8		1.28	ug/mL	108	80 - 120				D	10/22/08
Chloride	16887-00-6		9.79	ug/mL	84.2	80 - 120				D	10/22/08
Nitrite-N	NO2-N		0.908	ug/mL	90.9	80 - 120				D	10/22/08
Nitrate-N	NO3-N		5.46	ug/mL	81.2	80 - 120				D	10/22/08
Sulfate	14808-79-8		45.4	ug/mL	87.9	80 - 120				D	10/22/08
MSD			**QC Sample #1543**								
			Original 80039003						**Paired**	**1542**	
Fluoride	16984-48-8		0.954	ug/mL	77	80 - 120	33.50	20	*	DN1	10/22/08
Chloride	16887-00-6		9.78	ug/mL	83.5	80 - 120	0.84	20		D	10/22/08
Nitrite-N	NO2-N		0.944	ug/mL	94.5	80 - 120	3.88	20		D	10/22/08
Nitrate-N	NO3-N		5.50	ug/mL	85.7	80 - 120	5.39	20		D	10/22/08
Sulfate	14808-79-8		45.6	ug/mL	91.1	80 - 120	3.58	20		D	10/22/08

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF80038
Project Number S09-010

QC Batch 5716
Associated Samples 80038004

Test ICP-2008 MS All possible metal

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #1633**							
Uranium	7440-61-1		<0.050	ug/L					U	10/29/08
LCS			**QC Sample #1634**							
Uranium	7440-61-1		39.6	ug/L	99	85 - 115				10/29/08
MS			**QC Sample #1635**							
			Original 80013001							
Uranium	7440-61-1		52.9	ug/L	107	70 - 130				10/29/08
MSD			**QC Sample #1636**							
			Original 80013001					**Paired**	**1635**	
Uranium	7440-61-1		53.8	ug/L	109	70 - 130	1.85	20		10/29/08

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF80038
Project Number S09-010

QC Batch 5723
Associated Samples 80038001

Test ICP-2008 MS All possible metal

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #1647**							
Uranium	7440-61-1		<0.050	ug/L					U	10/29/08
LCS			**QC Sample #1648**							
Uranium	7440-61-1		40.8	ug/L	102	85 - 115				10/29/08
MS			**QC Sample #1649**							
			Original 80005010							
Uranium	7440-61-1		46.2	ug/L	107	70 - 130				10/29/08
MSD			**QC Sample #1650**							
			Original 80005010					**Paired**	**1649**	
Uranium	7440-61-1		46.6	ug/L	108	70 - 130	0.93	20		10/29/08

Quality Control Report

Attention Michael Neely
Department Wet Chemistry

Group # WSCF80038
Project Number S09-010

QC Batch 5766
Associated Samples 80038001, 80038002, 80038003, 80038004, 80038007

Test Total Alkalinity as mg/L CaCO3 (Water)

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
LCS			**QC Sample #1763**							
Total Alkalinity as	ALKALINITY		32.8	mg/L	109	80 - 120				10/28/08
DUP			**QC Sample #1764**							
			Original 80029039							
Total Alkalinity as	ALKALINITY		110	mg/L			0.00	20		10/28/08
LCS			**QC Sample #1765**							
Total Alkalinity as	ALKALINITY		33.1	mg/L	110	80 - 120				10/28/08
LCS			**QC Sample #1766**							
Total Alkalinity as	ALKALINITY		32.7	mg/L	109	80 - 120				10/28/08

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF80038
Project Number S09-010

QC Batch 5794
Associated Samples 80038002, 80038003

Test ICP-2008 MS All possible metal

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #1867**							
Uranium	7440-61-1		<0.050	ug/L					U	10/29/08
LCS			**QC Sample #1868**							
Uranium	7440-61-1		40.5	ug/L	101	85 - 115				10/29/08
MS			**QC Sample #1869**							
			Original	**80013017**				**Paired**	**1870**	
Uranium	7440-61-1		48.6	ug/L	102	70 - 130				10/29/08
MSD			**QC Sample #1870**							
			Original	**80013017**				**Paired**	**1869**	
Uranium	7440-61-1		49.6	ug/L	104	70 - 130	1.94	20		10/29/08

Quality Control Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF80038
Project Number S09-010

