0088028

WSCF Laboratory

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RECEIVED JANUARY 21, 2010

Memorandum

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

Date: January 20, 2010

From: WSCF Laboratory
WSCF Analytical Chemistry

CC:

Subject: FINAL RESULT FOR SAMPLE DELIVERY GROUP WSCF91580

Reference: (1) SOW, Mod 2, #36587, Release 3
(2) HNF-SD-CD-QAPP-017, Rev 9, Waste Sampling & Characterization Facility Quality Assurance Plan

This letter contains the following information for sample delivery group WSCF91580

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

Electronically signed by Bill Baird
For Lab Manager

Attachments 4

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ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF Number Cross Reference

Group # WSCF91580
Data Deliverable Date 12/26/09

SAF #	Sample ID	Sample #	Matrix	Sampled	Received
F10-013	B22T59	91580001	WATER	11/11/09	11/11/09

ATTACHMENT 2

NARRATIVE

Consisting of 6 pages
Including cover page

Attachment 2
Narrative
WSCF91580

Introduction

One (1) S&GRP sample was received at the WSCF Laboratory on November 11, 2009. 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. An Issue Resolution Form is attached to the narrative explaining out of compliance holding time for anion analysis by EPA 300.0. A Data Summary Report (Attachment 3) includes analytical results, a comment report detailing method abnormalities, tentatively identified peaks if applicable, method references, and Laboratory QC information as applicable. Copies of the chain of custody and sample receipt documentation are included as Attachment 4.

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

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

- **B** – Sample results with a concentration greater than the MDL but less than the PQL are B flagged (applies to inorganic and wet chemical analyses), as appropriate.
- **D** – Sample results are D flagged if dilution(s) were required, as appropriate.
- **J** – Sample results with a concentration greater than the MDL but less than the PQL are J flagged (applies to organic analyses), as appropriate.

Analytical Methodology for Requested Analyses

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

Inorganic Comments

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

All QC controls are within the established limits.

Anions – Hold time requirements for this analysis were not met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

1

Attachment 2
Narrative
WSCF91580

- An Issue Resolution Form (CHPRC Tracking Number: 09-128) was issued for samples B22T59 (91580001) for exceedance of the 48-hour regulatory hold time requirement for Nitrate-N, Nitrite-N and Phosphate-P.

All other QC controls are within the established limits.

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

All 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 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 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):

- QC Batch 76256 analyzed on sample# B22F31
  - Copper and Vanadium contamination detected in the Blank was evaluated and affected sample results in this batch were C-Flagged.
  - Zinc – Matrix Spike Duplicate recovery exceeded established laboratory limits. Affected sample results in this batch were N flagged.

All other QC controls are within the established limits.

Organic Comments

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

All QC controls are within the established limits.

Attachment 2
Narrative
WSCF91580

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 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):

- Matrix spike / matrix spike duplicate RPDs were outside the established laboratory limits for the following compounds: 1,4-Dichlorobenzene, 1,2,4-Trichlorobenzene, Hexachloroethane, and Di-n-Octylphthalate.

All other 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):

All QC controls are within the established limits.

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

All QC controls are within the established limits.

Radiochemistry Comments

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

- Gamma Energy Analysis, Americium-241, Plutonium-238, Uranium-234, Uranium-235, Uranium-238, and Strontium-89/90 – Duplicate Relative Percent Differences (RPD) did not meet the established laboratory limits. The RPD criterion does not apply to results near or below the minimum detectable activity. No flags issued.

- Strontium-85, Americium-243, Uranium-232, and Plutonium-242 were used as tracers to determine chemical yield. RPD is monitored in sample duplicate and is not required for tracer recovery per SOW.

- Gross Beta – The LCS is slightly high but within the 70 – 130% range allowed in the SOW.

- Uranium-234 and Uranium 235 found in Blank. No flags assigned.

Attachment 2
Narrative
WSCF91580

All other QC controls are within the established limits.

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

Attachment 2
Narrative
WSCF91580

ISSUE RESOLUTION FORM

CHPRC TRACKING NUMBER: 09-128

Date: **12-1-2009** SAF No. **F10-013**

SDG: **WO 91580** LOGIN No.: TEST: ANIONS (@IC-30)

Sample No.(s) **B22T59**

91580001

Submitted By: H Medley Submitted To: H Hampt

Phone No. 372-1488 Phone No. 376-4319

Fax No. 372-0456 Fax No

ISSUE	PROPOSED RESOLUTION
The 48-hour regulatory hold time requirement for Nitrite-N, Nitrate-N and Phosphate-P was missed (3 days) on the sample identified above. Sample was collected in the field and delivered to the WSCF Laboratory on November 11, 2009. Initial analysis was performed on the sulfuric acid preserved container instead of the unpreserved sample container for anions. The unpreserved container was analyzed as soon as the error was found. However, the 48-hour hold time requirement had been exceeded. Sample was successfully analyzed on November 16, 2009 and all QC controls were within the established limits.	Accept Nitrite-N, Nitrate-N and Phosphate-P analytical results (accept as-is) and document missed holding time in the case narrative.

GRP COMMENTS

Accept proposed resolution.

Heidi Hampt 12/1/09

Signature and Date

5

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 73 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 #	WSCF91580
Report Date	January 20, 2010

Analytical: Electronically signed by Bill Baird

Client Services: Electronically signed by Susan Kon

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

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

Batch QC List

Attention Michael Neely
Department Inorganic

Group # WSCF91580

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
72453	72453	1	BLANK	19049	BLANK		Hexavalent chromium Discrete Analyzer
72453	72453	3	LCS	19051	LCS		Hexavalent chromium Discrete Analyzer
72453	72453	4	DUP	19052	B22C73(91577006DUP)	91577006	Hexavalent chromium Discrete Analyzer
72453	72453	5	MS	19053	B22C73(91577006MS)	91577006	Hexavalent chromium Discrete Analyzer
72453	72453	9	SAMPLE	91580001	B22T59		Hexavalent chromium Discrete Analyzer
72771	72771	2	BLANK	19196	BLANK		Anions by Ion Chromatography (Water)
72771	72771	3	LCS	19197	LCS		Anions by Ion Chromatography (Water)
72771	72771	4	DUP	19198	B22CK6(91604001DUP)	91604001	Anions by Ion Chromatography (Water)
72771	72771	5	MS	19199	B22CK6(91604001MS)	91604001	Anions by Ion Chromatography (Water)
72771	72771	6	MSD	19200	B22CK6(91604001MSD)	91604001	Anions by Ion Chromatography (Water)
72771	72771	7	SAMPLE	91580001	B22T59		Anions by Ion Chromatography (Water)
72771	72771	8	SAMPLE	91580001	B22T59		Anions by Ion Chromatography (Water)
72856	75061	1	BLANK	19365	BLANK		ICP-6010 - All possible metals
72856	75061	2	LCS	19366	LCS		ICP-6010 - All possible metals
72856	75061	3	MS	19367	B22M74(91579009MS)	91579009	ICP-6010 - All possible metals
72856	75061	4	MSD	19368	B22M74(91579009MSD)	91579009	ICP-6010 - All possible metals
72856	75061	11	SAMPLE	91580001	B22T59		ICP-6010 - All possible metals
75464	75464	2	BLANK	21226	BLANK		Ammonia(N) by IC (W)
75464	75464	4	LCS	20234	LCS		Ammonia(N) by IC (W)
75464	75464	5	DUP	20235	B22T59(91580001DUP)	91580001	Ammonia(N) by IC (W)
75464	75464	6	MS	20236	B22T59(91580001MS)	91580001	Ammonia(N) by IC (W)
75464	75464	7	MSD	20237	B22T59(91580001MSD)	91580001	Ammonia(N) by IC (W)
75464	75464	8	SAMPLE	91580001	B22T59		Ammonia(N) by IC (W)

Batch QC List

Attention Michael Neely
Department Inorganic

Group # WSCF91580

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
76256	76257	4	BLANK	20525	BLANK		ICP-2008 MS All possible metal
76256	76257	5	LCS	20526	LCS		ICP-2008 MS All possible metal
76256	76257	6	SAMPLE	91580001	B22T59		ICP-2008 MS All possible metal
76256	76257	10	MS	20527	B22F31(91648008MS)	91648008	ICP-2008 MS All possible metal
76256	76257	11	MSD	20528	B22F31(91648008MSD)	91648008	ICP-2008 MS All possible metal

Batch QC List

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF91580

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
72964	73807	1	BLANK	19405	BLANK		Extractable Diesel and Petroleum
72964	73807	2	LCS	19406	LCS		Extractable Diesel and Petroleum
72964	73807	3	MS	19407	B21XX9(91561018MS)	91561018	Extractable Diesel and Petroleum
72964	73807	4	MSD	19408	B21XX9(91561018MSD)	91561018	Extractable Diesel and Petroleum
72964	73807	6	SAMPLE	91580001	B22T59		Extractable Diesel and Petroleum
73162	73806	1	BLANK	19450	BLANK		SW-846 8270D Semivolatiles
73162	73806	2	LCS	19451	LCS		SW-846 8270D Semivolatiles
73162	73806	3	MS	19452	B22L77(91589010MS)	91589010	SW-846 8270D Semivolatiles
73162	73806	4	MSD	19453	B22L77(91589010MSD)	91589010	SW-846 8270D Semivolatiles
73162	73806	7	SAMPLE	91580001	B22T59		SW-846 8270D Semivolatiles
73476	73956	1	BLANK	19709	BLANK		PCBs by EPA SW-846 Method 8082
73476	73956	2	LCS	19710	LCS		PCBs by EPA SW-846 Method 8082
73476	73956	3	MS	19711	B22T59(91580001MS)	91580001	PCBs by EPA SW-846 Method 8082
73476	73956	4	MSD	19712	B22T59(91580001MSD)	91580001	PCBs by EPA SW-846 Method 8082
73476	73956	5	SAMPLE	91580001	B22T59		PCBs by EPA SW-846 Method 8082

Batch QC List

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF91580

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
72465	72466	1	BLANK	19083	BLANK		SW-846 8260B Volatiles, separate prep
72465	72466	2	LCS	19084	LCS		SW-846 8260B Volatiles, separate prep
72465	72466	3	MS	19085	B226H6(91554001MS)	91554001	SW-846 8260B Volatiles, separate prep
72465	72466	4	MSD	19086	B226H6(91554001MSD)	91554001	SW-846 8260B Volatiles, separate prep
72465	72466	14	SAMPLE	91580001	B22T59		SW-846 8260B Volatiles, separate prep
72756	72807	1	BLANK	19135	BLANK		SW-846 Method 8015 for GPP
72756	72807	2	LCS	19136	LCS		SW-846 Method 8015 for GPP
72756	72807	3	SAMPLE	91580001	B22T59		SW-846 Method 8015 for GPP

Batch QC List

Attention Michael Neely
Department Radiochemistry

Group # WSCF91580

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
72152	74862	1	DUP	19022	B22T59(91580001DUP)	91580001	Uranium (AEA)
72152	74862	2	SAMPLE	91580001	B22T59		Uranium (AEA)
72152	74862	4	BLANK	19020	BLANK		Uranium (AEA)
72152	74862	5	LCS	19021	LCS		Uranium (AEA)
72152	74863	4	DUP	19022	B22T59(91580001DUP)	91580001	Plutonium (AEA)
72152	74863	5	SAMPLE	91580001	B22T59		Plutonium (AEA)
72152	74863	7	BLANK	19020	BLANK		Plutonium (AEA)
72152	74863	8	LCS	19021	LCS		Plutonium (AEA)
72152	74864	2	DUP	19022	B22T59(91580001DUP)	91580001	Americium/Curium (AEA)
72152	74864	3	SAMPLE	91580001	B22T59		Americium/Curium (AEA)
72152	74864	5	BLANK	19020	BLANK		Americium/Curium (AEA)
72152	74864	6	LCS	19021	LCS		Americium/Curium (AEA)
72463	72760	1	BLANK	19079	BLANK		Tritium by LSC
72463	72760	2	LCS	19080	LCS		Tritium by LSC
72463	72760	4	DUP	19081	B22C90(91578002DUP)	91578002	Tritium by LSC
72463	72760	5	MS	19082	B22C90(91578002MS)	91578002	Tritium by LSC
72463	72760	8	SAMPLE	91580001	B22T59		Tritium by LSC
72795	75769	1	BLANK	19335	BLANK		Gross Alpha/Gross Beta
72795	75769	2	LCS	19336	LCS		Gross Alpha/Gross Beta
72795	75769	5	DUP	19337	B22MC1(91575034DUP)	91575034	Gross Alpha/Gross Beta
72795	75769	12	SAMPLE	91580001	B22T59		Gross Alpha/Gross Beta
72795	75769	13	SAMPLE	91580001	B22T59		Gross Alpha/Gross Beta
73059	73358	1	BLANK	19422	BLANK		TC99 by Liquid Scintillation

