WSCF Laboratory

PO Box 650 S3-30
Richland, WA 99352

RECEIVED FEBRUARY 15, 2011

1212262

February 14, 2011

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

Dear Michael Neely,

FINAL RESULT FOR SAMPLE DELIVERY GROUP WSCF111209

Reference: (1) SOW, Mod 2, #36587, Release 3
(2) HNF-SD-CD-QAPP-017, current version, Waste Sampling & Characterization Facility Quality Assurance Plan

This letter contains the following information for sample delivery group WSCF111209

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

Very truly yours,

Electronically signed by Carolyn Watkins

For Lab Manager

WSCF Analytical Lab

(509) 373-7495

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Attachments 4

CC: w/Attachments

File/LB

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF Number Cross Reference

Group # WSCF111209
Data Deliverable Date 02/03/11

SAF #	Sample ID	Sample #	Matrix	Sampled	Received
F10-287	B28P14	111209001	WATER	01/19/11	01/19/11
F10-287	B28P13	111209002	WATER	01/19/11	01/19/11

ATTACHMENT 2

NARRATIVE

Consisting of 4 pages
Including cover page

Attachment 2
Narrative
WSCF111209

Introduction

Samples were received at the WSCF laboratory as referenced on the WSCF SAF Number Cross Reference table included in the final report. The samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Statement of Work (SOW), Modification No. 2 to Agreement 36587, Release 3, "FH WSCF ANALYTICAL SERVICES FOR GROUNDWATER."*

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

It should be noted that the attached chain of custody was not stamped "ICED" by the WSCF Laboratory Sample Custodian during sample receiving. However, based on procedure LO-090-403 form "NOTICE OF IMPROPER SAMPLE SUBMITTAL" was not submitted and was not stamped "NOT ICED". No anomaly was noted during sample receipt.

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

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

Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report* 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):

- Nitrate – Duplicate Relative Percent Difference (RPD) does not apply to results near the minimum detectable level. No flags issued.
- All other applicable QC controls are within the established limits.

Attachment 2
Narrative
WSCF111209

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

- All applicable 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):

- All applicable QC controls are within the established limits.

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

- Strontium was detected in the Blank. No sample results in this batch were affected. "C" Flags not required.
- Strontium and Manganese exceeded spiking levels by a factor of 4. Spike recoveries and associated RPDs are not valid.
- All other applicable QC controls are within the established limits.

Organic Comments

PCB – 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):

- All applicable QC controls are within the established limits.

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

- The Laboratory Control Sample (LCS) and the Matrix Spike (MS) did not meet the acceptance limits for recovery of surrogate spike Nitrobenzene-d5. Sample results were not flagged. The quality control report was flagged for surrogate recovery failure.
- All other applicable QC controls are within the established limits.

TPHD-WA – 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):

- Due to the co-elution of analytes for TPHD-WA (DRO) and kerosene analysis, samples are spiked and evaluated for TPHD only.

Attachment 2
Narrative
WSCF111209

- Matrix Spikes –Relative Percent Difference (RPD) between the surrogate spike recoveries was outside laboratory guidelines and was flagged with an asterisk in the Quality Control Report.

- All other applicable QC controls are within the established limits.

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

- All applicable QC controls are within the established limits.

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

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 40 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 #	WSCF111209
Report Date	February 14, 2011

Analytical: Electronically signed by Carolyn Watkins

Client Services: Electronically signed by Richard Barker

Solid samples results that have a 'Percent Solid' test are reported on a "dry weight basis", except results of TCLP, Percent Solid, and Total Activity. If no `Percent Solid' test is reported then the 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 # WSCF111209

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
174785	174785	1	BLANK	46975	BLANK		Hexavalent chromium Discrete Analyzer
174785	174785	3	LCS	46977	LCS		Hexavalent chromium Discrete Analyzer
174785	174785	4	DUP	46978	B28FJ0(111208001DUP)	111208001	Hexavalent chromium Discrete Analyzer
174785	174785	5	MS	46979	B28FJ0(111208001MS)	111208001	Hexavalent chromium Discrete Analyzer
174785	174785	7	SAMPLE	111209002	B28P13		Hexavalent chromium Discrete Analyzer
174794	174794	2	BLANK	47000	BLANK		Anions by Ion Chromatography (Water)
174794	174794	3	LCS	47001	LCS		Anions by Ion Chromatography (Water)
174794	174794	4	DUP	47002	B28D94(111204001DUP)	111204001	Anions by Ion Chromatography (Water)
174794	174794	5	MS	47003	B28D94(111204001MS)	111204001	Anions by Ion Chromatography (Water)
174794	174794	6	MSD	47004	B28D94(111204001MSD)	111204001	Anions by Ion Chromatography (Water)
174794	174794	12	SAMPLE	111209002	B28P13		Anions by Ion Chromatography (Water)
175547	175548	4	BLANK	47945	BLANK		ICP-2008 MS All possible metal
175547	175548	5	LCS	47946	LCS		ICP-2008 MS All possible metal
175547	175548	6	MS	47947	B28FH5(111154001MS)	111154001	ICP-2008 MS All possible metal
175547	175548	7	MSD	47948	B28FH5(111154001MSD)	111154001	ICP-2008 MS All possible metal
175547	175548	16	SAMPLE	111209002	B28P13		ICP-2008 MS All possible metal
175991	176466	1	BLANK	48327	BLANK		ICP-6010 - All possible metals
175991	176466	2	LCS	48328	LCS		ICP-6010 - All possible metals
175991	176466	3	MS	48329	B2B3J2(111130006MS)	111130006	ICP-6010 - All possible metals
175991	176466	4	MSD	48330	B2B3J2(111130006MSD)	111130006	ICP-6010 - All possible metals
175991	176466	13	SAMPLE	111209002	B28P13		ICP-6010 - All possible metals

Batch QC List

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF111209

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
174805	174931	1	BLANK	47043	BLANK		Extractable Diesel and Petroleum
174805	174931	2	LCS	47044	LCS		Extractable Diesel and Petroleum
174805	174931	3	MS	47045	B26RM2(111181001MS)	111181001	Extractable Diesel and Petroleum
174805	174931	4	MSD	47046	B26RM2(111181001MSD)	111181001	Extractable Diesel and Petroleum
174805	174931	9	SAMPLE	111209002	B28P13		Extractable Diesel and Petroleum
175099	175753	1	BLANK	47369	BLANK		SW-846 8270D Semivolatiles
175099	175753	2	LCS	47370	LCS		SW-846 8270D Semivolatiles
175099	175753	3	MS	47371	B28P13(111209002MS)	111209002	SW-846 8270D Semivolatiles
175099	175753	4	MSD	47372	B28P13(111209002MSD)	111209002	SW-846 8270D Semivolatiles
175099	175753	5	SAMPLE	111209002	B28P13		SW-846 8270D Semivolatiles
175861	175863	1	BLANK	48196	BLANK		PCBs by EPA SW-846 Method 8082
175861	175863	2	LCS	48197	LCS		PCBs by EPA SW-846 Method 8082
175861	175863	3	MS	48198	B29HF7(111207003MS)	111207003	PCBs by EPA SW-846 Method 8082
175861	175863	4	MSD	48199	B29HF7(111207003MSD)	111207003	PCBs by EPA SW-846 Method 8082
175861	175863	5	SAMPLE	111209002	B28P13		PCBs by EPA SW-846 Method 8082