QC Batch 5867
Associated Samples 80038005

Test SW-846 8260B Volatiles, separate prep

Analyte	CAS #	Original Found	QC Found	Units	% Recov Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #2040**						
1,1-Dichloroethene	75-35-4		<1.0	ug/L				U	10/23/08
Trichloroethene	79-01-6		<1.0	ug/L				U	10/23/08
Benzene	71-43-2		<1.0	ug/L				U	10/23/08
Toluene	108-88-3		<1.0	ug/L				U	10/23/08
Chlorobenzene	108-90-7		<1.0	ug/L				U	10/23/08
1,1-Dichloroethane	75-34-3		<1.0	ug/L				U	10/23/08
Ethylbenzene	100-41-4		<1.0	ug/L				U	10/23/08
1,2-Dichloroethane	107-06-2		<1.0	ug/L				U	10/23/08
Methyl isobutyl ketone	108-10-1		<1.0	ug/L				U	10/23/08
Tetrachloroethene	127-18-4		<1.0	ug/L				U	10/23/08
Total Xylenes	1330-20-7		<1.0	ug/L				U	10/23/08
Carbon tetrachloride	56-23-5		<1.0	ug/L				U	10/23/08
Acetone	67-64-1		<1.0	ug/L				U	10/23/08
Chloroform	67-66-3		<1.0	ug/L				U	10/23/08
1,1,1-Trichloroethane	71-55-6		<1.0	ug/L				U	10/23/08
Vinyl chloride	75-01-4		<1.0	ug/L				U	10/23/08
Methylene chloride	75-09-2		<1.0	ug/L				U	10/23/08
Carbon disulfide	75-15-0		<1.0	ug/L				U	10/23/08
Methyl ethyl ketone	78-93-3		<1.0	ug/L				U	10/23/08
1,1,2-Trichloroethane	79-00-5		<1.0	ug/L				U	10/23/08
1-Butanol	71-36-3		<100	ug/L				U	10/23/08

Quality Control Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF80038
Project Number S09-010

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Tetrahydrofuran	109-99-9		<2.0	ug/L					U	10/23/08
trans-1,2-Dichloroethen	156-60-5		<1.0	ug/L					U	10/23/08
cis-1,2-Dichloroethene	156-59-2		<1.0	ug/L					U	10/23/08
Propionitrile	107-12-0		<2.0	ug/L					U	10/23/08
1,4-Dichlorobenzene	106-46-7		<1.0	ug/L					U	10/23/08
MS			**QC Sample #2043**							
			Original 80037009							
1,1-Dichloroethene	75-35-4		24.2	ug/L	96.6	75 - 125				10/23/08
Trichloroethene	79-01-6		20.7	ug/L	82.7	75 - 125				10/23/08
Benzene	71-43-2		24.7	ug/L	98.7	75 - 125				10/23/08
Toluene	108-88-3		24.5	ug/L	98.2	75 - 125				10/23/08
Chlorobenzene	108-90-7		24.7	ug/L	98.9	75 - 125				10/23/08
MSD			**QC Sample #2044**							
			Original 80037009					**Paired**	**2043**	
1,1-Dichloroethene	75-35-4		23.7	ug/L	94.7	75 - 125	1.99	20		10/23/08
Trichloroethene	79-01-6		20.5	ug/L	82.2	75 - 125	0.61	20		10/23/08
Benzene	71-43-2		24.6	ug/L	98.4	75 - 125	0.30	20		10/23/08
Toluene	108-88-3		24.3	ug/L	97.2	75 - 125	1.02	20		10/23/08
Chlorobenzene	108-90-7		24.7	ug/L	98.7	75 - 125	0.20	20		10/23/08
LCS			**QC Sample #2045**							
1,1-Dichloroethene	75-35-4		26.2	ug/L	105	75 - 125				10/23/08
Trichloroethene	79-01-6		20.2	ug/L	81	75 - 125				10/23/08
Benzene	71-43-2		25.2	ug/L	101	75 - 125				10/23/08
Toluene	108-88-3		24.7	ug/L	98.7	75 - 125				10/23/08
Chlorobenzene	108-90-7		24.9	ug/L	99.5	75 - 125				10/23/08

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF80038
Project Number S09-010

