RECEIVED JANUARY 8, 2009

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FLUOR®

M4W41-SLF-09-008

January 6, 2009

Mr. M. A. Neely, Manager
Analytical Services
CH2M HILL Plateau Remediation Contract
PO Box 1600 MSIN B6-06
Richland, WA 99352

Dear Mike:

FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20082290

Reference: (1) Memorandum of Agreement #MOA-FH-CHPRC-2008, Rev. 0, for the Performance & Payment of Services, dated October 1, 2008

(2) HNF-SD-CD-QAPP-017, Rev. 9, Waste Sampling & Characterization Facility Quality Assurance Plan

This letter contains the following attachments for sample delivery group WSCF20082290:

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

Very truly yours,

S. L. Fitzgerald
WSCF Analytical Lab

SLF/grf

Attachments 4

cc: w/Attachments

T. F. Dale	S3-30	J. E. Trechter	S3-30
A. J. Kopriva	S3-30	S. J. Trent	B6-06
H. K. Meznarich	S3-30	File/LB	
P. D. Mix	S3-30		

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ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20082290
Data Deliverable Date: 08-jan-2009
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
I09-005	B1XHJ0	W08P005162	WATER
	B1XHJ1	W08P005163	WATER
I09-007	B1XKW1	W08P005157	WATER
	B1XKX2	W08P005156	WATER
	B1XKX3	W08P005158	WATER
	B1XKX8	W08P005155	WATER
	B1XKY2	W08P005159	WATER
	B1XKY9	W08P005160	WATER
I09-009	B1XLJ4	W08P005164	WATER
	B1XLJ5	W08P005165	WATER
	B1XLJ7	W08P005166	WATER
	B1XLJ8	W08P005167	WATER
S09-011	B1XLX8	W08P005169	WATER
	B1XLX9	W08P005168	WATER
	B1XWD8	W08P005161	WATER

M4W41-SLF-09-008

ATTACHMENT 2

NARRATIVE

Consisting of 3 pages
Including cover page

Introduction

Fifteen (15) groundwater samples were received at the WSCF Laboratory on November 24, 2008. Samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Memorandum of Agreement (MOA-FH-CHPRC-2008, Rev.0),* referenced in the cover letter.

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

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

Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report,* pages 13 through 15, for a complete listing of approved analytical methods.

Inorganic Comments

- **Anions** – Hold time requirements for this analysis were met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 33 through 37 for QC details.

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. See pages 38 through 41 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate was analyzed on sample B1XHJ0.
- Sample results that were less than the reportable limit, however greater than the method detection limit, were B flagged.
- Calcium, Magnesium, and Sodium – sample concentrations are greater than the spiking levels by a factor of < 4. Spike recoveries are not valid. High/check standard was analyzed to ensure linearity for Calcium, Magnesium and Sodium, because the sample results were greater than the calibration standard.

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. See pages 42 through 43 for QC details.

All QC controls are within the established limits.

Organic Comments

VOA – The hold time requirement for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample, were analyzed with this delivery group. See pages 56 through 58 for QC details.

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 *(Matrix Spikes apply only to Neptunium, Technetium & Tritium and Matrix Spike Duplicate applies to Neptunium),* Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 67 through 70 for QC details. Analytical Note(s):

- Technetium-99 – Matrix Spike recovery was less than established laboratory limits due to high sample activity. No flags issued.

All other QC controls are within the established limits.

I certify that this data package is in compliance with the MOA, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this 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

Andrew J. Kopriva
WSCF Client Services

M4W41-SLF-09-008

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 65 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