Batch QC List

Attention Michael Neely
Department Radiochemistry

Group # WSCF91580

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
73059	73358	2	LCS	19423	LCS		TC99 by Liquid Scintillation
73059	73358	4	DUP	19424	B22LB7(91574008DUP)	91574008	TC99 by Liquid Scintillation
73059	73358	5	MS	19425	B22LB7(91574008MS)	91574008	TC99 by Liquid Scintillation
73059	73358	7	SAMPLE	91580001	B22T59		TC99 by Liquid Scintillation
73460	74865	1	IBLANK	19661	IBLANK		Gamma Energy Analysis-general
73460	74865	2	LCS	19662	LCS		Gamma Energy Analysis-general
73460	74865	3	DUP	19663	B22MC1(91575034DUP)	91575034	Gamma Energy Analysis-general
73460	74865	8	SAMPLE	91580001	B22T59		Gamma Energy Analysis-general
73762	73769	1	BLANK	19745	BLANK		Technicium-99 by ICP MS
73762	73769	2	LCS	19746	LCS		Technicium-99 by ICP MS
73762	73769	3	SAMPLE	91580001	B22T59		Technicium-99 by ICP MS
73789	77386	1	BLANK	19871	BLANK		Strontium 89/90 (GPC/GEA)
73789	77386	2	LCS	19872	LCS		Strontium 89/90 (GPC/GEA)
73789	77386	4	DUP	19873	B21YJ2(91561020DUP)	91561020	Strontium 89/90 (GPC/GEA)
73789	77386	9	SAMPLE	91580001	B22T59		Strontium 89/90 (GPC/GEA)

Batch QC List

Attention Michael Neely
Department Wet Chemistry

Group # WSCF91580

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
73770	79377	3	BLANK	19794	BLANK		Cyanide by Midi/Spectrophotometer
73770	79377	4	LCS	19796	LCS		Cyanide by Midi/Spectrophotometer
73770	79377	6	MS	19797	B22MC1(91575034MS)	91575034	Cyanide by Midi/Spectrophotometer
73770	79377	7	MSD	19798	B22MC1(91575034MSD)	91575034	Cyanide by Midi/Spectrophotometer
73770	79377	18	SAMPLE	91580001	B22T59		Cyanide by Midi/Spectrophotometer

Method Reference

Attention Michael Neely
Department Inorganic

Group # WSCF91580

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-503-401	Analysis of Cations by Ion Chromatography		
	HEIS	300.7_CATIONS_IC	Determination of Cations by IC
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 # WSCF91580

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
LA-523-456	Semivolatile Sample Analysis by SW-846 Method 8270D		
	EPA SW-846	8000B	Determinative Chromagraphic Separations
	EPA SW-846	8270D	Semivolatile Organic Compounds by Gas 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	Total Petroleum Hydrocarbons in Diesel	
		HEIS	
	HEIS|WTPH_DIESEL		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 # WSCF91580

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)
LA-523-494	Nonhalogenated Organics Using Gas Chromatography/Flame Ionization Detector		
	HEIS	8015_VOA_GC	Volatile Organic Analysis

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 Radiochemistry

Group # WSCF91580

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

LA-220-406	Strontium-89 and 90 in Aqueous Samples by SR-SPEC Separation		
	HEIS	SRTOT_SEP_PRECIP_GPC	Strontium 89/90, by Sr-Spec Sep.
LA-505-412	Technicium-99 by ICP-MS		
	HEIS	RADISOTOPES_ICPMS	Tc-99 by ICPMS
LA-508-415	Operation Of The Protean 2-Inch Alpha/Beta Counting System For Gross Alpha/ Beta Samples		
	HEIS	ALPHA_GPC	Gross Alpha by GPC
	HEIS	BETA_GPC	Gross Beta by GPC
	HEIS	SRTOT_SEP_PRECIP_GPC	Strontium beta isotopic, GPC
LA-508-421	Operation of the Tri-Carb Model 2500TR Liquid Scintillation Analyzer		
	HEIS	ALPHA_LSC	A/B Liquid Scintillation
	HEIS	BETA_LSC	A/B Liquid Scintillation
	HEIS	TC99_3MDSK_LSC	TC99 by Liquid Scintillation
	HEIS	TRITIUM_EIE_LSC	Tritium, by Eichrome ion exchange, LSC
LA-508-471	Determination Of Uranium, Plutonium, And Americium		
	HEIS	AMCMISO_IE_PREC_AEA	Americium/Curium Iso, Alpha Spec
	HEIS	UISO_IE_PRECIP_AEA	Uranium Iso, Alpha Spec
	HEIS	PUISO_IE_PRECIP_AEA	Isotopic Plutonium, Alpha Spec
LA-508-481	Gamma Energy Analysis using the Canberra Genie Ssystem		
	HEIS	GAMMA_GS	Gamma Energy Analysis

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 Wet Chemistry

Group # WSCF91580

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-695-402	Determination of Cyanide by Mididistillation and Spectrophotometric Analysis Using the EASY distallation		
	EPA-600/4-79-020	335.2	Cyanide, Total
	EPA	SW-846 Method 9014	Determination of Cyanide by Midi-Distillation and Spectrophotometric Analysis
	EPA	EPA-335.2	Determination of Cyanide by Midi-Distillation and Spectrophotometric Analysis
	HEIS	335.2_CYANIDE	Cyanide, Total

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WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91580

Sample # 91580001
SAF# F10-013
Sample ID B22T59

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**11/15/09**
Anions by IC										
Fluoride	16984-48-8	LA-533-410	UD	<1.5		ug/mL	51	1.5	10	11/15/09
Chloride	16887-00-6	LA-533-410	UD	<2.2		ug/mL	51	2.2	20	11/15/09
Nitrite-N	NO2-N	LA-533-410	UDX	<0.92		ug/mL	51	0.92	5.1	11/15/09
Nitrate-N	NO3-N	LA-533-410	UDX	<1.6		ug/mL	51	1.6	5.1	11/15/09
Phosphate-P	PO4-P	LA-533-410	UDX	<3.5		ug/mL	51	3.5	20	11/15/09
Sulfate	14808-79-8	LA-533-410	D	3540		ug/mL	501	33	500	11/15/09
Cation by IC										**12/01/09**
Cation by IC										
Ammonia (N)	NH4-N	LA-503-401	B	0.00540		ug/mL	1	3.4E-3	0.040	12/01/09
Cr(VI)										**11/11/09**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.0020		mg/L	1	0.0020	0.0050	11/11/09
ICP Prep										**11/17/09**
ICP-AES										
Iron	7439-89-6	LA-505-411	U	<18		ug/L	1	18	90	12/01/09
Lithium	7439-93-2	LA-505-411	U	<4.0		ug/L	1	4.0	20	12/01/09
Boron	7440-42-8	LA-505-411	U	<19		ug/L	1	19	95	12/01/09

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

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

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91580

Sample # 91580001
SAF# F10-013
Sample ID B22T59

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Bismuth	7440-69-9	LA-505-411	U	<23		ug/L	1	23	120	12/01/09
ICPMS Prep										**12/08/09**
ICP-MS										
Aluminum	7429-90-5	LA-505-412	UD	<10		ug/L	2	10	200	12/08/09
Manganese	7439-96-5	LA-505-412	BD	1.08		ug/L	2	0.20	2.0	12/08/09
Nickel	7440-02-0	LA-505-412	UD	<0.40		ug/L	2	0.40	4.0	12/08/09
Silver	7440-22-4	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	12/08/09
Antimony	7440-36-0	LA-505-412	UD	<0.60		ug/L	2	0.60	6.0	12/08/09
Barium	7440-39-3	LA-505-412	UD	<0.40		ug/L	2	0.40	4.0	12/08/09
Beryllium	7440-41-7	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	12/08/09
Cadmium	7440-43-9	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	12/08/09
Chromium	7440-47-3	LA-505-412	UD	<1.0		ug/L	2	1.0	10	12/08/09
Cobalt	7440-48-4	LA-505-412	UD	<0.10		ug/L	2	0.10	0.50	12/08/09
Copper	7440-50-8	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	12/08/09
Vanadium	7440-62-2	LA-505-412	BDC	0.616		ug/L	2	0.40	4.0	12/08/09
Zinc	7440-66-6	LA-505-412	UDN	<1.6		ug/L	2	1.6	10	12/08/09
Lead	7439-92-1	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	12/08/09
Mercury	7439-97-6	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	12/08/09
Strontium	7440-24-6	LA-505-412	UD	<0.20		ug/L	2	0.20	2.0	12/08/09

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

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

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF91580

Sample # 91580001
SAF# F10-013
Sample ID B22T59

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Thallium	7440-28-0	LA-505-412	UD	<0.10		ug/L	2	0.10	1.0	12/08/09
Uranium	7440-61-1	LA-505-412	UD	<0.10		ug/L	2	0.10	0.40	12/08/09
Arsenic	7440-38-2	LA-505-412	UD	<0.80		ug/L	2	0.80	8.0	12/08/09
Selenium	7782-49-2	LA-505-412	UD	<0.60		ug/L	2	0.60	6.0	12/08/09
Thorium	7440-29-1	LA-505-412	UD	<0.20		ug/L	2	0.20	1.0	12/08/09

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WSCF Analytical Results Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF91580

Sample # 91580001
SAF# F10-013
Sample ID B22T59

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
8270 Prep										**11/16/09**
SW-846 8270D										
4-Nitrophenol	100-02-7	LA-523-456	U	<0.6		ug/L	1	0.6	4	11/23/09
1,4-Dichlorobenzene	106-46-7	LA-523-456	U	<0.9		ug/L	1	0.9	4	11/23/09
Phenol	108-95-2	LA-523-456	U	<0.9		ug/L	1	0.9	4	11/23/09
1,2,4-Trichlorobenzene	120-82-1	LA-523-456	U	<0.7		ug/L	1	0.7	4	11/23/09
2,4-Dinitrotoluene	121-14-2	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
Pyrene	129-00-0	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
4-Chloro-3-methylphenol	59-50-7	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
n-Nitroso-di-n-propylamine	621-64-7	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
Acenaphthene	83-32-9	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
Pentachlorophenol	87-86-5	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
2-Chlorophenol	95-57-8	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
4-Nitroaniline	100-01-6	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
4-Bromophenyl-phenylether	101-55-3	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
2,4-Dimethylphenol	105-67-9	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
4-Chloroaniline	106-47-8	LA-523-456	U	<0.6		ug/L	1	0.6	4	11/23/09

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

WSCF Analytical Results Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF91580

Sample # 91580001
SAF# F10-013
Sample ID B22T59

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Bis-(2-Chloro-1-methyl)ether	108-60-1	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
Bis-(2-Chloroethyl)ether	111-44-4	LA-523-456	U	<0.6		ug/L	1	0.6	4	11/23/09
Bis-(2-Chloroethoxy)methane	111-91-1	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
Bis-(2-Ethylhexyl)phthalate	117-81-7	LA-523-456	U	<0.8		ug/L	1	0.8	4	11/23/09
Di-n-octylphthalate	117-84-0	LA-523-456	U	<0.9		ug/L	1	0.9	4	11/23/09
Hexachlorobenzene	118-74-1	LA-523-456	U	<0.6		ug/L	1	0.6	4	11/23/09
Anthracene	120-12-7	LA-523-456	U	<0.6		ug/L	1	0.6	4	11/23/09
2,4-Dichlorophenol	120-83-2	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
Dimethylphthalate	131-11-3	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
Dibenzofuran	132-64-9	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
Benzo(g,h,i)perylene	191-24-2	LA-523-456	U	<0.7		ug/L	1	0.7	4	11/23/09
Indeno(1,2,3-cd)pyrene	193-39-5	LA-523-456	U	<0.7		ug/L	1	0.7	4	11/23/09
Benzo(b)fluoranthene	205-99-2	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
Fluoranthene	206-44-0	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
Benzo(k)fluoranthene	207-08-9	LA-523-456	U	<0.7		ug/L	1	0.7	4	11/23/09
Acenaphthylene	208-96-8	LA-523-456	U	<0.6		ug/L	1	0.6	4	11/23/09
Chrysene	218-01-9	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09

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WSCF Analytical Results Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF91580

