WSCF Laboratory

PO Box 650 S3-30
Richland, WA 99352

RECEIVED MAY 24, 2011

1212555

May 23, 2011

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

Dear Michael Neely,

FINAL RESULT FOR SAMPLE DELIVERY GROUP WSCF112074

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 WSCF112074

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

Very truly yours,

Electronically signed by Joseph Hale
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 # WSCF112074
Data Deliverable Date 05/05/11

SAF #	Sample ID	Sample #	Matrix	Sampled	Received
F10-289	B28PL8	112074001	WATER	04/20/11	04/20/11

ATTACHMENT 2

NARRATIVE

Consisting of 4 pages
Including cover page

Attachment 2
Narrative
WSCF112074

Introduction

A sample was received at the WSCF laboratory as referenced on the WSCF SAF Number Cross Reference table included in the final report. The sample was 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(s) (RPD) did not meet the established laboratory limits. Duplicate Relative Percent Difference (RPD) does not apply to results near or below the minimum detectable level. No flags issued.

Attachment 2
Narrative
WSCF112074

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

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 – 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):

- Analysis performed by 8270-PAH SIM method.
- All 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.
  - All applicable QC controls are within the established limits.

Attachment 2
Narrative
WSCF112074

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 27 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 #	WSCF112074
Report Date	May 23, 2011

Analytical: Electronically signed by Joseph Hale

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 # WSCF112074

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
181258	181258	1	BLANK	53839	BLANK		Hexavalent chromium Discrete Analyzer
181258	181258	3	LCS	53841	LCS		Hexavalent chromium Discrete Analyzer
181258	181258	4	DUP	53842	B2CHK3(112070005DUP)	112070005	Hexavalent chromium Discrete Analyzer
181258	181258	5	MS	53843	B2CHK3(112070005MS)	112070005	Hexavalent chromium Discrete Analyzer
181258	181258	12	SAMPLE	112074001	B28PL8		Hexavalent chromium Discrete Analyzer
181301	181301	1	BLANK	53978	BLANK		Anions by Ion Chromatography (Water)
181301	181301	3	LCS	53980	LCS		Anions by Ion Chromatography (Water)
181301	181301	4	DUP	53981	B28PL8(112074001DUP)	112074001	Anions by Ion Chromatography (Water)
181301	181301	5	MS	53982	B28PL8(112074001MS)	112074001	Anions by Ion Chromatography (Water)
181301	181301	6	MSD	53983	B28PL8(112074001MSD)	112074001	Anions by Ion Chromatography (Water)
181301	181301	7	SAMPLE	112074001	B28PL8		Anions by Ion Chromatography (Water)
181698	181699	1	BLANK	54947	BLANK		ICP-6010 - All possible metals
181698	181699	2	LCS	54948	LCS		ICP-6010 - All possible metals
181698	181699	3	MS	54949	B28PL8(112074001MS)	112074001	ICP-6010 - All possible metals
181698	181699	4	MSD	54950	B28PL8(112074001MSD)	112074001	ICP-6010 - All possible metals
181698	181699	5	SAMPLE	112074001	B28PL8		ICP-6010 - All possible metals
181824	181825	4	BLANK	55254	BLANK		ICP-2008 MS All possible metal
181824	181825	5	LCS	55255	LCS		ICP-2008 MS All possible metal
181824	181825	6	MS	55256	B2CVC8(112165004MS)	112165004	ICP-2008 MS All possible metal
181824	181825	7	MSD	55257	B2CVC8(112165004MSD	112165004	ICP-2008 MS All possible metal
181824	181825	8	SAMPLE	112074001	B28PL8		ICP-2008 MS All possible metal