Batch QC List

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF111209

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
174926	174927	1	BLANK	47205	BLANK		SW-846 8260B Volatiles, separate prep
174926	174927	2	LCS	47206	LCS		SW-846 8260B Volatiles, separate prep
174926	174927	3	MS	47207	B274Y7(111201001MS)	111201001	SW-846 8260B Volatiles, separate prep
174926	174927	4	MSD	47208	B274Y7(111201001MSD)	111201001	SW-846 8260B Volatiles, separate prep
174926	174927	5	SAMPLE	111209002	B28P13		SW-846 8260B Volatiles, separate prep
174926	174927	6	SAMPLE	111209001	B28P14		SW-846 8260B Volatiles, separate prep

Method Reference

Attention Michael Neely
Department Inorganic

Group # WSCF111209

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-265-403	Hexavalent Chromium Analysis		
	EPA SW-846	7196A	Hexavalent Chromium
	HEIS	7196_CR6	Hexavalent Chromium
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
Department Organic, Semivolatiles

Group # WSCF111209

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-523-427	Polychlorinated Biphenyls (PCB'S) by Gas Chromatography		
	EPA SW-846	3510C	Separatory Funnel Liquid-Liquid Extraction
	EPA SW-846	3545	Pressurized Fluid Extraction (PFE)
	EPA SW-846	3665A	Sulfuric Acid/Permanganate Cleanup
	EPA SW-846	8000B	Determinative Chromatographic Separations
	EPA SW-846	8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography
	HEIS	8082_PCB_GC	Polychlorinated Biphenyls (PCBs) by Gas Chromatography
LA-523-456	Semivolatile Sample Analysis by SW-846 Method 8270D		
	EPA SW-846	8000B	Determinative Chromagraphic Separations
	EPA SW-846	3510C	Separatory Funnel Liquid-Liquid Extraction
	EPA SW-846	8270D	Semivolatile Organic Compounds by Gas
	EPA SW-846	3545	Pressurized Fluid Extraction (PFE) Chromatography/Mass Spectrometry (GC/MS)
	HEIS	8270_SVOA_GCMS	Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry(GC/MS)
LA-523-493	NWTPH-Dx, Extractible Diesel and Petroleum Productions Analysis in Soil and Water		
	WDOE	WDOE	Total Petroleum Hydrocarbons in Diesel
	HEIS	WTPH_DIESEL	TPH Diesel

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
Department Organic, Volatiles

Group # WSCF111209

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

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF111209

Sample # 111209002
SAF# F10-287
Sample ID B28P13

Matrix WATER
Sampled 01/19/11
Received 01/19/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**01/19/11**
Anions by IC										
Nitrate-N	NO3-N	LA-533-410	UD	<0.019		ug/mL	2	0.019	0.20	01/19/11
Cr(VI)										**01/19/11**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.0020		mg/L	1	0.0020	0.0050	01/19/11
ICP Prep										**02/03/11**
ICP-AES										
Lithium	7439-93-2	LA-505-411	U	<4.0		ug/L	1	4.0	20	02/10/11
Boron	7440-42-8	LA-505-411	U	<41		ug/L	1	41	200	02/10/11
ICPMS Prep										**02/01/11**
ICP-MS										
Manganese	7439-96-5	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	02/02/11
Nickel	7440-02-0	LA-505-412	UD	<0.40		ug/L	2	0.40	4.0	02/02/11
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	02/02/11
Antimony	7440-36-0	LA-505-412	UD	<0.60		ug/L	2	0.60	6.0	02/02/11
Barium	7440-39-3	LA-505-412	UD	<0.40		ug/L	2	0.40	4.0	02/02/11
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	02/02/11
Cadmium	7440-43-9	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	02/02/11

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

B - Analyte < the PQL(or EQL)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 recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.
PQL is equivalent to Estimated Quantitation Limit (EQL)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF111209

Sample # 111209002
SAF# F10-287
Sample ID B28P13

Matrix WATER
Sampled 01/19/11
Received 01/19/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Chromium	7440-47-3	LA-505-412	UD	<1.0		ug/L	2	1.0	10	02/02/11
Cobalt	7440-48-4	LA-505-412	UD	<0.10		ug/L	2	0.10	0.50	02/02/11
Copper	7440-50-8	LA-505-412	BD	0.364		ug/L	2	0.20	2.0	02/02/11
Vanadium	7440-62-2	LA-505-412	UD	<0.40		ug/L	2	0.40	4.0	02/02/11
Zinc	7440-66-6	LA-505-412	BD	1.63		ug/L	2	1.6	10	02/02/11
Lead	7439-92-1	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	02/02/11
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	02/02/11
Strontium	7440-24-6	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	02/02/11
Thallium	7440-28-0	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	02/02/11
Tin	7440-31-5	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	02/02/11
Uranium	7440-61-1	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	02/02/11
Arsenic	7440-38-2	LA-505-412	UD	<0.80		ug/L	2	0.80	8.0	02/02/11
Selenium	7782-49-2	LA-505-412	UD	<0.60		ug/L	2	0.60	6.0	02/02/11

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

B - Analyte < the PQL(or EQL)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 recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.
PQL is equivalent to Estimated Quantitation Limit (EQL)

WSCF Analytical Results Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF111209

Sample # 111209002
SAF# F10-287
Sample ID B28P13

Matrix WATER
Sampled 01/19/11
Received 01/19/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
8270 Prep										**01/26/11**
SW-846 8270D										
4-Nitrophenol	100-02-7	LA-523-456	U	<1		ug/L	1	1	4	02/01/11
1,4-Dichlorobenzene	106-46-7	LA-523-456	U	<1		ug/L	1	1	4	02/01/11
Phenol	108-95-2	LA-523-456	U	<1		ug/L	1	1	4	02/01/11
1,2,4-Trichlorobenzene	120-82-1	LA-523-456	U	<1		ug/L	1	1	4	02/01/11
2,4-Dinitrotoluene	121-14-2	LA-523-456	U	<1		ug/L	1	1	4	02/01/11
Pyrene	129-00-0	LA-523-456	U	<1		ug/L	1	1	4	02/01/11
4-Chloro-3-methylphenol	59-50-7	LA-523-456	U	<1		ug/L	1	1	4	02/01/11
n-Nitroso-di-n-propylamine	621-64-7	LA-523-456	U	<1		ug/L	1	1	4	02/01/11
Acenaphthene	83-32-9	LA-523-456	U	<1		ug/L	1	1	4	02/01/11
Pentachlorophenol	87-86-5	LA-523-456	U	<1		ug/L	1	1	4	02/01/11
2-Chlorophenol	95-57-8	LA-523-456	U	<1		ug/L	1	1	4	02/01/11
Anthracene	120-12-7	LA-523-456	U	<1		ug/L	1	1	4	02/01/11
Benzo(g,h,i)perylene	191-24-2	LA-523-456	U	<1		ug/L	1	1	4	02/01/11
Indeno(1,2,3-cd)pyrene	193-39-5	LA-523-456	U	<1		ug/L	1	1	4	02/01/11
Benzo(b)fluoranthene	205-99-2	LA-523-456	U	<1		ug/L	1	1	4	02/01/11
Fluoranthene	206-44-0	LA-523-456	U	<1		ug/L	1	1	4	02/01/11