Sample # 91580001
SAF# F10-013
Sample ID B22T59

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Benzo(a)pyrene	50-32-8	LA-523-456	U	<0.6		ug/L	1	0.6	4	11/23/09
2,4-Dinitrophenol	51-28-5	LA-523-456	U	<0.6		ug/L	1	0.6	4	11/23/09
Dibenzo(a,h)anthracene	53-70-3	LA-523-456	U	<0.6		ug/L	1	0.6	4	11/23/09
4,6-Dinitro-2-methylphenol	534-52-1	LA-523-456	U	<0.7		ug/L	1	0.7	4	11/23/09
1,3-Dichlorobenzene	541-73-1	LA-523-456	U	<1		ug/L	1	1	4	11/23/09
Benzo(a)anthracene	56-55-3	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
2,6-Dinitrotoluene	606-20-2	LA-523-456	U	<0.6		ug/L	1	0.6	4	11/23/09
4-Chlorophenyl-phenylether	7005-72-3	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
Hexachlorocyclopentadiene	77-47-4	LA-523-456	U	<0.8		ug/L	1	0.8	4	11/23/09
Isophorone	78-59-1	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
Diethyl phthalate	84-66-2	LA-523-456	U	<1		ug/L	1	1	4	11/23/09
Di-n-butylphthalate	84-74-2	LA-523-456	U	<1		ug/L	1	1	4	11/23/09
Phenanthrene	85-01-8	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
Butylbenzylphthalate	85-68-7	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
n-Nitrosodiphenylamine	86-30-6	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
Fluorene	86-73-7	LA-523-456	U	<0.6		ug/L	1	0.6	4	11/23/09

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

WSCF Analytical Results Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF91580

Sample # 91580001
SAF# F10-013
Sample ID B22T59

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Carbazole	86-74-8	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
Hexachlorobutadiene	87-68-3	LA-523-456	U	<0.9		ug/L	1	0.9	4	11/23/09
2-Nitroaniline	88-74-4	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
2-Nitrophenol	88-75-5	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
Naphthalene	91-20-3	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
2-Methylnaphthalene	91-57-6	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
2-Chloronaphthalene	91-58-7	LA-523-456	U	<0.8		ug/L	1	0.8	4	11/23/09
3,3-Dichlorobenzidine	91-94-1	LA-523-456	U	<0.6		ug/L	1	0.6	4	11/23/09
2-Methylphenol	95-48-7	LA-523-456	U	<0.8		ug/L	1	0.8	4	11/23/09
1,2-Dichlorobenzene	95-50-1	LA-523-456	U	<0.9		ug/L	1	0.9	4	11/23/09
2,4,5-Trichlorophenol	95-95-4	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
Nitrobenzene	98-95-3	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
3-Nitroaniline	99-09-2	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
3 & 4 Methylphenol, Total	65794-96-9	LA-523-456	U	<0.6		ug/L	1	0.6	4	11/23/09
Hexachloroethane	67-72-1	LA-523-456	U	<0.8		ug/L	1	0.8	4	11/23/09
2,4,6-Trichlorophenol	88-06-2	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
Tributyl phosphate	126-73-8	LA-523-456	U	<0.5		ug/L	1	0.5	4	11/23/09
Organic Prep MISC										**11/17/09**
TPHDWA										

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WSCF Analytical Results Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF91580

Sample # 91580001
SAF# F10-013
Sample ID B22T59

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Diesel	TPHDIESEL	LA-523-493	U	<80		ug/L	1	80	100	11/19/09
Kerosene	TPHKEROSEN	LA-523-493	U	<80		ug/L	1	80	100	11/19/09
SPE										**11/18/09**
PCBs										
Aroclor-1016	12674-11-2	LA-523-427	U	<0.09		ug/L	1	0.09	0.2	11/23/09
Aroclor-1221	11104-28-2	LA-523-427	U	<0.2		ug/L	1	0.2	0.4	11/23/09
Aroclor-1232	11141-16-5	LA-523-427	U	<0.09		ug/L	1	0.09	0.2	11/23/09
Aroclor-1242	53469-21-9	LA-523-427	U	<0.09		ug/L	1	0.09	0.2	11/23/09
Aroclor-1248	12672-29-6	LA-523-427	U	<0.09		ug/L	1	0.09	0.2	11/23/09
Aroclor-1254	11097-69-1	LA-523-427	U	<0.09		ug/L	1	0.09	0.2	11/23/09
Aroclor-1260	11096-82-5	LA-523-427	U	<0.09		ug/L	1	0.09	0.2	11/23/09
Aroclor-1262	37324-23-5	LA-523-427	U	<0.09		ug/L	1	0.09	0.2	11/23/09
Aroclor-1268	11100-14-4	LA-523-427	U	<0.09		ug/L	1	0.09	0.2	11/23/09

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

WSCF Analytical Results Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF91580

Sample # 91580001
SAF# F10-013
Sample ID B22T59

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
8015 Prep										**11/16/09**
SW-846 8015B										
Diethyl ether	60-29-7	LA-523-494	U	<2000		ug/L	1	2000	5000	11/17/09
Ethylene glycol	107-21-1	LA-523-494	U	<2000		ug/L	1	2000	5000	11/17/09
8260 Prep										**11/12/09**
SW-846 8260B										
1,1-Dichloroethene	75-35-4	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
Trichloroethene	79-01-6	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
Benzene	71-43-2	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
Toluene	108-88-3	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
Chlorobenzene	108-90-7	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
1,1-Dichloroethane	75-34-3	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
Ethylbenzene	100-41-4	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
Styrene	100-42-5	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
cis-1,3-Dichloropropene	10061-01-5	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
trans-1,3-Dichloropropene	10061-02-6	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
1,2-Dichloroethane	107-06-2	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
Methyl isobutyl ketone	108-10-1	LA-523-455	U	<1		ug/L	1	1	5	11/12/09

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

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

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

WSCF Analytical Results Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF91580

Sample # 91580001
SAF# F10-013
Sample ID B22T59

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Dibromochloromethane	124-48-1	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
Tetrachloroethene	127-18-4	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
Total Xylenes	1330-20-7	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
Total 1,2-Dichloroethene	540-59-0	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
Carbon tetrachloride	56-23-5	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
2-Hexanone	591-78-6	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
Acetone	67-64-1	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
Chloroform	67-66-3	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
Bromomethane	74-83-9	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
Chloromethane	74-87-3	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
Chloroethane	75-00-3	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
Vinyl chloride	75-01-4	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
Methylene chloride	75-09-2	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
Carbon disulfide	75-15-0	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
Bromoform	75-25-2	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
Bromodichloromethane	75-27-4	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
1,2-Dichloropropane	78-87-5	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
Methyl ethyl ketone	78-93-3	LA-523-455	U	<1		ug/L	1	1	5	11/12/09

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

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

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

WSCF Analytical Results Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF91580

Sample # 91580001
SAF# F10-013
Sample ID B22T59

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
1,1,2,2-Tetrachloroethane	79-34-5	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
1-Butanol	71-36-3	LA-523-455	U	<100		ug/L	1	100	500	11/12/09
Trichlorofluoromethane	75-69-4	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
n-Butylbenzene	104-51-8	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
trans-1,2-Dichloroethene	156-60-5	LA-523-455	U	<1		ug/L	1	1	5	11/12/09
cis-1,2-Dichloroethene	156-59-2	LA-523-455	U	<1		ug/L	1	1	5	11/12/09

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

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

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

WSCF Analytical Results Report

Attention Michael Neely
Department Radiochemistry

Group # WSCF91580

Sample # 91580001
SAF# F10-013
Sample ID B22T59

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Alpha/Beta Prep										**12/02/09**
Gross Alpha/Beta										
Gross Alpha	12587-46-1	LA-508-415	U	-0.54	1.4	pCi/L	1	2.6		12/15/09
Gross Beta	12587-47-2	LA-508-415	U	-0.74	1.8	pCi/L	1	3.1		12/15/09
GEA Prep										**11/20/09**
GEA										
Antimony-125	14234-35-6	LA-508-481	U	11	16	pCi/L	1	28		12/09/09
Cesium-137	10045-97-3	LA-508-481	U	2.5	6	pCi/L	1	11		12/09/09
Cobalt-60	10198-40-0	LA-508-481	U	-6.0	6.3	pCi/L	1	10		12/09/09
Europium-152	14683-23-9	LA-508-481	U	11	17	pCi/L	1	29		12/09/09
Europium-154	15585-10-1	LA-508-481	U	12	16	pCi/L	1	29		12/09/09
Europium-155	14391-16-3	LA-508-481	U	-24	23	pCi/L	1	32		12/09/09
H3 EICHROM										**11/12/09**
TRI-CARB LSC										
Tritium	10028-17-8	LA-508-421	U	170	140	pCi/L	1	220		12/18/09
ICPMS Prep										**11/15/09**
TC-99 ICP/MS										
Technetium-99	14133-76-7	LA-505-412	U	<0.0010		ug/L	1	0.0010		11/15/09
SR-89/90										**12/14/09**

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

B - Analyte was detected in both the BLANK and SAMPLE
U - Analyzed for but not detected above limiting criteria.
N - Spike Recovery is Outside Control Limits.
X,Y or Z - See comment detail and/or narrative.

WSCF Analytical Results Report

Attention Michael Neely
Department Radiochemistry

Group # WSCF91580

Sample # 91580001
SAF# F10-013
Sample ID B22T59

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
SR-89/90										
Strontium-89/90	SR-RAD	LA-220-406	U	-3.7	3.6	pCi/L	1	2.1		12/18/09
Tc-99										**11/18/09**
TRI-CARB LSC										
Technetium-99	14133-76-7	LA-508-421		10	5.4	pCi/L	1	8.0		12/14/09
Th/Pu/Am/U Teva										**11/19/09**
AEA Am-U-Pu										
Americium-241	14596-10-2	LA-508-471	U	0.043	.052	pCi/L	1	0.080		01/07/10
AEA Pu-Np										
Plutonium-238	13981-16-3	LA-508-471	U	-0.14	.18	pCi/L	1	0.35		11/30/09
Plutonium-239/240	PU-239/240	LA-508-471	U	0.033	.049	pCi/L	1	0.080		11/30/09
Uranium Iso										
Uranium-234	13966-29-5	LA-508-471		0.096	.063	pCi/L	1	0.065		11/30/09
Uranium-235	15117-96-1	LA-508-471	U	0.019	.038	pCi/L	1	0.070		11/30/09
Uranium-238	U-238	LA-508-471	U	1.5E-6	.035	pCi/L	1	0.081		11/30/09

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

B - Analyte was detected in both the BLANK and SAMPLE
U - Analyzed for but not detected above limiting criteria.
N - Spike Recovery is Outside Control Limits.
X,Y or Z - See comment detail and/or narrative.

WSCF Analytical Results Report

Attention Michael Neely
Department Wet Chemistry

Group # WSCF91580

Sample # 91580001
SAF# F10-013
Sample ID B22T59

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

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Cyanide Prep										**11/20/09**
Cyanide										
Cyanide	57-12-5	LA-695-402	U	<4.0		ug/L	1	4.0	20	11/20/09

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

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

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

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91580

QC Batch 72453
Associated Samples 91580001

Test Hexavalent chromium Discrete Analyzer

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #19049**							
Hexavalent chromium	18540-29-9		<0.0020	mg/L					U	11/11/09
LCS			**QC Sample #19051**							
Hexavalent chromium	18540-29-9		0.0505	mg/L	93.5	90 - 110				11/11/09
DUP			**QC Sample #19052**							
			Original 91577006							
Hexavalent chromium	18540-29-9		0.0453	mg/L			15.70	20		11/11/09
MS			**QC Sample #19053**							
			Original 91577006							
Hexavalent chromium	18540-29-9		0.0590	mg/L	110.9	85 - 115				11/11/09

Quality Control Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF91580

QC Batch 72465
Associated Samples 91580001

Test SW-846 8260B Volatiles, separate prep

Analyte	CAS #	Original Found	QC Found	Units	% Recov Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #19083**						
1,1-Dichloroethene	75-35-4		<1	ug/L				U	11/12/09
Trichloroethene	79-01-6		<1	ug/L				U	11/12/09
Benzene	71-43-2		<1	ug/L				U	11/12/09
Toluene	108-88-3		<1	ug/L				U	11/12/09
Chlorobenzene	108-90-7		<1	ug/L				U	11/12/09
1,1-Dichloroethane	75-34-3		<1	ug/L				U	11/12/09
Ethylbenzene	100-41-4		<1	ug/L				U	11/12/09
Styrene	100-42-5		<1	ug/L				U	11/12/09
cis-1,3-Dichloropropene	10061-01-5		<1	ug/L				U	11/12/09
trans-1,3-Dichloropropene	10061-02-6		<1	ug/L				U	11/12/09
1,2-Dichloroethane	107-06-2		<1	ug/L				U	11/12/09
Methyl isobutyl ketone	108-10-1		<1	ug/L				U	11/12/09
Dibromochloromethane	124-48-1		<1	ug/L				U	11/12/09
Tetrachloroethene	127-18-4		<1	ug/L				U	11/12/09
Total Xylenes	1330-20-7		<1	ug/L				U	11/12/09
Total 1,2-Dichloroethene	540-59-0		<1	ug/L				U	11/12/09
Carbon tetrachloride	56-23-5		<1	ug/L				U	11/12/09