Batch QC List

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF112074

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
181358	181380	1	BLANK	54040	BLANK		SW-846 8270D Semivolatiles (PAHSIM)
181358	181380	2	LCS	54041	LCS		SW-846 8270D Semivolatiles (PAHSIM)
181358	181380	3	MS	54042	B2D0L4(112015001MS)	112015001	SW-846 8270D Semivolatiles (PAHSIM)
181358	181380	4	MSD	54043	B2D0L4(112015001MSD)	112015001	SW-846 8270D Semivolatiles (PAHSIM)
181358	181380	6	SAMPLE	112074001	B28PL8		SW-846 8270D Semivolatiles (PAHSIM)
181363	181415	1	BLANK	54064	BLANK		Extractable Diesel and Petroleum
181363	181415	2	LCS	54065	LCS		Extractable Diesel and Petroleum
181363	181415	3	MS	54066	B28PL8(112074001MS)	112074001	Extractable Diesel and Petroleum
181363	181415	4	MSD	54067	B28PL8(112074001MSD)	112074001	Extractable Diesel and Petroleum
181363	181415	5	SAMPLE	112074001	B28PL8		Extractable Diesel and Petroleum
181391	181461	1	BLANK	54141	BLANK		PCBs by EPA SW-846 Method 8082
181391	181461	2	LCS	54142	LCS		PCBs by EPA SW-846 Method 8082
181391	181461	3	MS	54143	116266048(112045001MS	112045001	PCBs by EPA SW-846 Method 8082
181391	181461	4	MSD	54144	116266048(112045001MS	112045001	PCBs by EPA SW-846 Method 8082
181391	181461	7	SAMPLE	112074001	B28PL8		PCBs by EPA SW-846 Method 8082

Method Reference

Attention Michael Neely
Department Inorganic

Group # WSCF112074

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 # WSCF112074

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-523-456	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-523-427	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-523-493	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

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112074

Sample # 112074001
SAF# F10-289
Sample ID B28PL8

Matrix WATER
Sampled 04/20/11
Received 04/20/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**04/21/11**
Anions by IC										
Nitrate-N	NO3-N	LA-533-410	UD	<0.038		ug/mL	2	0.038	0.20	04/21/11
Cr(VI)										**04/20/11**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.0020		mg/L	1	0.0020	0.0050	04/20/11
ICP Prep										**05/05/11**
ICP-AES										
Lithium	7439-93-2	LA-505-411	U	<4.0		ug/L	1	4.0	20	05/12/11
Boron	7440-42-8	LA-505-411	U	<41		ug/L	1	41	200	05/12/11
ICPMS Prep										**04/22/11**
ICP-MS										
Manganese	7439-96-5	LA-505-412	D	4.05		ug/L	2	0.20	2.0	05/12/11
Nickel	7440-02-0	LA-505-412	UD	<0.40		ug/L	2	0.40	4.0	05/12/11
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	05/12/11
Antimony	7440-36-0	LA-505-412	UD	<0.60		ug/L	2	0.60	6.0	05/12/11
Barium	7440-39-3	LA-505-412	BD	0.419		ug/L	2	0.40	4.0	05/12/11
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	05/12/11
Cadmium	7440-43-9	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	05/12/11

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 # WSCF112074

Sample # 112074001
SAF# F10-289
Sample ID B28PL8

Matrix WATER
Sampled 04/20/11
Received 04/20/11

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	05/12/11
Cobalt	7440-48-4	LA-505-412	UD	<0.10		ug/L	2	0.10	0.50	05/12/11
Copper	7440-50-8	LA-505-412	BD	0.287		ug/L	2	0.20	2.0	05/12/11
Vanadium	7440-62-2	LA-505-412	BD	0.440		ug/L	2	0.40	4.0	05/12/11
Zinc	7440-66-6	LA-505-412	BD	3.00		ug/L	2	1.6	10	05/12/11
Lead	7439-92-1	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	05/12/11
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	05/12/11
Strontium	7440-24-6	LA-505-412	BD	1.58		ug/L	2	0.20	2.0	05/12/11
Thallium	7440-28-0	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	05/12/11
Tin	7440-31-5	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	05/12/11
Uranium	7440-61-1	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	05/12/11
Arsenic	7440-38-2	LA-505-412	UD	<0.80		ug/L	2	0.80	8.0	05/12/11
Selenium	7782-49-2	LA-505-412	UD	<0.60		ug/L	2	0.60	6.0	05/12/11