QC Batch 5932
Associated Samples 80038006, 80038007

Test ICP-6010 - All possible metals

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #2215**							
Iron	7439-89-6		36.3	ug/L					B	11/12/08
Magnesium	7439-95-4		<50	ug/L					U	11/12/08
Manganese	7439-96-5		<4.0	ug/L					U	11/12/08
Nickel	7440-02-0		<6.0	ug/L					U	11/12/08
Potassium	7440-09-7		<170	ug/L					U	11/12/08
Silver	7440-22-4		8.10	ug/L					B	11/12/08
Sodium	7440-23-5		<51	ug/L					U	11/12/08
Antimony	7440-36-0		<56	ug/L					U	11/12/08
Barium	7440-39-3		<4.0	ug/L					U	11/12/08
Cadmium	7440-43-9		<4.0	ug/L					U	11/12/08
Chromium	7440-47-3		<13	ug/L					U	11/12/08
Cobalt	7440-48-4		<5.0	ug/L					U	11/12/08
Copper	7440-50-8		<6.0	ug/L					U	11/12/08
Vanadium	7440-62-2		<12	ug/L					U	11/12/08
Zinc	7440-66-6		<9.0	ug/L					U	11/12/08
Calcium	7440-70-2		<73	ug/L					U	11/12/08
Strontium	7440-24-6		<4.0	ug/L					U	11/12/08
Beryllium	7440-41-7		<4.0	ug/L					U	11/12/08
LCS			**QC Sample #2216**							
Iron	7439-89-6		989	ug/L	98.9	80 - 120				11/12/08

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF80038
Project Number S09-010

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Magnesium	7439-95-4		971	ug/L	97.1	80 - 120				11/12/08
Manganese	7439-96-5		996	ug/L	99.6	80 - 120				11/12/08
Nickel	7440-02-0		1020	ug/L	102	80 - 120				11/12/08
Potassium	7440-09-7		10700	ug/L	107	80 - 120				11/12/08
Silver	7440-22-4		976	ug/L	97.6	80 - 120				11/12/08
Sodium	7440-23-5		1040	ug/L	104	80 - 120				11/12/08
Antimony	7440-36-0		973	ug/L	97.3	80 - 120				11/12/08
Barium	7440-39-3		472	ug/L	94.5	80 - 120				11/12/08
Cadmium	7440-43-9		1020	ug/L	102	80 - 120				11/12/08
Chromium	7440-47-3		965	ug/L	96.5	80 - 120				11/12/08
Cobalt	7440-48-4		1000	ug/L	100	80 - 120				11/12/08
Copper	7440-50-8		1010	ug/L	101	80 - 120				11/12/08
Vanadium	7440-62-2		973	ug/L	97.3	80 - 120				11/12/08
Zinc	7440-66-6		1010	ug/L	101	80 - 120				11/12/08
Calcium	7440-70-2		1060	ug/L	106	80 - 120				11/12/08
Strontium	7440-24-6		504	ug/L	101	80 - 120				11/12/08
Beryllium	7440-41-7		536	ug/L	107	80 - 120				11/12/08
MS			**QC Sample #2217**							
			Original 80081001							
Iron	7439-89-6		1000	ug/L	96.3	75 - 125				11/12/08
Magnesium	7439-95-4		5720	ug/L	120	75 - 125				11/12/08
Manganese	7439-96-5		988	ug/L	98.8	75 - 125				11/12/08
Nickel	7440-02-0		994	ug/L	99.4	75 - 125				11/12/08
Potassium	7440-09-7		11800	ug/L	107	75 - 125				11/12/08
Silver	7440-22-4		970	ug/L	97	75 - 125				11/12/08
Sodium	7440-23-5		3890	ug/L	121	75 - 125				11/12/08
Antimony	7440-36-0		959	ug/L	95.9	75 - 125				11/12/08
Barium	7440-39-3		507	ug/L	94.8	75 - 125				11/12/08

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF80038
Project Number S09-010

