RECEIVED SEPTEMBER 10, 2008

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FLUOR

Memorandum

M4W41-SLF-08-983

To:	H. Hampt	E6-35	Date:	September 10, 2008
From:	S. L. Fitzgerald, Manager WSCF Analytical Lab			

cc: w/Attachments

T. F. Dale	S3-30	P. D. Mix	S3-30
D. Felmy (PNNL)	K6-75	J. E. Trechter	S3-30
A. J. Kopriva	S3-30	S. J. Trent	E6-35
H. K. Meznarich	S3-30	File/LB	

Subject: FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20081654

Reference:
1) Letter of Instruction for Analytical Services for the Groundwater Performance Assessment Project and Analytical Laboratory Transition Plan, FH-0602422, September 19, 2006
2) HNF-SD-CD-QAPP-017, Rev. 9, Waste Sampling & Characterization Facility Quality Assurance Plan

This transmittal contains the following information for sample delivery group WSCF20081654:

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

SLF/grf

Attachments 4

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ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20081654
Data Deliverable Date: 04-sep-2008
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
I08-043	B1VKW6	W08P003728	WATER
	B1VKW7	W08P003729	WATER
	B1VKX4	W08P003726	WATER
	B1VKX5	W08P003727	WATER
W08-006	B1VRL5	W08P003724	WATER
	B1VRL6	W08P003725	WATER

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ATTACHMENT 2

NARRATIVE

Consisting of 5 pages
Including cover page

Introduction

Six groundwater samples were received at the WSCF Laboratory on August 6, 2008. Samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Remediation Program – Letter of Instruction*, referenced in the cover letter.

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

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

Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report,* pages 15 through 18, 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 per GRP Letter of Instruction. See page 29 for QC details.

All QC controls are within the established limits.

Anions – Hold time requirements for this analysis were met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See pages 30 through 31 for QC details. Analytical Note(s):

- Sample results were D flagged if dilution(s) were required.

All 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 per GRP Letter of Instruction. See page 32 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1VRF4 (SDG# 20081609).

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 per the GRP Letter of Instruction. See pages 33 through 36 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1W240 (SDG# 20081643).
- Sample results that were less than the reportable limit, however greater than the method detection limit were B flagged.
- Calcium, Magnesium and Sodium concentrations exceeded spiking levels by a factor of 4. Spike recoveries are not valid. Check standard was analyzed to ensure linearity because the sample results were greater than the calibration standard.
- Sodium – Sample results were X flagged. Although the Sodium CCV recovery in the midst of this run was slightly low (89.4%); the CCV recoveries from the previous (90%) and following (94%) runs were acceptable.
- Lithium – CCV recoveries before, during and after the run were low, ranging from 84% – 87%. (Acceptable range is 90% - 110%).

All other QC controls are within the established limits.

ICP-MS Metals – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See pages 37 through 39 for QC details. Analytical Note(s):

- Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1VKX5 and B1VKW7 of this SDG; and, B1WH08 and B1WFY6 (SDG# 20081677).
    - Batch QC performed on samples B1WH08 and B1WFY6 – Uranium concentration exceeded spiking levels by a factor of 4. Spike recoveries are not valid.

All other QC controls are within the established limits.

Total Alkalinity – The hold time requirement for this analysis was met. A Duplicate and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See page 40 for QC details. Analytical Note(s):

- Duplicates were analyzed on samples B1VM03 (SDG# 20081632) and B1WJR5 (SDG# 20081666).

All QC controls are within the established limits.

Total Organic Carbon – The hold time requirement for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Method Spike were analyzed with this delivery group per the GRP Letter of Instruction. See page 41 for QC details.

All 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 per GRP Letter of Instruction. See page 49 for QC details.

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 per the GPP Letter of Instruction. See pages 50 through 53 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1WFY6 (SDG# 20081677).

All 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. See page 54 for QC details. Analytical Note(s):

- Ortho-Terphenyl (Surrogate) recovery was less than established laboratory limits.

All other QC controls are within the established limits.

TPHG-WA – 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. See page 55 for QC details.

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 per the GRP Letter of Instruction. See pages 56 through 58 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1VMB0 (SDG# 20081643).

All QC controls are within the established limits.

Radiochemistry Comments

Rad Chem – There are no hold times associated with WSCF's radiochemical methods. A Duplicate, Matrix Spike, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 63 through 65 for QC details. Analytical Note(s):

- Strontium89/90 and 85 (tracer) – Duplicate QC was analyzed on sample# B1VM51 (SDG# 20081609).
- Tritium – Duplicates and Matrix Spikes were analyzed on samples B1VL28 (SDG# 20081620) and B1VKW7 of this SDG.

All QC controls are within the established limits.

I certify that this data package is in compliance with the LOI, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Analytical Manager and Client Services as verified by the following signatures.

Scot L. Fitzgerald
WSCF Analytical Laboratory Manager

Pauline D. Mix
WSCF Client Services

M4W41-SLF-08-983

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 57 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

GPAP
Richland, WA 99352

Attention: Steve Trent E6-35

Analytical: S. Fitzgerald 9/10/08

Client Services: P.D. Mix 9/10/2008

All results are reported on an "as received" basis unless otherwise noted in the comment section.

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Report#: WSCF20081654
Report Date: 10-sep-2008
Report WGPP/ver. 5.2
GPAP

w13qlog v4.2 10-sep-2008 06:44:22

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20081654

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
37464	2	37902	42242	BLANK		Anions by Ion Chromatography
37464	12	37902	42242	BLANK		Anions by Ion Chromatography
37464	3	37902	42242	LCS		Anions by Ion Chromatography
37464	4	37902	42242	SAMPLE	W08P003724	Anions by Ion Chromatography
37464	6	37902	42242	DUP	W08P003725	Anions by Ion Chromatography
37464	7	37902	42242	MS	W08P003725	Anions by Ion Chromatography
37464	8	37902	42242	MSD	W08P003725	Anions by Ion Chromatography
37464	5	37902	42242	SAMPLE	W08P003725	Anions by Ion Chromatography
37464	8	37902	42242	SPK-RPD	W08P003725	Anions by Ion Chromatography
37531	1	37971	42328	BLANK		Cyanide by Midi/Spectrophotom
37531	2	37971	42328	LCS		Cyanide by Midi/Spectrophotom
37531	5	37971	42328	MS	W08P003655	Cyanide by Midi/Spectrophotom
37531	6	37971	42328	MSD	W08P003655	Cyanide by Midi/Spectrophotom
37531	6	37971	42328	SPK-RPD	W08P003655	Cyanide by Midi/Spectrophotom
37531	8	37971	42328	SAMPLE	W08P003727	Cyanide by Midi/Spectrophotom
37531	9	37971	42328	SAMPLE	W08P003729	Cyanide by Midi/Spectrophotom
37597	1	38038	42383	BLANK		ICP-200.8 MS All possible meta
37597	2	38038	42383	LCS		ICP-200.8 MS All possible meta
37597	17	38038	42383	SAMPLE	W08P003726	ICP-200.8 MS All possible meta
37597	4	38038	42383	MS	W08P003727	ICP-200.8 MS All possible meta
37597	5	38038	42383	MSD	W08P003727	ICP-200.8 MS All possible meta
37597	3	38038	42383	SAMPLE	W08P003727	ICP-200.8 MS All possible meta
37597	5	38038	42383	SPK-RPD	W08P003727	ICP-200.8 MS All possible meta
37597	18	38038	42383	SAMPLE	W08P003728	ICP-200.8 MS All possible meta
37597	7	38038	42383	MS	W08P003729	ICP-200.8 MS All possible meta
37597	8	38038	42383	MSD	W08P003729	ICP-200.8 MS All possible meta
37597	6	38038	42383	SAMPLE	W08P003729	ICP-200.8 MS All possible meta
37597	8	38038	42383	SPK-RPD	W08P003729	ICP-200.8 MS All possible meta
37597	10	38038	42383	MS	W08P003767	ICP-200.8 MS All possible meta
37597	11	38038	42383	MSD	W08P003767	ICP-200.8 MS All possible meta
37597	11	38038	42383	SPK-RPD	W08P003767	ICP-200.8 MS All possible meta
37597	13	38038	42383	MS	W08P003769	ICP-200.8 MS All possible meta
37597	14	38038	42383	MSD	W08P003769	ICP-200.8 MS All possible meta
37597	14	38038	42383	SPK-RPD	W08P003769	ICP-200.8 MS All possible meta
37603	3	38040	42386	BLANK		Ammonia (N) by IC
37603	15	38040	42386	BLANK		Ammonia (N) by IC
37603	1	38040	42386	LCS		Ammonia (N) by IC
37603	6	38040	42386	DUP	W08P003727	Ammonia (N) by IC
37603	7	38040	42386	MS	W08P003727	Ammonia (N) by IC
37603	8	38040	42386	MSD	W08P003727	Ammonia (N) by IC
37603	5	38040	42386	SAMPLE	W08P003727	Ammonia (N) by IC
37603	8	38040	42386	SPK-RPD	W08P003727	Ammonia (N) by IC
37603	9	38040	42386	SAMPLE	W08P003729	Ammonia (N) by IC
37608	1	38050	42396	LCS		Total Alkalinity as mg/L CaCO3
37608	13	38050	42396	LCS		Total Alkalinity as mg/L CaCO3
37608	24	38050	42396	LCS		Total Alkalinity as mg/L CaCO3
37608	36	38050	42396	LCS		Total Alkalinity as mg/L CaCO3
37608	40	38050	42396	LCS		Total Alkalinity as mg/L CaCO3

37608	3	38050	42396	DUP	W08P003699	Total Alkalinity as mg/L CaCO3
37608	7	38050	42396	SAMPLE	W08P003724	Total Alkalinity as mg/L CaCO3
37608	8	38050	42396	SAMPLE	W08P003725	Total Alkalinity as mg/L CaCO3
37608	26	38050	42396	DUP	W08P003761	Total Alkalinity as mg/L CaCO3
37739	1	38172	42528	BLANK		Total Organic Carbon
37739	2	38172	42528	METHSPIKE		Total Organic Carbon
37739	3	38172	42528	SPK-RSD		Total Organic Carbon
37739	4	38172	42528	MS	W08P003727	Total Organic Carbon
37739	5	38172	42528	MSD	W08P003727	Total Organic Carbon
37739	7	38172	42528	SAMPLE	W08P003727	Total Organic Carbon
37739	5	38172	42528	SPK-RPD	W08P003727	Total Organic Carbon
37739	8	38172	42528	SAMPLE	W08P003729	Total Organic Carbon
37789	1	38114	42639	BLANK		ICP Metals Analysis, Grd H20 P
37789	2	38114	42639	LCS		ICP Metals Analysis, Grd H20 P
37789	4	38114	42639	MS	W08P003722	ICP Metals Analysis, Grd H20 P
37789	5	38114	42639	MSD	W08P003722	ICP Metals Analysis, Grd H20 P
37789	5	38114	42639	SPK-RPD	W08P003722	ICP Metals Analysis, Grd H20 P
37789	7	38114	42639	SAMPLE	W08P003726	ICP Metals Analysis, Grd H20 P
37789	8	38114	42639	SAMPLE	W08P003727	ICP Metals Analysis, Grd H20 P
37789	9	38114	42639	SAMPLE	W08P003728	ICP Metals Analysis, Grd H20 P
37789	10	38114	42639	SAMPLE	W08P003729	ICP Metals Analysis, Grd H20 P

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Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20081654

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			42431	BLANK		SW-846 8270C Semi-Vols
			42431	LCS		SW-846 8270C Semi-Vols
			42431	SAMPLE	W08P003727	SW-846 8270C Semi-Vols
			42431	SURR	W08P003727	SW-846 8270C Semi-Vols
			42431	SAMPLE	W08P003729	SW-846 8270C Semi-Vols
			42431	SURR	W08P003729	SW-846 8270C Semi-Vols
			42431	MS	W08P003769	SW-846 8270C Semi-Vols
			42431	MSD	W08P003769	SW-846 8270C Semi-Vols
			42431	SPK-RPD	W08P003769	SW-846 8270C Semi-Vols
			42530	BLANK		NWTPH-D TPH Diesel Range (Wa)
			42530	LCS		NWTPH-D TPH Diesel Range (Wa)
			42530	SAMPLE	W08P003727	NWTPH-D TPH Diesel Range (Wa)
			42530	SURR	W08P003727	NWTPH-D TPH Diesel Range (Wa)
			42530	MS	W08P003729	NWTPH-D TPH Diesel Range (Wa)
			42530	MSD	W08P003729	NWTPH-D TPH Diesel Range (Wa)
			42530	SAMPLE	W08P003729	NWTPH-D TPH Diesel Range (Wa)
			42530	SPK-RPD	W08P003729	NWTPH-D TPH Diesel Range (Wa)
			42530	SURR	W08P003729	NWTPH-D TPH Diesel Range (Wa)
			42673	BLANK		VOA Ground Water Protection
			42673	LCS		VOA Ground Water Protection
			42673	MS	W08P003703	VOA Ground Water Protection
			42673	MSD	W08P003703	VOA Ground Water Protection
			42673	SPK-RPD	W08P003703	VOA Ground Water Protection
			42673	SAMPLE	W08P003727	VOA Ground Water Protection
			42673	SURR	W08P003727	VOA Ground Water Protection
			42673	SAMPLE	W08P003729	VOA Ground Water Protection
			42673	SURR	W08P003729	VOA Ground Water Protection
37873	1	38300	42693	BLANK		Alcohols, Glycols - 8015
37873	2	38300	42693	LCS		Alcohols, Glycols - 8015
37873	4	38300	42693	DUP	W08P003727	Alcohols, Glycols - 8015
37873	5	38300	42693	MS	W08P003727	Alcohols, Glycols - 8015
37873	6	38300	42693	MSD	W08P003727	Alcohols, Glycols - 8015
37873	3	38300	42693	SAMPLE	W08P003727	Alcohols, Glycols - 8015
37873	6	38300	42693	SPK-RPD	W08P003727	Alcohols, Glycols - 8015
37873	7	38300	42693	SAMPLE	W08P003729	Alcohols, Glycols - 8015
37874	1	38301	42694	BLANK		NWTPH-GX TPH Gasoline Range
37874	2	38301	42694	LCS		NWTPH-GX TPH Gasoline Range
37874	4	38301	42694	DUP	W08P003727	NWTPH-GX TPH Gasoline Range
37874	5	38301	42694	MS	W08P003727	NWTPH-GX TPH Gasoline Range
37874	6	38301	42694	MSD	W08P003727	NWTPH-GX TPH Gasoline Range
37874	3	38301	42694	SAMPLE	W08P003727	NWTPH-GX TPH Gasoline Range
37874	6	38301	42694	SPK-RPD	W08P003727	NWTPH-GX TPH Gasoline Range
37874	7	38301	42694	SAMPLE	W08P003729	NWTPH-GX TPH Gasoline Range