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 # WSCF112074

Sample # 112074001
SAF# F10-289
Sample ID B28PL8

Matrix WATER
Sampled 04/20/11
Received 04/20/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
8270 Prep										**04/21/11**
SW-846 8270D										
Naphthalene	91-20-3	LA-523-456	U	<1		ug/L	1	1	4	04/26/11
Acenaphthylene	208-96-8	LA-523-456	U	<1		ug/L	1	1	4	04/26/11
Acenaphthene	83-32-9	LA-523-456	U	<1		ug/L	1	1	4	04/26/11
Fluorene	86-73-7	LA-523-456	U	<1		ug/L	1	1	4	04/26/11
Phenanthrene	85-01-8	LA-523-456	U	<1		ug/L	1	1	4	04/26/11
Anthracene	120-12-7	LA-523-456	U	<1		ug/L	1	1	4	04/26/11
Fluoranthene	206-44-0	LA-523-456	U	<1		ug/L	1	1	4	04/26/11
Pyrene	129-00-0	LA-523-456	U	<1		ug/L	1	1	4	04/26/11
Benzo(a)anthracene	56-55-3	LA-523-456	U	<1		ug/L	1	1	4	04/26/11
Chrysene	218-01-9	LA-523-456	U	<1		ug/L	1	1	4	04/26/11
Benzo(b)fluoranthene	205-99-2	LA-523-456	U	<1		ug/L	1	1	4	04/26/11
Benzo(k)fluoranthene	207-08-9	LA-523-456	U	<1		ug/L	1	1	4	04/26/11
Benzo(a)pyrene	50-32-8	LA-523-456	U	<1		ug/L	1	1	4	04/26/11
Indeno(1,2,3-cd)pyrene	193-39-5	LA-523-456	U	<1		ug/L	1	1	4	04/26/11
Dibenzo(a,h)anthracene	53-70-3	LA-523-456	U	<1		ug/L	1	1	4	04/26/11
Benzo(g,h,i)perylene	191-24-2	LA-523-456	U	<1		ug/L	1	1	4	04/26/11
Prep for Water										**04/25/11**

MDL = Minimum Detection
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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 # WSCF112074

Sample # 112074001
SAF# F10-289
Sample ID B28PL8

Matrix WATER
Sampled 04/20/11
Received 04/20/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
TPHDWA										
Diesel	TPHDIESEL	LA-523-493	U	<80		ug/L	1	80	100	04/26/11
Kerosene	TPHKEROSEN	LA-523-493	U	<80		ug/L	1	80	100	04/26/11
SPE										**04/25/11**
PCBs										
Aroclor-1016	12674-11-2	LA-523-427	U	<0.09		ug/L	1	0.09	0.2	04/27/11
Aroclor-1221	11104-28-2	LA-523-427	U	<0.2		ug/L	1	0.2	0.4	04/27/11
Aroclor-1232	11141-16-5	LA-523-427	U	<0.09		ug/L	1	0.09	0.2	04/27/11
Aroclor-1242	53469-21-9	LA-523-427	U	<0.09		ug/L	1	0.09	0.2	04/27/11
Aroclor-1248	12672-29-6	LA-523-427	U	<0.09		ug/L	1	0.09	0.2	04/27/11
Aroclor-1254	11097-69-1	LA-523-427	U	<0.09		ug/L	1	0.09	0.2	04/27/11
Aroclor-1260	11096-82-5	LA-523-427	U	<0.09		ug/L	1	0.09	0.2	04/27/11

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).
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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)

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF112074

QC Batch 181258
Associated Samples 112074001

Test Hexavalent chromium Discrete Analyzer

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #53839**							
Hexavalent chromium	18540-29-9		<0.0020	mg/L					U	04/20/11
LCS			**QC Sample #53841**							
Hexavalent chromium	18540-29-9		0.0499	mg/L	99.8	90 - 110				04/20/11
DUP			**QC Sample #53842**							
			Original 112070005							
Hexavalent chromium	18540-29-9		0.0148	mg/L			2.00	20		04/20/11
MS			**QC Sample #53843**							
			Original 112070005							
Hexavalent chromium	18540-29-9		0.0433	mg/L	108.2	85 - 115				04/20/11

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF112074

QC Batch 181301
Associated Samples 112074001

Test Anions by Ion Chromatography (Water)

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit		RQ	Analyzed
BLANK			**QC Sample #53978**								
Nitrate-N	NO3-N		<9.7E-3	ug/mL						U	04/21/11
LCS			**QC Sample #53980**								
Nitrate-N	NO3-N		0.904	ug/mL	102.1	90 - 110					04/21/11
DUP			**QC Sample #53981**								
			Original 112074001								
Nitrate-N	NO3-N	<0.038	0.0472	ug/mL			51.10	20	*	XD	04/21/11
MS			**QC Sample #53982**								
			Original 112074001								
Nitrate-N	NO3-N	<0.038	0.919	ug/mL	102.8	80 - 120				D	04/21/11
MSD			**QC Sample #53983**								
			Original 112074001						**Paired**	**53982**	
Nitrate-N	NO3-N	<0.038	0.934	ug/mL	104.5	80 - 120	1.60	20		D	04/21/11