Quality Control Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF91580

Analyte	CAS #	Original Found	QC Found	Units	% Recov Limits	RPD	RPD Limit	RQ	Analyzed
2-Hexanone	591-78-6		<1	ug/L				U	11/12/09
Acetone	67-64-1		<1	ug/L				U	11/12/09
Chloroform	67-66-3		<1	ug/L				U	11/12/09
1,1,1-Trichloroethane	71-55-6		<1	ug/L				U	11/12/09
Bromomethane	74-83-9		<1	ug/L				U	11/12/09
Chloromethane	74-87-3		<1	ug/L				U	11/12/09
Chloroethane	75-00-3		<1	ug/L				U	11/12/09
Vinyl chloride	75-01-4		<1	ug/L				U	11/12/09
Methylene chloride	75-09-2		<1	ug/L				U	11/12/09
Carbon disulfide	75-15-0		<1	ug/L				U	11/12/09
Bromoform	75-25-2		<1	ug/L				U	11/12/09
Bromodichloromethane	75-27-4		<1	ug/L				U	11/12/09
1,2-Dichloropropane	78-87-5		<1	ug/L				U	11/12/09
Methyl ethyl ketone	78-93-3		<1	ug/L				U	11/12/09
1,1,2-Trichloroethane	79-00-5		<1	ug/L				U	11/12/09
1,1,2,2-Tetrachloroethane	79-34-5		<1	ug/L				U	11/12/09
1-Butanol	71-36-3		<100	ug/L				U	11/12/09
Trichlorofluoromethane	75-69-4		<1	ug/L				U	11/12/09
n-Butylbenzene	104-51-8		<1	ug/L				U	11/12/09
trans-1,2-Dichloroethene	156-60-5		<1	ug/L				U	11/12/09
cis-1,2-Dichloroethene	156-59-2		<1	ug/L				U	11/12/09

LCS **QC Sample #19084**

Quality Control Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF91580

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
1,1-Dichloroethene	75-35-4		27	ug/L	109.6	75 - 125				11/12/09
Trichloroethene	79-01-6		24	ug/L	96.6	75 - 125				11/12/09
Benzene	71-43-2		24	ug/L	95.5	75 - 125				11/12/09
Toluene	108-88-3		27	ug/L	107.1	75 - 125				11/12/09
Chlorobenzene	108-90-7		26	ug/L	102	75 - 125				11/12/09
MS			**QC Sample #19085**							
			Original 91554001							
1,1-Dichloroethene	75-35-4		29	ug/L	117.9	75 - 125				11/12/09
Trichloroethene	79-01-6		28	ug/L	112.3	75 - 125				11/12/09
Benzene	71-43-2		26	ug/L	102.1	75 - 125				11/12/09
Toluene	108-88-3		29	ug/L	114.1	75 - 125				11/12/09
Chlorobenzene	108-90-7		27	ug/L	106.5	75 - 125				11/12/09
MSD			**QC Sample #19086**							
			Original 91554001						**Paired 19085**	
1,1-Dichloroethene	75-35-4		30	ug/L	121	75 - 125	2.60	20		11/12/09
Trichloroethene	79-01-6		28	ug/L	112.6	75 - 125	0.30	20		11/12/09
Benzene	71-43-2		26	ug/L	103.9	75 - 125	1.70	20		11/12/09
Toluene	108-88-3		29	ug/L	117.1	75 - 125	2.60	20		11/12/09
Chlorobenzene	108-90-7		27	ug/L	109.4	75 - 125	2.70	20		11/12/09

Quality Control Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF91580

QC Batch 72756
Associated Samples 91580001

Test SW-846 Method 8015 for GPP

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #19135**							
Diethyl ether	60-29-7		<2000	ug/L					U	11/17/09
Ethylene glycol	107-21-1		<2000	ug/L					U	11/17/09
LCS			**QC Sample #19136**							
Diethyl ether	60-29-7		4000	ug/L	80	70 - 130			J	11/17/09
Ethylene glycol	107-21-1		5600	ug/L	112	70 - 130				11/17/09

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91580

QC Batch 72771
Associated Samples 91580001

Test Anions by Ion Chromatography (Water)

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #19196**							
Fluoride	16984-48-8		<0.030	ug/mL					U	11/15/09
Chloride	16887-00-6		<0.043	ug/mL					U	11/15/09
Nitrite-N	NO2-N		<0.018	ug/mL					U	11/15/09
Nitrate-N	NO3-N		<0.031	ug/mL					U	11/15/09
Phosphate-P	PO4-P		<0.070	ug/mL					U	11/15/09
Sulfate	14808-79-8		<0.066	ug/mL					U	11/15/09
LCS			**QC Sample #19197**							
Fluoride	16984-48-8		0.942	ug/mL	94.2	90 - 110				11/15/09
Chloride	16887-00-6		2.00	ug/mL	102.6	90 - 110				11/15/09
Nitrite-N	NO2-N		1.02	ug/mL	104	90 - 110				11/15/09
Nitrate-N	NO3-N		0.914	ug/mL	103.6	90 - 110				11/15/09
Phosphate-P	PO4-P		1.94	ug/mL	102.1	90 - 110				11/15/09
Sulfate	14808-79-8		4.02	ug/mL	102.5	90 - 110				11/15/09
DUP			**QC Sample #19198**							
			Original 91604001							
Fluoride	16984-48-8		0.117	ug/mL			3.40	20	BD	11/15/09
Chloride	16887-00-6		2.47	ug/mL			0.00	20	D	11/15/09
Nitrite-N	NO2-N		<0.036	ug/mL			0.00	20	UD	11/15/09

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91580

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Nitrate-N	NO3-N		0.285	ug/mL			0.40	20	D	11/15/09
Phosphate-P	PO4-P		<0.14	ug/mL			0.00	20	UD	11/15/09
Sulfate	14808-79-8		14.6	ug/mL			0.70	20	D	11/15/09
MS			**QC Sample #19199**							
			Original 91604001							
Fluoride	16984-48-8		0.988	ug/mL	97.8	80 - 120			D	11/15/09
Chloride	16887-00-6		1.98	ug/mL	100.3	80 - 120			D	11/15/09
Nitrite-N	NO2-N		0.987	ug/mL	99.9	80 - 120			D	11/15/09
Nitrate-N	NO3-N		0.963	ug/mL	108.2	80 - 120			D	11/15/09
Phosphate-P	PO4-P		2.01	ug/mL	104.7	80 - 120			D	11/15/09
Sulfate	14808-79-8		4.16	ug/mL	105.1	80 - 120			D	11/15/09
MSD			**QC Sample #19200**							
			Original 91604001					**Paired**	**19199**	
Fluoride	16984-48-8		0.969	ug/mL	95.9	80 - 120	2.00	20	D	11/15/09
Chloride	16887-00-6		1.96	ug/mL	99.5	80 - 120	0.80	20	D	11/15/09
Nitrite-N	NO2-N		0.987	ug/mL	99.9	80 - 120	0.00	20	D	11/15/09
Nitrate-N	NO3-N		0.943	ug/mL	105.9	80 - 120	2.10	20	D	11/15/09
Phosphate-P	PO4-P		2.00	ug/mL	104.6	80 - 120	0.10	20	D	11/15/09
Sulfate	14808-79-8		4.03	ug/mL	101.7	80 - 120	3.30	20	D	11/15/09

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91580

QC Batch 72856
Associated Samples 91580001

Test ICP-6010 - All possible metals

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #19365**							
Iron	7439-89-6		<18	ug/L					U	12/01/09
Lithium	7439-93-2		<4.0	ug/L					U	12/01/09
Boron	7440-42-8		<19	ug/L					U	12/01/09
Bismuth	7440-69-9		<23	ug/L					U	12/01/09
LCS			**QC Sample #19366**							
Iron	7439-89-6		1020	ug/L	102.2	80 - 120				12/01/09
Lithium	7439-93-2		502	ug/L	100.5	80 - 120				12/01/09
Boron	7440-42-8		961	ug/L	96.1	80 - 120				12/01/09
Bismuth	7440-69-9		1010	ug/L	100.8	80 - 120				12/01/09
MS			**QC Sample #19367**							
			Original 91579009							
Iron	7439-89-6		986	ug/L	98.6	75 - 125				12/01/09
Lithium	7439-93-2		486	ug/L	97.2	75 - 125				12/01/09
Boron	7440-42-8		961	ug/L	96.1	75 - 125				12/01/09
Bismuth	7440-69-9		963	ug/L	96.3	75 - 125				12/01/09
MSD			**QC Sample #19368**							
			Original 91579009					**Paired**	**19367**	
Iron	7439-89-6		1000	ug/L	100	75 - 125	1.40	20		12/01/09

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91580

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Lithium	7439-93-2		489	ug/L	97.9	75 - 125	0.70	20		12/01/09
Boron	7440-42-8		957	ug/L	95.7	75 - 125	0.40	20		12/01/09
Bismuth	7440-69-9		968	ug/L	96.8	75 - 125	0.50	20		12/01/09

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF91580

QC Batch 72964
Associated Samples 91580001

Test Extractable Diesel and Petroleum

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #19405**							
Diesel	TPHDIESEL		<80	ug/L					U	11/19/09
Kerosene	TPHKEROSE		<80	ug/L					U	11/19/09
LCS			**QC Sample #19406**							
Diesel	TPHDIESEL		2400	ug/L	95.8	65 - 128				11/19/09
MS			**QC Sample #19407**							
			Original 91561018							
Diesel	TPHDIESEL		2300	ug/L	95.8	73 - 123				11/19/09
MSD			**QC Sample #19408**							
			Original 91561018					**Paired**	**19407**	
Diesel	TPHDIESEL		2200	ug/L	94.1	73 - 123	1.80	20		11/19/09

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF91580

QC Batch 73162
Associated Samples 91580001

Test SW-846 8270D Semivolatiles

Analyte	CAS #	Original Found	QC Found	Units	% Recov Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #19450**						
4-Nitrophenol	100-02-7		<0.6	ug/L				U	11/23/09
1,4-Dichlorobenzene	106-46-7		<1	ug/L				U	11/23/09
Phenol	108-95-2		<1	ug/L				U	11/23/09
1,2,4-Trichlorobenzene	120-82-1		<0.7	ug/L				U	11/23/09
2,4-Dinitrotoluene	121-14-2		<0.5	ug/L				U	11/23/09
Pyrene	129-00-0		<0.5	ug/L				U	11/23/09
4-Chloro-3-methylphenol	59-50-7		<0.5	ug/L				U	11/23/09
n-Nitroso-di-n-propylamine	621-64-7		<0.5	ug/L				U	11/23/09
Acenaphthene	83-32-9		<0.5	ug/L				U	11/23/09
Pentachlorophenol	87-86-5		<0.5	ug/L				U	11/23/09
2-Chlorophenol	95-57-8		<0.5	ug/L				U	11/23/09
4-Nitroaniline	100-01-6		<0.6	ug/L				U	11/23/09
4-Bromophenyl-phenylether	101-55-3		<0.5	ug/L				U	11/23/09
2,4-Dimethylphenol	105-67-9		<0.5	ug/L				U	11/23/09
4-Chloroaniline	106-47-8		<0.7	ug/L				U	11/23/09
Bis-(2-Chloro-1-methyl)ether	108-60-1		<0.6	ug/L				U	11/23/09

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF91580

Analyte	CAS #	Original Found	QC Found	Units	% Recov Limits	RPD	RPD Limit	RQ	Analyzed
Bis-(2-Chloroethyl)ether	111-44-4		<0.6	ug/L				U	11/23/09
Bis-(2-Chloroethoxy)methane	111-91-1		<0.5	ug/L				U	11/23/09
Bis-(2-Ethylhexyl)phthalate	117-81-7		<0.8	ug/L				U	11/23/09
Di-n-octylphthalate	117-84-0		<0.9	ug/L				U	11/23/09
Hexachlorobenzene	118-74-1		<0.6	ug/L				U	11/23/09
Anthracene	120-12-7		<0.6	ug/L				U	11/23/09
2,4-Dichlorophenol	120-83-2		<0.5	ug/L				U	11/23/09
Dimethylphthalate	131-11-3		<0.5	ug/L				U	11/23/09
Dibenzofuran	132-64-9		<0.5	ug/L				U	11/23/09
Benzo(g,h,i)perylene	191-24-2		<0.7	ug/L				U	11/23/09
Indeno(1,2,3-cd)pyrene	193-39-5		<0.7	ug/L				U	11/23/09
Benzo(b)fluoranthene	205-99-2		<0.5	ug/L				U	11/23/09
Fluoranthene	206-44-0		<0.5	ug/L				U	11/23/09
Benzo(k)fluoranthene	207-08-9		<0.8	ug/L				U	11/23/09
Acenaphthylene	208-96-8		<0.7	ug/L				U	11/23/09
Chrysene	218-01-9		<0.5	ug/L				U	11/23/09
Benzo(a)pyrene	50-32-8		<0.6	ug/L				U	11/23/09
2,4-Dinitrophenol	51-28-5		<0.6	ug/L				U	11/23/09
Dibenzo(a,h)anthracene	53-70-3		<0.6	ug/L				U	11/23/09
4,6-Dinitro-2-methylphenol	534-52-1		<0.7	ug/L				U	11/23/09
1,3-Dichlorobenzene	541-73-1		<1	ug/L				U	11/23/09