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Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20081654

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
37642	1	38073	42440	BLANK		Strontium 89/90
37642	2	38073	42440	LCS		Strontium 89/90
37642	3	38073	42440	DUP	W08P003659	Strontium 89/90
37642	8	38073	42440	SAMPLE	W08P003727	Strontium 89/90
37642	9	38073	42440	SAMPLE	W08P003729	Strontium 89/90
37508	1	37937	42536	BLANK		Tritium by Liq Sct column prep
37508	2	37937	42536	LCS		Tritium by Liq Sct column prep
37508	4	37937	42536	DUP	W08P003671	Tritium by Liq Sct column prep
37508	3	37937	42536	MS	W08P003671	Tritium by Liq Sct column prep
37508	16	37937	42536	SAMPLE	W08P003727	Tritium by Liq Sct column prep
37631	1	38062	42641	BLANK		TC99 by Liquid Scin.
37631	4	38062	42641	LCS		TC99 by Liquid Scin.
37631	3	38062	42641	DUP	W08P003724	TC99 by Liquid Scin.
37631	2	38062	42641	MS	W08P003724	TC99 by Liquid Scin.
37631	5	38062	42641	SAMPLE	W08P003724	TC99 by Liquid Scin.
37631	6	38062	42641	SAMPLE	W08P003725	TC99 by Liquid Scin.
37641	1	38072	42646	BLANK		Tritium by Liq Sct column prep
37641	4	38072	42646	LCS		Tritium by Liq Sct column prep
37641	3	38072	42646	DUP	W08P003729	Tritium by Liq Sct column prep
37641	2	38072	42646	MS	W08P003729	Tritium by Liq Sct column prep
37641	5	38072	42646	SAMPLE	W08P003729	Tritium by Liq Sct column prep

WSCF
METHOD REFERENCES REPORT

Department: Inorganic

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 or industry 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 the 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-344-406	LA-344-406: TOTAL ORGANIC CARBON (TOC) BASED ON SW-846	
	EPA SW-846 9060	TOTAL ORGANIC CARBON
	HEIS 9060_TOC	Total Organic Carbon
LA-503-401	LA-503-401: ANALYSIS OF CATIONS BY ION CHROMATOGRAPHY	
	EPA-600/4-86-024 300.7	Dissolved Sodium, Ammonium, Potassium, and Calcium in Wet Deposition by Chemical
	HEIS 300.7_CATIONS_IC	Determination of Ammonium by Ion Chromatography
LA-505-411	LA-505-411: ELEMENTAL ANALYSIS BY INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPE	
	HEIS 6010_METALS_ICP	Inductively Coupled Plasma-Atomic Emmision Spectrometry
LA-505-412	LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY	
	EPA-600/R-94-111 200.8	DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLAS
	HEIS 200.8_METALS_ICPMS	Inductively Coupled Plasma - Mass Spectrometry
	HEIS RADISOTOPES_ICPMS	Radioisotopes by ICP/MS
LA-531-411	LA-531-411: ALKALINITY (TITRIMETRIC)	
	HEIS 2320B	Alkalinity
	Standard Methods 2320B	Alkalinity
LA-533-410	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
LA-695-402	LA-695-402: DETERMINATION OF CYANIDE BY MIDIDISTILLATION AND SPECTROPHOTOMETRIC	

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at http://www2.rl.gov/phmc/as-dol.

WSCF
METHOD REFERENCES REPORT

Department: Inorganic

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 or industry 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 the 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.

EPA-600/4-79-020 335.2	Cyanide, Total
HEIS 335.2_CYANIDE	Cyanide, Total

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at http://www2.rl.gov/phmc/as-dol.

WSCF
METHOD REFERENCES REPORT

Department: Organic

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 or industry 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 the 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-523-443	LA-523-443: GAS CHROMATOGRAPH ANALYSIS OF GASOLINE RANGE TOTAL PETROLEUM HYDROCA	
	HEIS WTPH_GASOLINE	Total Petroleum Hydrocarbons, Gasoline
	WDOE TPH NWTPH-G	Volatile Petroleum Products Method for Soil and Water
LA-523-455	LA-523-455: VOLATILE SAMPLE ANALYSIS BY SW-846	
	EPA SW-846 8000B	DETERMINATIVE CHROMATOGRAPHIC 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-523-456	LA-523-456: SEMIVOLATILE SAMPLE ANALYSIS BY SW-846, METHOD 8270C	
	EPA SW-846 8000B	DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS
	EPA SW-846 8270C	SEMIVOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)
	HEIS 8270_SVOA_GCMS	Semivolatile Orgamoc Compounds By Gas Chromatography/Mass Spectrometry (GC/MS)
LA-523-493	NWTPH-Diesel and/or Gasoline	
	HEIS WTPH_DIESEL (HEIS)	Total Petroleum Hydrocarbons in Diesel
	WDOE TPHD	Total Petroleum Hydrocarbons in Diesel
Organics	Organics - Alcohols, Glycols	
	EPA SW-846 8015B	Nonhalogenated Organics Using GC/FID

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at http://www2.rl.gov/phmc/as-dol.

WSCF
METHOD REFERENCES REPORT

Department: Radiochemistry

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 or industry 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 the WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

LA-508-415 LA-508-415: OPERATION OF THE PROTEAN 2-INCH ALPHA/BETA COUNTING SYSTEM FOR GROSS

HEIS	**ALPHA_GPC**	GROSS ALPHA GPC
HEIS	**BETA_GPC**	GROSS BETA GPC
HEIS	**SRTOT_SEP_PRECIP_GPC**	Strontium 89/90

LA-508-421 LA-508-421: OPERATION OF THE TRI-CARB MODEL 2500TR LIQUID SCINTILLATION ANALYZER

HEIS	**ALPHA_LSC**	A/B Liquid Scintilillation
HEIS	**BETA_LSC**	A/B Liquid Scintilallation
HEIS	**TC99_3MDSK_LSC**	TC99 by Liquid Scintillation
HEIS	**TRITIUM_EIE_LSC**	Tritium Liquid Scintillation

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at http://www2.rl.gov/phmc/as-dol.

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P003724
Client ID: B1VRL5 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081654
Department: Inorganic
Sampled: 08/05/08
Received: 08/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography											
Fluoride	16984-48-8	LA-533-410	D	0.359	mg/L			2.00	0.046		08/06/08
Chloride	16887-00-6	LA-533-410	D	5.51	mg/L			2.00	0.094		08/06/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		08/06/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	9.93	mg/L			2.00	0.024		08/06/08
Sulfate	14808-79-8	LA-533-410	D	13.5	mg/L			2.00	0.26		08/06/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		96.0	mg/L			1.00	1.0		08/13/08

MDL=Minimum Detection Limit
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor

B - The analyte < the RDL but >= the IDL/MDL (inorg)
J - Analyte < lowest calibration but >= MDL.(org)
U - Analyzed for but not detected above limiting criteria.
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor
U - Analyzed for but not detected above limiting criteria(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P003725
Client ID: B1VRL6 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081654
Department: Inorganic
Sampled: 08/05/08
Received: 08/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography											
Fluoride	16984-48-8	LA-533-410	DU	< 0.0464	mg/L			2.00	0.046		08/06/08
Chloride	16887-00-6	LA-533-410	DU	< 0.0938	mg/L			2.00	0.094		08/06/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		08/06/08
Nitrogen in Nitrate	NO3-N	LA-533-410	DU	< 0.0242	mg/L			2.00	0.024		08/06/08
Sulfate	14808-79-8	LA-533-410	DU	< 0.264	mg/L			2.00	0.26		08/06/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411	U	< 1.00	mg/L			1.00	1.0		08/13/08

MDL=Minimum Detection Limit
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor

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J - Analyte < lowest calibration but >= MDL.(org)
U - Analyzed for but not detected above limiting criteria.
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor
U - Analyzed for but not detected above limiting criteria(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003726
Client ID: B1VKX4 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081654
Department: Inorganic
Sampled: 08/05/08
Received: 08/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**08/24/08**
ICP Metals Analysis, Grd H20 P											
Aluminum	7429-90-5	LA-505-411	U	< 52.0	ug/L			1.00	52		08/28/08
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		08/28/08
Magnesium	7439-95-4	LA-505-411	U	< 50.0	ug/L			1.00	50		08/28/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
Potassium	7440-09-7	LA-505-411	U	< 170	ug/L			1.00	1.7e+02		08/28/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/28/08
Sodium	7440-23-5	LA-505-411	B	81.6	ug/L			1.00	51		08/28/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/28/08
Barium	7440-39-3	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/28/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/28/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/28/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/28/08
Calcium	7440-70-2	LA-505-411	B	211	ug/L			1.00	73		08/28/08
Lithium	7439-93-2	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
Strontium	7440-24-6	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
ICP-200.8 MS All possible meta Prep											**08/14/08**
ICP-200.8 MS All possible meta											
Lead	7439-92-1	LA-505-412	U	< 0.100	ug/L			1.00	0.100		08/14/08

MDL=Minimum Detection Limit
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor

B - The analyte < the RDL but >= the IDL/MDL (inorg)
J - Analyte < lowest calibration but >= MDL.(org)
U - Analyzed for but not detected above limiting criteria.
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor
U - Analyzed for but not detected above limiting criteria(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003726
Client ID: B1VKX4 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081654
Department: Inorganic
Sampled: 08/05/08
Received: 08/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Mercury	7439-97-6	LA-505-412	U	< 0.0500	ug/L			1.00	0.0500		08/14/08
Arsenic	7440-38-2	LA-505-412	U	< 0.400	ug/L			1.00	0.400		08/14/08

MDL=Minimum Detection Limit
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor

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U - Analyzed for but not detected above limiting criteria.
X - Other flags/notes described in the comments/narrative(inorg)

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U - Analyzed for but not detected above limiting criteria.(org)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003727
Client ID: B1VKX5 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081654
Department: Inorganic
Sampled: 08/05/08
Received: 08/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Cyanide											
Cyanide	57-12-5	LA-695-402	U	< 4.00	ug/L			1.00	4.0		08/11/08
ICP Metals Analysis, Grd H20 P Prep											**08/24/08**
ICP Metals Analysis, Grd H20 P											
Aluminum	7429-90-5	LA-505-411	U	< 52.0	ug/L			1.00	52		08/28/08
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		08/28/08
Magnesium	7439-95-4	LA-505-411	U	< 50.0	ug/L			1.00	50		08/28/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
Potassium	7440-09-7	LA-505-411	U	< 170	ug/L			1.00	1.7e+02		08/28/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/28/08
Sodium	7440-23-5	LA-505-411	U	< 51.0	ug/L			1.00	51		08/28/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/28/08
Barium	7440-39-3	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
Cadmium *	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/28/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/28/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/28/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/28/08
Calcium	7440-70-2	LA-505-411	U	< 73.0	ug/L			1.00	73		08/28/08
Lithium	7439-93-2	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
Strontium	7440-24-6	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
ICP-200.8 MS All possible meta Prep											**08/14/08**

MDL=Minimum Detection Limit
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DF=Dilution Factor

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003727
Client ID: B1VKX5 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081654
Department: Inorganic
Sampled: 08/05/08
Received: 08/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP-200.8 MS All possible meta											
Lead	7439-92-1	LA-505-412	U	< 0.100	ug/L			1.00	0.100		08/14/08
Mercury	7439-97-6	LA-505-412	U	< 0.0500	ug/L			1.00	0.0500		08/14/08
Uranium	7440-61-1	LA-505-412	U	< 0.0500	ug/L			1.00	0.0500		08/14/08
Arsenic	7440-38-2	LA-505-412	U	< 0.400	ug/L			1.00	0.400		08/14/08
Nitrogen in ammonium											
Nitrogen in ammonium	NH4-N	LA-503-401	U	< 9.32e-03	mg/L			1.00	9.3e-03		08/14/08
Total organic carbon											
Total organic carbon	TOC	LA-344-406	U	< 0.300	mg/L			1.00	0.30		08/22/08