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF112074

QC Batch 181358
Associated Samples 112074001

Test SW-846 8270D Semivolatiles (PAHSIM)

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #54040**							
Naphthalene	91-20-3		<1	ug/L					U	04/26/11
Acenaphthylene	208-96-8		<1	ug/L					U	04/26/11
Acenaphthene	83-32-9		<1	ug/L					U	04/26/11
Fluorene	86-73-7		<1	ug/L					U	04/26/11
Phenanthrene	85-01-8		<1	ug/L					U	04/26/11
Anthracene	120-12-7		<1	ug/L					U	04/26/11
Fluoranthene	206-44-0		<1	ug/L					U	04/26/11
Pyrene	129-00-0		<1	ug/L					U	04/26/11
Benzo(a)anthracene	56-55-3		<1	ug/L					U	04/26/11
Chrysene	218-01-9		<1	ug/L					U	04/26/11
Benzo(b)fluoranthene	205-99-2		<1	ug/L					U	04/26/11
Benzo(k)fluoranthene	207-08-9		<1	ug/L					U	04/26/11
Benzo(a)pyrene	50-32-8		<1	ug/L					U	04/26/11
Indeno(1,2,3-cd)pyrene	193-39-5		<1	ug/L					U	04/26/11
Dibenzo(a,h)anthracene	53-70-3		<1	ug/L					U	04/26/11
Benzo(g,h,i)perylene	191-24-2		<1	ug/L					U	04/26/11
LCS			**QC Sample #54041**							

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF112074

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Naphthalene	91-20-3		27	ug/L	88.6	59 - 113				04/26/11
Acenaphthene	83-32-9		27	ug/L	88.6	60 - 115				04/26/11
Fluorene	86-73-7		29	ug/L	96.2	61 - 116				04/26/11
Anthracene	120-12-7		27	ug/L	91.5	30 - 140				04/26/11
Pyrene	129-00-0		27	ug/L	90.6	56 - 135				04/26/11
Benzo(a)pyrene	50-32-8		26	ug/L	86.3	44 - 148				04/26/11
MS			**QC Sample #54042**							
			Original 112015001							
Naphthalene	91-20-3		26	ug/L	90.2	64 - 112				04/26/11
Acenaphthene	83-32-9		25	ug/L	89.3	62 - 116				04/26/11
Fluorene	86-73-7		28	ug/L	98.1	65 - 112				04/26/11
Anthracene	120-12-7		26	ug/L	93.1	65 - 114				04/26/11
Pyrene	129-00-0		25	ug/L	89.7	67 - 123				04/26/11
Benzo(a)pyrene	50-32-8		24	ug/L	86.3	52 - 129				04/26/11
MSD			**QC Sample #54043**							
			Original 112015001						**Paired 54042**	
Naphthalene	91-20-3		25	ug/L	89.1	64 - 112	1.20	20		04/26/11
Acenaphthene	83-32-9		25	ug/L	89.6	62 - 116	0.30	20		04/26/11
Fluorene	86-73-7		27	ug/L	96.5	65 - 112	1.60	20		04/26/11
Anthracene	120-12-7		26	ug/L	93.5	65 - 114	0.40	20		04/26/11
Pyrene	129-00-0		27	ug/L	96.6	67 - 123	7.40	20		04/26/11
Benzo(a)pyrene	50-32-8		25	ug/L	88.7	52 - 129	2.70	20		04/26/11

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF112074

QC Batch 181363
Associated Samples 112074001

Test Extractable Diesel and Petroleum

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
LCS			**QC Sample #54065**							
Diesel	TPHDIESEL		2900	ug/L	115.3	65 - 128				04/26/11
MS			**QC Sample #54066**							
			Original 112074001							
Diesel	TPHDIESEL	<80	2600	ug/L	102.6	73 - 123				04/26/11
MSD			**QC Sample #54067**							
			Original 112074001					**Paired**	**54066**	
Diesel	TPHDIESEL	<80	2500	ug/L	98.5	73 - 123	4.10	20		04/26/11