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Cadmium	7440-43-9		1000	ug/L	100	75 - 125				11/12/08
Chromium	7440-47-3		940	ug/L	94	75 - 125				11/12/08
Cobalt	7440-48-4		988	ug/L	98.8	75 - 125				11/12/08
Copper	7440-50-8		990	ug/L	97.8	75 - 125				11/12/08
Vanadium	7440-62-2		963	ug/L	96.3	75 - 125				11/12/08
Zinc	7440-66-6		1120	ug/L	101	75 - 125				11/12/08
Calcium	7440-70-2		28500	ug/L	246	75 - 125				11/12/08
Strontium	7440-24-6		678	ug/L	104	75 - 125				11/12/08
Beryllium	7440-41-7		528	ug/L	106	75 - 125				11/12/08
MSD			**QC Sample #2218**							
			Original 80081001					**Paired 2217**		
Iron	7439-89-6		991	ug/L	95.2	75 - 125	1.15	20		11/12/08
Magnesium	7439-95-4		5600	ug/L	109	75 - 125	9.61	20		11/12/08
Manganese	7439-96-5		949	ug/L	94.9	75 - 125	4.03	20		11/12/08
Nickel	7440-02-0		964	ug/L	96.4	75 - 125	3.06	20		11/12/08
Potassium	7440-09-7		11500	ug/L	105	75 - 125	1.89	20		11/12/08
Silver	7440-22-4		954	ug/L	95.4	75 - 125	1.66	20		11/12/08
Sodium	7440-23-5		3800	ug/L	112	75 - 125	7.73	20		11/12/08
Antimony	7440-36-0		988	ug/L	98.8	75 - 125	2.98	20		11/12/08
Barium	7440-39-3		492	ug/L	91.8	75 - 125	3.22	20		11/12/08
Cadmium	7440-43-9		979	ug/L	97.9	75 - 125	2.12	20		11/12/08
Chromium	7440-47-3		916	ug/L	91.6	75 - 125	2.59	20		11/12/08
Cobalt	7440-48-4		953	ug/L	95.3	75 - 125	3.61	20		11/12/08
Copper	7440-50-8		963	ug/L	95.1	75 - 125	2.80	20		11/12/08
Vanadium	7440-62-2		939	ug/L	93.9	75 - 125	2.52	20		11/12/08
Zinc	7440-66-6		1080	ug/L	97.7	75 - 125	3.32	20		11/12/08
Calcium	7440-70-2		27600	ug/L	157	75 - 125	44.20	20	*	11/12/08
Strontium	7440-24-6		654	ug/L	99.4	75 - 125	4.52	20		11/12/08

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF80038
Project Number S09-010

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Beryllium	7440-41-7		510	ug/L	102	75 - 125	3.85	20		11/12/08

Quality Control Report

Attention Michael Neely
Department Radiochemistry

Group # WSCF80038
Project Number S09-010

QC Batch 5669
Associated Samples 80038005

Test TC99 by Liquid Scintillation

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #1566**							
Technetium-99	14133-76-7		-5.80	pCi/L					U1	10/30/08
LCS			**QC Sample #1567**							
Technetium-99	14133-76-7		171	pCi/L	107.62	80 - 120				10/30/08
DUP			**QC Sample #1568**							
			Original 80029038							
Technetium-99	14133-76-7		1200	pCi/L			8.70	-20 - 20		10/30/08
MS			**QC Sample #1569**							
			Original 80029038							
Technetium-99	14133-76-7		1910	pCi/L	126.53	75 - 125			1	10/30/08

Quality Control Report

Attention Michael Neely
Department Radiochemistry

Group # WSCF80038
Project Number S09-010

QC Batch 5674
Associated Samples 80038005

Test Tritium by LSC

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #1587**							
Tritium	10028-17-8		17.1	pCi/L						10/28/08
LCS			**QC Sample #1588**							
Tritium	10028-17-8		2580	pCi/L	89.37	80 - 120				10/28/08
DUP			**QC Sample #1589**							
			Original 80037009							
Tritium	10028-17-8		10000	pCi/L			0.00	-20 - 20		10/28/08
MS			**QC Sample #1590**							
			Original 80037009							
Tritium	10028-17-8		30000	pCi/L	88.12	75 - 125				10/28/08

Quality Control Report

Attention Michael Neely
Department Radiochemistry

Group # WSCF80038
Project Number S09-010

QC Batch 6091
Associated Samples 80038007

Test Gross Alpha/Gross Beta

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #2376**							
Gross Alpha	12587-46-1		0.0900	pCi/L						11/21/08
Gross Beta	12587-47-2		-0.372	pCi/L					U	11/21/08
LCS			**QC Sample #2377**							
Gross Alpha	12587-46-1		31.1	pCi/L	80.26	80 - 120				11/21/08
Gross Beta	12587-47-2		111	pCi/L	99.11	80 - 120				11/21/08
DUP			**QC Sample #2378**							
			Original 80071003							
Gross Alpha	12587-46-1		1.60	pCi/L			11.22	-20 - 20		11/21/08
Gross Beta	12587-47-2		877	pCi/L			1.49	-20 - 20		11/21/08

Quality Control Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF80038
Project Number S09-010