MDL=Minimum Detection Limit
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor

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U - Analyzed for but not detected above limiting criteria.
X - Other flags/notes described in the comments/narrative(inorg)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003728
Client ID: B1VKW6 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081654
Department: Inorganic
Sampled: 08/05/08
Received: 08/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**08/24/08**
ICP Metals Analysis, Grd H20 P											
Aluminum	7429-90-5	LA-505-411	U	< 52.0	ug/L			1.00	52		08/28/08
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		08/28/08
Magnesium	7439-95-4	LA-505-411		7.45e+03	ug/L			1.00	50		08/28/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
Potassium	7440-09-7	LA-505-411		3.37e+03	ug/L			1.00	1.7e+02		08/28/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/28/08
Sodium	7440-23-5	LA-505-411		2.17e+04	ug/L			1.00	51		08/28/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/28/08
Barium	7440-39-3	LA-505-411		21.6	ug/L			1.00	4.0		08/28/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
Chromium	7440-47-3	LA-505-411	B	49.5	ug/L			1.00	13		08/28/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/28/08
Vanadium	7440-62-2	LA-505-411	B	22.4	ug/L			1.00	12		08/28/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/28/08
Calcium	7440-70-2	LA-505-411		2.36e+04	ug/L			1.00	73		08/28/08
Lithium	7439-93-2	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
Strontium	7440-24-6	LA-505-411		127	ug/L			1.00	4.0		08/28/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
ICP-200.8 MS All possible meta Prep											**08/14/08**
ICP-200.8 MS All possible meta											
Lead	7439-92-1	LA-505-412	U	< 0.100	ug/L			1.00	0.100		08/14/08

MDL=Minimum Detection Limit
RQ=Result Qualifier
TP Err=Total Propagated Error
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X - Other flags/notes described in the comments/narrative(inorg)

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U - Analyzed for but not detected above limiting criteria(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003728
Client ID: B1VKW6 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081654
Department: Inorganic
Sampled: 08/05/08
Received: 08/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Mercury	7439-97-6	LA-505-412	U	< 0.0500	ug/L			1.00	0.0500		08/14/08
Arsenic	7440-38-2	LA-505-412		3.38	ug/L			1.00	0.400		08/14/08

MDL=Minimum Detection Limit
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor

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J - Analyte < lowest calibration but >= MDL.(org)
U - Analyzed for but not detected above limiting criteria.
X - Other flags/notes described in the comments/narrative(inorg)

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U - Analyzed for but not detected above limiting criteria(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003729
Client ID: B1VKW7 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081654
Department: Inorganic
Sampled: 08/05/08
Received: 08/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Cyanide											
Cyanide	57-12-5	LA-695-402	U	< 4.00	ug/L			1.00	4.0		08/11/08
ICP Metals Analysis, Grd H20 P Prep											**08/24/08**
ICP Metals Analysis, Grd H20 P											
Aluminum	7429-90-5	LA-505-411	U	< 52.0	ug/L			1.00	52		08/28/08
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		08/28/08
Magnesium	7439-95-4	LA-505-411		7.34e+03	ug/L			1.00	50		08/28/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
Potassium	7440-09-7	LA-505-411		3.30e+03	ug/L			1.00	1.7e+02		08/28/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/28/08
Sodium	7440-23-5	LA-505-411		2.08e+04	ug/L			1.00	51		08/28/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/28/08
Barium	7440-39-3	LA-505-411		21.4	ug/L			1.00	4.0		08/28/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
Chromium	7440-47-3	LA-505-411	B	55.3	ug/L			1.00	13		08/28/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/28/08
Vanadium	7440-62-2	LA-505-411	B	24.0	ug/L			1.00	12		08/28/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/28/08
Calcium	7440-70-2	LA-505-411		2.44e+04	ug/L			1.00	73		08/28/08
Lithium	7439-93-2	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
Strontium	7440-24-6	LA-505-411		129	ug/L			1.00	4.0		08/28/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/28/08
ICP-200.8 MS All possible meta Prep											**08/14/08**

MDL=Minimum Detection Limit
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor

B - The analyte < the RDL but >= the IDL/MDL (inorg)
J - Analyte < lowest calibration but >= MDL.(org)
U - Analyzed for but not detected above limiting criteria.
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor
U - Analyzed for but not detected above limiting criteria(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003729
Client ID: B1VKW7 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081654
Department: Inorganic
Sampled: 08/05/08
Received: 08/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP-200.8 MS All possible meta											
Lead	7439-92-1	LA-505-412	U	< 0.100	ug/L			1.00	0.100		08/14/08
Mercury	7439-97-6	LA-505-412	U	< 0.0500	ug/L			1.00	0.0500		08/14/08
Uranium	7440-61-1	LA-505-412	X	3.17	ug/L			1.00	0.0500		08/14/08
Arsenic	7440-38-2	LA-505-412		3.34	ug/L			1.00	0.400		08/14/08
Nitrogen in ammonium											
Nitrogen in ammonium	NH4-N	LA-503-401	U	< 9.32e-03	mg/L			1.00	9.3e-03		08/14/08
Total organic carbon											
Total organic carbon	TOC	LA-344-406		1.09	mg/L			1.00	0.30		08/22/08

MDL=Minimum Detection Limit
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor

B - The analyte < the RDL but > = the IDL/MDL (inorg)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria.
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor
U - Analyzed for but not detected above limiting criteria(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081654
Matrix: WATER
Test: Ammonia (N) by IC

Sample Date: 08/05/08
Receive Date:08/06/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003727											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Ammonia (N) by IC	7664-41-7	<9.32e-3		RPD			n/a	20.000	U	08/14/08
MS	Ammonia (N) by IC	7664-41-7	0.4972	99.839	% Recov	80.000	120.000				08/14/08
MSD	Ammonia (N) by IC	7664-41-7	0.4972	99.839	% Recov	80.000	120.000				08/14/08
SPK-RPD	Ammonia (N) by IC	7664-41-7	99.839		RPD			0.000	20.000		08/14/08
BATCH QC											
BLANK	Ammonia (N) by IC	7664-41-7	<9.32e-3	n/a	mg/L	0.000	0.002			U	08/14/08
BLANK	Ammonia (N) by IC	7664-41-7	<9.32e-3	n/a	mg/L	0.000	0.002			U	08/14/08
LCS	Ammonia (N) by IC	7664-41-7	100.4706	100.471	% Recov	80.000	120.000				08/14/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081654
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date: 08/05/08
Receive Date:08/06/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003725											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	<9.38e-2		RPD			n/a	20.000	U	08/06/08
DUP	Fluoride	16984-48-8	<4.64e-2		RPD			n/a	20.000	U	08/06/08
DUP	Nitrogen in Nitrite	NO2-N	<2.56e-2		RPD			n/a	20.000	U	08/06/08
DUP	Nitrogen in Nitrate	NO3-N	<2.42e-2		RPD			n/a	20.000	U	08/06/08
DUP	Sulfate	14808-79-8	<0.264		RPD			n/a	20.000	U	08/06/08
MS	Chloride	16887-00-6	0.8608	86.513	% Recov	80.000	120.000				08/06/08
MS	Fluoride	16984-48-8	0.4392	89.087	% Recov	80.000	120.000				08/06/08
MS	Nitrogen in Nitrite	NO2-N	0.469	95.325	% Recov	80.000	120.000				08/06/08
MS	Nitrogen in Nitrate	NO3-N	0.4486	100.583	% Recov	80.000	120.000				08/06/08
MS	Sulfate	14808-79-8	1.76525	90.064	% Recov	80.000	120.000				08/06/08
MSD	Chloride	16887-00-6	0.87305	87.744	% Recov	80.000	120.000				08/06/08
MSD	Fluoride	16984-48-8	0.43085	87.394	% Recov	80.000	120.000				08/06/08
MSD	Nitrogen in Nitrite	NO2-N	0.48215	97.998	% Recov	80.000	120.000				08/06/08
MSD	Nitrogen in Nitrate	NO3-N	0.45575	102.186	% Recov	80.000	120.000				08/06/08
MSD	Sulfate	14808-79-8	1.73205	88.370	% Recov	80.000	120.000				08/06/08
SPK-RPD	Chloride	16887-00-6	87.744		RPD			1.413	20.000		08/06/08
SPK-RPD	Fluoride	16984-48-8	87.394		RPD			1.919	20.000		08/06/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	97.998		RPD			2.765	20.000		08/06/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	102.186		RPD			1.581	20.000		08/06/08
SPK-RPD	Sulfate	14808-79-8	88.370		RPD			1.899	20.000		08/06/08
BATCH QC											
BLANK	Chloride	16887-00-6	<4.69e-2	n/a	mg/L	0.000	0.030			U	08/06/08
BLANK	Chloride	16887-00-6	<4.69e-2	n/a	mg/L	0.000	0.030			U	08/06/08
BLANK	Fluoride	16984-48-8	<2.32e-2	n/a	mg/L	0.000	0.030			U	08/06/08
BLANK	Fluoride	16984-48-8	<2.32e-2	n/a	mg/L	0.000	0.030			U	08/06/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081654
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	Nitrogen in Nitrite	NO2-N	<1.28e-2	n/a	mg/L	0.000	0.020			U	08/06/08
BLANK	Nitrogen in Nitrite	NO2-N	<1.28e-2	n/a	mg/L	0.000	0.020			U	08/06/08
BLANK	Nitrogen in Nitrate	NO3-N	<1.21e-2	n/a	mg/L	0.000	0.040			U	08/06/08
BLANK	Nitrogen in Nitrate	NO3-N	<1.21e-2	n/a	mg/L	0.000	0.040			U	08/06/08
BLANK	Sulfate	14808-79-8	<0.132	n/a	mg/L	0.000	0.200			U	08/06/08
BLANK	Sulfate	14808-79-8	<0.132	n/a	mg/L	0.000	0.200			U	08/06/08
LCS	Chloride	16887-00-6	181.2232	90.161	% Recov	80.000	120.000				08/06/08
LCS	Fluoride	16984-48-8	96.2498	96.636	% Recov	80.000	120.000				08/06/08
LCS	Nitrogen in Nitrite	NO2-N	99.3545	99.954	% Recov	80.000	120.000				08/06/08
LCS	Nitrogen in Nitrate	NO3-N	92.2176	102.350	% Recov	80.000	120.000				08/06/08
LCS	Sulfate	14808-79-8	361.5619	91.304	% Recov	80.000	120.000				08/06/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081654
Matrix: WATER
Test: Cyanide by Midi/Spectrophotom

Sample Date: 07/31/08
Receive Date:07/31/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003655											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Cyanide by Midi/Spectrophotom	57-12-5	45.8	114.500	% Recov	75.000	125.000				08/11/08
MSD	Cyanide by Midi/Spectrophotom	57-12-5	47	117.500	% Recov	75.000	125.000				08/11/08
SPK-RPD	Cyanide by Midi/Spectrophotom	57-12-5	117.500		RPD			2.586	20.000		08/11/08
BATCH QC											
BLANK	Cyanide by Midi/Spectrophotom	57-12-5	< 4	n/a	ug/L	-4.000	4.000			U	08/11/08
LCS	Cyanide by Midi/Spectrophotom	57-12-5	47	94.000	% Recov	85.000	115.000				08/11/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081654
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date: 08/05/08
Receive Date:08/05/08