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 - Presumed evidence based on MS library search(GC/MS only)

T - MS/MSD recovery outside control limits(GC/MS only).
U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.
PQL is equivalent to Estimated Quantitation Limit (EQL)

WSCF Analytical Results Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF111209

Sample # 111209002
SAF# F10-287
Sample ID B28P13

Matrix WATER
Sampled 01/19/11
Received 01/19/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Benzo(k)fluoranthene	207-08-9	LA-523-456	U	<1		ug/L	1	1	4	02/01/11
Acenaphthylene	208-96-8	LA-523-456	U	<1		ug/L	1	1	4	02/01/11
Chrysene	218-01-9	LA-523-456	U	<1		ug/L	1	1	4	02/01/11
Benzo(a)pyrene	50-32-8	LA-523-456	U	<1		ug/L	1	1	4	02/01/11
Dibenzo(a,h)anthracene	53-70-3	LA-523-456	U	<1		ug/L	1	1	4	02/01/11
Benzo(a)anthracene	56-55-3	LA-523-456	U	<1		ug/L	1	1	4	02/01/11
Phenanthrene	85-01-8	LA-523-456	U	<1		ug/L	1	1	4	02/01/11
Fluorene	86-73-7	LA-523-456	U	<1		ug/L	1	1	4	02/01/11
Naphthalene	91-20-3	LA-523-456	U	<1		ug/L	1	1	4	02/01/11
Prep for Water										**01/20/11**
TPHDWA										
Diesel	TPHDIESEL	LA-523-493	U	<70		ug/L	1	70	100	01/20/11
Kerosene	TPHKEROSEN	LA-523-493	U	<70		ug/L	1	70	100	01/20/11
SPE										**02/01/11**
PCBs										
Aroclor-1016	12674-11-2	LA-523-427	U	<0.09		ug/L	1	0.09	0.2	02/02/11
Aroclor-1221	11104-28-2	LA-523-427	U	<0.2		ug/L	1	0.2	0.4	02/02/11
Aroclor-1232	11141-16-5	LA-523-427	U	<0.09		ug/L	1	0.09	0.2	02/02/11
Aroclor-1242	53469-21-9	LA-523-427	U	<0.09		ug/L	1	0.09	0.2	02/02/11

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 - Presumed evidence based on MS library search(GC/MS only)

T - MS/MSD recovery outside control limits(GC/MS only).
U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.
PQL is equivalent to Estimated Quantitation Limit (EQL)

WSCF Analytical Results Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF111209

Sample # 111209002
SAF# F10-287
Sample ID B28P13

Matrix WATER
Sampled 01/19/11
Received 01/19/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Aroclor-1248	12672-29-6	LA-523-427	U	<0.09		ug/L	1	0.09	0.2	02/02/11
Aroclor-1254	11097-69-1	LA-523-427	U	<0.09		ug/L	1	0.09	0.2	02/02/11
Aroclor-1260	11096-82-5	LA-523-427	U	<0.09		ug/L	1	0.09	0.2	02/02/11

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 - Presumed evidence based on MS library search(GC/MS only)

T - MS/MSD recovery outside control limits(GC/MS only).
U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.
PQL is equivalent to Estimated Quantitation Limit (EQL)

WSCF Analytical Results Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF111209

Sample # 111209001
SAF# F10-287
Sample ID B28P14

Matrix WATER
Sampled 01/19/11
Received 01/19/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
8260 Prep										**01/24/11**
SW-846 8260B										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	01/25/11
Trichloroethene	79-01-6	LA-523-455	U	<1		ug/L	1	1	5	01/25/11
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	01/25/11
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	01/25/11
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	01/25/11
Carbon tetrachloride	56-23-5	LA-523-455	U	<1		ug/L	1	1	5	01/25/11

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 < PQL (or EQL) >= MDL.
N - Presumed evidence based on MS library search(GC/MS only)

T - MS/MSD recovery outside control limits(GC/MS only).
U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.
N - MS and/or MSD recovery outside control limits.
PQL is equivalent to Estimated Quantitation Limit (EQL)

WSCF Analytical Results Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF111209

Sample # 111209002
SAF# F10-287
Sample ID B28P13

Matrix WATER
Sampled 01/19/11
Received 01/19/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
8260 Prep										**01/24/11**
SW-846 8260B										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	01/25/11
Trichloroethene	79-01-6	LA-523-455	U	<1		ug/L	1	1	5	01/25/11
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	01/25/11
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	01/25/11
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	01/25/11
Carbon tetrachloride	56-23-5	LA-523-455	U	<1		ug/L	1	1	5	01/25/11

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 < PQL (or EQL) >= MDL.
N - Presumed evidence based on MS library search(GC/MS only)

T - MS/MSD recovery outside control limits(GC/MS only).
U - Analyzed for but not detected above limiting criteria.
X,Y or Z - See comment detail and/or narrative.
N - MS and/or MSD recovery outside control limits.
PQL is equivalent to Estimated Quantitation Limit (EQL)

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF111209

QC Batch 174785
Associated Samples 111209002

Test Hexavalent chromium Discrete Analyzer

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #46975**							
Hexavalent chromium	18540-29-9		<0.0020	mg/L					U	01/19/11
LCS			**QC Sample #46977**							
Hexavalent chromium	18540-29-9		0.0497	mg/L	99.4	90 - 110				01/19/11
DUP			**QC Sample #46978**							
			Original 111208001							
Hexavalent chromium	18540-29-9		<0.0020	mg/L			-3.30	20	U	01/19/11
MS			**QC Sample #46979**							
			Original 111208001							
Hexavalent chromium	18540-29-9		0.0436	mg/L	109	85 - 115				01/19/11

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF111209

QC Batch 174794
Associated Samples 111209002

Test Anions by Ion Chromatography (Water)

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit		RQ	Analyzed
BLANK			**QC Sample #47000**								
Nitrate-N	NO3-N		<9.7E-3	ug/mL						U	01/19/11
LCS			**QC Sample #47001**								
Nitrate-N	NO3-N		0.915	ug/mL	103.4	90 - 110					01/19/11
DUP			**QC Sample #47002**								
			Original 111204001								
Nitrate-N	NO3-N		0.0315	ug/mL			106.60	20	*	BXD	01/19/11
MS			**QC Sample #47003**								
			Original 111204001								
Nitrate-N	NO3-N		0.938	ug/mL	104.9	80 - 120				D	01/19/11
MSD			**QC Sample #47004**								
			Original 111204001						**Paired**	**47003**	
Nitrate-N	NO3-N		0.959	ug/mL	107.3	80 - 120	2.30	20		D	01/19/11

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF111209

QC Batch 174805
Associated Samples 111209002

Test Extractable Diesel and Petroleum

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #47043**							
Diesel	TPHDIESEL		<80	ug/L					U	01/20/11
Kerosene	TPHKEROSE		<80	ug/L					U	01/20/11
LCS			**QC Sample #47044**							
Diesel	TPHDIESEL		2400	ug/L	95.4	65 - 128				01/20/11
MS			**QC Sample #47045**							
			Original 111181001							
Diesel	TPHDIESEL		1800	ug/L	77.2	73 - 123				01/20/11
MSD			**QC Sample #47046**							
			Original 111181001					**Paired**	**47045**	
Diesel	TPHDIESEL		2000	ug/L	85.2	73 - 123	9.90	20		01/20/11