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF91580

Analyte	CAS #	Original Found	QC Found	Units	% Recov Limits	RPD	RPD Limit	RQ	Analyzed
Benzo(a)anthracene	56-55-3		<0.5	ug/L				U	11/23/09
2,6-Dinitrotoluene	606-20-2		<0.6	ug/L				U	11/23/09
4-Chlorophenyl-phenylether	7005-72-3		<0.6	ug/L				U	11/23/09
Hexachlorocyclopenta diene	77-47-4		<0.9	ug/L				U	11/23/09
Isophorone	78-59-1		<0.5	ug/L				U	11/23/09
Diethyl phthalate	84-66-2		<1	ug/L				U	11/23/09
Di-n-butylphthalate	84-74-2		<1	ug/L				U	11/23/09
Phenanthrene	85-01-8		<0.6	ug/L				U	11/23/09
Butylbenzylphthalate	85-68-7		<0.5	ug/L				U	11/23/09
n-Nitrosodiphenylamine	86-30-6		<0.5	ug/L				U	11/23/09
Fluorene	86-73-7		<0.7	ug/L				U	11/23/09
Carbazole	86-74-8		<0.5	ug/L				U	11/23/09
Hexachlorobutadiene	87-68-3		<1	ug/L				U	11/23/09
2-Nitroaniline	88-74-4		<0.5	ug/L				U	11/23/09
2-Nitrophenol	88-75-5		<0.5	ug/L				U	11/23/09
Naphthalene	91-20-3		<0.5	ug/L				U	11/23/09
2-Methylnaphthalene	91-57-6		<0.5	ug/L				U	11/23/09
2-Chloronaphthalene	91-58-7		<0.9	ug/L				U	11/23/09
3,3-Dichlorobenzidine	91-94-1		<0.6	ug/L				U	11/23/09
2-Methylphenol	95-48-7		<0.9	ug/L				U	11/23/09
1,2-Dichlorobenzene	95-50-1		<1	ug/L				U	11/23/09
2,4,5-Trichlorophenol	95-95-4		<0.5	ug/L				U	11/23/09
Nitrobenzene	98-95-3		<0.5	ug/L				U	11/23/09

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF91580

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
3-Nitroaniline	99-09-2		<0.5	ug/L					U	11/23/09
3 & 4 Methylphenol, Total	65794-96-9		<0.7	ug/L					U	11/23/09
Hexachloroethane	67-72-1		<0.9	ug/L					U	11/23/09
2,4,6-Trichlorophenol	88-06-2		<0.5	ug/L					U	11/23/09
Tributyl phosphate	126-73-8		<0.5	ug/L					U	11/23/09
LCS			**QC Sample #19451**							
4-Nitrophenol	100-02-7		25	ug/L	82.5	32 - 118				11/23/09
1,4-Dichlorobenzene	106-46-7		24	ug/L	79.6	30 - 96				11/23/09
Phenol	108-95-2		27	ug/L	89.1	67 - 105				11/23/09
1,2,4-Trichlorobenzene	120-82-1		24	ug/L	80.1	46 - 107				11/23/09
2,4-Dinitrotoluene	121-14-2		26	ug/L	86.9	59 - 106				11/23/09
Pyrene	129-00-0		30	ug/L	99.1	66 - 118				11/23/09
4-Chloro-3-methylphenol	59-50-7		28	ug/L	93.1	61 - 196				11/23/09
n-Nitroso-di-n-propylamine	621-64-7		27	ug/L	89.9	71 - 114				11/23/09
Acenaphthene	83-32-9		26	ug/L	87.4	61 - 116				11/23/09
Pentachlorophenol	87-86-5		24	ug/L	81.4	62 - 114				11/23/09
2-Chlorophenol	95-57-8		26	ug/L	86.7	66 - 106				11/23/09
2-Methylphenol	95-48-7		27	ug/L	91.3	40 - 140				11/23/09
Hexachloroethane	67-72-1		24	ug/L	78.5	40 - 140				11/23/09
2-Nitrophenol	88-75-5		26	ug/L	86.4	40 - 140				11/23/09
2,4-Dimethylphenol	105-67-9		29	ug/L	96.4	40 - 140				11/23/09
2,4-Dichlorophenol	120-83-2		28	ug/L	92	40 - 140				11/23/09

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF91580

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Naphthalene	91-20-3		26	ug/L	85.8	40 - 140				11/23/09
4-Chloroaniline	106-47-8		31	ug/L	104.7	40 - 140				11/23/09
2-Nitroaniline	88-74-4		29	ug/L	95.1	40 - 140				11/23/09
Dibenzofuran	132-64-9		27	ug/L	88.4	40 - 140				11/23/09
Fluorene	86-73-7		26	ug/L	87.5	40 - 140				11/23/09
Tributyl phosphate	126-73-8		28	ug/L	94.3	40 - 140				11/23/09
Hexachlorobenzene	118-74-1		29	ug/L	95.3	40 - 140				11/23/09
Anthracene	120-12-7		28	ug/L	94.6	40 - 140				11/23/09
Carbazole	86-74-8		29	ug/L	81.8	40 - 140				11/23/09
Di-n-butylphthalate	84-74-2		28	ug/L	93.4	40 - 140				11/23/09
3,3-Dichlorobenzidine	91-94-1		28	ug/L	94	40 - 140				11/23/09
Bis-(2-Ethylhexyl)phthalate	117-81-7		32	ug/L	108	40 - 140				11/23/09
Di-n-octylphthalate	117-84-0		32	ug/L	108	40 - 140				11/23/09
Benzo(a)pyrene	50-32-8		28	ug/L	92.3	40 - 140				11/23/09
Bis-(2-Chloro-1-methyl)ether	108-60-1		26	ug/L	87.7	40 - 140				11/23/09
MS			**QC Sample #19452**							
			Original 91589010							
4-Nitrophenol	100-02-7		17	ug/L	58.5	32 - 118				11/23/09
1,4-Dichlorobenzene	106-46-7		18	ug/L	64.1	30 - 96				11/23/09
Phenol	108-95-2		20	ug/L	71.5	67 - 105				11/23/09
1,2,4-Trichlorobenzene	120-82-1		19	ug/L	68.1	46 - 107				11/23/09
2,4-Dinitrotoluene	121-14-2		20	ug/L	68.5	59 - 106				11/23/09
Pyrene	129-00-0		25	ug/L	86	66 - 118				11/23/09

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF91580

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
4-Chloro-3-methylphenol	59-50-7		21	ug/L	74	61 - 196				11/23/09
n-Nitroso-di-n-propylamine	621-64-7		21	ug/L	74.8	71 - 114				11/23/09
Acenaphthene	83-32-9		20	ug/L	69.3	61 - 116				11/23/09
Pentachlorophenol	87-86-5		20	ug/L	69.7	62 - 114				11/23/09
2-Chlorophenol	95-57-8		19	ug/L	67.3	66 - 106				11/23/09
2-Methylphenol	95-48-7		20	ug/L	68.9	40 - 140				11/23/09
Hexachloroethane	67-72-1		18	ug/L	62.3	40 - 140				11/23/09
2-Nitrophenol	88-75-5		20	ug/L	69.4	40 - 140				11/23/09
2,4-Dimethylphenol	105-67-9		21	ug/L	73.2	40 - 140				11/23/09
2,4-Dichlorophenol	120-83-2		21	ug/L	72.5	40 - 140				11/23/09
Naphthalene	91-20-3		20	ug/L	69.9	40 - 140				11/23/09
4-Chloroaniline	106-47-8		20	ug/L	71.4	40 - 140				11/23/09
2-Nitroaniline	88-74-4		21	ug/L	73.8	40 - 140				11/23/09
Dibenzofuran	132-64-9		20	ug/L	70.2	40 - 140				11/23/09
Fluorene	86-73-7		20	ug/L	71.5	40 - 140				11/23/09
Tributyl phosphate	126-73-8		22	ug/L	77	40 - 140				11/23/09
Hexachlorobenzene	118-74-1		23	ug/L	79.1	40 - 140				11/23/09
Anthracene	120-12-7		21	ug/L	73.9	40 - 140				11/23/09
Carbazole	86-74-8		22	ug/L	63.9	40 - 140				11/23/09
Di-n-butylphthalate	84-74-2		22	ug/L	76.2	40 - 140				11/23/09
3,3-Dichlorobenzidine	91-94-1		12	ug/L	42.9	40 - 140				11/23/09
Bis-(2-Ethylhexyl)phthalate	117-81-7		25	ug/L	86.5	40 - 140				11/23/09
Di-n-octylphthalate	117-84-0		30	ug/L	105.8	40 - 140				11/23/09

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF91580

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit		RQ	Analyzed
Benzo(a)pyrene	50-32-8		21	ug/L	72.6	40 - 140					11/23/09
Bis-(2-Chloro-1-methyl)ether	108-60-1		19	ug/L	67.9	40 - 140					11/23/09
MSD			**QC Sample #19453**								
			Original	**91589010**					**Paired**	**19452**	
4-Nitrophenol	100-02-7		16	ug/L	55.5	32 - 118	5.30	20			11/23/09
1,4-Dichlorobenzene	106-46-7		12	ug/L	40.4	30 - 96	45.40	20	*	1X	11/23/09
Phenol	108-95-2		20	ug/L	70.1	67 - 105	2.00	20			11/23/09
1,2,4-Trichlorobenzene	120-82-1		13	ug/L	46.7	46 - 107	37.30	20	*	2X	11/23/09
2,4-Dinitrotoluene	121-14-2		20	ug/L	69	59 - 106	0.70	20			11/23/09
Pyrene	129-00-0		22	ug/L	78.2	66 - 118	9.50	20			11/23/09
4-Chloro-3-methylphenol	59-50-7		20	ug/L	68.6	61 - 196	7.60	20			11/23/09
n-Nitroso-di-n-propylamine	621-64-7		21	ug/L	74.8	71 - 114	0.00	20			11/23/09
Acenaphthene	83-32-9		19	ug/L	65.5	61 - 116	5.60	20			11/23/09
Pentachlorophenol	87-86-5		18	ug/L	62.1	62 - 114	11.50	20			11/23/09
2-Chlorophenol	95-57-8		19	ug/L	67.5	66 - 106	0.30	20			11/23/09
2-Methylphenol	95-48-7		18	ug/L	63.2	40 - 140	8.60	20			11/23/09
Hexachloroethane	67-72-1		12	ug/L	40.8	40 - 140	41.70	20	*	3X	11/23/09
2-Nitrophenol	88-75-5		18	ug/L	62.3	40 - 140	10.80	20			11/23/09
2,4-Dimethylphenol	105-67-9		19	ug/L	66.9	40 - 140	9.00	20			11/23/09
2,4-Dichlorophenol	120-83-2		19	ug/L	65.3	40 - 140	10.40	20			11/23/09
Naphthalene	91-20-3		17	ug/L	57.9	40 - 140	18.80	20			11/23/09
4-Chloroaniline	106-47-8		23	ug/L	80.8	40 - 140	12.40	20			11/23/09
2-Nitroaniline	88-74-4		21	ug/L	73.3	40 - 140	0.70	20			11/23/09

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF91580

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit		RQ	Analyzed
Dibenzofuran	132-64-9		19	ug/L	67.4	40 - 140	4.10	20			11/23/09
Fluorene	86-73-7		20	ug/L	68.4	40 - 140	4.40	20			11/23/09
Tributyl phosphate	126-73-8		21	ug/L	73.7	40 - 140	4.40	20			11/23/09
Hexachlorobenzene	118-74-1		21	ug/L	73.8	40 - 140	6.90	20			11/23/09
Anthracene	120-12-7		20	ug/L	71.6	40 - 140	3.20	20			11/23/09
Carbazole	86-74-8		22	ug/L	63.9	40 - 140	0.00	20			11/23/09
Di-n-butylphthalate	84-74-2		21	ug/L	74.7	40 - 140	2.00	20			11/23/09
3,3-Dichlorobenzidine	91-94-1		12	ug/L	41.3	40 - 140	3.80	20			11/23/09
Bis-(2-Ethylhexyl)phthalate	117-81-7		21	ug/L	71.8	40 - 140	18.60	20			11/23/09
Di-n-octylphthalate	117-84-0		20	ug/L	68.6	40 - 140	42.70	20	*	4X	11/23/09
Benzo(a)pyrene	50-32-8		20	ug/L	69.4	40 - 140	4.50	20			11/23/09
Bis-(2-Chloro-1-methyl)ether	108-60-1		19	ug/L	65	40 - 140	4.40	20			11/23/09