GPAP
Richland, WA 99352

Attention: Steve Trent E6-35

Analytical: S. Fitzgerald 1/6/09

Client Services: A. Kopriva 1/6/09

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

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

Report#: WSCF20082290
Report Date: 2-jan-2009
Report WGPP/ver. 5.2
GPAP

w13qlog v4.2 02-jan-2009 11:35:22

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20082290

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
38654	2	39066	43571	BLANK		Anions by Ion Chromatography
38654	13	39066	43571	BLANK		Anions by Ion Chromatography
38654	27	39066	43571	BLANK		Anions by Ion Chromatography
38654	3	39066	43571	LCS		Anions by Ion Chromatography
38654	14	39066	43571	LCS		Anions by Ion Chromatography
38654	8	39066	43571	SAMPLE	W08P005155	Anions by Ion Chromatography
38654	9	39066	43571	SAMPLE	W08P005156	Anions by Ion Chromatography
38654	5	39066	43571	DUP	W08P005157	Anions by Ion Chromatography
38654	6	39066	43571	MS	W08P005157	Anions by Ion Chromatography
38654	7	39066	43571	MSD	W08P005157	Anions by Ion Chromatography
38654	4	39066	43571	SAMPLE	W08P005157	Anions by Ion Chromatography
38654	7	39066	43571	SPK-RPD	W08P005157	Anions by Ion Chromatography
38654	10	39066	43571	SAMPLE	W08P005159	Anions by Ion Chromatography
38654	11	39066	43571	SAMPLE	W08P005160	Anions by Ion Chromatography
38654	12	39066	43571	SAMPLE	W08P005163	Anions by Ion Chromatography
38654	16	39066	43571	DUP	W08P005168	Anions by Ion Chromatography
38654	17	39066	43571	MS	W08P005168	Anions by Ion Chromatography
38654	18	39066	43571	MSD	W08P005168	Anions by Ion Chromatography
38654	15	39066	43571	SAMPLE	W08P005168	Anions by Ion Chromatography
38654	18	39066	43571	SPK-RPD	W08P005168	Anions by Ion Chromatography
38655	2	39070	43573	BLANK		Anions by Ion Chromatography
38655	17	39070	43573	BLANK		Anions by Ion Chromatography
38655	28	39070	43573	BLANK		Anions by Ion Chromatography
38655	3	39070	43573	LCS		Anions by Ion Chromatography
38655	16	39070	43573	LCS		Anions by Ion Chromatography
38655	5	39070	43573	DUP	W08P005158	Anions by Ion Chromatography
38655	6	39070	43573	MS	W08P005158	Anions by Ion Chromatography
38655	7	39070	43573	MSD	W08P005158	Anions by Ion Chromatography
38655	4	39070	43573	SAMPLE	W08P005158	Anions by Ion Chromatography
38655	7	39070	43573	SPK-RPD	W08P005158	Anions by Ion Chromatography
38655	8	39070	43573	SAMPLE	W08P005165	Anions by Ion Chromatography
38655	9	39070	43573	SAMPLE	W08P005167	Anions by Ion Chromatography
38655	10	39070	43573	SAMPLE	W08P005169	Anions by Ion Chromatography
38655	19	39070	43573	DUP	W08P005204	Anions by Ion Chromatography
38655	21	39070	43573	MS	W08P005204	Anions by Ion Chromatography
38655	22	39070	43573	MSD	W08P005204	Anions by Ion Chromatography
38655	22	39070	43573	SPK-RPD	W08P005204	Anions by Ion Chromatography
38675	1	39090	43779	BLANK		ICP Metals Analysis, Grd H20 P
38675	2	39090	43779	LCS		ICP Metals Analysis, Grd H20 P
38675	4	39090	43779	MS	W08P005162	ICP Metals Analysis, Grd H20 P
38675	5	39090	43779	MSD	W08P005162	ICP Metals Analysis, Grd H20 P
38675	3	39090	43779	SAMPLE	W08P005162	ICP Metals Analysis, Grd H20 P
38675	5	39090	43779	SPK-RPD	W08P005162	ICP Metals Analysis, Grd H20 P
38675	6	39090	43779	SAMPLE	W08P005163	ICP Metals Analysis, Grd H20 P
38675	7	39090	43779	SAMPLE	W08P005164	ICP Metals Analysis, Grd H20 P
38675	8	39090	43779	SAMPLE	W08P005165	ICP Metals Analysis, Grd H20 P
38675	9	39090	43779	SAMPLE	W08P005166	ICP Metals Analysis, Grd H20 P
38675	10	39090	43779	SAMPLE	W08P005167	ICP Metals Analysis, Grd H20 P
934	1	39349	43884	BLANK		ICP-200.8 MS All possible meta