Quality Control Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF111209

QC Batch 174926
Associated Samples 111209001, 111209002

Test SW-846 8260B Volatiles, separate prep

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #47205**							
1,1-Dichloroethene	75-35-4		<1	ug/L					U	01/25/11
Trichloroethene	79-01-6		<1	ug/L					U	01/25/11
Benzene	71-43-2		<1	ug/L					U	01/25/11
Toluene	108-88-3		<1	ug/L					U	01/25/11
Chlorobenzene	108-90-7		<1	ug/L					U	01/25/11
Carbon tetrachloride	56-23-5		<1	ug/L					U	01/25/11
LCS			**QC Sample #47206**							
1,1-Dichloroethene	75-35-4		29	ug/L	115.4	75 - 125				01/25/11
Trichloroethene	79-01-6		21	ug/L	84.1	75 - 125				01/25/11
Benzene	71-43-2		24	ug/L	97.1	75 - 125				01/25/11
Toluene	108-88-3		23	ug/L	92.6	75 - 125				01/25/11
Chlorobenzene	108-90-7		27	ug/L	106.2	75 - 125				01/25/11
MS			**QC Sample #47207**							
			Original 111201001							
1,1-Dichloroethene	75-35-4		31	ug/L	123.3	75 - 125				01/25/11
Trichloroethene	79-01-6		23	ug/L	91	75 - 125				01/25/11
Benzene	71-43-2		26	ug/L	102.4	75 - 125				01/25/11
Toluene	108-88-3		25	ug/L	98.7	75 - 125				01/25/11

Quality Control Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF111209

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Chlorobenzene	108-90-7		27	ug/L	108.6	75 - 125				01/25/11
MSD			**QC Sample #47208**							
			Original 111201001					**Paired**	**47207**	
1,1-Dichloroethene	75-35-4		29	ug/L	114.5	75 - 125	7.40	20		01/25/11
Trichloroethene	79-01-6		20	ug/L	81.4	75 - 125	11.10	20		01/25/11
Benzene	71-43-2		22	ug/L	89.6	75 - 125	13.30	20		01/25/11
Toluene	108-88-3		23	ug/L	90.3	75 - 125	8.90	20		01/25/11
Chlorobenzene	108-90-7		26	ug/L	103	75 - 125	5.30	20		01/25/11

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF111209

QC Batch 175099
Associated Samples 111209002

Test SW-846 8270D Semivolatiles

Analyte	CAS #	Original Found	QC Found	Units	% Recov Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #47369**						
4-Nitrophenol	100-02-7		<1	ug/L				U	02/01/11
1,4-Dichlorobenzene	106-46-7		<1	ug/L				U	02/01/11
Phenol	108-95-2		<1	ug/L				U	02/01/11
1,2,4-Trichlorobenzene	120-82-1		<1	ug/L				U	02/01/11
2,4-Dinitrotoluene	121-14-2		<1	ug/L				U	02/01/11
Pyrene	129-00-0		<1	ug/L				U	02/01/11
4-Chloro-3-methylphenol	59-50-7		<1	ug/L				U	02/01/11
n-Nitroso-di-n-propylamine	621-64-7		<1	ug/L				U	02/01/11
Acenaphthene	83-32-9		<1	ug/L				U	02/01/11
Pentachlorophenol	87-86-5		<1	ug/L				U	02/01/11
2-Chlorophenol	95-57-8		<1	ug/L				U	02/01/11
Anthracene	120-12-7		<1	ug/L				U	02/01/11
Benzo(g,h,i)perylene	191-24-2		<1	ug/L				U	02/01/11
Indeno(1,2,3-cd)pyrene	193-39-5		<1	ug/L				U	02/01/11
Benzo(b)fluoranthene	205-99-2		<1	ug/L				U	02/01/11
Fluoranthene	206-44-0		<1	ug/L				U	02/01/11
Benzo(k)fluoranthene	207-08-9		<1	ug/L				U	02/01/11

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF111209

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Acenaphthylene	208-96-8		<1	ug/L					U	02/01/11
Chrysene	218-01-9		<1	ug/L					U	02/01/11
Benzo(a)pyrene	50-32-8		<1	ug/L					U	02/01/11
Dibenzo(a,h)anthracene	53-70-3		<1	ug/L					U	02/01/11
Benzo(a)anthracene	56-55-3		<1	ug/L					U	02/01/11
Phenanthrene	85-01-8		<1	ug/L					U	02/01/11
Fluorene	86-73-7		<1	ug/L					U	02/01/11
Naphthalene	91-20-3		<1	ug/L					U	02/01/11
LCS			**QC Sample #47370**							
4-Nitrophenol	100-02-7		12	ug/L	38.8	25 - 126				02/01/11
1,4-Dichlorobenzene	106-46-7		17	ug/L	85.3	41 - 118				02/01/11
Phenol	108-95-2		18	ug/L	58.4	25 - 147				02/01/11
1,2,4-Trichlorobenzene	120-82-1		26	ug/L	85.7	57 - 120				02/01/11
2,4-Dinitrotoluene	121-14-2		27	ug/L	89.1	62 - 113				02/01/11
Pyrene	129-00-0		28	ug/L	94.1	56 - 135				02/01/11
4-Chloro-3-methylphenol	59-50-7		26	ug/L	86.3	59 - 117				02/01/11
n-Nitroso-di-n-propylamine	621-64-7		26	ug/L	88	64 - 118				02/01/11
Acenaphthene	83-32-9		26	ug/L	87	60 - 115				02/01/11
Pentachlorophenol	87-86-5		13	ug/L	44.4	25 - 132				02/01/11
2-Chlorophenol	95-57-8		26	ug/L	85.4	60 - 110				02/01/11
Naphthalene	91-20-3		26	ug/L	85.8	59 - 113				02/01/11
Fluorene	86-73-7		26	ug/L	86.4	61 - 116				02/01/11

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF111209

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Anthracene	120-12-7		27	ug/L	90	58 - 122				02/01/11
Benzo(a)pyrene	50-32-8		26	ug/L	87.2	44 - 148				02/01/11
MS			**QC Sample #47371**							
			Original 111209002							
4-Nitrophenol	100-02-7	<1	8.1	ug/L	28.4	25 - 149				02/01/11
1,4-Dichlorobenzene	106-46-7	<1	16	ug/L	82.2	52 - 116				02/01/11
Phenol	108-95-2	<1	13	ug/L	44.1	25 - 153				02/01/11
1,2,4-Trichlorobenzene	120-82-1	<1	26	ug/L	89.8	62 - 122				02/01/11
2,4-Dinitrotoluene	121-14-2	<1	26	ug/L	90.2	59 - 116				02/01/11
Pyrene	129-00-0	<1	28	ug/L	99.2	67 - 123				02/01/11
4-Chloro-3-methylphenol	59-50-7	<1	25	ug/L	89.1	57 - 118				02/01/11
n-Nitroso-di-n-propylamine	621-64-7	<1	25	ug/L	88.5	64 - 121				02/01/11
Acenaphthene	83-32-9	<1	26	ug/L	90.7	62 - 116				02/01/11
Pentachlorophenol	87-86-5	<1	16	ug/L	55.7	25 - 144				02/01/11
2-Chlorophenol	95-57-8	<1	25	ug/L	87.5	54 - 117				02/01/11
Naphthalene	91-20-3	<1	25	ug/L	87.1	64 - 112				02/01/11
Fluorene	86-73-7	<1	26	ug/L	90.5	65 - 112				02/01/11
Anthracene	120-12-7	<1	25	ug/L	88	65 - 114				02/01/11
Benzo(a)pyrene	50-32-8	<1	25	ug/L	87.3	52 - 129				02/01/11
MSD			**QC Sample #47372**							
			Original 111209002					**Paired**	**47371**	
4-Nitrophenol	100-02-7	<1	9.1	ug/L	32	25 - 149	11.90	20		02/01/11
1,4-Dichlorobenzene	106-46-7	<1	16	ug/L	83.1	52 - 116	1.10	20		02/01/11
Phenol	108-95-2	<1	13	ug/L	43.8	25 - 153	0.70	20		02/01/11