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF91580

QC Batch 73476
Associated Samples 91580001

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 #19709**							
Aroclor-1016	12674-11-2		<0.1	ug/L					U	11/23/09
Aroclor-1221	11104-28-2		<0.2	ug/L					U	11/23/09
Aroclor-1232	11141-16-5		<0.1	ug/L					U	11/23/09
Aroclor-1242	53469-21-9		<0.1	ug/L					U	11/23/09
Aroclor-1248	12672-29-6		<0.1	ug/L					U	11/23/09
Aroclor-1254	11097-69-1		<0.1	ug/L					U	11/23/09
Aroclor-1260	11096-82-5		<0.1	ug/L					U	11/23/09
Aroclor-1262	37324-23-5		<0.1	ug/L					U	11/23/09
Aroclor-1268	11100-14-4		<0.1	ug/L					U	11/23/09
LCS			**QC Sample #19710**							
Aroclor-1254	11097-69-1		2.2	ug/L	112.4	60 - 130				11/23/09
MS			**QC Sample #19711**							
			Original 91580001							
Aroclor-1254	11097-69-1	<0.09	2.3	ug/L	118.8	60 - 130				11/23/09
MSD			**QC Sample #19712**							
			Original 91580001					**Paired**	**19711**	
Aroclor-1254	11097-69-1	<0.09	2.2	ug/L	115.8	60 - 130	2.60			11/23/09

Quality Control Report

Attention Michael Neely
Department Wet Chemistry

Group # WSCF91580

QC Batch 73770
Associated Samples 91580001

Test Cyanide by Midi/Spectrophotometer

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #19794**							
Cyanide	57-12-5		<4.0	ug/L					U	11/20/09
LCS			**QC Sample #19796**							
Cyanide	57-12-5		49.0	ug/L	98	85 - 115				11/20/09
MS			**QC Sample #19797**							
			Original 91575034							
Cyanide	57-12-5		34.5	ug/L	86.2	75 - 125				11/20/09
MSD			**QC Sample #19798**							
			Original 91575034					**Paired**	**19797**	
Cyanide	57-12-5		30.2	ug/L	75.5	75 - 125	13.20	20		11/20/09

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91580

QC Batch 75464
Associated Samples 91580001

Test Ammonia(N) by IC (W)

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
LCS			**QC Sample #20234**							
Ammonia (N)	NH4-N		0.212	ug/mL	106	90 - 110				12/01/09
DUP			**QC Sample #20235**							
			Original 91580001							
Ammonia (N)	NH4-N	0.00540	0.00590	ug/mL			8.80	20	B	12/01/09
MS			**QC Sample #20236**							
			Original 91580001							
Ammonia (N)	NH4-N	0.00540	0.497	ug/mL	99.4	80 - 120				12/01/09
MSD			**QC Sample #20237**							
			Original 91580001					**Paired**	**20236**	
Ammonia (N)	NH4-N	0.00540	0.491	ug/mL	98.2	80 - 120	1.20	20		12/01/09
BLANK			**QC Sample #21226**							
Ammonia (N)	NH4-N		<3.4E-3	ug/mL					U	12/01/09

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91580

QC Batch 76256
Associated Samples 91580001

Test ICP-2008 MS All possible metal

Analyte	CAS #	Original Found	QC Found	Units	% Recov Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #20525**						
Aluminum	7429-90-5		<5.0	ug/L				U	12/08/09
Manganese	7439-96-5		<0.10	ug/L				U	12/08/09
Nickel	7440-02-0		<0.20	ug/L				U	12/08/09
Silver	7440-22-4		<0.10	ug/L				U	12/08/09
Antimony	7440-36-0		<0.30	ug/L				U	12/08/09
Barium	7440-39-3		<0.20	ug/L				U	12/08/09
Beryllium	7440-41-7		<0.050	ug/L				U	12/08/09
Cadmium	7440-43-9		<0.10	ug/L				U	12/08/09
Chromium	7440-47-3		<0.50	ug/L				U	12/08/09
Cobalt	7440-48-4		<0.050	ug/L				U	12/08/09
Copper	7440-50-8		0.122	ug/L				B	12/08/09
Vanadium	7440-62-2		0.322	ug/L				B	12/08/09
Zinc	7440-66-6		<0.80	ug/L				U	12/08/09
Lead	7439-92-1		<0.10	ug/L				U	12/08/09
Mercury	7439-97-6		<0.050	ug/L				U	12/08/09
Strontium	7440-24-6		<0.10	ug/L				U	12/08/09
Thallium	7440-28-0		<0.050	ug/L				U	12/08/09
Uranium	7440-61-1		<0.050	ug/L				U	12/08/09
Arsenic	7440-38-2		<0.40	ug/L				U	12/08/09

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91580

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Selenium	7782-49-2		<0.30	ug/L					U	12/08/09
Thorium	7440-29-1		<0.10	ug/L					U	12/08/09
LCS			**QC Sample #20526**							
Aluminum	7429-90-5		414	ug/L	103.5	85 - 115			D	12/08/09
Manganese	7439-96-5		41.2	ug/L	103.1	85 - 115			D	12/08/09
Nickel	7440-02-0		39.7	ug/L	99.2	85 - 115			D	12/08/09
Silver	7440-22-4		39.6	ug/L	99	85 - 115			D	12/08/09
Antimony	7440-36-0		41.0	ug/L	102.4	85 - 115			D	12/08/09
Barium	7440-39-3		41.2	ug/L	103.1	85 - 115			D	12/08/09
Beryllium	7440-41-7		37.0	ug/L	92.5	85 - 115			D	12/08/09
Cadmium	7440-43-9		40.2	ug/L	100.4	85 - 115			D	12/08/09
Chromium	7440-47-3		40.1	ug/L	100.4	85 - 115			D	12/08/09
Cobalt	7440-48-4		39.4	ug/L	98.4	85 - 115			D	12/08/09
Copper	7440-50-8		40.4	ug/L	101	85 - 115			D	12/08/09
Vanadium	7440-62-2		41.1	ug/L	102.6	85 - 115			D	12/08/09
Zinc	7440-66-6		38.0	ug/L	95	85 - 115			D	12/08/09
Lead	7439-92-1		40.8	ug/L	102	85 - 115			D	12/08/09
Mercury	7439-97-6		2.06	ug/L	103	85 - 115			D	12/08/09
Strontium	7440-24-6		41.4	ug/L	103.4	85 - 115			D	12/08/09
Thallium	7440-28-0		40.3	ug/L	100.8	85 - 115			D	12/08/09
Uranium	7440-61-1		40.9	ug/L	102.2	85 - 115			D	12/08/09
Arsenic	7440-38-2		41.0	ug/L	102.5	85 - 115			D	12/08/09
Selenium	7782-49-2		37.8	ug/L	94.4	85 - 115			D	12/08/09
Thorium	7440-29-1		40.4	ug/L	101.1	85 - 115			D	12/08/09

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91580

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
MS			**QC Sample #20527**							
			Original 91648008							
Aluminum	7429-90-5		369	ug/L	92.4	70 - 130			D	12/08/09
Manganese	7439-96-5		36.6	ug/L	91.4	70 - 130			D	12/08/09
Nickel	7440-02-0		34.6	ug/L	86.6	70 - 130			D	12/08/09
Silver	7440-22-4		35.6	ug/L	89	70 - 130			D	12/08/09
Antimony	7440-36-0		39.4	ug/L	98.6	70 - 130			D	12/08/09
Barium	7440-39-3		38.9	ug/L	97.4	70 - 130			D	12/08/09
Beryllium	7440-41-7		35.6	ug/L	88.9	70 - 130			D	12/08/09
Cadmium	7440-43-9		37.5	ug/L	93.6	70 - 130			D	12/08/09
Chromium	7440-47-3		35.5	ug/L	88.7	70 - 130			D	12/08/09
Cobalt	7440-48-4		34.1	ug/L	85.2	70 - 130			D	12/08/09
Copper	7440-50-8		33.4	ug/L	83.4	70 - 130			D	12/08/09
Vanadium	7440-62-2		36.2	ug/L	90.4	70 - 130			D	12/08/09
Zinc	7440-66-6		30.4	ug/L	76	70 - 130			D	12/08/09
Lead	7439-92-1		38.7	ug/L	96.7	70 - 130			D	12/08/09
Mercury	7439-97-6		1.90	ug/L	94.8	70 - 130			D	12/08/09
Strontium	7440-24-6		40.8	ug/L	102	70 - 130			D	12/08/09
Thallium	7440-28-0		38.7	ug/L	96.8	70 - 130			D	12/08/09
Uranium	7440-61-1		39.7	ug/L	99.2	70 - 130			D	12/08/09
Arsenic	7440-38-2		39.4	ug/L	98.5	70 - 130			D	12/08/09
Selenium	7782-49-2		40.4	ug/L	101	70 - 130			D	12/08/09
Thorium	7440-29-1		39.9	ug/L	99.8	70 - 130			D	12/08/09
MSD			**QC Sample #20528**							
			Original 91648008					**Paired 20527**		

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF91580

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Aluminum	7429-90-5		374	ug/L	93.4	70 - 130	1.10	20	D	12/08/09
Manganese	7439-96-5		35.7	ug/L	89.3	70 - 130	2.30	20	D	12/08/09
Nickel	7440-02-0		33.8	ug/L	84.4	70 - 130	2.60	20	D	12/08/09
Silver	7440-22-4		35.4	ug/L	88.4	70 - 130	0.70	20	D	12/08/09
Antimony	7440-36-0		38.8	ug/L	96.9	70 - 130	1.70	20	D	12/08/09
Barium	7440-39-3		38.9	ug/L	97.4	70 - 130	0.00	20	D	12/08/09
Beryllium	7440-41-7		38.3	ug/L	95.6	70 - 130	7.30	20	D	12/08/09
Cadmium	7440-43-9		37.1	ug/L	92.6	70 - 130	1.10	20	D	12/08/09
Chromium	7440-47-3		35.0	ug/L	87.5	70 - 130	1.40	20	D	12/08/09
Cobalt	7440-48-4		33.3	ug/L	83.2	70 - 130	2.40	20	D	12/08/09
Copper	7440-50-8		33.1	ug/L	82.7	70 - 130	0.80	20	D	12/08/09
Vanadium	7440-62-2		35.8	ug/L	89.5	70 - 130	1.00	20	D	12/08/09
Zinc	7440-66-6		27.6	ug/L	69	70 - 130	9.70	20	DN	12/08/09
Lead	7439-92-1		38.1	ug/L	95.3	70 - 130	1.50	20	D	12/08/09
Mercury	7439-97-6		1.91	ug/L	95.3	70 - 130	0.50	20	D	12/08/09
Strontium	7440-24-6		38.8	ug/L	97	70 - 130	5.00	20	D	12/08/09
Thallium	7440-28-0		38.4	ug/L	95.9	70 - 130	0.90	20	D	12/08/09
Uranium	7440-61-1		39.3	ug/L	98.2	70 - 130	1.00	20	D	12/08/09
Arsenic	7440-38-2		38.7	ug/L	96.9	70 - 130	1.60	20	D	12/08/09
Selenium	7782-49-2		38.2	ug/L	95.5	70 - 130	5.60	20	D	12/08/09
Thorium	7440-29-1		39.4	ug/L	98.5	70 - 130	1.30	20	D	12/08/09

Quality Control Report

Attention Michael Neely
Department Radiochemistry

Group # WSCF91580

QC Batch 72152
Associated Samples 91580001

Test Americium/Curium (AEA)

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit		RQ	Analyzed
BLANK			**QC Sample #19020**								
Americium-241	14596-10-2		0.010	pCi/L						U	01/07/10
Plutonium-238	13981-16-3		0.078	pCi/L						U	11/30/09
Plutonium-239/240	PU-239/240		-0.011	pCi/L						U	11/30/09
Uranium-234	13966-29-5		0.21	pCi/L						1X	11/30/09
Uranium-235	15117-96-1		0.092	pCi/L						2X	11/30/09
Uranium-238	U-238		0.042	pCi/L						U	11/30/09
LCS			**QC Sample #19021**								
Americium-241	14596-10-2		5500	pCi/Each	99.1	80 - 120					01/07/10
Plutonium-239/240	PU-239/240		6700	pCi/Each	115	80 - 120					11/30/09
Uranium-238	U-238		8200	pCi/sample	96.7	80 - 120					11/30/09
DUP			**QC Sample #19022**								
			Original 91580001								
Plutonium-238	13981-16-3	-0.14	-0.034	pCi/L			-121.80	-20 - 20	*	U	11/30/09
Americium-241	14596-10-2	0.043	0.10	pCi/L			79.70	-20 - 20	*	1X	01/07/10
Uranium-234	13966-29-5	0.096	0.15	pCi/L			43.90			2X	11/30/09
Plutonium-239/240	PU-239/240	0.033	0.034	pCi/L			3.00	-20 - 20		U	11/30/09
Uranium-235	15117-96-1	0.019	0.11	pCi/L			141.10			3X	11/30/09
Uranium-238	U-238	1.5E-6	0.037	pCi/L			200.00	-20 - 20	*	U	11/30/09