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF112074

QC Batch 181391
Associated Samples 112074001

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 #54141**							
Aroclor-1016	12674-11-2		<0.1	ug/L					U	04/27/11
Aroclor-1221	11104-28-2		<0.2	ug/L					U	04/27/11
Aroclor-1232	11141-16-5		<0.1	ug/L					U	04/27/11
Aroclor-1242	53469-21-9		<0.1	ug/L					U	04/27/11
Aroclor-1248	12672-29-6		<0.1	ug/L					U	04/27/11
Aroclor-1254	11097-69-1		<0.1	ug/L					U	04/27/11
Aroclor-1260	11096-82-5		<0.1	ug/L					U	04/27/11
LCS			**QC Sample #54142**							
Aroclor-1254	11097-69-1		1.9	ug/L	92.6	70 - 130				04/27/11
MS			**QC Sample #54143**							
			Original 112045001							
Aroclor-1254	11097-69-1		1.9	ug/L	94.5	60 - 130				04/27/11
MSD			**QC Sample #54144**							
			Original 112045001					**Paired**	**54143**	
Aroclor-1254	11097-69-1		1.9	ug/L	98.8	60 - 130	4.40	20		04/27/11

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF112074

QC Batch 181698
Associated Samples 112074001

Test ICP-6010 - All possible metals

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #54947**							
Lithium	7439-93-2		<4.0	ug/L					U	05/12/11
Boron	7440-42-8		<41	ug/L					U	05/12/11
LCS			**QC Sample #54948**							
Lithium	7439-93-2		570	ug/L	114	80 - 120				05/12/11
Boron	7440-42-8		1050	ug/L	105	80 - 120				05/12/11
MS			**QC Sample #54949**							
			Original 112074001							
Lithium	7439-93-2	<4.0	584	ug/L	116.8	75 - 125				05/12/11
Boron	7440-42-8	<41	1080	ug/L	108	75 - 125				05/12/11
MSD			**QC Sample #54950**							
			Original 112074001					**Paired**	**54949**	
Lithium	7439-93-2	<4.0	578	ug/L	115.6	75 - 125	1.00	20		05/12/11
Boron	7440-42-8	<41	1060	ug/L	106	75 - 125	1.90	20		05/12/11

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF112074

QC Batch 181363
Associated Samples 112074001

Test Extractable Diesel and Petroleum

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #54064**							
Diesel	TPHDIESEL		<80	ug/L					U	04/26/11
Kerosene	TPHKEROSE		<80	ug/L					U	04/26/11

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF112074

QC Batch 181824
Associated Samples 112074001

Test ICP-2008 MS All possible metal

Analyte	CAS #	Original Found	QC Found	Units	% Recov Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #55254**						
Manganese	7439-96-5		<0.10	ug/L				U	05/12/11
Nickel	7440-02-0		<0.20	ug/L				U	05/12/11
Silver	7440-22-4		<0.10	ug/L				U	05/12/11
Antimony	7440-36-0		<0.30	ug/L				U	05/12/11
Barium	7440-39-3		<0.20	ug/L				U	05/12/11
Beryllium	7440-41-7		<0.10	ug/L				U	05/12/11
Cadmium	7440-43-9		<0.10	ug/L				U	05/12/11
Chromium	7440-47-3		<0.50	ug/L				U	05/12/11
Cobalt	7440-48-4		<0.050	ug/L				U	05/12/11
Copper	7440-50-8		<0.10	ug/L				U	05/12/11
Vanadium	7440-62-2		<0.20	ug/L				U	05/12/11
Zinc	7440-66-6		<0.80	ug/L				U	05/12/11
Lead	7439-92-1		<0.10	ug/L				U	05/12/11
Mercury	7439-97-6		<0.050	ug/L				U	05/12/11
Strontium	7440-24-6		<0.10	ug/L				U	05/12/11
Thallium	7440-28-0		<0.050	ug/L				U	05/12/11
Tin	7440-31-5		<0.050	ug/L				U	05/12/11
Uranium	7440-61-1		<0.050	ug/L				U	05/12/11
Arsenic	7440-38-2		<0.40	ug/L				U	05/12/11