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF111209

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
1,2,4-Trichlorobenzene	120-82-1	<1	25	ug/L	86.8	62 - 122	3.40	20		02/01/11
2,4-Dinitrotoluene	121-14-2	<1	26	ug/L	90.5	59 - 116	0.30	20		02/01/11
Pyrene	129-00-0	<1	27	ug/L	93	67 - 123	6.50	20		02/01/11
4-Chloro-3-methylphenol	59-50-7	<1	25	ug/L	86.7	57 - 118	2.70	20		02/01/11
n-Nitroso-di-n-propylamine	621-64-7	<1	25	ug/L	87.4	64 - 121	1.30	20		02/01/11
Acenaphthene	83-32-9	<1	26	ug/L	89.8	62 - 116	1.00	20		02/01/11
Pentachlorophenol	87-86-5	<1	16	ug/L	56.9	25 - 144	2.10	20		02/01/11
2-Chlorophenol	95-57-8	<1	24	ug/L	85	54 - 117	2.90	20		02/01/11
Naphthalene	91-20-3	<1	25	ug/L	85.9	64 - 112	1.40	20		02/01/11
Fluorene	86-73-7	<1	25	ug/L	88	65 - 112	2.80	20		02/01/11
Anthracene	120-12-7	<1	25	ug/L	88	65 - 114	0.00	20		02/01/11
Benzo(a)pyrene	50-32-8	<1	25	ug/L	88.4	52 - 129	1.30	20		02/01/11

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF111209

QC Batch 175861
Associated Samples 111209002

Test PCBs by EPA SW-846 Method 8082

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #48196**							
Aroclor-1016	12674-11-2		<0.1	ug/L					U	02/02/11
Aroclor-1221	11104-28-2		<0.2	ug/L					U	02/02/11
Aroclor-1232	11141-16-5		<0.1	ug/L					U	02/02/11
Aroclor-1242	53469-21-9		<0.1	ug/L					U	02/02/11
Aroclor-1248	12672-29-6		<0.1	ug/L					U	02/02/11
Aroclor-1254	11097-69-1		<0.1	ug/L					U	02/02/11
Aroclor-1260	11096-82-5		<0.1	ug/L					U	02/02/11
LCS			**QC Sample #48197**							
Aroclor-1254	11097-69-1		1.7	ug/L	84.2	70 - 130				02/02/11
MS			**QC Sample #48198**							
			Original 111207003							
Aroclor-1254	11097-69-1		1.7	ug/L	88.1	60 - 130				02/02/11
MSD			**QC Sample #48199**							
			Original 111207003					**Paired**	**48198**	
Aroclor-1254	11097-69-1		1.7	ug/L	88.1	60 - 130	0.00	20		02/02/11

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF111209

QC Batch 175991
Associated Samples 111209002

Test ICP-6010 - All possible metals

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #48327**							
Lithium	7439-93-2		<4.0	ug/L					U	02/10/11
Boron	7440-42-8		<41	ug/L					U	02/10/11
LCS			**QC Sample #48328**							
Lithium	7439-93-2		539	ug/L	107.8	80 - 120				02/10/11
Boron	7440-42-8		1020	ug/L	102	80 - 120				02/10/11
MS			**QC Sample #48329**							
			Original 111130006							
Lithium	7439-93-2		519	ug/L	103.8	75 - 125				02/10/11
Boron	7440-42-8		1020	ug/L	102	75 - 125				02/10/11
MSD			**QC Sample #48330**							
			Original 111130006					**Paired 48329**		
Lithium	7439-93-2		512	ug/L	102.4	75 - 125	1.40	20		02/10/11
Boron	7440-42-8		1010	ug/L	101	75 - 125	1.00	20		02/10/11

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF111209

QC Batch 175547
Associated Samples 111209002

Test ICP-2008 MS All possible metal

Analyte	CAS #	Original Found	QC Found	Units	% Recov Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #47945**						
Manganese	7439-96-5		<0.10	ug/L				U	02/02/11
Nickel	7440-02-0		<0.20	ug/L				U	02/02/11
Silver	7440-22-4		<0.10	ug/L				U	02/02/11
Antimony	7440-36-0		<0.30	ug/L				U	02/02/11
Barium	7440-39-3		<0.20	ug/L				U	02/02/11
Beryllium	7440-41-7		<0.10	ug/L				U	02/02/11
Cadmium	7440-43-9		<0.10	ug/L				U	02/02/11
Chromium	7440-47-3		<0.50	ug/L				U	02/02/11
Cobalt	7440-48-4		<0.050	ug/L				U	02/02/11
Copper	7440-50-8		<0.10	ug/L				U	02/02/11
Vanadium	7440-62-2		<0.20	ug/L				U	02/02/11
Zinc	7440-66-6		<0.80	ug/L				U	02/02/11
Lead	7439-92-1		<0.10	ug/L				U	02/02/11
Mercury	7439-97-6		<0.050	ug/L				U	02/02/11
Strontium	7440-24-6		0.120	ug/L				B	02/02/11
Thallium	7440-28-0		<0.050	ug/L				U	02/02/11
Tin	7440-31-5		<0.050	ug/L				U	02/02/11
Uranium	7440-61-1		<0.050	ug/L				U	02/02/11
Arsenic	7440-38-2		<0.40	ug/L				U	02/02/11