Quality Control Report

Attention Michael Neely
Department Radiochemistry

Group # WSCF91580

QC Batch 72463
Associated Samples 91580001

Test Tritium by LSC

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #19079**							
Tritium	10028-17-8		14	pCi/L					U	12/18/09
LCS			**QC Sample #19080**							
Tritium	10028-17-8		2800	pCi/L	96	80 - 120				12/18/09
DUP			**QC Sample #19081**							
			Original 91578002							
Tritium	10028-17-8		2.0E4	pCi/L			5.10	-20 - 20		12/18/09
MS			**QC Sample #19082**							
			Original 91578002							
Tritium	10028-17-8		22000	pCi/L	94	75 - 125				12/18/09

Quality Control Report

Attention Michael Neely
Department Radiochemistry

Group # WSCF91580

QC Batch 72795
Associated Samples 91580001

Test Gross Alpha/Gross Beta

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #19335**							
Gross Alpha	12587-46-1		0.090	pCi/L					U	12/15/09
Gross Beta	12587-47-2		-0.64	pCi/L					U	12/15/09
LCS			**QC Sample #19336**							
Gross Alpha	12587-46-1		63	pCi/L	96.5	80 - 120				12/15/09
Gross Beta	12587-47-2		270	pCi/L	122.1	80 - 120			X1	12/15/09
DUP			**QC Sample #19337**							
			Original 91575034							
Gross Alpha	12587-46-1		0.52	pCi/L			0.00	-20 - 20	U	12/15/09
Gross Beta	12587-47-2		130	pCi/L			0.00	-20 - 20		12/15/09

Quality Control Report

Attention Michael Neely
Department Radiochemistry

Group # WSCF91580

QC Batch 73059
Associated Samples 91580001

Test TC99 by Liquid Scintillation

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #19422**							
Technetium-99	14133-76-7		-0.90	pCi/L					U	12/14/09
LCS			**QC Sample #19423**							
Technetium-99	14133-76-7		300	pCi/L	111.9	80 - 120				12/14/09
DUP			**QC Sample #19424**							
			Original 91574008							
Technetium-99	14133-76-7		1600	pCi/L			11.80	-20 - 20		12/14/09
MS			**QC Sample #19425**							
			Original 91574008							
Technetium-99	14133-76-7		1100	pCi/L	105	75 - 125				12/14/09

Quality Control Report

Attention Michael Neely
Department Radiochemistry

Group # WSCF91580

QC Batch 73460
Associated Samples 91580001

Test Gamma Energy Analysis-general

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit		RQ	Analyzed
IBLANK			**QC Sample #19661**								
Antimony-125	14234-35-6		5.1	pCi/L						U	12/01/09
Cesium-137	10045-97-3		0.95	pCi/L						U	12/01/09
Cobalt-60	10198-40-0		1.2	pCi/L						U	12/01/09
Europium-152	14683-23-9		-1.3	pCi/L						U	12/01/09
Europium-154	15585-10-1		-7.9	pCi/L						U	12/01/09
Europium-155	14391-16-3		-1.3	pCi/L						U	12/01/09
LCS			**QC Sample #19662**								
Cesium-137	10045-97-3		6500000	pCi/sample	107.3	80 - 120					12/15/09
Cobalt-60	10198-40-0		10000000	pCi/sample	103.2	80 - 120					12/15/09
DUP			**QC Sample #19663**								
			Original 91575034								
Antimony-125	14234-35-6		6.7	pCi/L			210.40	-20 - 20	*	U	12/07/09
Cesium-137	10045-97-3		1.4	pCi/L			60.00	-20 - 20	*	U	12/07/09
Cobalt-60	10198-40-0		-3.3	pCi/L			-118.10	-20 - 20	*	U	12/07/09
Europium-152	14683-23-9		-4.3	pCi/L			-106.00	-20 - 20	*	U	12/07/09
Europium-154	15585-10-1		-0.91	pCi/L			-82.20	-20 - 20	*	U	12/07/09
Europium-155	14391-16-3		7.4	pCi/L			34.90	-20 - 20	*	U	12/07/09

Quality Control Report

Attention Michael Neely
Department Radiochemistry

Group # WSCF91580

QC Batch 73762
Associated Samples 91580001

Test Technicium-99 by ICP MS

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #19745**							
Technetium-99	14133-76-7		<0.0010	ug/L					U	11/15/09
LCS			**QC Sample #19746**							
Technetium-99	14133-76-7		0.040	ug/L	90.9	49 - 125				11/15/09

Quality Control Report

Attention Michael Neely
Department Radiochemistry

Group # WSCF91580

QC Batch 73789
Associated Samples 91580001

Test Strontium 89/90 (GPC/GEA)

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit		RQ	Analyzed
BLANK			**QC Sample #19871**								
Strontium-89/90	SR-RAD		-2.0	pCi/L						U	12/18/09
LCS			**QC Sample #19872**								
Strontium-89/90	SR-RAD		300	pCi/L	109.1	80 - 120					12/18/09
DUP			**QC Sample #19873**								
			Original 91561020								
Strontium-89/90	SR-RAD		10	pCi/L			61.40	-20 - 20	*	1X	12/18/09

Quality Control Report

Attention Michael Neely
Department Radiochemistry

Group # WSCF91580

QC Batch 72152
Associated Samples 91580001

Test Americium/Curium (AEA)

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #19020**							
Americium-243 Tracer	14993-75-0				72.3	25 - 105				01/07/10
Uranium-232 Tracer	14158-29-3				103.9	25 - 105				11/30/09
Plutonium-242 Tracer	13982-10-0				75.4	25 - 105				11/30/09
LCS			**QC Sample #19021**							
Americium-243 Tracer	14993-75-0				81.9	25 - 105				01/07/10
Uranium-232 Tracer	14158-29-3				86.8	25 - 105				11/30/09
Plutonium-242 Tracer	13982-10-0				84.6	25 - 105				11/30/09
DUP			**QC Sample #19022**							
			Original 91580001							
Americium-243 Tracer	14993-75-0				74.2	25 - 105	0.00			01/07/10
Uranium-232 Tracer	14158-29-3				96.7	25 - 105	0.00			11/30/09
Plutonium-242 Tracer	13982-10-0				69.5	25 - 105	0.00			11/30/09
SAMPLE			**Sample #91580001**							
Americium-243 Tracer	14993-75-0				80.1	25 - 105				01/07/10
Uranium-232 Tracer	14158-29-3				96.7	25 - 105				11/30/09
Plutonium-242 Tracer	13982-10-0				78	25 - 105				11/30/09

Quality Control Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF91580

QC Batch 72465
Associated Samples 91580001

Test SW-846 8260B Volatiles, separate prep

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #19083**							
1,2-Dichloroethane-d4	17060-07-0				116.4	75 - 125				11/12/09
Toluene-d8	2037-26-5				100.6	75 - 125				11/12/09
4-Bromofluorobenzene	460-00-4				102.6	75 - 125				11/12/09
LCS			**QC Sample #19084**							
1,2-Dichloroethane-d4	17060-07-0				117.4	75 - 125				11/12/09
Toluene-d8	2037-26-5				100	75 - 125				11/12/09
4-Bromofluorobenzene	460-00-4				105.4	75 - 125				11/12/09
MS			**QC Sample #19085**							
			Original 91554001							
1,2-Dichloroethane-d4	17060-07-0				115.9	75 - 125				11/12/09
Toluene-d8	2037-26-5				99.5	75 - 125				11/12/09
4-Bromofluorobenzene	460-00-4				102.8	75 - 125				11/12/09
MSD			**QC Sample #19086**							
			Original 91554001					**Paired 19085**		
1,2-Dichloroethane-d4	17060-07-0				117.5	75 - 125	1.40	20		11/12/09
Toluene-d8	2037-26-5				100.2	75 - 125	0.70	20		11/12/09

Quality Control Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF91580

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
4-Bromofluorobenzene	460-00-4				103.8	75 - 125	1.00	20		11/12/09
SAMPLE			**Sample #91580001**							
1,2-Dichloroethane-d4	17060-07-0				117.7	75 - 125				11/12/09
Toluene-d8	2037-26-5				102.2	75 - 125				11/12/09
4-Bromofluorobenzene	460-00-4				102.6	75 - 125				11/12/09

Quality Control Report

Attention Michael Neely
Department Organic, Volatiles

Group # WSCF91580

QC Batch 72756
Associated Samples 91580001

Test SW-846 Method 8015 for GPP

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #19135**							
2-Bromoethanol	540-51-2				103.4	70 - 130				11/17/09
LCS			**QC Sample #19136**							
2-Bromoethanol	540-51-2				105.1	70 - 130				11/17/09
SAMPLE			**Sample #91580001**							
2-Bromoethanol	540-51-2				102.8	70 - 130				11/17/09

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF91580

QC Batch 72964
Associated Samples 91580001

Test Extractable Diesel and Petroleum

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #19405**							
o-Terphenyl	84-15-1				88.1	70 - 130				11/19/09
LCS			**QC Sample #19406**							
o-Terphenyl	84-15-1				99.8	70 - 130				11/19/09
MS			**QC Sample #19407**							
			Original 91561018							
o-Terphenyl	84-15-1				99.7	70 - 130				11/19/09
MSD			**QC Sample #19408**							
			Original 91561018						**Paired 19407**	
o-Terphenyl	84-15-1				95.1	70 - 130	4.70	20		11/19/09
SAMPLE			**Sample #91580001**							
o-Terphenyl	84-15-1				80	70 - 130				11/19/09

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF91580

QC Batch 73162
Associated Samples 91580001

Test SW-846 8270D Semivolatiles

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #19450**							
2-Fluorophenol	367-12-4				79.3	50 - 110				11/23/09
Phenol-d5	4165-62-2				79.1	59 - 116				11/23/09
Nitrobenzene-d5	4165-60-0				90.8	60 - 118				11/23/09
2-Fluorobiphenyl	321-60-8				89.3	58 - 109				11/23/09
2,4,6-Tribromophenol	118-79-6				77.9	60 - 120				11/23/09
Terphenyl-d14	98904-43-9				101.7	60 - 120				11/23/09
LCS			**QC Sample #19451**							
2-Fluorophenol	367-12-4				81.9	42 - 105				11/23/09
Phenol-d5	4165-62-2				83.5	54 - 120				11/23/09
Nitrobenzene-d5	4165-60-0				93.3	64 - 111				11/23/09
2-Fluorobiphenyl	321-60-8				89.6	56 - 122				11/23/09
2,4,6-Tribromophenol	118-79-6				84.8	24 - 122				11/23/09
Terphenyl-d14	98904-43-9				99.8	35 - 150				11/23/09
MS			**QC Sample #19452**							
			Original 91589010							
2-Fluorophenol	367-12-4				58.7	42 - 105				11/23/09
Phenol-d5	4165-62-2				57.8	54 - 120				11/23/09
Nitrobenzene-d5	4165-60-0				74	64 - 111				11/23/09

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF91580

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
2-Fluorobiphenyl	321-60-8				75	56 - 122				11/23/09
2,4,6-Tribromophenol	118-79-6				67.7	24 - 122				11/23/09
Terphenyl-d14	98904-43-9				83.7	35 - 150				11/23/09
MSD			**QC Sample #19453**							
			Original	**91589010**					**Paired**	**19452**
2-Fluorophenol	367-12-4				52.6	42 - 105	11.00	20		11/23/09
Phenol-d5	4165-62-2				58.8	54 - 120	1.70	20		11/23/09
Nitrobenzene-d5	4165-60-0				77.1	64 - 111	4.10	20		11/23/09
2-Fluorobiphenyl	321-60-8				74.4	56 - 122	0.80	20		11/23/09
2,4,6-Tribromophenol	118-79-6				72	24 - 122	6.20	20		11/23/09
Terphenyl-d14	98904-43-9				82.2	35 - 150	1.80	20		11/23/09
SAMPLE			**Sample #91580001**							
2-Fluorophenol	367-12-4				60.1	50 - 110				11/23/09
Phenol-d5	4165-62-2				67.9	59 - 116				11/23/09
Nitrobenzene-d5	4165-60-0				81.3	60 - 118				11/23/09
2-Fluorobiphenyl	321-60-8				82.9	58 - 109				11/23/09
2,4,6-Tribromophenol	118-79-6				71.4	60 - 120				11/23/09
Terphenyl-d14	98904-43-9				93.6	60 - 120				11/23/09