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF112074

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Selenium	7782-49-2		<0.30	ug/L					U	05/12/11
LCS			**QC Sample #55255**							
Manganese	7439-96-5		42.7	ug/L	106.7	85 - 115				05/12/11
Nickel	7440-02-0		42.6	ug/L	106.6	85 - 115				05/12/11
Silver	7440-22-4		42.1	ug/L	105.3	85 - 115				05/12/11
Antimony	7440-36-0		42.1	ug/L	105.3	85 - 115				05/12/11
Barium	7440-39-3		42.4	ug/L	105.9	85 - 115				05/12/11
Beryllium	7440-41-7		40.5	ug/L	101.2	85 - 115				05/12/11
Cadmium	7440-43-9		40.5	ug/L	101.2	85 - 115				05/12/11
Chromium	7440-47-3		43.8	ug/L	109.4	85 - 115				05/12/11
Cobalt	7440-48-4		42.0	ug/L	105.1	85 - 115				05/12/11
Copper	7440-50-8		42.7	ug/L	106.8	85 - 115				05/12/11
Vanadium	7440-62-2		42.8	ug/L	107	85 - 115				05/12/11
Zinc	7440-66-6		39.4	ug/L	98.4	85 - 115				05/12/11
Lead	7439-92-1		42.3	ug/L	105.7	85 - 115				05/12/11
Mercury	7439-97-6		1.88	ug/L	93.8	85 - 115				05/12/11
Strontium	7440-24-6		42.2	ug/L	105.4	85 - 115				05/12/11
Thallium	7440-28-0		41.0	ug/L	102.6	85 - 115				05/12/11
Tin	7440-31-5		43.0	ug/L	107.5	85 - 115				05/12/11
Uranium	7440-61-1		42.3	ug/L	105.6	85 - 115				05/12/11
Arsenic	7440-38-2		40.0	ug/L	100.1	85 - 115				05/12/11
Selenium	7782-49-2		37.7	ug/L	94.2	85 - 115				05/12/11
MS			**QC Sample #55256**							
			Original 112165004							

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF112074

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Manganese	7439-96-5		39.7	ug/L	99.2	70 - 130				05/12/11
Nickel	7440-02-0		38.3	ug/L	95.7	70 - 130				05/12/11
Silver	7440-22-4		39.3	ug/L	98.3	70 - 130				05/12/11
Antimony	7440-36-0		42.6	ug/L	106.6	70 - 130				05/12/11
Barium	7440-39-3		43.1	ug/L	107.7	70 - 130				05/12/11
Beryllium	7440-41-7		42.1	ug/L	105.2	70 - 130				05/12/11
Cadmium	7440-43-9		39.7	ug/L	99.4	70 - 130				05/12/11
Chromium	7440-47-3		41.1	ug/L	102.7	70 - 130				05/12/11
Cobalt	7440-48-4		38.2	ug/L	95.5	70 - 130				05/12/11
Copper	7440-50-8		37.0	ug/L	92.4	70 - 130				05/12/11
Vanadium	7440-62-2		41.5	ug/L	103.8	70 - 130				05/12/11
Zinc	7440-66-6		34.9	ug/L	87.2	70 - 130				05/12/11
Lead	7439-92-1		43.2	ug/L	108	70 - 130				05/12/11
Mercury	7439-97-6		2.00	ug/L	100.2	70 - 130				05/12/11
Strontium	7440-24-6		44.8	ug/L	112	70 - 130			X	05/12/11
Thallium	7440-28-0		42.2	ug/L	105.5	70 - 130				05/12/11
Tin	7440-31-5		42.9	ug/L	107.4	70 - 130				05/12/11
Uranium	7440-61-1		46.5	ug/L	116.3	70 - 130				05/12/11
Arsenic	7440-38-2		41.5	ug/L	103.7	70 - 130				05/12/11
Selenium	7782-49-2		37.6	ug/L	93.9	70 - 130				05/12/11
MSD			**QC Sample #55257**							
			Original 112165004					**Paired**	**55256**	
Manganese	7439-96-5		39.9	ug/L	99.8	70 - 130	0.60	20		05/12/11
Nickel	7440-02-0		38.8	ug/L	97	70 - 130	1.30	20		05/12/11
Silver	7440-22-4		39.4	ug/L	98.4	70 - 130	0.10	20		05/12/11