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF111209

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Selenium	7782-49-2		<0.30	ug/L					U	02/02/11
LCS			**QC Sample #47946**							
Manganese	7439-96-5		40.6	ug/L	101.6	85 - 115				02/02/11
Nickel	7440-02-0		40.4	ug/L	101.1	85 - 115				02/02/11
Silver	7440-22-4		42.6	ug/L	106.6	85 - 115				02/02/11
Antimony	7440-36-0		40.1	ug/L	100.2	85 - 115				02/02/11
Barium	7440-39-3		41.8	ug/L	104.5	85 - 115				02/02/11
Beryllium	7440-41-7		41.2	ug/L	103.1	85 - 115				02/02/11
Cadmium	7440-43-9		40.4	ug/L	101	85 - 115				02/02/11
Chromium	7440-47-3		41.4	ug/L	103.6	85 - 115				02/02/11
Cobalt	7440-48-4		41.4	ug/L	103.6	85 - 115				02/02/11
Copper	7440-50-8		40.7	ug/L	101.8	85 - 115				02/02/11
Vanadium	7440-62-2		40.8	ug/L	101.9	85 - 115				02/02/11
Zinc	7440-66-6		38.6	ug/L	96.4	85 - 115				02/02/11
Lead	7439-92-1		42.0	ug/L	105.1	85 - 115				02/02/11
Mercury	7439-97-6		1.99	ug/L	99.5	85 - 115				02/02/11
Strontium	7440-24-6		41.7	ug/L	104.2	85 - 115				02/02/11
Thallium	7440-28-0		41.6	ug/L	103.9	85 - 115				02/02/11
Tin	7440-31-5		41.8	ug/L	104.5	85 - 115				02/02/11
Uranium	7440-61-1		41.5	ug/L	103.7	85 - 115				02/02/11
Arsenic	7440-38-2		40.2	ug/L	100.5	85 - 115				02/02/11
Selenium	7782-49-2		39.0	ug/L	97.6	85 - 115				02/02/11
MS			**QC Sample #47947**							
			Original 111154001							

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF111209

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit		RQ	Analyzed
Manganese	7439-96-5		35.0	ug/L	87.5	70 - 130				X	02/02/11
Nickel	7440-02-0		37.9	ug/L	94.7	70 - 130					02/02/11
Silver	7440-22-4		40.8	ug/L	102.1	70 - 130					02/02/11
Antimony	7440-36-0		41.8	ug/L	104.6	70 - 130					02/02/11
Barium	7440-39-3		42.8	ug/L	107	70 - 130					02/02/11
Beryllium	7440-41-7		40.0	ug/L	100	70 - 130					02/02/11
Cadmium	7440-43-9		40.2	ug/L	100.4	70 - 130					02/02/11
Chromium	7440-47-3		40.7	ug/L	101.7	70 - 130					02/02/11
Cobalt	7440-48-4		38.8	ug/L	97.1	70 - 130					02/02/11
Copper	7440-50-8		36.7	ug/L	91.8	70 - 130					02/02/11
Vanadium	7440-62-2		40.8	ug/L	102	70 - 130					02/02/11
Zinc	7440-66-6		35.8	ug/L	89.5	70 - 130					02/02/11
Lead	7439-92-1		42.8	ug/L	107	70 - 130					02/02/11
Mercury	7439-97-6		2.17	ug/L	108.6	70 - 130					02/02/11
Strontium	7440-24-6		51.5	ug/L	128.8	70 - 130				X	02/02/11
Thallium	7440-28-0		43.2	ug/L	107.9	70 - 130					02/02/11
Tin	7440-31-5		42.2	ug/L	105.6	70 - 130					02/02/11
Uranium	7440-61-1		44.8	ug/L	112	70 - 130					02/02/11
Arsenic	7440-38-2		42.9	ug/L	107.2	70 - 130					02/02/11
Selenium	7782-49-2		40.4	ug/L	101	70 - 130					02/02/11
MSD			**QC Sample #47948**								
			Original 111154001						**Paired**	**47947**	
Manganese	7439-96-5		53.0	ug/L	132.5	70 - 130	40.90	20	*	X	02/02/11
Nickel	7440-02-0		38.8	ug/L	97	70 - 130	2.40	20			02/02/11
Silver	7440-22-4		40.5	ug/L	101.2	70 - 130	0.90	20			02/02/11

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF111209

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Antimony	7440-36-0		41.7	ug/L	104.3	70 - 130	0.30	20		02/02/11
Barium	7440-39-3		41.9	ug/L	104.7	70 - 130	2.20	20		02/02/11
Beryllium	7440-41-7		40.6	ug/L	101.4	70 - 130	1.40	20		02/02/11
Cadmium	7440-43-9		39.7	ug/L	99.2	70 - 130	1.20	20		02/02/11
Chromium	7440-47-3		41.1	ug/L	102.8	70 - 130	1.10	20		02/02/11
Cobalt	7440-48-4		39.9	ug/L	99.8	70 - 130	2.70	20		02/02/11
Copper	7440-50-8		37.5	ug/L	93.9	70 - 130	2.30	20		02/02/11
Vanadium	7440-62-2		41.8	ug/L	104.6	70 - 130	2.50	20		02/02/11
Zinc	7440-66-6		37.7	ug/L	94.3	70 - 130	5.20	20		02/02/11
Lead	7439-92-1		43.2	ug/L	108	70 - 130	0.90	20		02/02/11
Mercury	7439-97-6		2.14	ug/L	107	70 - 130	1.50	20		02/02/11
Strontium	7440-24-6		44.4	ug/L	111	70 - 130	14.80	20	X	02/02/11
Thallium	7440-28-0		43.7	ug/L	109.2	70 - 130	1.20	20		02/02/11
Tin	7440-31-5		42.5	ug/L	106.2	70 - 130	0.60	20		02/02/11
Uranium	7440-61-1		45.6	ug/L	114	70 - 130	1.80	20		02/02/11
Arsenic	7440-38-2		42.2	ug/L	105.4	70 - 130	1.70	20		02/02/11
Selenium	7782-49-2		38.8	ug/L	97.1	70 - 130	3.90	20		02/02/11

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF111209

QC Batch 174805
Associated Samples 111209002

Test Extractable Diesel and Petroleum

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
SAMPLE			**Sample #111209002**							
o-Terphenyl	84-15-1				88.4	70 - 130				01/20/11
BLANK			**QC Sample #47043**							
o-Terphenyl	84-15-1				78.4	70 - 130				01/20/11
LCS			**QC Sample #47044**							
o-Terphenyl	84-15-1				93.8	70 - 130				01/20/11
MS			**QC Sample #47045**							
			Original 111181001							
o-Terphenyl	84-15-1				72.9	70 - 130				01/20/11
MSD			**QC Sample #47046**							
			Original 111181001						**Paired 47045**	
o-Terphenyl	84-15-1				91.1	70 - 130	22.20	20	*	01/20/11

Quality Control Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF111209

QC Batch 174926
Associated Samples 111209001, 111209002

Test SW-846 8260B Volatiles, separate prep

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
SAMPLE			**Sample #111209001**							
1,2-Dichloroethane-d4	17060-07-0				98.6	75 - 125				01/25/11
Toluene-d8	2037-26-5				90.2	75 - 125				01/25/11
4-Bromofluorobenzene	460-00-4				75.2	75 - 125				01/25/11
SAMPLE			**Sample #111209002**							
1,2-Dichloroethane-d4	17060-07-0				97.2	75 - 125				01/25/11
Toluene-d8	2037-26-5				92.8	75 - 125				01/25/11
4-Bromofluorobenzene	460-00-4				76.5	75 - 125				01/25/11
BLANK			**QC Sample #47205**							
1,2-Dichloroethane-d4	17060-07-0				102.2	75 - 125				01/25/11
Toluene-d8	2037-26-5				95.2	75 - 125				01/25/11
4-Bromofluorobenzene	460-00-4				75.2	75 - 125				01/25/11
LCS			**QC Sample #47206**							
1,2-Dichloroethane-d4	17060-07-0				103.8	75 - 125				01/25/11
Toluene-d8	2037-26-5				93.2	75 - 125				01/25/11