Lab ID: W08P003722
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	Silver	7440-22-4	964.1	96.410	% Recov	75.000	125.000				08/28/08
MS	Barium	7440-39-3	477.3	95.460	% Recov	75.000	125.000				08/28/08
MS	Beryllium	7440-41-7	516	103.200	% Recov	75.000	125.000				08/28/08
MS	Calcium	7440-70-2	-730	-73.000	% Recov	75.000	125.000			•	08/28/08
MS	Cadmium	7440-43-9	993.3	99.330	% Recov	75.000	125.000				08/28/08
MS	Cobalt	7440-48-4	1011	101.100	% Recov	75.000	125.000				08/28/08
MS	Chromium	7440-47-3	1005.5	100.550	% Recov	75.000	125.000				08/28/08
MS	Copper	7440-50-8	932.1	93.210	% Recov	75.000	125.000				08/28/08
MS	Iron	7439-89-6	1009	100.900	% Recov	75.000	125.000				08/28/08
MS	Potassium	7440-09-7	9869	98.690	% Recov	75.000	125.000				08/28/08
MS	Magnesium	7439-95-4	684	68.400	% Recov	75.000	125.000			•	08/28/08
MS	Manganese	7439-96-5	1013.5	101.350	% Recov	75.000	125.000				08/28/08
MS	Sodium	7440-23-5	500	50.000	% Recov	75.000	125.000			•	08/28/08
MS	Nickel	7440-02-0	999.4	99.940	% Recov	75.000	125.000				08/28/08
MS	Antimony	7440-36-0	1032	103.200	% Recov	75.000	125.000				08/28/08
MS	Strontium	7440-24-6	483.1	96.620	% Recov	75.000	125.000				08/28/08
MS	Vanadium	7440-62-2	990.6	99.060	% Recov	75.000	125.000				08/28/08
MS	Zinc	7440-66-6	972.2	97.220	% Recov	75.000	125.000				08/28/08
MSD	Silver	7440-22-4	993.7	99.370	% Recov	75.000	125.000				08/28/08
MSD	Barium	7440-39-3	489.8	97.960	% Recov	75.000	125.000				08/28/08
MSD	Beryllium	7440-41-7	524.6	104.920	% Recov	75.000	125.000				08/28/08
MSD	Calcium	7440-70-2	-1440	-144.000	% Recov	75.000	125.000			•	08/28/08
MSD	Cadmium	7440-43-9	1023.1	102.310	% Recov	75.000	125.000				08/28/08
MSD	Cobalt	7440-48-4	1026	102.600	% Recov	75.000	125.000				08/28/08
MSD	Chromium	7440-47-3	1009.5	100.950	% Recov	75.000	125.000				08/28/08
MSD	Copper	7440-50-8	970.1	97.010	% Recov	75.000	125.000				08/28/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081654
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date: 08/05/08
Receive Date:08/05/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Iron	7439-89-6	1013	101.300	% Recov	75.000	125.000				08/28/08
MSD	Potassium	7440-09-7	10629	106.290	% Recov	75.000	125.000				08/28/08
MSD	Magnesium	7439-95-4	1002	100.200	% Recov	75.000	125.000				08/28/08
MSD	Manganese	7439-96-5	1022.5	102.250	% Recov	75.000	125.000				08/28/08
MSD	Sodium	7440-23-5	1470	147.000	% Recov	75.000	125.000			•	08/28/08
MSD	Nickel	7440-02-0	1010.4	101.040	% Recov	75.000	125.000				08/28/08
MSD	Antimony	7440-36-0	1002	100.200	% Recov	75.000	125.000				08/28/08
MSD	Strontium	7440-24-6	500.6	100.120	% Recov	75.000	125.000				08/28/08
MSD	Vanadium	7440-62-2	999.6	99.960	% Recov	75.000	125.000				08/28/08
MSD	Zinc	7440-66-6	989.9	98.990	% Recov	75.000	125.000				08/28/08
SPK-RPD	Silver	7440-22-4	99.370		RPD			3.024	20.000		08/29/08
SPK-RPD	Barium	7440-39-3	97.960		RPD			2.585	20.000		08/29/08
SPK-RPD	Beryllium	7440-41-7	104.920		RPD			1.653	20.000		08/29/08
SPK-RPD	Calcium	7440-70-2	-144.000		RPD			-65.438	20.000	•	08/29/08
SPK-RPD	Cadmium	7440-43-9	102.310		RPD			2.956	20.000		08/29/08
SPK-RPD	Cobalt	7440-48-4	102.600		RPD			1.473	20.000		08/29/08
SPK-RPD	Chromium	7440-47-3	100.950		RPD			0.397	20.000		08/29/08
SPK-RPD	Copper	7440-50-8	97.010		RPD			3.995	20.000		08/29/08
SPK-RPD	Iron	7439-89-6	101.300		RPD			0.396	20.000		08/29/08
SPK-RPD	Potassium	7440-09-7	106.290		RPD			7.415	20.000		08/29/08
SPK-RPD	Magnesium	7439-95-4	100.200		RPD			37.722	20.000	•	08/29/08
SPK-RPD	Manganese	7439-96-5	102.250		RPD			0.884	20.000		08/29/08
SPK-RPD	Sodium	7440-23-5	147.000		RPD			98.477	20.000	•	08/29/08
SPK-RPD	Nickel	7440-02-0	101.040		RPD			1.095	20.000		08/29/08
SPK-RPD	Antimony	7440-36-0	100.200		RPD			2.950	20.000		08/29/08
SPK-RPD	Strontium	7440-24-6	100.120		RPD			3.558	20.000		08/29/08
SPK-RPD	Vanadium	7440-62-2	99.960		RPD			0.904	20.000		08/29/08
SPK-RPD	Zinc	7440-66-6	98.990		RPD			1.804	20.000		08/29/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081654
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BATCH QC											
BLANK	Silver	7440-22-4	<5	n/a	ug/L					U	08/28/08
BLANK	Aluminum	7429-90-5	<52	n/a	ug/L					U	08/28/08
BLANK	Barium	7440-39-3	<4	n/a	ug/L					U	08/28/08
BLANK	Beryllium	7440-41-7	<4	n/a	ug/L					U	08/28/08
BLANK	Calcium	7440-70-2	<73	n/a	ug/L					U	08/28/08
BLANK	Cadmium	7440-43-9	<4	n/a	ug/L					U	08/28/08
BLANK	Cobalt	7440-48-4	<4	n/a	ug/L					U	08/28/08
BLANK	Chromium	7440-47-3	<13	n/a	ug/L					U	08/28/08
BLANK	Copper	7440-50-8	<6	n/a	ug/L					U	08/28/08
BLANK	Iron	7439-89-6	<25	n/a	ug/L					U	08/28/08
BLANK	Potassium	7440-09-7	<170	n/a	ug/L					U	08/28/08
BLANK	Lithium	7439-93-2	<4	n/a	ug/L					U	08/28/08
BLANK	Magnesium	7439-95-4	<50	n/a	ug/L					U	08/28/08
BLANK	Manganese	7439-96-5	<4	n/a	ug/L					U	08/28/08
BLANK	Sodium	7440-23-5	<51	n/a	ug/L					U	08/28/08
BLANK	Nickel	7440-02-0	<4	n/a	ug/L					U	08/28/08
BLANK	Antimony	7440-36-0	<58	n/a	ug/L					U	08/28/08
BLANK	Strontium	7440-24-6	<4	n/a	ug/L					U	08/28/08
BLANK	Vanadium	7440-62-2	<12	n/a	ug/L					U	08/28/08
BLANK	Zinc	7440-66-6	<9	n/a	ug/L					U	08/28/08
LCS	Silver	7440-22-4	989.8	98.960	% Recov	80.000	120.000				08/28/08
LCS	Aluminum	7429-90-5	986.8	98.680	% Recov	80.000	120.000				08/28/08
LCS	Barium	7440-39-3	481	96.200	% Recov	80.000	120.000				08/28/08
LCS	Beryllium	7440-41-7	525.2	105.040	% Recov	80.000	120.000				08/28/08
LCS	Calcium	7440-70-2	997.3	99.730	% Recov	80.000	120.000				08/28/08
LCS	Cadmium	7440-43-9	1032	103.200	% Recov	80.000	120.000				08/28/08
LCS	Cobalt	7440-48-4	1019	101.900	% Recov	80.000	120.000				08/28/08
LCS	Chromium	7440-47-3	1017	101.700	% Recov	80.000	120.000				08/28/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081654
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Copper	7440-50-8	993	99.300	% Recov	80.000	120.000				08/28/08
LCS	Iron	7439-89-6	989.1	98.910	% Recov	80.000	120.000				08/28/08
LCS	Potassium	7440-09-7	10840	108.400	% Recov	80.000	120.000				08/28/08
LCS	Lithium	7439-93-2	489.4	97.880	% Recov	80.000	120.000				08/28/08
LCS	Magnesium	7439-95-4	992.3	99.230	% Recov	80.000	120.000				08/28/08
LCS	Manganese	7439-96-5	1003	100.300	% Recov	80.000	120.000				08/28/08
LCS	Sodium	7440-23-5	1099	109.900	% Recov	80.000	120.000				08/28/08
LCS	Nickel	7440-02-0	1027	102.700	% Recov	80.000	120.000				08/28/08
LCS	Antimony	7440-36-0	1057	105.700	% Recov	80.000	120.000				08/28/08
LCS	Strontium	7440-24-6	488.8	97.760	% Recov	80.000	120.000				08/28/08
LCS	Vanadium	7440-62-2	993.3	99.330	% Recov	80.000	120.000				08/28/08
LCS	Zinc	7440-66-6	1006	100.600	% Recov	80.000	120.000				08/28/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081654
Matrix: WATER
Test: ICP-200.8 MS All possible meta

Sample Date: 08/05/08
Receive Date:08/06/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003727											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Arsenic	7440-38-2	35.55	88.875	% Recov	70.000	130.000				08/14/08
MS	Mercury	7439-97-6	1.78	89.000	% Recov	70.000	130.000				08/14/08
MS	Lead	7439-92-1	36.37	90.925	% Recov	70.000	130.000				08/14/08
MS	Uranium	7440-61-1	36.72	91.800	% Recov	70.000	130.000				08/14/08
MSD	Arsenic	7440-38-2	35.93	89.825	% Recov	70.000	130.000				08/14/08
MSD	Mercury	7439-97-6	1.83	91.500	% Recov	70.000	130.000				08/14/08
MSD	Lead	7439-92-1	36.71	91.775	% Recov	70.000	130.000				08/14/08
MSD	Uranium	7440-61-1	37.3	93.250	% Recov	70.000	130.000				08/14/08
SPK-RPD	Arsenic	7440-38-2	89.825		RPD			1.063	20.000		08/14/08
SPK-RPD	Mercury	7439-97-6	91.500		RPD			2.770	20.000		08/14/08
SPK-RPD	Lead	7439-92-1	91.775		RPD			0.930	20.000		08/14/08
SPK-RPD	Uranium	7440-61-1	93.250		RPD			1.567	20.000		08/14/08
Lab ID: W08P003729											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Arsenic	7440-38-2	36.32	90.800	% Recov	70.000	130.000				08/14/08
MS	Mercury	7439-97-6	1.83	91.500	% Recov	70.000	130.000				08/14/08
MS	Lead	7439-92-1	37.16	92.900	% Recov	70.000	130.000				08/14/08
MS	Uranium	7440-61-1	38.019	95.047	% Recov	70.000	130.000				08/14/08
MSD	Arsenic	7440-38-2	36.25	90.625	% Recov	70.000	130.000				08/14/08
MSD	Mercury	7439-97-6	1.86	93.000	% Recov	70.000	130.000				08/14/08
MSD	Lead	7439-92-1	37.75	94.375	% Recov	70.000	130.000				08/14/08
MSD	Uranium	7440-61-1	38.159	95.398	% Recov	70.000	130.000				08/14/08
SPK-RPD	Arsenic	7440-38-2	90.625		RPD			0.193	20.000		08/14/08
SPK-RPD	Mercury	7439-97-6	93.000		RPD			1.626	20.000		08/14/08
SPK-RPD	Lead	7439-92-1	94.375		RPD			1.575	20.000		08/14/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081654
Matrix: WATER
Test: ICP-200.8 MS All possible meta

Sample Date: 08/05/08
Receive Date:08/06/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SPK-RPD	Uranium	7440-61-1	95.398		RPD			0.369	20.000		08/14/08
Lab ID: W08P003767											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Arsenic	7440-38-2	36.53	91.325	% Recov	70.000	130.000				08/14/08
MS	Mercury	7439-97-6	1.91	95.500	% Recov	70.000	130.000				08/14/08
MS	Uranium	7440-61-1	26.7	66.750	% Recov	70.000	130.000			*	08/14/08
MSD	Arsenic	7440-38-2	37.64	94.100	% Recov	70.000	130.000				08/14/08
MSD	Mercury	7439-97-6	1.96	98.000	% Recov	70.000	130.000				08/14/08
MSD	Uranium	7440-61-1	33.3	83.250	% Recov	70.000	130.000				08/14/08
SPK-RPD	Arsenic	7440-38-2	94.100		RPD			2.993	20.000		08/14/08
SPK-RPD	Mercury	7439-97-6	98.000		RPD			2.584	20.000		08/14/08
SPK-RPD	Uranium	7440-61-1	83.250		RPD			22.000	20.000 *		08/14/08
Lab ID: W08P003769											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Arsenic	7440-38-2	36.19	90.475	% Recov	70.000	130.000				08/14/08
MS	Mercury	7439-97-6	1.94	97.000	% Recov	70.000	130.000				08/14/08
MS	Uranium	7440-61-1	25.2	63.000	% Recov	70.000	130.000			*	08/14/08
MSD	Arsenic	7440-38-2	36.11	90.275	% Recov	70.000	130.000				08/14/08
MSD	Mercury	7439-97-6	1.96	98.000	% Recov	70.000	130.000				08/14/08
MSD	Uranium	7440-61-1	27.4	68.500	% Recov	70.000	130.000			*	08/14/08
SPK-RPD	Arsenic	7440-38-2	90.275		RPD			0.221	20.000		08/14/08
SPK-RPD	Mercury	7439-97-6	98.000		RPD			1.026	20.000		08/14/08
SPK-RPD	Uranium	7440-61-1	68.500		RPD			8.365	20.000		08/14/08
BATCH QC											
BLANK	Arsenic	7440-38-2	<0.4	n/a	ug/L					U	08/14/08
BLANK	Mercury	7439-97-6	<5e-2	n/a	ug/L					U	08/14/08
BLANK	Lead	7439-92-1	<0.1	n/a	ug/L					U	08/14/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081654
Matrix: WATER
Test: ICP-200.8 MS All possible meta