38934	2	39349	43884	BLANK		ICP-200.8	MS	All	possible meta
38934	3	39349	43884	BLANK		ICP-200.8	MS	All	possible meta
38934	4	39349	43884	LCS		ICP-200.8	MS	All	possible meta
38934	5	39349	43884	LCS		ICP-200.8	MS	All	possible meta
38934	6	39349	43884	LCS		ICP-200.8	MS	All	possible meta
38934	8	39349	43884	MS	W08P004981	ICP-200.8	MS	All	possible meta
38934	9	39349	43884	MSD	W08P004981	ICP-200.8	MS	All	possible meta
38934	9	39349	43884	SPK-RPD	W08P004981	ICP-200.8	MS	All	possible meta
38934	11	39349	43884	MS	W08P004982	ICP-200.8	MS	All	possible meta
38934	12	39349	43884	MSD	W08P004982	ICP-200.8	MS	All	possible meta
38934	12	39349	43884	SPK-RPD	W08P004982	ICP-200.8	MS	All	possible meta
38934	14	39349	43884	MS	W08P005020	ICP-200.8	MS	All	possible meta
38934	15	39349	43884	MSD	W08P005020	ICP-200.8	MS	All	possible meta
38934	15	39349	43884	SPK-RPD	W08P005020	ICP-200.8	MS	All	possible meta
38934	41	39349	43884	SAMPLE	W08P005155	ICP-200.8	MS	All	possible meta
38934	42	39349	43884	SAMPLE	W08P005156	ICP-200.8	MS	All	possible meta
38934	43	39349	43884	SAMPLE	W08P005157	ICP-200.8	MS	All	possible meta
38934	44	39349	43884	SAMPLE	W08P005158	ICP-200.8	MS	All	possible meta
38934	45	39349	43884	SAMPLE	W08P005159	ICP-200.8	MS	All	possible meta
38934	46	39349	43884	SAMPLE	W08P005164	ICP-200.8	MS	All	possible meta
38934	47	39349	43884	SAMPLE	W08P005165	ICP-200.8	MS	All	possible meta
38934	48	39349	43884	SAMPLE	W08P005166	ICP-200.8	MS	All	possible meta
38934	49	39349	43884	SAMPLE	W08P005167	ICP-200.8	MS	All	possible meta

w13qlog v4.2 02-jan-2009 11:35:22

Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20082290

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			43755	BLANK		VOA Ground Water Protection
			43755	LCS		VOA Ground Water Protection
			43755	MS	W08P005129	VOA Ground Water Protection
			43755	MSD	W08P005129	VOA Ground Water Protection
			43755	SPK-RPD	W08P005129	VOA Ground Water Protection
			43755	SAMPLE	W08P005156	VOA Ground Water Protection
			43755	SURR	W08P005156	VOA Ground Water Protection
			43755	SAMPLE	W08P005157	VOA Ground Water Protection
			43755	SURR	W08P005157	VOA Ground Water Protection
			43755	SAMPLE	W08P005158	VOA Ground Water Protection
			43755	SURR	W08P005158	VOA Ground Water Protection
			43755	SAMPLE	W08P005160	VOA Ground Water Protection
			43755	SURR	W08P005160	VOA Ground Water Protection
			43755	SAMPLE	W08P005161	VOA Ground Water Protection
			43755	SURR	W08P005161	VOA Ground Water Protection

w13qlog v4.2 02-jan-2009 11:35:22

Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20082290

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
38699	1	39118	43643	BLANK		TC99 by Liquid Scin.
38699	2	39118	43643	LCS		TC99 by Liquid Scin.
38699	4	39118	43643	DUP	W08P005001	TC99 by Liquid Scin.
38699	3	39118	43643	MS	W08P005001	TC99 by Liquid Scin.
38699	17	39118	43643	SAMPLE	W08P005155	TC99 by Liquid Scin.
38699	18	39118	43643	SAMPLE	W08P005156	TC99 by Liquid Scin.
38730	1	39148	43719	BLANK		TC99 by Liquid Scin.
38730	2	39148	43719	LCS		TC99 by Liquid Scin.
38730	4	39148	43719	DUP	W08P005157	TC99 by Liquid Scin.
38730	3	39148	43719	MS	W08P005157	TC99 by Liquid Scin.
38730	5	39148	43719	SAMPLE	W08P005157	TC99 by Liquid Scin.
38730	6	39148	43719	SAMPLE	W08P005158	TC99 by Liquid Scin.
38730	7	39148	43719	SAMPLE	W08P005159	TC99 by Liquid Scin.
38758	1	39175	43745	BLANK		Gross Alpha/Gross Beta (AB32)
38758	2	39175	43745	LCS		Gross Alpha/Gross Beta (AB32)
38758	3	39175	43745	DUP	W08P005163	Gross Alpha/Gross Beta (AB32)
38758	4	39175	43745	SAMPLE	W08P005163	Gross Alpha/Gross Beta (AB32)
38759	1	39176	43746	BLANK		Gross Alpha on Alpha Plateau
38759	2	39176	43746	LCS		Gross Alpha on Alpha Plateau
38759	3	39176	43746	DUP	W08P005163	Gross Alpha on Alpha Plateau
38759	4	39176	43746	SAMPLE	W08P005163	Gross Alpha on Alpha Plateau
38702	1	39111	43761	BLANK		Tritium by Liq Sct column prep
38702	2	39111	43761	LCS		Tritium by Liq Sct column prep
38702	4	39111	43761	DUP	W08P005155	Tritium by Liq Sct column prep
38702	3	39111	43761	MS	W08P005155	Tritium by Liq Sct column prep
38702	5	39111	43761	SAMPLE	W08P005155	Tritium by Liq Sct column prep
38702	6	39111	43761	SAMPLE	W08P005156	Tritium by Liq Sct column prep
38702	7	39111	43761	SAMPLE	W08P005157	Tritium by Liq Sct column prep
38702	8	39111	43761	SAMPLE	W08P005158	Tritium by Liq Sct column prep
38702	9	39111	43761	SAMPLE	W08P005159	Tritium by Liq Sct column prep
38702	10	39111	43761	SAMPLE	W08P005160	Tritium by Liq Sct column prep
38702	11	39111	43761	SAMPLE	W08P005163	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-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-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