Quality Control Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF111209

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
4-Bromofluorobenzene	460-00-4				79.1	75 - 125				01/25/11
MS			**QC Sample #47207**							
			Original 111201001							
1,2-Dichloroethane-d4	17060-07-0				96.6	75 - 125				01/25/11
Toluene-d8	2037-26-5				92.6	75 - 125				01/25/11
4-Bromofluorobenzene	460-00-4				78.2	75 - 125				01/25/11
MSD			**QC Sample #47208**							
			Original 111201001					**Paired**	**47207**	
1,2-Dichloroethane-d4	17060-07-0				100.1	75 - 125	3.60	20		01/25/11
Toluene-d8	2037-26-5				89.6	75 - 125	3.30	20		01/25/11
4-Bromofluorobenzene	460-00-4				79	75 - 125	1.00	20		01/25/11

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF111209

QC Batch 175099
Associated Samples 111209002

Test SW-846 8270D Semivolatiles

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
SAMPLE			**Sample #111209002**							
2-Fluorophenol	367-12-4				75.7	44 - 135				02/01/11
Phenol-d5	4165-62-2				46.7	41 - 136				02/01/11
Nitrobenzene-d5	4165-60-0				107.5	53 - 129				02/01/11
2-Fluorobiphenyl	321-60-8				105.6	36 - 141				02/01/11
2,4,6-Tribromophenol	118-79-6				83.2	17 - 142				02/01/11
Terphenyl-d14	98904-43-9				129.4	61 - 142				02/01/11
BLANK			**QC Sample #47369**							
2-Fluorophenol	367-12-4				77	44 - 135				02/01/11
Phenol-d5	4165-62-2				58.4	41 - 136				02/01/11
Nitrobenzene-d5	4165-60-0				108.2	53 - 129				02/01/11
2-Fluorobiphenyl	321-60-8				102.4	36 - 141				02/01/11
2,4,6-Tribromophenol	118-79-6				76.2	17 - 142				02/01/11
Terphenyl-d14	98904-43-9				124.2	61 - 142				02/01/11
LCS			**QC Sample #47370**							
2-Fluorophenol	367-12-4				83.8	25 - 122				02/01/11
Phenol-d5	4165-62-2				70.4	25 - 144				02/01/11
Nitrobenzene-d5	4165-60-0				112.7	63 - 112			X	02/01/11

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF111209

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
2-Fluorobiphenyl	321-60-8				108.1	52 - 113				02/01/11
2,4,6-Tribromophenol	118-79-6				97.8	26 - 131				02/01/11
Terphenyl-d14	98904-43-9				122.1	63 - 132				02/01/11
MS			**QC Sample #47371**							
			Original	**111209002**						
2-Fluorophenol	367-12-4				78.7	25 - 122				02/01/11
Phenol-d5	4165-62-2				54.8	25 - 144				02/01/11
Nitrobenzene-d5	4165-60-0				112.8	63 - 112			X	02/01/11
2-Fluorobiphenyl	321-60-8				107.1	52 - 113				02/01/11
2,4,6-Tribromophenol	118-79-6				92.9	26 - 131				02/01/11
Terphenyl-d14	98904-43-9				124.8	63 - 132				02/01/11
MSD			**QC Sample #47372**							
			Original	**111209002**				**Paired**	**47371**	
2-Fluorophenol	367-12-4				70.8	25 - 122	10.60	20		02/01/11
Phenol-d5	4165-62-2				53	25 - 144	3.30	20		02/01/11
Nitrobenzene-d5	4165-60-0				106.4	63 - 112	5.80	20		02/01/11
2-Fluorobiphenyl	321-60-8				103.1	52 - 113	3.80	20		02/01/11
2,4,6-Tribromophenol	118-79-6				100	26 - 131	7.40	20		02/01/11
Terphenyl-d14	98904-43-9				114	63 - 132	9.00	20		02/01/11

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF111209

QC Batch 175861
Associated Samples 111209002

Test PCBs by EPA SW-846 Method 8082

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
SAMPLE			**Sample #111209002**							
Tetrachloro-m-xylene	877-09-8				81	60 - 140				02/02/11
Decachlorobiphenyl	2051-24-3				94.4	60 - 140				02/02/11
BLANK			**QC Sample #48196**							
Tetrachloro-m-xylene	877-09-8				76.8	60 - 140				02/02/11
Decachlorobiphenyl	2051-24-3				94.2	60 - 140				02/02/11
LCS			**QC Sample #48197**							
Tetrachloro-m-xylene	877-09-8				73.6	60 - 140				02/02/11
Decachlorobiphenyl	2051-24-3				92.6	60 - 140				02/02/11
MS			**QC Sample #48198**							
			Original	**111207003**						
Tetrachloro-m-xylene	877-09-8				78.6	60 - 140				02/02/11
Decachlorobiphenyl	2051-24-3				82.8	60 - 140				02/02/11
MSD			**QC Sample #48199**							
			Original	**111207003**				**Paired**	**48198**	
Tetrachloro-m-xylene	877-09-8				76.6	60 - 140	2.60			02/02/11
Decachlorobiphenyl	2051-24-3				84.3	60 - 140	1.80			02/02/11

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF111209

QC Batch 175099
Associated Samples 111209002

Test SW-846 8270D Semivolatiles

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #47369**							
1,2-Benzenedicarboxyli	131-16-8		1.6	ug/L						02/01/11

Tentatively Identified Peak Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF111209

Peak Name		CAS #	RT	RQ	Result	Units
111209002	**B28P13**					
Unknown Amide		UNKNOWN-01	6.5298		4.9	ug/L
Unknown Hydrocarbon		UNKNOWN-02	6.7596		4.7	ug/L
47369	**BLANK for HBN 175099**					
1,2-Benzenedicarboxyli		131-16-8	18.351		1.6	ug/L

Attention: Michael Neely

Group # WSCF111209

Quality Control Comments

Department Inorganic

47002 B28D94(111204001DUP)

Analyte Nitrate-N - Anions by Ion Chromatography (Water)

[1] Duplicate is flagged for RPD out-of-limits. RPD does not apply to samples concentrations below the calibration range. RPD is calculated on measured values and not applicable for a result below the RDL.

47947 B28FH5(111154001MS)

Analyte Manganese - ICP-2008 MS All possible metal

[1] X5: Sample concentration exceed spiking level by a factor of 4. Spike recoveries are not valid.

Analyte Strontium - ICP-2008 MS All possible metal

[1] X5: Sample concentration exceed spiking level by a factor of 4. Spike recoveries are not valid.

47948 B28FH5(111154001MSD)

Analyte Manganese - ICP-2008 MS All possible metal

[1] X5: Sample concentration exceed spiking level by a factor of 4. Spike recoveries are not valid.

Analyte Strontium - ICP-2008 MS All possible metal

[1] X5: Sample concentration exceed spiking level by a factor of 4. Spike recoveries are not valid.

Analytical Comment Report

Attention: Michael Neely

Group # WSCF111209

Quality Control Comments

Department Organic, Semivolatiles

47370 LCS for HBN 175099 [ORGP/1430]

Analyte Nitrobenzene-d5 - SW-846 8270D Semivolatiles

[1] Surrogate recovery outside of established laboratory control limits.

47371 B28P13(111209002MS)

Analyte Nitrobenzene-d5 - SW-846 8270D Semivolatiles

[1] Surrogate recovery outside of established laboratory control limits.