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF112074

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit		RQ	Analyzed
Antimony	7440-36-0		42.8	ug/L	107	70 - 130	0.40	20			05/12/11
Barium	7440-39-3		42.8	ug/L	107	70 - 130	0.70	20			05/12/11
Beryllium	7440-41-7		42.7	ug/L	106.7	70 - 130	1.40	20			05/12/11
Cadmium	7440-43-9		39.9	ug/L	99.8	70 - 130	0.40	20			05/12/11
Chromium	7440-47-3		41.8	ug/L	104.5	70 - 130	1.70	20			05/12/11
Cobalt	7440-48-4		38.9	ug/L	97.4	70 - 130	2.00	20			05/12/11
Copper	7440-50-8		37.8	ug/L	94.5	70 - 130	2.20	20			05/12/11
Vanadium	7440-62-2		42.2	ug/L	105.6	70 - 130	1.70	20			05/12/11
Zinc	7440-66-6		35.6	ug/L	89	70 - 130	2.00	20			05/12/11
Lead	7439-92-1		43.0	ug/L	107.5	70 - 130	0.50	20			05/12/11
Mercury	7439-97-6		2.01	ug/L	100.6	70 - 130	0.40	20			05/12/11
Strontium	7440-24-6		55.2	ug/L	138	70 - 130	20.80	20	*	X	05/12/11
Thallium	7440-28-0		42.3	ug/L	105.6	70 - 130	0.10	20			05/12/11
Tin	7440-31-5		42.7	ug/L	106.8	70 - 130	0.60	20			05/12/11
Uranium	7440-61-1		46.6	ug/L	116.5	70 - 130	0.20	20			05/12/11
Arsenic	7440-38-2		41.5	ug/L	103.8	70 - 130	0.10	20			05/12/11
Selenium	7782-49-2		37.5	ug/L	93.6	70 - 130	0.30	20			05/12/11

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF112074

QC Batch 181358
Associated Samples 112074001

Test SW-846 8270D Semivolatiles (PAHSIM)

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
SAMPLE			**Sample #112074001**							
Nitrobenzene-d5	4165-60-0				78.8	25 - 144				04/26/11
2-Fluorobiphenyl	321-60-8				85.2	52 - 113				04/26/11
Terphenyl-d14	98904-43-9				95.8	63 - 132				04/26/11
BLANK			**QC Sample #54040**							
Nitrobenzene-d5	4165-60-0				79.7	25 - 144				04/26/11
2-Fluorobiphenyl	321-60-8				84.3	52 - 113				04/26/11
Terphenyl-d14	98904-43-9				84.4	63 - 132				04/26/11
LCS			**QC Sample #54041**							
Nitrobenzene-d5	4165-60-0				88.7	25 - 144				04/26/11
2-Fluorobiphenyl	321-60-8				89.9	52 - 113				04/26/11
Terphenyl-d14	98904-43-9				91.6	63 - 132				04/26/11
MS			**QC Sample #54042**							
			Original 112015001							
Nitrobenzene-d5	4165-60-0				86.6	25 - 144				04/26/11
2-Fluorobiphenyl	321-60-8				87.8	52 - 113				04/26/11
Terphenyl-d14	98904-43-9				87.6	63 - 132				04/26/11
MSD			**QC Sample #54043**							
			Original 112015001					**Paired 54042**		

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF112074

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Nitrobenzene-d5	4165-60-0				86.4	25 - 144	0.20			04/26/11
2-Fluorobiphenyl	321-60-8				88.5	52 - 113	0.80			04/26/11
Terphenyl-d14	98904-43-9				93.9	63 - 132	6.90			04/26/11

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF112074

QC Batch 181363
Associated Samples 112074001

Test Extractable Diesel and Petroleum

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
SAMPLE			**Sample #112074001**							
o-Terphenyl	84-15-1				107.1	70 - 130				04/26/11
BLANK			**QC Sample #54064**							
o-Terphenyl	84-15-1				86.6	70 - 130				04/26/11
LCS			**QC Sample #54065**							
o-Terphenyl	84-15-1				115	70 - 130				04/26/11
MS			**QC Sample #54066**							
			Original 112074001							
o-Terphenyl	84-15-1				100.8	70 - 130				04/26/11
MSD			**QC Sample #54067**							
			Original 112074001						**Paired 54066**	
o-Terphenyl	84-15-1				112.1	70 - 130	10.60	20		04/26/11