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	Uranium	7440-61-1	<5e-2	n/a	ug/L					U	08/14/08
LCS	Arsenic	7440-38-2	38.68	96.700	% Recov	85.000	115.000				08/14/08
LCS	Mercury	7439-97-6	1.95	97.500	% Recov	85.000	115.000				08/14/08
LCS	Lead	7439-92-1	39.72	99.300	% Recov	85.000	115.000				08/14/08
LCS	Uranium	7440-61-1	39.96	99.900	% Recov	85.000	115.000				08/14/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081654
Matrix: WATER
Test: Total Alkalinity as mg/L CaCO3

Sample Date: 08/04/08
Receive Date:08/04/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003699											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Alkalinity as mg/L CaCO3	ALKALINITY	111.9		RPD			4.285	20.000		08/13/08
Lab ID: W08P003761											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Alkalinity as mg/L CaCO3	ALKALINITY	<1		RPD			n/a	20.000	U	08/13/08
BATCH QC											
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	31.94	107.181	%Recove	80.000	120.000				08/13/08
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	31.97	107.282	%Recove	80.000	120.000				08/13/08
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	31.99	107.349	%Recove	80.000	120.000				08/13/08
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	32.03	107.483	%Recove	80.000	120.000				08/13/08
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	32.09	107.685	%Recove	80.000	120.000				08/13/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081654
Matrix: WATER
Test: Total Organic Carbon

Sample Date: 08/05/08
Receive Date:08/06/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003727											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Total Organic Carbon	TOC	2.157	107.850	% Recov	75.000	125.000				08/22/08
MSD	Total Organic Carbon	TOC	2.173	108.650	% Recov	75.000	125.000				08/22/08
SPK-RPD	Total Organic Carbon	TOC	108.650		RPD			0.739	20.000		08/22/08
BATCH QC											
BLANK	Total Organic Carbon	TOC	0.045	0.045	mg/L	0.000	300.000				08/22/08
METHSPIKE	Total Organic Carbon	TOC	1.029	102.900	% Recov	80.000	120.000				08/22/08
SPK-RSD	Total Organic Carbon	TOC	1.333	1.333	% RSD	0.000	20.000				08/22/08

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20081654
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		ICP-MS: Uranium spike amount less than 25% of the sample result.Spike recovery data not valid. "X" flag ICP-AES: No zirconium present in the LCS standard. Magnesium, sodium, and calcium sample results exceed spiking level by a factor of 4 so spike recoveries are not valid. Check standard used to ensure sodium and calcium linearity because sample results are greater than the calibration standard. B flag used for samples < 5X MDL Sodium CCV in the midst of this run has low recovery (89.4%) but the CCV recoveries previous and following this CCV were 90% and 94%, respectively. Low lithium CCV recoveries before, during, and after the run. They ranged from 84-87% recoveries (90-110% recovery is acceptable).

Lab Areas: VALGROUP - Group Validation
LOGSAMP - Login for Sample
VALTEST - Test Validation
LOGTEST - Login for Tests
TESTDATA - Test Data Entry

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003727
Client ID: B1VKX5 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081654
Department: Organic
Sampled: 08/05/08
Received: 08/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Alcohols, Glycols - 8015 Prep											**08/14/08**
Alcohols, Glycols - 8015											
Ethyl acetate	141-78-6	Orgenics	U	< 5.00e+03	ug/L			1.00	5.0e+03		08/14/08
NWTPH-D TPH Diesel Range (Wa) Prep											**08/07/08**
NWTPH-D TPH Diesel Range (Wa)											
Total Pet. Hydrocarbons Diesel	TPHDIESEL	LA-523-493	U	< 71.0	ug/L			1.00	71		08/19/08
Kerosene	TPHKEROSENE	LA-523-493	U	< 95.0	ug/L			1.00	95		08/19/08
NWTPH-GX TPH Gasoline Range Prep											**08/15/08**
NWTPH-GX TPH Gasoline Range											
Total Pet. Hydrocarbons Gas	TPHGASOLINE	LA-523-443	U	< 50.0	ug/L			1.00	50		08/15/08
SW-846 8270C Semi-Vols Prep											**08/12/08**
SW-846 8270C Semi-Vols											
4-Nitrophenol	100-02-7	LA-523-456	U	< 0.950	ug/L			1.00	0.95		08/14/08
1,4-Dichlorobenzene	106-46-7	LA-523-456	U	< 1.30	ug/L			1.00	1.3		08/14/08
Phenol	108-95-2	LA-523-456	U	< 0.480	ug/L			1.00	0.48		08/14/08
1,2,4-Trichlorobenzene	120-82-1	LA-523-456	U	< 2.10	ug/L			1.00	2.1		08/14/08
2,4-Dinitrotoluene	121-14-2	LA-523-456	U	< 0.480	ug/L			1.00	0.48		08/14/08
Pyrene	129-00-0	LA-523-456	U	< 0.480	ug/L			1.00	0.48		08/14/08
4-Chloro-3-methylphenol	59-50-7	LA-523-456	U	< 0.480	ug/L			1.00	0.48		08/14/08
N-Nitrosodi-n-dipropylamine	621-64-7	LA-523-456	U	< 0.570	ug/L			1.00	0.57		08/14/08
Acenaphthene	83-32-9	LA-523-456	U	< 2.50	ug/L			1.00	2.5		08/14/08
Pentachlorophenol	87-86-5	LA-523-456	U	< 1.40	ug/L			1.00	1.4		08/14/08
2-Chlorophenol	95-57-8	LA-523-456	U	< 0.480	ug/L			1.00	0.48		08/14/08
Bis(2-ethylhexyl) phthalate	117-81-7	LA-523-456	U	< 0.760	ug/L			1.00	0.78		08/14/08
2,4-Dichlorophenol	120-83-2	LA-523-456	U	< 0.480	ug/L			1.00	0.48		08/14/08

MDL=Minimum Detection Limit
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor

B - The analyte < the RDL but > = the IDL/MDL (inorg)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria.
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor
U - Analyzed for but not detected above limiting criteria(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003727
Client ID: B1VKX5 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081654
Department: Organic
Sampled: 08/05/08
Received: 08/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
2-Nitrophenol	88-75-5	LA-523-456	U	< 0.480	ug/L			1.00	0.48		08/14/08
Naphthalene	91-20-3	LA-523-456	U	< 2.00	ug/L			1.00	2.0		08/14/08
2-Methylphenol (cresol, o-)	95-48-7	LA-523-456	U	< 0.480	ug/L			1.00	0.48		08/14/08
3 & 4 Methylphenol Total	65794-96-9	LA-523-456	U	< 0.480	ug/L			1.00	0.48		08/14/08
Tributyl phosphate	126-73-8	LA-523-456	U	< 0.480	ug/L			1.00	0.48		08/14/08
Benzothiazole	95-16-9	LA-523-456	U	< 0.570	ug/L			1.00	0.57		08/14/08
2-Picoline	109-06-8	LA-523-456	U	< 4.80	ug/L			1.00	4.8		08/14/08
Total cresols	1319-77-3	LA-523-456	U	< 0.950	ug/L			1.00	0.95		08/14/08
Tris-2-chloroethyl phosphate	115-96-8	LA-523-456	U	< 0.620	ug/L			1.00	0.62		08/14/08
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08

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U - Analyzed for but not detected above limiting criteria.(org)

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003727
Client ID: B1VKX5 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081654
Department: Organic
Sampled: 08/05/08
Received: 08/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		08/15/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		08/15/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Ethyl cyanide	107-12-0	LA-523-455	U	< 2.00	ug/L			1.00	2.0		08/15/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08

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U - Analyzed for but not detected above limiting criteria.(org)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003729
Client ID: B1VKW7 PNNL-GPP WSCF
Matrix: WATER

Group #: WSCF20081654
Department: Organic
Sampled: 08/05/08
Received: 08/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Alcohols, Glycols - 8015 Prep											**08/14/08**
Alcohols, Glycols - 8015											
Ethyl acetate	141-78-6	Organics	U	< 5.00e+03	ug/L			1.00	5.0e+03		08/14/08
NWTPH-D TPH Diesel Range (Wa) Prep											**08/07/08**
NWTPH-D TPH Diesel Range (Wa)											
Total Pet. Hydrocarbons Diesel	TPHDIESEL	LA-523-493	U	< 71.0	ug/L			1.00	71		08/19/08
Kerosene	TPHKEROSENE	LA-523-493	U	< 95.0	ug/L			1.00	95		08/19/08
NWTPH-GX TPH Gasoline Range Prep											**08/15/08**
NWTPH-GX TPH Gasoline Range											
Total Pet. Hydrocarbons Gas	TPHGASOLINE	LA-523-443	U	< 50.0	ug/L			1.00	50		08/15/08
SW-846 8270C Semi-Vols Prep											**08/12/08**
SW-846 8270C Semi-Vols											
4-Nitrophenol	100-02-7	LA-523-456	U	< 0.950	ug/L			1.00	0.95		08/14/08
1,4-Dichlorobenzene	106-46-7	LA-523-456	U	< 1.30	ug/L			1.00	1.3		08/14/08
Phenol	108-95-2	LA-523-456	U	< 0.480	ug/L			1.00	0.48		08/14/08
1,2,4-Trichlorobenzene	120-82-1	LA-523-456	U	< 2.10	ug/L			1.00	2.1		08/14/08
2,4-Dinitrotoluene	121-14-2	LA-523-456	U	< 0.480	ug/L			1.00	0.48		08/14/08
Pyrene	129-00-0	LA-523-456	U	< 0.480	ug/L			1.00	0.48		08/14/08
4-Chloro-3-methylphenol	59-50-7	LA-523-456	U	< 0.480	ug/L			1.00	0.48		08/14/08
N-Nitrosodi-n-dipropylamine	621-64-7	LA-523-456	U	< 0.570	ug/L			1.00	0.57		08/14/08
Acenaphthene	83-32-9	LA-523-456	U	< 2.50	ug/L			1.00	2.5		08/14/08
Pentachlorophenol	87-86-5	LA-523-456	U	< 1.40	ug/L			1.00	1.4		08/14/08
2-Chlorophenol	95-57-8	LA-523-456	U	< 0.480	ug/L			1.00	0.48		08/14/08
Bis(2-ethylhexyl) phthalate	117-81-7	LA-523-456	U	< 0.760	ug/L			1.00	0.76		08/14/08
2,4-Dichlorophenol	120-83-2	LA-523-456	U	< 0.480	ug/L			1.00	0.48		08/14/08

MDL=Minimum Detection Limit
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U - Analyzed for but not detected above limiting criteria.
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor
U - Analyzed for but not detected above limiting criteria(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003729
Client ID: B1VKW7 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081654
Department: Organic
Sampled: 08/05/08
Received: 08/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
2-Nitrophenol	88-75-5	LA-523-456	U	< 0.480	ug/L			1.00	0.48		08/14/08
Naphthalene	91-20-3	LA-523-456	U	< 2.00	ug/L			1.00	2.0		08/14/08
2-Methylphenol (cresol, o-)	95-48-7	LA-523-456	U	< 0.480	ug/L			1.00	0.48		08/14/08
3 & 4 Methylphenol Total	65794-96-9	LA-523-456	U	< 0.480	ug/L			1.00	0.48		08/14/08
Tributyl phosphate	126-73-8	LA-523-456	U	< 0.480	ug/L			1.00	0.48		08/14/08
Benzothiazole	95-16-9	LA-523-456	U	< 0.570	ug/L			1.00	0.57		08/14/08
2-Picoline	109-06-8	LA-523-456	U	< 4.80	ug/L			1.00	4.8		08/14/08
Total cresols	1319-77-3	LA-523-456	U	< 0.950	ug/L			1.00	0.95		08/14/08
Tris-2-chloroethyl phosphate	115-96-8	LA-523-456	U	< 0.620	ug/L			1.00	0.62		08/14/08
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Carbon tetrachloride	56-23-5	LA-523-455		50.0	ug/L			1.00	1.0		08/15/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08

MDL=Minimum Detection Limit
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor

B - The analyte < the RDL but > = the IDL/MDL (inorg)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria.
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor
U - Analyzed for but not detected above limiting criteria(inorg)
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* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003729
Client ID: B1VKW7 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081654
Department: Organic
Sampled: 08/05/08
Received: 08/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		08/15/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		08/15/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08
Ethyl cyanide	107-12-0	LA-523-455	U	< 2.00	ug/L			1.00	2.0		08/15/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/15/08

MDL=Minimum Detection Limit
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor

B - The analyte < the RDL but > = the IDL/MDL (inorg)
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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081654
Matrix: WATER
Test: Alcohols, Glycols - 8015

Sample Date: 08/05/08
Receive Date:08/06/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003727											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	2-Bromoethanol	540-51-2	17200		RPD			2.299	25.000		08/14/08
DUP	Ethyl acetate	141-78-6	<5000		RPD			n/a	25.000	U	08/14/08
MS	2-Bromoethanol	540-51-2	17000	96.591	% Recov	70.000	125.000				08/14/08
MS	Ethyl acetate	141-78-6	8400	93.333	% Recov	75.000	125.000				08/14/08
MSD	2-Bromoethanol	540-51-2	16800	95.455	% Recov	70.000	125.000				08/14/08
MSD	Ethyl acetate	141-78-6	7900	87.778	% Recov	75.000	125.000				08/14/08
SPK-RPD	2-Bromoethanol	540-51-2	95.455		RPD			1.183	20.000		08/14/08
SPK-RPD	Ethyl acetate	141-78-6	87.778		RPD			6.134	20.000		08/14/08
BATCH QC											
BLANK	2-Bromoethanol	540-51-2	17000	96.591	% Recov	75.000	125.000				08/14/08
BLANK	Ethyl acetate	141-78-6	<5000	n/a	ug/L	0.000	5.000			U	08/14/08
LCS	2-Bromoethanol	540-51-2	16500	93.750	% Recov	70.000	130.000				08/14/08
LCS	Ethyl acetate	141-78-6	8200	91.111	% Recov	70.000	130.000				08/14/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081654
Matrix: WATER
Test: SW-846 8270C Semi-Vols