QC Batch 5867
Associated Samples 80038005

Test SW-846 8260B Volatiles, separate prep

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #2040**							
1,2-Dichloroethane-d4	17060-07-0				116	75 - 125				10/23/08
Toluene-d8	2037-26-5				97	75 - 125				10/23/08
4-Bromofluorobenzene	460-00-4				98.4	75 - 125				10/23/08
MS			**QC Sample #2043**							
			Original 80037009							
1,2-Dichloroethane-d4	17060-07-0				116	75 - 125				10/23/08
Toluene-d8	2037-26-5				96.7	75 - 125				10/23/08
4-Bromofluorobenzene	460-00-4				98.5	75 - 125				10/23/08
MSD			**QC Sample #2044**							
			Original 80037009						**Paired 2043**	
1,2-Dichloroethane-d4	17060-07-0				116	75 - 125	0.00	20		10/23/08
Toluene-d8	2037-26-5				96.8	75 - 125	0.10	20		10/23/08
4-Bromofluorobenzene	460-00-4				96.8	75 - 125	1.74	20		10/23/08
LCS			**QC Sample #2045**							
1,2-Dichloroethane-d4	17060-07-0				115	75 - 125				10/23/08
Toluene-d8	2037-26-5				97.6	75 - 125				10/23/08
4-Bromofluorobenzene	460-00-4				96.6	75 - 125				10/23/08
SAMPLE			**Sample #80038005**							
1,2-Dichloroethane-d4	17060-07-0				118	75 - 125				10/23/08

Quality Control Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF80038
Project Number S09-010

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Toluene-d8	2037-26-5				97.8	75 - 125				10/23/08
4-Bromofluorobenzene	460-00-4				96.3	75 - 125				10/23/08

Analytical Comment Report

Attention Michael Neely

Group # WSCF80038
Project Number S09-010

80038006 **B1XF07**

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

80038007 **B1XF08**

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

Quality Control Comments

Department Inorganic

1543 B1XFB1(80039003MSD)

Analyte Fluoride - Anions by Ion Chromatography (Water)
[1] Duplicate precision criteria not met. No flag required.

Analytical Comment Report

Attention Michael Neely

Group # WSCF80038
Project Number S09-010

Quality Control Comments

Department Radiochemistry

1566 BLANK for HBN 5669 [RADP/1029]

Analyte Technetium-99 - TC99 by Liquid Scintillation
[1] Matrix Spike outside acceptance limits.

Department Radiochemistry

1569 B1XDW4(80029038MS)

Analyte Technetium-99 - TC99 by Liquid Scintillation
[1] Matrix Spike is outside the established laboratory range due to insufficient added spike activity compared to the sample's activity.

ATTACHMENT4

SAMPLE RECEIPT

Consisting of 9 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 #:	
Work Order #:	80038
Profile #:	S09-010-200
Proj. Mgr.:	
Phone:	

The following samples were received from you on 10/21/2008 2:00:00 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		
80038001	B1X6Y3	WATER	10/21/2008 13:10	10/21/2008 14
		2008-W; ALK-W; IC-W		
80038002	B1X6Y5	WATER	10/21/2008 12:32	10/21/2008 14
		2008-W; ALK-W; IC-W		
80038003	B1X6Y6	WATER	10/21/2008 12:00	10/21/2008 14
		2008-W; ALK-W; IC-W		
80038004	B1X6Y7	WATER	10/21/2008 07:30	10/21/2008 14
		2008-W; ALK-W; IC-W		
80038005	B1XC45	WATER	10/21/2008 11:17	10/21/2008 15
		8260V-W; H3-COL-W; TC99-W		
80038006	B1XF07	WATER	10/21/2008 11:17	10/21/2008 15
		6010-W		
80038007	B1XF08	WATER	10/21/2008 11:17	10/21/2008 15
		6010-W; ALK-W; GAB-AO-W; GAB-BO-W; IC-W		

Test Acronym Description

Test Acronym	Description
2008-W	ICP-MS (W)
6010-W	ICP-AES (W)
8260V-W	Volatiles by 8260B (W)
ALK-W	Total Alkalinity (W)
GAB-AO-W	Gross Alpha/Beta (A only)(W)

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

GAB-BO-W	Gross Alpha/Beta (B only)(W)
H3-COL-W	Tritium by EICHROM Column (W)
IC-W	Anions by IC (W)
TC99-W	Technetium-99 (W)

FLUOR HANFORD	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C.# S09-010-200 Page 1 of 1

Collector: Roy Sickle	Contact/Requester: Mike Neely	Telephone No.: 509-373-0654 MSIN FAX
SAF No.: S09-010	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: SURV, OCTOBER 2008	HNF-N-326-R	Ice Chest No.: QUO-002 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)