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-523-455 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)

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: I09-007
Sample # W08P005155
Client ID: B1XKX8 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Inorganic
Sampled: 11/23/08
Received: 11/24/08

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	0.277	mg/L			2.00	0.046		11/24/08
Chloride	16887-00-6	LA-533-410	D	19.0	mg/L			2.00	0.094		11/24/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		11/24/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	21.0	mg/L			10.00	0.12		11/24/08
Sulfate	14808-79-8	LA-533-410	D	37.8	mg/L			2.00	0.26		11/24/08
ICP-200.8 MS All possible meta Prep											**12/30/08**
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		4.98	ug/L			1.00	0.0500		12/30/08

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-007
Sample # W08P005156
Client ID: B1XKX2 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Inorganic
Sampled: 11/23/08
Received: 11/24/08

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	0.396	mg/L			2.00	0.046		11/24/08
Chloride	16887-00-6	LA-533-410	D	18.8	mg/L			2.00	0.094		11/24/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		11/24/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	7.10	mg/L			2.00	0.024		11/24/08
Sulfate	14808-79-8	LA-533-410	D	53.5	mg/L			2.00	0.26		11/24/08
ICP-200.8 MS All possible meta Prep											**12/30/08**
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		6.48	ug/L			1.00	0.0500		12/30/08

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-007
Sample # W08P005157
Client ID: B1XKW1 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Inorganic
Sampled: 11/23/08
Received: 11/24/08

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	0.362	mg/L			2.00	0.046		11/24/08
Chloride	16887-00-6	LA-533-410	D	6.55	mg/L			2.00	0.094		11/24/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		11/24/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	3.80	mg/L			2.00	0.024		11/24/08
Sulfate	14808-79-8	LA-533-410	D	18.3	mg/L			2.00	0.26		11/24/08
ICP-200.8 MS All possible meta Prep											**12/30/08**
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		2.58	ug/L			1.00	0.0500		12/30/08

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-007
Sample # W08P005158
Client ID: B1XKX3 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Inorganic
Sampled: 11/23/08
Received: 11/24/08

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		11/24/08
Chloride	16887-00-6	LA-533-410	DU	< 0.0938	mg/L			2.00	0.094		11/24/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		11/24/08
Nitrogen in Nitrate	NO3-N	LA-533-410	DU	< 0.0242	mg/L			2.00	0.024		11/24/08
Sulfate	14808-79-8	LA-533-410	DU	< 0.264	mg/L			2.00	0.26		11/24/08
ICP-200.8 MS All possible meta Prep											**12/30/08**
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412	U	< 0.0500	ug/L			1.00	0.0500		12/30/08

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.(org)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-007
Sample # W08P005159
Client ID: B1XKY2 PNNL-GPP WSCF
Matrix: WATER