Quality Control Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF91580

QC Batch 73476
Associated Samples 91580001

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 #19709**							
Tetrachloro-m-xylene	877-09-8				85.4	60 - 140				11/23/09
Decachlorobiphenyl	2051-24-3				100.9	60 - 140				11/23/09
LCS			**QC Sample #19710**							
Tetrachloro-m-xylene	877-09-8				85.5	60 - 140				11/23/09
Decachlorobiphenyl	2051-24-3				100	60 - 140				11/23/09
MS			**QC Sample #19711**							
			Original 91580001							
Tetrachloro-m-xylene	877-09-8				90.9	60 - 140				11/23/09
Decachlorobiphenyl	2051-24-3				108.8	60 - 140				11/23/09
MSD			**QC Sample #19712**							
			Original 91580001					**Paired**	**19711**	
Tetrachloro-m-xylene	877-09-8				85.5	60 - 140	6.10			11/23/09
Decachlorobiphenyl	2051-24-3				100.6	60 - 140	7.80			11/23/09
SAMPLE			**Sample #91580001**							
Tetrachloro-m-xylene	877-09-8				86.9	60 - 140				11/23/09
Decachlorobiphenyl	2051-24-3				104.2	60 - 140				11/23/09

Quality Control Report

Attention Michael Neely
Department Radiochemistry

Group # WSCF91580

QC Batch 73789
Associated Samples 91580001

Test Strontium 89/90 (GPC/GEA)

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #19871**							
Strontium-85	13967-73-2				72.1	25 - 105				12/18/09
LCS			**QC Sample #19872**							
Strontium-85	13967-73-2				76.2	25 - 105				12/18/09
DUP			**QC Sample #19873**							
			Original 91561020							
Strontium-85	13967-73-2				70.4	25 - 105	4.70			12/18/09
SAMPLE			**Sample #91580001**							
Strontium-85	13967-73-2				75.4	25 - 105				12/18/09

Tentatively Identified Peak Report

Attention Michael Neely
Department Organic, Semivolatiles

Group # WSCF91580

Peak Name		CAS #	RT	RQ	Result	Units
91580001	**B22T59**					
Hexanoic acid		142-62-1	7.6692		4.7	ug/L
unknown pthalate ester		UNKNOWN-02	13.687		8	ug/L
Unknown		UNKNOWN-03	15.007		5.6	ug/L
Unknown		UNKNOWN-04	18.219		7.6	ug/L

Analytical Comment Report

Attention: Michael Neely

Group # WSCF91580

91580001	**B22T59**

IC Anion - 48-hr. sample hold time missed for Nitrate-N, Nitrite-N, and Phosphate-P. Anion sample delivered to WSCF in Ammonia sample container, therefore analysis conducted after the discrepancy discovered after the 48-hr. hold time. DTS

Analytical Comment Report

Attention: Michael Neely

Group # WSCF91580

Quality Control Comments

Department Organic, Semivolatiles

19453 B22L77(91589010MSD)

Analyte 1,2,4-Trichlorobenzene - SW-846 8270D Semivolatiles
[1] Matrix Spike RPD outside established laboratory limits. No flags assigned.

Analyte 1,4-Dichlorobenzene - SW-846 8270D Semivolatiles
[1] Matrix Spike RPD outside established laboratory limits. No flags assigned.

Analyte Di-n-octylphthalate - SW-846 8270D Semivolatiles
[1] Matrix Spike RPD outside established laboratory limits. No flags assigned.

Analyte Hexachloroethane - SW-846 8270D Semivolatiles
[1] Matrix Spike RPD outside established laboratory limits. No flags assigned.

Analytical Comment Report

Attention: Michael Neely **Group #** WSCF91580

Quality Control Comments

Department Radiochemistry

19020 BLANK for HBN 72152 [RADP/2328

Analyte Uranium-234 - Uranium (AEA)
[1] The blank is less than 2X the MDC and is acceptable.

Analyte Uranium-235 - Uranium (AEA)
[1] The blank is less than 2X the MDC and is acceptable.

19022 B22T59(91580001DUP)

Analyte Americium-241 - Americium/Curium (AEA)
[1] Duplicate RPD out-of-limits. RPD limit does not apply to results near the Minimum Detectable Concentration.

Analyte Uranium-234 - Uranium (AEA)
[1] Duplicate RPD out-of-limits. RPD limit does not apply to results near the Minimum Detectable Concentration.

Analyte Uranium-235 - Uranium (AEA)
[1] Duplicate RPD out-of-limits. RPD limit does not apply to results near the Minimum Detectable Concentration.

19336 LCS for HBN 72795 [RADP/2346]

Analyte Gross Beta - Gross Alpha/Gross Beta
[1] The beta LCS is flagged for a slightly high recovery but it is still within the statement of work that allows 70-130% range.

19873 B21YJ2(91561020DUP)

Analyte Strontium-89/90 - Strontium 89/90 (GPC/GEA)
[1] Duplicate RPD out-of-limits. RPD limit does not apply to results near the Minimum Detectable Concentration.

ATTACHMENT4

SAMPLE RECEIPT

Consisting of 6 pages
Including cover page

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

ACKNOWLEDGEMENT OF SAMPLES RECEIVED

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

ATTN: Michael Neely

Customer Code: CHPRC
PO #: 401586
Work Order #: 91580
Profile #: F10-013-032
Proj. Mgr.:
Phone:

The following samples were received from you on 11/11/2009 2:50:00 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		
91580001	B22T59	WATER	11/11/2009 13:05	11/11/2009 14:50
		2008-W; 6010-W; 8015-W; 8260V-W; 8270SV-W; AEA-AM-W; AEA-PU-W; AEA-U-W; CN-W; CR6DA-W; GAB-AO-W; GAB-BO-W; GEA-W; H3-COL-W; IC-W; NH4IC-W; PCB-W; SR89/90-W; TC99-MS-W; TC99-W; TPHDWA-W		

Test Acronym Description

Test Acronym	Description
2008-W	ICP-MS (W)
6010-W	ICP-AES (W)
8015-W	8015 (W)
8260V-W	Volatiles by 8260B (W)
8270SV-W	Semivolatiles by 8270D (W)
AEA-AM-W	Americium (AEA) (W)
AEA-PU-W	Plutonium (AEA) (W)
AEA-U-W	Uranium Isotopic (AEA) (W)
CN-W	Cyanide (Spectroscopy) (W)
CR6DA-W	Cr6 (W,Discrete analyzer)
GAB-AO-W	Gross Alpha/Beta (A only)(W)
GAB-BO-W	Gross Alpha/Beta (B only)(W)
GEA-W	Gamma Energy Analysis (W)
H3-COL-W	Tritium by EICHROM Column (W)
IC-W	Anions by IC (W)
NH4IC-W	Ammonia(N) by IC (W)

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

PCB-W	PCB (8082) (W)
SR89/90-W	Strontium 89/90 (GPC) (W)
TC99-MS-W	TECHNICIUM 99 BY ICP-MS
TC99-W	Technetium-99 (W)
TPHDWA-W	TPHD-WA (W)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

P10-013-832 PAGE 1 OF 3

COLLECTOR: Rust Rosenau

SAMPLING LOCATION: C3860 (299-E28-54); 1-C01EB

ICE CHEST NO.:

SHIPPED TO: Waste Sampling & Characterization

COMPANY CONTACT: Dyekman, D.

TELEPHONE NO.: 375-2539

PROJECT DESIGNATION: ARRA 200-UW-2 OU Characterization Vadose Zone - QC Sampling ("A" Well

FIELD LOGBOOK NO.: HNF-N-576-3 p93

ACTUAL SAMPLE DEPTH: N/A

OFFSITE PROPERTY NO.: N/A

PROJECT COORDINATOR: Dyekman, D.

SAF NO.: P10-013

CDA: 392143E310

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

PRICE CODE: JN

AIR QUALITY: C

DATA TURNAROUND: 45 Days / 45 Days

METHOD OF SHIPMENT: CONFINEMENT VEHICLE

MATRIX*: W-Water

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains radioactive material or 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: 91580

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME									
PRESERVATION				HNO3 to pH <2 Cool <4C	Cool <4C	H2SO4 to pH <2 Cool <4C	Cool <4C	Cool <4C	HCl to pH <2 Cool <4C	NaOH to pH >12	Cool <4C	NaOH to pH >12 Cool <4C	Cool <4C
TYPE OF CONTAINER				AGV	VOA	AGV	AGV	AG	AG	P	AG	CP	P
NO. OF CONTAINER(S)				1	3	1	1	1	1	1	1	1	1
VOLUME				1L	40mL	250mL	1L	500mL	500mL	500mL	125mL	500mL	125mL
SAMPLE ANALYSIS				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
621739	OU1	WATER	11-11-09 1305	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

ICED

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
[signature]	11-11-09 1450	[signature]	11-11-09 1450
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

☐ ORIGINAL

LABORATORY SECTION: RECEIVED BY — TITLE — DATE/TIME

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

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F10-013-032 PAGE 3 OF 3

COLLECTOR: Rust, Rose-E	COMPANY CONTACT: CHEKMAN, ES	TELEPHONE NO.: 372-2536	PROJECT COORDINATOR: CHEKMAN, ES
PRICE CODE: 7N	DATE TURNAROUND: 45 Days / 45 Days	SAMPLING LOCATION: C5850 (239-429-04), 100HR	PROJECT DESIGNATION: AMRA 200-OW-2 OU Characterization Volume Zone - QC Sampling ("X" Well
SAF NO.: F10-013	AIR QUALITY	ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-575-3, p 83
ACTUAL SAMPLE DEPTH: N/A	COA: 302-190510	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 200 Area SAQAP Characterization and Municipal Sampling and Analysis QAI applies to this SAF.
(1) VOA - 8260B (TCL); VOA - 8260B (Add On) (n-Butylbenzene, Trichlorotrifluoroethane, 1-Butanol, cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene)
(2) PCBs - 8082 (Aroclor-1262, Aroclor-1260, Aroclor-1254, Aroclor-1242, Aroclor-1232, Aroclor-1268, Aroclor-1221, Aroclor-1016, Aroclor-1248)
(3) Alcohols, Glycols, & Ketones - 8015 (Ethylene glycol, Diethyl ether)
(4) Semi-VOA - 8270B (TCL); Semi-VOA - 8270B (Add On) (Tributyl phosphate, 3-4 Methylphenol (cresol, mixed))
(5) TPH Diesel Kerosene Range - WTPH-D (Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range)
(6) ICP/MS - 200.8 (TAL) (Aluminum, Antimony, Barium, Chromium, Cobalt, Cadmium, Copper, Zinc, Manganese, Nickel, Vanadium, Silver) ICP/MS - 200.8 (Add On) (Arsenic, Lead, Selenium, Thallium, Beryllium, Thorium, Uranium, Selenium) ICP Metals - 6010B (TAL) (Iron) ICP Metals - 6010B (Add On) (Boron, Barium, Lithium) 200.8_HG - ICP/MS
(7) IC Anions - 300.0 (Phosphate as phosphate, Chloride, Nitrogen as Nitrite, Fluoride, Nitrogen as Nitrate, Sulfate)

ORIGINAL

ICED

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F10-013-032 PAGE 2 OF 2

COLLECTOR: Rust, Rosane

SAMPLING LOCATION: C5866 (299-E25-541); I-00158

ICE CHEST NO.:

SHIPPED TO: Waste Sampling & Characterization

COMPANY CONTACT: DREKMAN, D.

TELEPHONE NO.: 373-4530

PROJECT DESIGNATION: ARRA 200-LW-2 OU Characterization Vadose Zone - QC Sampling (*8" Well

FIELD LOGBOOK NO.: HNP-N-576-3,083

ACTUAL SAMPLE DEPTH: N/A

OFFSITE PROPERTY NO.: N/A

PROJECT COORDINATOR: DREKMAN, D.

SAF NO.: F10-013

COC: 392143E550

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

PRICE CODE: 7H

AIR QUALITY:

METHOD OF SHIPMENT: GOVERNMENT VEHICLE

DATA TURNAROUND: 45 Days / 45 Days

MATRIX*: W-Water

POSSIBLE SAMPLE HAZARDS/ REMARKS: Container Radioactive Material at concentration 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:

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	PRESERVATION	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS
B22T58	WATER	11-11-09	1305	✓	✓	✓	✓	✓

ICED

CHAIN OF POSSESSION

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
[signature]	11-11-09 1450	[signature]	11-11-09 1450
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 200 Area SBGRP Characterization and Monitoring Sampling and Analysis QAP applies to this SAF.
(8)Gamma Spectroscopy (Europium-155, Cesium-137, Europium-154, Europium-152, Cobalt-60) Gamma Spec. - Add-on: (Antimony-125)

Original

LABORATORY SECTION — RECEIVED BY — TITLE — DATE/TIME

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