ATTACHMENT4

SAMPLE RECEIPT

Consisting of 5 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 650 S3-30
Richland, WA 99352

ATTN: Michael Neely

Customer Code: CHPRC
PO #: 401352ES20
Work Order #: 111209
Profile #: F10-287-002
Proj. Mgr.:
Phone:

The following samples were received from you on 1/19/2011 10:30:00 AM. 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		
111209001	B28P14	WATER	1/19/2011 09:00	1/19/2011 10:30
		8260V-W		
111209002	B28P13	WATER	1/19/2011 07:00	1/19/2011 10:30
		2008-W; 6010-W; 8260V-W; 8270SV-W; CR6DA-W; IC-W; PCB-W; TPHDWA-W		

Test Acronym Description

Test Acronym	Description
2008-W	ICP-MS (W)
6010-W	ICP-AES (W)
8260V-W	Volatiles by 8260B (W)
8270SV-W	Semivolatiles by 8270D (W)
CR6DA-W	Cr6 (W-Discrete analyzer)
IC-W	Anions by IC (W)
PCB-W	PCB (8082) (W)
TPHDWA-W	TPHD-WA (W)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F10-287-002 PAGE 1 OF 1

COLLECTOR: Chamberlain

COMPANY CONTACT: WIDRIG, DL

TELEPHONE NO.: 376-2858

PROJECT COORDINATOR: WIDRIG, DL

PRICE CODE: 7C

DATA TURNAROUND: 15 Days / 15 Days

SAMPLING LOCATION: 600-065 - FXR 1

SAF NO.: F10-287

AIR QUALITY: ☐

ICE CHEST NO.:

PROJECT DESIGNATION: AREA 600 65 Investigative/Verification Sampling and Analysis - QC Sampl

FIELD LOGBOOK NO.: ANF-N-507-15

ACTUAL SAMPLE DEPTH: N/A

COA: 302222ES10

METHOD OF SHIPMENT: GOVERNMENT VEHICLE

SHIPPED TO: Waste Sampling & Characterization

OFFSITE PROPERTY NO.: N/A

BILL OF LADING/AIR BILL NO.: N/A

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE: 111209

PRESERVATION	HCl or H2SO4 to pH <2/Cool <6°
HOLDING TIME	14 Days
TYPE OF CONTAINER	aGK*
NO. OF CONTAINER(S)	3
VOLUME	40mL
SAMPLE ANALYSIS	VOA - 8260 (TICs) (Carbon tetrachloride);

SAMPLE NO.		MATRIX*	SAMPLE DATE	SAMPLE TIME	
B28P14	QC 1	WATER	1-19-11	0900	K

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
[signature]	1-19-11 1030	[signature]	1/19/11 1030
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The CACN for all analytical work at WSCF is 401352ES20.☐** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐** The laboratory shall report only the requested constituents of concern in all final data reports, and EDDs. QC results for non-requested constituents need not be reported, but samples chosen for matrix spike, and all spike compounds shall be identified in the final data report case narrative. No TICs shall be reported.☐** Copies of all data will be placed into the folder labeled Geographic Closure Data in IDMS following completion of the data login step of the SMR process.

ORIGINAL

LABORATORY SECTION: RECEIVED BY | TITLE | DATE/TIME

FINAL SAMPLE DISPOSITION: DISPOSAL METHOD | DISPOSED BY | DATE/TIME

A-6003-618(01/06)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F10-287-001 PAGE 1 OF 2

COLLECTOR: Chamberlain

COMPANY CONTACT: WIDRIG, DL

TELEPHONE NO.: 376-2858

PROJECT COORDINATOR: WIDRIG, DL

PRICE CODE: 7C

DATA TURNAROUND: 15 Days / 15 Days

AIR QUALITY: [ ]

SAMPLING LOCATION: 600-065 - EB 1

PROJECT DESIGNATION: ARRA 600-65 Investigative/Verification Sampling and Analysis - QC Sampl

SAF NO.: F10-287

ICE CHEST NO.:

FIELD LOGBOOK NO.: INF-N-507-15

ACTUAL SAMPLE DEPTH: N/A

COA: 302222ES10

METHOD OF SHIPMENT: GOVERNMENT VEHICLE

SHIPPED TO: Waste Sampling & Characterization

OFFSITE PROPERTY NO.: N/A

BILL OF LADING/AIR BILL NO.: N/A

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE:

PRESERVATION	HCl or H2SO4 to pH <2/Cool-4C	Cool-4C	HCl to pH <2/Cool-4C	HNO3 to pH <2	Cool-4C	Cool-4C	Cool-4C
HOLDING TIME	14 Days	7/40 Days	14/40 Days	28 Days	24 Hours	1 yr/1 yr	48 Hours
TYPE OF CONTAINER	aGs*	aG	aG	CP	aG	aG	P
NO. OF CONTAINER(S)	3	4	3	1	1	4	1
VOLUME	40mL	1000mL	1000mL	500mL	500mL	1000mL	500mL
SAMPLE ANALYSIS	VOA - 8260 (TCL) (Carbon tetrachloride);	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196 (Hexavalent Chromium);	SEE ITEM (4) IN SPECIAL INSTRUCTIONS	AC Anions 300.0 (Nitrate or Nitrite)

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME							
B28P13 002	WATER	1-19-11	0700	X	X	X	X	X	X	X

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
[illegible]	1-19-11 0700	[illegible]	1/19/11 1030

SPECIAL INSTRUCTIONS: SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ORIGINAL

LABORATORY SECTION RECEIVED BY: TITLE: DATE/TIME:

FINAL SAMPLE DISPOSITION: DISPOSAL METHOD: DISPOSED BY: DATE/TIME:

4-6303-616(01/06)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F10-287-001	PAGE 2 OF 2
COLLECTOR: Chamberlain	COMPANY CONTACT: WIDRIG, DL	TELEPHONE NO.: 376-2858	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 7C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 600-065 - EB 1	PROJECT DESIGNATION: ARRA 600-65 Investigative/Verification Sampling and Analysis - QC Sampl		SAF NO.: F10-287	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-15	ACTUAL SAMPLE DEPTH: N/A	COA: 302222ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: Waste Sampling & Characterization	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

SPECIAL INSTRUCTIONS

** The CACN for all analytical work at WSCF is 401352ES20.☐** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐** The laboratory shall report only the requested constituents of concern in all final data reports, and EDDs. QC results for non-requested constituents need not be reported, but samples chosen for matrix spike, and all spike compounds shall be identified in the final data report case narrative. No TICs shall be reported.☐** Copies of all data will be placed into the folder labeled Geographic Closure Data in IDMS following completion of the data login step of the SMR process.
(1) Semi-VOA - 8270 (TCL) {Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(ghi)perylene, Benzo(k)fluoranthene, Chrysene, Dibenz[a,h]anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, Naphthalene, Phenanthrene, Pyrene};
(2) TPH-DieselKerosene Range - WTPH-D {Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range};
(3) 200.8_HG - ICPMS {Mercury}; ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Lead, Selenium, Strontium, Thallium, Tin, Uranium}; ICP Metals - 6010 (Add-On) {Boron, Lithium};
(4) PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};

ORIGINAL

A-6083-618(01/06)