Sample Date: 08/05/08
Receive Date:08/06/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003727											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	2-Fluorophenol(Surr)	367-12-4	15.430	81.000	% Recov	50.000	110.000				08/14/08
SURR	2-Fluorobiphenyl(Surr)	321-60-8	18.140	95.200	% Recov	58.000	109.000				08/14/08
SURR	Nitrobenzene-d5(Surr)	4165-60-0	17.765	93.300	% Recov	60.000	118.000				08/14/08
SURR	Phenol-d5(Surr)	4165-62-2	16.560	86.900	% Recov	59.000	116.000				08/14/08
SURR	2,4,6-Tribromophenol(Surr)	118-79-6	16.224	85.200	% Recov	60.000	120.000				08/14/08
SURR	Terphenyl-d14(Surr)	98904-43-9	21.136	111.000	% Recov	60.000	120.000				08/14/08
Lab ID: W08P003729											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	2-Fluorophenol(Surr)	367-12-4	15.498	81.400	% Recov	50.000	110.000				08/14/08
SURR	2-Fluorobiphenyl(Surr)	321-60-8	18.549	97.400	% Recov	58.000	109.000				08/14/08
SURR	Nitrobenzene-d5(Surr)	4165-60-0	17.986	94.400	% Recov	60.000	118.000				08/14/08
SURR	Phenol-d5(Surr)	4165-62-2	16.620	87.300	% Recov	59.000	116.000				08/14/08
SURR	2,4,6-Tribromophenol(Surr)	118-79-6	16.543	86.900	% Recov	60.000	120.000				08/14/08
SURR	Terphenyl-d14(Surr)	98904-43-9	21.489	113.000	% Recov	60.000	120.000				08/14/08
Lab ID: W08P003769											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	1,2,4-Trichlorobenzene	120-82-1	18.110	95.100	% Recov	50.000	120.000				08/14/08
MS	1,4-Dichlorobenzene	106-46-7	18.102	95.000	% Recov	41.000	113.000				08/14/08
MS	2,4-Dinitrotoluene	121-14-2	16.880	88.600	% Recov	65.000	109.000				08/14/08
MS	2-Fluorophenol(Surr)	367-12-4	16.109	84.600	% Recov	50.000	110.000				08/14/08
MS	Acenaphthene	83-32-9	17.684	92.800	% Recov	62.000	112.000				08/14/08
MS	4-Chloro-3-methylphenol	59-50-7	26.620	93.200	% Recov	59.000	115.000				08/14/08
MS	2-Chlorophenol	95-57-8	26.552	92.900	% Recov	69.000	111.000				08/14/08
MS	N-Nitrosodi-n-dipropylamine	621-64-7	18.183	95.500	% Recov	69.000	115.000				08/14/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081654
Matrix: WATER
Test: SW-846 8270C Semi-Vols

Sample Date: 08/07/08
Receive Date:08/07/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	2-Fluorobiphenyl(Surr)	321-60-8	18.665	98.000	% Recov	58.000	109.000				08/14/08
MS	Phenol	108-95-2	22.867	80.000	% Recov	59.000	115.000				08/14/08
MS	Nitrobenzene-d5(Surr)	4165-60-0	18.109	95.100	% Recov	60.000	118.000				08/14/08
MS	4-Nitrophenol	100-02-7	26.375	92.300	% Recov	32.000	130.000				08/14/08
MS	Pentachlorophenol	87-86-5	26.060	91.200	% Recov	51.000	121.000				08/14/08
MS	Phenol-d5(Surr)	4165-62-2	17.591	92.400	% Recov	59.000	116.000				08/14/08
MS	Pyrene	129-00-0	19.469	102.000	% Recov	58.000	116.000				08/14/08
MS	2,4,6-Tribromophenol(Surr)	118-79-6	17.248	90.600	% Recov	60.000	120.000				08/14/08
MS	Terphenyl-d14(Surr)	98904-43-9	17.310	90.900	% Recov	60.000	120.000				08/14/08
MSD	1,2,4-Trichlorobenzene	120-82-1	18.051	94.800	% Recov	50.000	120.000				08/14/08
MSD	1,4-Dichlorobenzene	106-46-7	17.890	93.900	% Recov	41.000	113.000				08/14/08
MSD	2,4-Dinitrotoluene	121-14-2	17.196	90.300	% Recov	65.000	109.000				08/14/08
MSD	2-Fluorophenol(Surr)	367-12-4	14.833	77.900	% Recov	50.000	110.000				08/14/08
MSD	Acenaphthene	83-32-9	18.324	96.200	% Recov	62.000	112.000				08/14/08
MSD	4-Chloro-3-methylphenol	59-50-7	26.912	94.200	% Recov	59.000	115.000				08/14/08
MSD	2-Chlorophenol	95-57-8	26.335	92.200	% Recov	69.000	111.000				08/14/08
MSD	N-Nitrosodi-n-dipropylamine	621-64-7	18.595	97.600	% Recov	69.000	115.000				08/14/08
MSD	2-Fluorobiphenyl(Surr)	321-60-8	18.717	98.300	% Recov	58.000	109.000				08/14/08
MSD	Phenol	108-95-2	23.410	81.900	% Recov	59.000	115.000				08/14/08
MSD	Nitrobenzene-d5(Surr)	4165-60-0	18.585	97.600	% Recov	60.000	118.000				08/14/08
MSD	4-Nitrophenol	100-02-7	25.692	89.900	% Recov	32.000	130.000				08/14/08
MSD	Pentachlorophenol	87-86-5	26.944	94.300	% Recov	51.000	121.000				08/14/08
MSD	Phenol-d5(Surr)	4165-62-2	16.724	87.800	% Recov	59.000	116.000				08/14/08
MSD	Pyrene	129-00-0	20.302	107.000	% Recov	58.000	116.000				08/14/08
MSD	2,4,6-Tribromophenol(Surr)	118-79-6	17.061	89.600	% Recov	60.000	120.000				08/14/08
MSD	Terphenyl-d14(Surr)	98904-43-9	18.416	96.700	% Recov	60.000	120.000				08/14/08
SPK-RPD	1,2,4-Trichlorobenzene	120-82-1	94.800		RPD			0.316	25.000		08/14/08
SPK-RPD	1,4-Dichlorobenzene	106-46-7	93.900		RPD			1.165	25.000		08/14/08
SPK-RPD	2,4-Dinitrotoluene	121-14-2	90.300		RPD			1.901	25.000		08/14/08
SPK-RPD	2-Fluorophenol(Surr)	367-12-4	77.900		RPD			8.246	25.000		08/14/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081654
Matrix: WATER
Test: SW-846 8270C Semi-Vols

Sample Date: 08/07/08
Receive Date:08/07/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SPK-RPD	Acenaphthene	83-32-9	96.200		RPD			3.598	25.000		08/14/08
SPK-RPD	4-Chloro-3-methylphenol	59-50-7	94.200		RPD			1.067	25.000		08/14/08
SPK-RPD	2-Chlorophenol	95-57-8	92.200		RPD			0.756	25.000		08/14/08
SPK-RPD	N-Nitrosodi-n-dipropylamine	621-64-7	97.600		RPD			2.175	25.000		08/14/08
SPK-RPD	2-Fluorobiphenyl(Surr)	321-60-8	98.300		RPD			0.306	25.000		08/14/08
SPK-RPD	Phenol	108-95-2	81.900		RPD			2.347	16.000		08/14/08
SPK-RPD	Nitrobenzene-d5(Surr)	4165-60-0	97.600		RPD			2.595	25.000		08/14/08
SPK-RPD	4-Nitrophenol	100-02-7	89.900		RPD			2.634	25.000		08/14/08
SPK-RPD	Pentachlorophenol	87-86-5	94.300		RPD			3.342	25.000		08/14/08
SPK-RPD	Phenol-d5(Surr)	4165-62-2	87.800		RPD			5.105	25.000		08/14/08
SPK-RPD	Pyrene	129-00-0	107.000		RPD			4.785	25.000		08/14/08
SPK-RPD	2,4,6-Tribromophenol(Surr)	118-79-6	89.600		RPD			1.110	25.000		08/14/08
SPK-RPD	Terphenyl-d14(Surr)	98904-43-9	96.700		RPD			6.183	25.000		08/14/08

BATCH QC

BLANK	1,2,4-Trichlorobenzene	120-82-1	< 2.2	n/a	ug/L					U	08/14/08
BLANK	1,4-Dichlorobenzene	106-46-7	< 1.4	n/a	ug/L					U	08/14/08
BLANK	2,4-Dichlorophenol	120-83-2	< 0.50	n/a	ug/L					U	08/14/08
BLANK	2,4-Dinitrotoluene	121-14-2	< 0.50	n/a	ug/L					U	08/14/08
BLANK	2-Fluorophenol(Surr)	367-12-4	14.442	72.200	% Recov	50.000	110.000				08/14/08
BLANK	2-Methylphenol (cresol, o-)	95-48-7	< 0.50	n/a	ug/L					U	08/14/08
BLANK	2-Nitrophenol	88-75-5	< 0.50	n/a	ug/L					U	08/14/08
BLANK	2-Picoline	109-06-8	< 5.0	n/a	ug/L					U	08/14/08
BLANK	3 & 4 Methylphenol Total	65794-96-9	< 0.50	n/a	ug/L	0.000	5.000			U	08/14/08
BLANK	Acenaphthene	83-32-9	< 2.6	n/a	ug/L					U	08/14/08
BLANK	Bis(2-ethylhexyl) phthalate	117-81-7	< 0.80	n/a	ug/L					U	08/14/08
BLANK	Benzothiazole	95-16-9	< 0.60	n/a	ug/L	0.000	300.000			U	08/14/08
BLANK	4-Chloro-3-methylphenol	59-50-7	< 0.50	n/a	ug/L					U	08/14/08
BLANK	2-Chlorophenol	95-57-8	< 0.50	n/a	ug/L					U	08/14/08
BLANK	N-Nitrosodi-n-dipropylamine	621-64-7	< 0.60	n/a	ug/L					U	08/14/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081654
Matrix: WATER
Test: SW-846 8270C Semi-Vols

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	2-Fluorobiphenyl(Surr)	321-60-8	17.507	87.500	% Recov	58.000	109.000				08/14/08
BLANK	Phenol	108-95-2	< 0.50	n/a	ug/L					U	08/14/08
BLANK	Naphthalene	91-20-3	< 2.1	n/a	ug/L					U	08/14/08
BLANK	Nitrobenzene-d5(Surr)	4165-60-0	17.038	85.200	% Recov	60.000	118.000				08/14/08
BLANK	4-Nitrophenol	100-02-7	< 1.0	n/a	ug/L					U	08/14/08
BLANK	Pentachlorophenol	87-86-5	< 1.5	n/a	ug/L					U	08/14/08
BLANK	Phenol-d5(Surr)	4165-62-2	15.921	79.600	% Recov	59.000	116.000				08/14/08
BLANK	Pyrene	129-00-0	< 0.50	n/a	ug/L					U	08/14/08
BLANK	Tris-2-chloroethyl phosphate	115-96-8	< 0.65	n/a	ug/L	0.000	300.000			U	08/14/08
BLANK	Tributyl phosphate	126-73-8	< 0.50	n/a	ug/L					U	08/14/08
BLANK	2,4,6-Tribromophenol(Surr)	118-79-6	14.493	72.500	% Recov	60.000	120.000				08/14/08
BLANK	Terphenyl-d14(Surr)	98904-43-9	20.396	102.000	% Recov	60.000	120.000				08/14/08
LCS	1,2,4-Trichlorobenzene	120-82-1	18.303	91.500	% Recov	46.000	107.000				08/14/08
LCS	1,4-Dichlorobenzene	106-46-7	18.877	94.400	% Recov	42.000	111.000				08/14/08
LCS	2,4-Dinitrotoluene	121-14-2	17.245	86.200	% Recov	59.000	106.000				08/14/08
LCS	2-Fluorophenol(Surr)	367-12-4	16.254	81.300	% Recov	50.000	110.000				08/14/08
LCS	Acenaphthene	83-32-9	18.100	90.500	% Recov	61.000	116.000				08/14/08
LCS	4-Chloro-3-methylphenol	59-50-7	26.265	87.600	% Recov	61.000	106.000				08/14/08
LCS	2-Chlorophenol	95-57-8	27.835	92.800	% Recov	66.000	106.000				08/14/08
LCS	N-Nitrosodi-n-dipropylamine	621-64-7	18.391	92.000	% Recov	71.000	114.000				08/14/08
LCS	2-Fluorobiphenyl(Surr)	321-60-8	18.892	94.500	% Recov	58.000	109.000				08/14/08
LCS	Phenol	108-95-2	23.982	79.900	% Recov	67.000	105.000				08/14/08
LCS	Nitrobenzene-d5(Surr)	4165-60-0	18.722	93.600	% Recov	60.000	118.000				08/14/08
LCS	4-Nitrophenol	100-02-7	27.590	92.000	% Recov	32.000	118.000				08/14/08
LCS	Pentachlorophenol	87-86-5	25.301	84.300	% Recov	62.000	114.000				08/14/08
LCS	Phenol-d5(Surr)	4165-62-2	17.688	88.400	% Recov	59.000	116.000				08/14/08
LCS	Pyrene	129-00-0	19.344	96.700	% Recov	66.000	118.000				08/14/08
LCS	2,4,6-Tribromophenol(Surr)	118-79-6	15.929	79.600	% Recov	60.000	120.000				08/14/08
LCS	Terphenyl-d14(Surr)	98904-43-9	20.790	104.000	% Recov	60.000	120.000				08/14/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081654
Matrix: WATER
Test: NWTPH-D TPH Diesel Range (Wa)