80038

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
FY08 and FY09 samples cannot be in the same SDG.
Site-Wide Generator Knowledge Form applies.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B1X6Y3	001	W	10-21-08	1310	1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B1X6Y3		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	28 Days/48 Hours	Cool~4C
B1X6Y3		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2

ICFD

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Roy Sickle			OCT 21 2008 1440	CA Hudon			OCT 21 2008 1440
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	
SF = 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.# S09-010-204 Page 1 of 1

Collector: Roy Sickle	Contact/Requester: Mike Neely	Telephone No.: 509-373-0654 MSIN FAX
SAF No.: S09-010	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: SURV OCTOBER 2008	HNF-N-506-18	Ice Chest No.: CW2-002 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 ☐
FY08 and FY09 samples cannot be in the same SDG.
Site-Wide Generator Knowledge Form applies.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B1X6Y5	002	W	10-21-08	1230	1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B1X6Y5		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	28 Days/48 Hours	Cool~4C
B1X6Y5		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2

ICED

Relinquished By	Date/Time	Received By	Date/Time
Roy Sickle Print / Sign	1440 OCT 21 2008	Cathlon Print / Sign	1440 OCT 21 2008
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.# S09-010-208 Page 1 of 1

Collector: Roy Sickle	Contact/Requester: Mike Neely	Telephone No.: 509-373-0654 MSIN FAX
SAF No.: S09-010	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: SURV OCTOBER 2008	HNF-N-506-13	Ice Chest No.: HWD-002 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
FY08 and FY09 samples cannot be in the same SDG.
Site-Wide Generator Knowledge Form applies.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B1X6Y6	003	W	10-24-08	1200	1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B1X6Y6		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	28 Days/48 Hours	Cool~4C
B1X6Y6		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	Roy Sickle		OCT 21 2008 1440				OCT 21 2008 1440
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. # S09-010-209 Page 1 of 1

Collector: Roy Sickle	Contact/Requester: Mike Neely	Telephone No.: S09-371-0654 MSIN FAX
SAF No.: S09-010	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: SURV OCTOBER 2008	HNF-N-Sile-18	Ice/Chest No.: CHW-C02 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 ☐
FY08 and FY09 samples cannot be in the same SDG
Site-Wide Generator Knowledge Form applies.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B1X6Y7	004	W	10-21-08	0730	1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool-4C
B1X6Y7		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	28 Days/48 Hours	Cool-4C
B1X6Y7		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Roy Sickle			OCT 21 2008 1440				OCT 21 2008 1440
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	
SF = Sediment		DL = Drum Liquid	
SO = Solid		T = Tissue	
SI = 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.# I09-003-24 Page 1 of 1

Collector D. Woehle	Contact/Requester Mike Neely	Telephone No. 509-373-0654 MSIN FAX
SAF No. I09-003	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title 2ZPL OCTOBER 2008	HNF-N-506-19	Ice Chest No. 6W5-029 Temp.
Shipped To (Lab) Waste Sampling & Characterization	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol CERCLA	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
FY08 and FY09 samples cannot be in the same SDG
200 Area Generator Knowledge Information Form applies.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B1XC45	005	W	10/21/08	1117	4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2 Cool~4C
B1XC45		W	↓	↓	1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	6 Months	HCl to pH <2
B1XC45		W	↓	↓	1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	6 Months	None

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
D. Woehle			OCT 21 2008 1505	TA Martin Gomez, Fluor			OCT 21 2008 1505
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. # W09-010-308

Page 1 of 1

Collector: D. Woehle	Contact/Requester: Mike Neely	Telephone No.: 509-373-0654 MSIN FAX
SAF No.: W09-010	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: RCRA OCTOBER 2008	HNF-N-506-16	Ice Chest No.: 6W5-064 Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: RCRA	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

FY08 and FY09 samples cannot be in the same SDG.

Site-Wide Generator Knowledge Form applies.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B1XF07 (F)	006	W	10/21/08	11:17	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B1XF08		W	↓	↓	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B1XF08		W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool-4C
B1XF08		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	28 Days/48 Hours	Cool-4C
B1XF08		W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2); ALPHABETA_GPC: Alpha discrete + Beta (2)	6 Months	HNO3 to pH <2

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Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
D. Woehle			OCT 21 2008 1505	TA Pharaiza			OCT 21 2008 1505
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	