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF112074

QC Batch 181391
Associated Samples 112074001

Test PCBs by EPA SW-846 Method 8082

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
SAMPLE			**Sample #112074001**							
Tetrachloro-m-xylene	877-09-8				83.4	60 - 140				04/27/11
Decachlorobiphenyl	2051-24-3				102.6	60 - 140				04/27/11
BLANK			**QC Sample #54141**							
Tetrachloro-m-xylene	877-09-8				79	60 - 140				04/27/11
Decachlorobiphenyl	2051-24-3				70.3	60 - 140				04/27/11
LCS			**QC Sample #54142**							
Tetrachloro-m-xylene	877-09-8				86.1	60 - 140				04/27/11
Decachlorobiphenyl	2051-24-3				92.3	60 - 140				04/27/11
MS			**QC Sample #54143**							
			Original 112045001							
Tetrachloro-m-xylene	877-09-8				91	60 - 140				04/27/11
Decachlorobiphenyl	2051-24-3				99.9	60 - 140				04/27/11
MSD			**QC Sample #54144**							
			Original 112045001					**Paired**	**54143**	
Tetrachloro-m-xylene	877-09-8				93.6	60 - 140	2.80			04/27/11
Decachlorobiphenyl	2051-24-3				100.5	60 - 140	0.60			04/27/11

Analytical Comment Report

Attention: Michael Neely **Group #** WSCF112074

Quality Control Comments

Department Inorganic

53981 B28PL8(112074001DUP)

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.

55256 B2CVC8(112165004MS)

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.

55257 B2CVC8(112165004MSD)

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.

ATTACHMENT4

SAMPLE RECEIPT

Consisting of 4 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 #:	401352/ES20
Work Order #:	112074
Profile #:	F10-289-003
Proj. Mgr.:	
Phone:	

The following samples were received from you on 4/20/2011 2:45:00 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		
112074001	B28PL8	WATER	4/20/2011 08:04	4/20/2011 14:45
		2008-W; 6010-W; CR6DA-W; IC-W; PAHSIM-W; PCB-W; TPHDWA-W		

Test Acronym Description

Test Acronym	Description
2008-W	ICP-MS (W)
6010-W	ICP-AES (W)
CR6DA-W	Cr6 (W-Discrete analyzer)
IC-W	Anions by IC (W)
PAHSIM-W	PAHSIM by 8270D SemiVOA (W)
PCB-W	PCB (8082) (W)
TPHDWA-W	TPHD-WA (W)

Sample Receipt

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F10-289-003 | PAGE 1 OF 2

COLLECTOR: Chamberlain

COMPANY CONTACT: BAUER, RG | TELEPHONE NO.: 373-3931 | PROJECT COORDINATOR: BAUER, RG | PRICE CODE: 7C | DATA TURNAROUND: 15 Days / 15 Days

SAMPLING LOCATION: 600-40 Bucket EB 3 | PROJECT DESIGNATION: ARRA 600-40 Verification Sampling and Analysis - QC Sampling | SAF NO.: F10 289 | AIR QUALITY: ☐

ICE CHEST NO.: | FIELD LOGBOOK NO.: HNF-N-507-11 | ACTUAL SAMPLE DEPTH: N/A | COA: 302222ES10 | METHOD OF SHIPMENT: GOVERNMENT VEHICLE | ORIGINAL

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)

112074

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	aG	aG	aG	G/P	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 - EPA (TCL) (Purgeable);	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	Chromium Flux - 7196 (Hexavalent Chromium);	SEE ITEM (6) IN SPECIAL INSTRUCTIONS	IC Anions - 300.0 (Nitrogen in Nitrate);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME							
B28PL8	WATER	4-20-11	0804		X	X	X	X	X	X

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Greg Chamberlain	4-20-11 / 1445	[illegible]	4-20-11 1445
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

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 4/7/2011

A-6003-113 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F10-289-003	PAGE 2 OF 2
COLLECTOR Chamberlain	COMPANY CONTACT BAUER, RG	TELEPHONE NO. 373-3931	PROJECT COORDINATOR BAUER, RG	PRICE CODE 7C	DATA TURNAROUND
SAMPLING LOCATION 600-40 Bucket EB 3	PROJECT DESIGNATION ARRA 600-40 Verification Sampling and Analysis - QC Sampling		SAF NO. F10-289	AIR QUALITY ☐	15 Days / 15 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-11	ACTUAL SAMPLE DEPTH N/A	COA 302221ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
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};

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A-6003-618 (REV 3)