Sample Date: 08/05/08
Receive Date:08/06/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003727											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	ortho-Terphenyl Surr	84-15-1	428.84	90.100	% Recov	70.000	130.000				08/19/08
Lab ID: W08P003729											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	ortho-Terphenyl Surr	84-15-1	360.23	75.600	% Recov	70.000	130.000				08/19/08
MS	Total Pet. Hydrocarbons Diesel	TPHDIESEL	2099.4	88.200	% Recov	75.000	125.000				08/19/08
MSD	ortho-Terphenyl Surr	84-15-1	422.42	88.700	% Recov	70.000	130.000				08/19/08
MSD	Total Pet. Hydrocarbons Diesel	TPHDIESEL	2399.5	101.000	% Recov	75.000	125.000				08/19/08
SPK-RPD	ortho-Terphenyl Surr	84-15-1	88.700		RPD			15.946	20.000		08/19/08
SPK-RPD	Total Pet. Hydrocarbons Diesel	TPHDIESEL	101.000		RPD			13.531	20.000		08/19/08
SURR	ortho-Terphenyl Surr	84-15-1	13.622	2.860	% Recov	70.000	130.000				08/19/08
BATCH QC											
BLANK	Kerosene	TPHKEROSENE	< 100	n/a	ug/L					U	08/19/08
BLANK	ortho-Terphenyl Surr	84-15-1	406.45	81.300	% Recov	70.000	130.000				08/19/08
BLANK	Total Pet. Hydrocarbons Diesel	TPHDIESEL	< 75	n/a	ug/L					U	08/19/08
LCS	ortho-Terphenyl Surr	84-15-1	429.07	85.800	% Recov	70.000	130.000				08/19/08
LCS	Total Pet. Hydrocarbons Diesel	TPHDIESEL	2566.6	103.000	% Recov	80.000	120.000				08/19/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081654
Matrix: WATER
Test: NWTPH-GX TPH Gasoline Range

Sample Date: 08/05/08
Receive Date:08/06/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003727											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Pet. Hydrocarbons Gas	TPHGASOLINE	<50		RPD			n/a	20.000	U	08/15/08
MS	Total Pet. Hydrocarbons Gas	TPHGASOLINE	2600	104.000	% Recov	75.000	125.000				08/15/08
MSD	Total Pet. Hydrocarbons Gas	TPHGASOLINE	2700	108.000	% Recov	75.000	125.000				08/15/08
SPK-RPD	Total Pet. Hydrocarbons Gas	TPHGASOLINE	108.000		RPD			3.774	20.000		08/15/08
BATCH QC											
BLANK	Total Pet. Hydrocarbons Gas	TPHGASOLINE	<50	n/a	mg/L	0.000	300.000			U	08/15/08
LCS	Total Pet. Hydrocarbons Gas	TPHGASOLINE	2500	100.000	%rec	80.000	120.000				08/15/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081654
Matrix: WATER
Test: VOA Ground Water Protection

Sample Date: 08/05/08
Receive Date:08/05/08

Lab ID: W08P003703
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	1,1-Dichloroethene	75-35-4	23.260	93.000	% Recov	63.000	117.000				08/15/08
MS	Benzene	71-43-2	23.250	93.000	% Recov	75.000	129.000				08/15/08
MS	4-Bromofluorobenzene(Surr)	460-00-4	46.700	93.400	% Recov	75.000	125.000				08/15/08
MS	Chlorobenzene	108-90-7	24.230	96.900	% Recov	79.000	119.000				08/15/08
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	54.420	109.000	% Recov	75.000	125.000				08/15/08
MS	Toluene-d8(Surr)	2037-26-5	48.650	97.300	% Recov	75.000	125.000				08/15/08
MS	Toluene	108-88-3	24.130	96.500	% Recov	76.000	120.000				08/15/08
MS	Trichloroethene	79-01-6	21.060	84.200	% Recov	73.000	123.000				08/15/08
MSD	1,1-Dichloroethene	75-35-4	25.450	102.000	% Recov	63.000	117.000				08/15/08
MSD	Benzene	71-43-2	23.750	95.000	% Recov	75.000	129.000				08/15/08
MSD	4-Bromofluorobenzene(Surr)	460-00-4	46.800	93.600	% Recov	75.000	125.000				08/15/08
MSD	Chlorobenzene	108-90-7	25.240	101.000	% Recov	79.000	119.000				08/15/08
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	56.060	112.000	% Recov	75.000	125.000				08/15/08
MSD	Toluene-d8(Surr)	2037-26-5	47.880	95.800	% Recov	75.000	125.000				08/15/08
MSD	Toluene	108-88-3	24.670	98.700	% Recov	76.000	120.000				08/15/08
MSD	Trichloroethene	79-01-6	21.500	86.000	% Recov	73.000	123.000				08/15/08
SPK-RPD	1,1-Dichloroethene	75-35-4	102.000		RPD			9.231	20.000		08/15/08
SPK-RPD	Benzene	71-43-2	95.000		RPD			2.128	20.000		08/15/08
SPK-RPD	4-Bromofluorobenzene(Surr)	460-00-4	93.600		RPD			0.214	20.000		08/15/08
SPK-RPD	Chlorobenzene	108-90-7	101.000		RPD			4.144	20.000		08/15/08
SPK-RPD	1,2-Dichloroethane-d4(Surr)	17060-07-0	112.000		RPD			2.715	20.000		08/15/08
SPK-RPD	Toluene-d8(Surr)	2037-26-5	95.800		RPD			1.554	20.000		08/15/08
SPK-RPD	Toluene	108-88-3	98.700		RPD			2.254	20.000		08/15/08
SPK-RPD	Trichloroethene	79-01-6	86.000		RPD			2.115	20.000		08/15/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081654
Matrix: WATER
Test: VOA Ground Water Protection

Sample Date: 08/05/08
Receive Date:08/06/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003727											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	46.060	92.100	% Recov	75.000	125.000				08/15/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	55.190	110.000	% Recov	75.000	125.000				08/15/08
SURR	Toluene-d8(Surr)	2037-26-5	48.910	97.800	% Recov	75.000	125.000				08/15/08
Lab ID: W08P003729											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	45.990	92.000	% Recov	75.000	125.000				08/15/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	55.590	111.000	% Recov	75.000	125.000				08/15/08
SURR	Toluene-d8(Surr)	2037-26-5	49.140	98.300	% Recov	75.000	125.000				08/15/08
BATCH QC											
BLANK	1,1-Dichloroethane	75-34-3	< 1.0	n/a	ug/L					U	08/15/08
BLANK	1,1,1-Trichloroethane	71-55-6	< 1.0	n/a	ug/L					U	08/15/08
BLANK	1,1,2-Trichloroethane	79-00-5	< 1.0	n/a	ug/L					U	08/15/08
BLANK	1,1-Dichloroethene	75-35-4	< 1.0	n/a	ug/L					U	08/15/08
BLANK	1,2-Dichloroethane	107-06-2	< 1.0	n/a	ug/L					U	08/15/08
BLANK	1,4-Dichlorobenzene	106-46-7	< 1.0	n/a	ug/L					U	08/15/08
BLANK	1-Butanol	71-36-3	< 100	n/a	ug/L					U	08/15/08
BLANK	4-Methyl-2-Pentanone	108-10-1	< 1.0	n/a	ug/L					U	08/15/08
BLANK	Acetone	67-64-1	< 1.0	n/a	ug/L					U	08/15/08
BLANK	Benzene	71-43-2	< 1.0	n/a	ug/L					U	08/15/08
BLANK	4-Bromofluorobenzene(Surr)	460-00-4	46.370	92.700	% Recov	75.000	125.000				08/15/08
BLANK	Carbon disulfide	75-15-0	< 1.0	n/a	ug/L					U	08/15/08
BLANK	Carbon tetrachloride	56-23-5	< 1.0	n/a	ug/L					U	08/15/08
BLANK	Chloroform	67-66-3	< 1.0	n/a	ug/L					U	08/15/08
BLANK	Chlorobenzene	108-90-7	< 1.0	n/a	ug/L					U	08/15/08
BLANK	cis-1,2-Dichloroethylene	156-59-2	< 1.0	n/a	ug/L					U	08/15/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081654
Matrix: WATER
Test: VOA Ground Water Protection

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	1,2-Dichloroethane-d4(Surr)	17060-07-0	54.230	108.000	% Recov	75.000	125.000				08/15/08
BLANK	trans-1,2-Dichloroethylene	156-60-5	< 1.0	n/a	ug/L					U	08/15/08
BLANK	Ethylbenzene	100-41-4	< 1.0	n/a	ug/L					U	08/15/08
BLANK	Ethyl cyanide	107-12-0	< 2.0	n/a	ug/L					U	08/15/08
BLANK	2-Butanone	78-93-3	< 1.0	n/a	ug/L					U	08/15/08
BLANK	Methylenechloride	75-09-2	< 1.0	n/a	ug/L					U	08/15/08
BLANK	Tetrachloroethene	127-18-4	< 1.0	n/a	ug/L					U	08/15/08
BLANK	Xylenes (total)	1330-20-7	< 1.0	n/a	ug/L	0.000	5.000			U	08/15/08
BLANK	Tetrahydrofuran	109-99-9	< 2.0	n/a	ug/L					U	08/15/08
BLANK	Toluene-d8(Surr)	2037-26-5	49.190	98.400	% Recov	75.000	125.000				08/15/08
BLANK	Toluene	108-88-3	< 1.0	n/a	ug/L					U	08/15/08
BLANK	Trichloroethene	79-01-6	< 1.0	n/a	ug/L					U	08/15/08
BLANK	Vinyl chloride	75-01-4	< 1.0	n/a	ug/L					U	08/15/08
LCS	1,1-Dichloroethene	75-35-4	23.980	95.900	% Recov	75.000	125.000				08/15/08
LCS	Benzene	71-43-2	24.540	98.200	% Recov	75.000	125.000				08/15/08
LCS	4-Bromofluorobenzene(Surr)	460-00-4	45.960	91.900	% Recov	75.000	125.000				08/15/08
LCS	Chlorobenzene	108-90-7	24.640	98.600	% Recov	75.000	125.000				08/15/08
LCS	1,2-Dichloroethane-d4(Surr)	17060-07-0	54.550	109.000	% Recov	75.000	125.000				08/15/08
LCS	Toluene-d8(Surr)	2037-26-5	50.140	100.000	% Recov	75.000	125.000				08/15/08
LCS	Toluene	108-88-3	25.360	101.000	% Recov	75.000	125.000				08/15/08
LCS	Trichloroethene	79-01-6	20.480	81.900	% Recov	75.000	125.000				08/15/08

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P003724
Client ID: B1VRL5 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081654
Department: Radiochemistry
Sampled: 08/05/08
Received: 08/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
TC99 by Liquid Scin.											
Tc-99 by Liquid Scin.	14133-76-7	LA-508-421		6.80e+03	pCi/L	+-1.36e+03	pCi/L	1.00	6.7		08/15/08

MDL=Minimum Detection Limit
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor

B - The analyte < the RDL but > = the IDL/MDL (inorg)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria.
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor
U - Analyzed for but not detected above limiting criteria(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P003725
Client ID: B1VRL6 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081654
Department: Radiochemistry
Sampled: 08/05/08
Received: 08/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
TC99 by Liquid Scin.											
Tc-99 by Liquid Scin.	14133-76-7	LA-508-421	U	-130	pCi/L	+-130	pCi/L	1.00	6.7		08/15/08

MDL=Minimum Detection Limit
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor

B - The analyte < the RDL but >= the IDL/MDL (inorg)
J - Analyte < lowest calibration but >= MDL.(org)
U - Analyzed for but not detected above limiting criteria.
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor
U - Analyzed for but not detected above limiting criteria(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003727
Client ID: B1VKX5 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081654
Department: Radiochemistry
Sampled: 08/05/08
Received: 08/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415	U	-3.60	pCi/L	+-3.60	pCi/L	1.00	0.91		08/13/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		98.5	Percent			1.00	0.0		08/13/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421	U	67.0	pCi/L	+-238	pCi/L	1.00	2.1e+02		08/09/08

MDL=Minimum Detection Limit
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor

B - The analyte < the RDL but > = the IDL/MDL (inorg)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria.
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor
U - Analyzed for but not detected above limiting criteria(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003729
Client ID: B1VKW7 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081654
Department: Radiochemistry
Sampled: 08/05/08
Received: 08/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415	U	-2.60	pCi/L	+-2.60	pCi/L	1.00	1.0		08/13/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		89.6	Percent			1.00	0.0		08/13/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		1.00e+04	pCi/L	+-2.00e+03	pCi/L	1.00	2.2e+02		08/16/08

MDL=Minimum Detection Limit
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor

B - The analyte < the RDL but > = the IDL/MDL (inorg)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria.
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor
U - Analyzed for but not detected above limiting criteria(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081654
Matrix: WATER
Test: Strontium 89/90

Sample Date: 07/31/08
Receive Date:07/31/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003659											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Sr-85 Tracer by Beta Counting	SR85	80.6	80.600	% Recov	30.000	105.000				08/13/08
DUP	Strontium-89/90	SR-RAD	3.3E+03		RPD			2.985	20.000		08/13/08
BATCH QC											
BLANK	Sr-85 Tracer by Beta Counting	SR85	85.6	85.600	% Recov	30.000	105.000				08/13/08
BLANK	Strontium-89/90	10098-97-2	U-3.7	n/a	pCi/L	-10.000	100.000				08/13/08
LCS	Sr-85 Tracer by Beta Counting	SR85	81.3	81.300	% Recov	30.000	105.000				08/13/08
LCS	Strontium-89/90	10098-97-2	135	97.262	% Recov	80.000	120.000				08/13/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20081654
Matrix: WATER
Test: TC99 by Liquid Scin.

Sample Date: 08/05/08
Receive Date:08/06/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003724											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tc-99 by Liquid Scin.	14133-76-7	6.3E+03		RPD			7.634	20.000		08/15/08
MS	Tc-99 by Liquid Scin.	14133-76-7	780.5	103.755	% Recov	75.000	125.000				08/15/08
BATCH QC											
BLANK	Tc-99 by Liquid Scin.	14133-76-7	U-1.0E+01	n/a	pCi/L	-10.000	10.000				08/15/08
LCS	Tc-99 by Liquid Scin.	14133-76-7	186.3	99.043	% Recov	80.000	120.000				08/15/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081654
Matrix: WATER
Test: Tritium by Liq Sct column prep

Sample Date: 08/03/08
Receive Date:08/03/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003671											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tritium	10028-17-8	7.7E+02		RPD			2.632	20.000		08/09/08
MS	Tritium	10028-17-8	22252.0	86.655	% Recov	75.000	125.000				08/09/08
BATCH QC											
BLANK	Tritium	10028-17-8	U3.5E+01	n/a	pCi/L	-10.000	1000.000				08/09/08
LCS	Tritium	10028-17-8	3010	88.431	% Recov	80.000	120.000				08/09/08
Lab ID: W08P003729											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tritium	10028-17-8	1.0E+04		RPD			0.000	20.000		08/16/08
MS	Tritium	10028-17-8	24600.00	95.858	% Recov	75.000	125.000				08/16/08
BATCH QC											
BLANK	Tritium	10028-17-8	U-7.2	n/a	pCi/L	-10.000	1000.000				08/16/08
LCS	Tritium	10028-17-8	2930.0	86.133	% Recov	80.000	120.000				08/16/08

M4W41-SLF-08-983

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 9 pages
Including cover page

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

File
09/04/08

ACKNOWLEDGMENT OF SAMPLES RECEIVED

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20081654

The following samples were received from you on 08/06/08. 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	Tests Scheduled	Matrix					Sample Date
W08P003724	B1VRL5	PNNL-GPP	Water					08/05/0
		@IC-30	@TC99-30	ALKALI				
W08P003725	B1VRL6	PNNL-GPP	Water					08/05/0
		@IC-30	@TC99-30	ALKALI				
W08P003726	B1VKX4	PNNL-GPP	Water					08/05/0
		@2008	@GPP6010					
W08P003727	B1VKX5	PNNL-GPP	Water					08/05/0
		@2008	@8015GPP	@GPP6010	@H3-33	@SR89_90		
		@SVOCGPP	@TPHD-WA	@TPHG-WA	@VOA-GPP	CN-02	NH4-	
		TOC-30						
W08P003728	B1VKW6	PNNL-GPP	Water					08/05/0
		@2008	@GPP6010					
W08P003729	B1VKW7	PNNL-GPP	Water					08/05/0
		@2008	@8015GPP	@GPP6010	@H3-33	@SR89_90		
		@SVOCGPP	@TPHD-WA	@TPHG-WA	@VOA-GPP	CN-02	NH4-	
		TOC-30						

Test Acronym Description

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@8015GPP	Alcohols, Glycols - 8015
@GPP6010	ICP Metals Analysis, Grd H20 P
@H3-33	Tritium by Liq Sct column prep
@IC-30	Anions by Ion Chromatography
@SR89_90	Strontium 89/90
@SVOCGPP	SW-846 8270C Semi-Vols
@TC99-30	TC99 by Liquid Scin.
@TPHD-WA	NWTPH-D TPH Diesel Range (Wa)
@TPHG-WA	NWTPH-GX TPH Gasoline Range
@VOA-GPP	VOA Ground Water Protection
ALKALI	Total Alkalinity as mg/L CaCO3
CN-02	Cyanide by Midi/Spectrophotom

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20081654

Test Acronym Description

Test Acronym	Description
NH4-IC	Ammonia (N) by IC
TOC-30	Total Organic Carbon

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

09/04/08 20081654

W08-006-334

Collector FM Arnold	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. W08-006	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title RCRA, JUNE 2008	HNF-N-506-17	**Ice Chest No.** 100 KR4 **Temp.**
Shipped To (Lab) Waste Sampling & Characterization	**Method of Shipment** Govt. Vehicle	**Bill of Lading/Air Bill No.**
Protocol RCRA	**Priority:** 45 Days	**Offsite Property No.**

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
Site-Wide Generator Knowledge Information Form applies.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VRL5	W08A003724	W	8-5-08	1518	1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1VRL5	↓	W	↓	↓	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1VRL5	↓	W	↓	↓	1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	HCl to pH <2

ICED

Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
FM Arnold	RMArnold	0745 06 AUG 05 2008	R. D. Julian		0745 06 AUG 05 2008
R. D. Julian		AUG 06 2008 0825	TA Frazier		0825 AUG 06 2008

Matrix *

S = Soil		DS = Drum Solid	
SF = Sediment		DL = Drum Liquid	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wine	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

W08-006-335

Collector RM Arnold	Contact/Requester Steve Trent	Telephone No. 509-373-5869 MSIN FAX
SAF No. W08-006	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title RCRA JUNE 2008	HAF-N-506-17	Ice Chest No. SML-602 Temp.
Shipped To (Lab) Waste Sampling & Characterization	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol RCRA	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
Site-Wide Generator Knowledge Information Form applies.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VRL6	3725	W	8-5-08	1200	1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1VRL6	↓	W	↓	↓	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1VRL6	↓	W	↓	↓	1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	HCl to pH <2

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
RM Arnold	RM Arnold		0745 06 AUG 05 2008	R. D. Julian			0745 06 AUG 05 2008
R. D. Julian			0825 AUG 06 2008	TA FRAZIER	Teresa Frazier		0825 AUG 06 2008

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liquid	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wine	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

I08-043-42

Collector RM Arnold	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. I08-043	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title 2UP1 JUNE 2008	HNF-N-506-17	**Ice Chest No.** 80ML-600 **Temp.**
Shipped To (Lab) Waste Sampling & Characterization	**Method of Shipment** Govt. Vehicle	**Bill of Lading/Air Bill No.**
Protocol SURV	**Priority:** 45 Days	**Offsite Property No.**

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
200 Area Generator Knowledge Information Form applies.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VKX4 (F)	3726	W	8-5-08	1200	1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1); 200.8_METALS_ICPMS: Lead (1)	HNO3 to pH <2
B1VKX4 (F)		W			1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	HNO3 to pH <2
B1VKX4 (F)		W			1x500-mL G/P	6010_METALS_ICP: List-1 + Lithium (20)	HNO3 to pH <2
B1VKX5	3727	W			4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	HCl or H2SO4 to pH <2 Cool~4C
B1VKX5		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2
B1VKX5		W			1x1-L G/P	Strontium-89,90 -- Total Sr	HNO3 to pH <2
B1VKX5		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1VKX5		W			3x40-mL aGs*	Alcohols, Glycols, & Ketones - 8015	Cool~4C
B1VKX5		W			4x1000-mL aG	8270_SVOA_GCMS: List-1 + Cresol (14)	Cool~4C
B1VKX5		W			1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1); 200.8_METALS_ICPMS: Lead (1)	HNO3 to pH <2
B1VKX5		W			1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	HNO3 to pH <2
B1VKX5		W			1x500-mL G/P	6010_METALS_ICP: List-1 + Lithium (20)	HNO3 to pH <2
B1VKX5		W			1x250-mL G/P	300.7_CATIONS_IC: Ammonia (1)	H2SO4 to pH <2
B1VKX5		W			1x250-mL G/P	335.2_CYANIDE: Cyanide (1)	NaOH to pH >= 12 Cool~4C
B1VKX5		W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VKX5		W			3x1000-mL aG	TPH-DieselKerosene Range - WTPH-D	HCl to pH <2 Cool~4C

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
RM Arnold	RM Arnold		0748 06 AUG 05 2008	R. D. Julian	R. D. Julian		0745 06 AUG 05 2008
R. D. Julian			0825 AUG 06 2008	TA Firazim			08/06/08 0825

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liquid	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wine	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

108-043-42

SAF No.	Contact/Requestor	Telephone No.	MSIN	FAX
108-043	Steve Trent	509-373-5869		

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VKX5	↓	W	8-5-08	1200	4x40-mL aGs*	TPH-Gasoline Range - WTPH-G	HCl to pH <2 Cool~4C

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
RM Arnold	R. M. Arnold		0745 AUG 05 2008	R. D. Julian			AUG 06 2008 0745
R. D. Julian			AUG 06 2008 0825	TA Khazim			08/06/08 0825
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S	Soil	DS	Drum Solid
SE	Sediment	DL	Drum Liqui
SO	Solid	T	Tissue
SL	Sludge	WI	Wine
W	Water	L	Liquid
O	Oil	V	Vegetation
A	Air	X	Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

I08-043-41

Collector RM Arnold	Contact/Requester Steve Trent	Telephone No. 509-373-5869 MSIN FAX
SAF No. I08-043	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title 2UP1 JUNE 2008	HNF-N-506-17	Ice Chest No. 100 KR-4 Temp.
Shipped To (Lab) Waste Sampling & Characterization	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol SURV	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
200 Area Generator Knowledge Information Form applies.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VKW6 (F)	3728	W	8-5-08	1518	1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1); 200.8_METALS_ICPMS: Lead (1)	HNO3 to pH <2
B1VKW6 (F)	↓	W			1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	HNO3 to pH <2
B1VKW6 (F)		W			1x500-mL G/P	6010_METALS_ICP: List-1 + Lithium (20)	HNO3 to pH <2
B1VKW7	3729	W			4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	HCl or H2SO4 to pH <2 Cool~4C
B1VKW7		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2
B1VKW7		W			1x1-L G/P	Strontium-89,90 -- Total Sr	HNO3 to pH <2
B1VKW7		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1VKW7		W			3x40-mL aGs*	Alcohols, Glycols, & Ketones - 8015	Cool~4C
B1VKW7		W			4x1000-mL aG	8270_SVOA_GCMS: List-1 + Cresol (14)	Cool~4C
B1VKW7		W			1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1); 200.8_METALS_ICPMS: Lead (1)	HNO3 to pH <2
B1VKW7		W			1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	HNO3 to pH <2
B1VKW7		W			1x500-mL G/P	6010_METALS_ICP: List-1 + Lithium (20)	HNO3 to pH <2
B1VKW7		W			1x250-mL G/P	300.7_CATIONS_IC: Ammonia (1)	H2SO4 to pH <2
B1VKW7		W			1x250-mL G/P	335.2_CYANIDE: Cyanide (1)	NaOH to pH >= 12 Cool~4C
B1VKW7		W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VKW7	↓	W	↓	↓	3x1000-mL aG	TPH-DieselKerosene Range - WTPH-D	HCl to pH <2 Cool~4C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
RM Arnold	RM Arnold		0745 06 AUG 05 2008	R. D. Julian			0745 06 AUG 05 2008
R. D. Julian			0825 AUG 06 2008	TA Kazim			0825 AUG 06 2008

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liqui	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wine	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Chain # I08-043-41

SAF No.	Contact/Requestor	Telephone No.	MSIN	FAX
I08-043	Steve Trent	509-373-5869		

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VKW7		W	8-5-08	1518	4x40-mL aGs*	TPH-Gasoline Range - WTPH-G	HCl to pH <2 Cool~4C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
RM Arnold	RM Arnold		0745 06 AUG 08 AUG 05 2008	R. D. Julian			0745 06 AUG 08 AUG 05 2008
R. D. Julian			AUG 06 2008 0825	TARNAZIM			AUG 06 2008 08/06/08 0825

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liqui	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wine	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time