Group #: WSCF20082290
Department: Inorganic
Sampled: 11/23/08
Received: 11/24/08

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	0.275	mg/L			2.00	0.046		11/24/08
Chloride	16887-00-6	LA-533-410	D	19.2	mg/L			2.00	0.094		11/24/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		11/24/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	20.9	mg/L			10.00	0.12		11/24/08
Sulfate	14808-79-8	LA-533-410	D	38.0	mg/L			2.00	0.26		11/24/08
ICP-200.8 MS All possible meta Prep											**12/30/08**
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		5.09	ug/L			1.00	0.0500		12/30/08

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-007
Sample # W08P005160
Client ID: B1XKY9 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Inorganic
Sampled: 11/23/08
Received: 11/24/08

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	0.233	mg/L			2.00	0.046		11/24/08
Chloride	16887-00-6	LA-533-410	D	21.2	mg/L			2.00	0.094		11/24/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		11/24/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	47.1	mg/L			10.00	0.12		11/24/08
Sulfate	14808-79-8	LA-533-410	D	33.5	mg/L			2.00	0.26		11/24/08

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.(org)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-005
Sample # W08P005162
Client ID: B1XHJ0 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Inorganic
Sampled: 11/23/08
Received: 11/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**11/25/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		12/08/08
Magnesium	7439-95-4	LA-505-411		1.99e+04	ug/L			1.00	50		12/08/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		12/08/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		12/08/08
Potassium	7440-09-7	LA-505-411		5.81e+03	ug/L			1.00	1.7e+02		12/08/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		12/08/08
Sodium	7440-23-5	LA-505-411		1.55e+04	ug/L			1.00	51		12/08/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		12/08/08
Barium	7440-39-3	LA-505-411		102	ug/L			1.00	4.0		12/08/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		12/08/08
Chromium	7440-47-3	LA-505-411		486	ug/L			1.00	13		12/08/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		12/08/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		12/08/08
Vanadium	7440-62-2	LA-505-411	B	13.6	ug/L			1.00	12		12/08/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		12/08/08
Calcium	7440-70-2	LA-505-411		8.03e+04	ug/L			1.00	73		12/08/08
Strontium	7440-24-6	LA-505-411		646	ug/L			1.00	4.0		12/08/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		12/08/08

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-005
Sample # W08P005163
Client ID: B1XHJ1 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Inorganic
Sampled: 11/23/08
Received: 11/24/08

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	BD	0.0955	mg/L			2.00	0.046		11/24/08
Chloride	16887-00-6	LA-533-410	D	28.2	mg/L			2.00	0.094		11/24/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		11/24/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	14.6	mg/L			10.00	0.12		11/24/08
Sulfate	14808-79-8	LA-533-410	D	103	mg/L			2.00	0.26		11/24/08
ICP Metals Analysis, Grd H20 P Prep											**11/25/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		12/08/08
Magnesium	7439-95-4	LA-505-411		2.07e+04	ug/L			1.00	50		12/08/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		12/08/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		12/08/08
Potassium	7440-09-7	LA-505-411		6.11e+03	ug/L			1.00	1.7e+02		12/08/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		12/08/08
Sodium	7440-23-5	LA-505-411		1.65e+04	ug/L			1.00	51		12/08/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		12/08/08
Barium	7440-39-3	LA-505-411		104	ug/L			1.00	4.0		12/08/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		12/08/08
Chromium	7440-47-3	LA-505-411		505	ug/L			1.00	13		12/08/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		12/08/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		12/08/08
Vanadium	7440-62-2	LA-505-411	B	15.8	ug/L			1.00	12		12/08/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		12/08/08
Calcium	7440-70-2	LA-505-411		7.83e+04	ug/L			1.00	73		12/08/08
Strontium	7440-24-6	LA-505-411		645	ug/L			1.00	4.0		12/08/08

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-005
Sample # W08P005163
Client ID: B1XHJ1 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Inorganic
Sampled: 11/23/08
Received: 11/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		12/08/08

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.(org)

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-009
Sample # W08P005164
Client ID: B1XLJ4 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Inorganic
Sampled: 11/23/08
Received: 11/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**11/25/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		12/08/08
Magnesium	7439-95-4	LA-505-411		6.87e+03	ug/L			1.00	50		12/08/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		12/08/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		12/08/08
Potassium	7440-09-7	LA-505-411		6.95e+04	ug/L			1.00	1.7e+02		12/08/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		12/08/08
Sodium	7440-23-5	LA-505-411		9.14e+03	ug/L			1.00	51		12/08/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		12/08/08
Barium	7440-39-3	LA-505-411		37.7	ug/L			1.00	4.0		12/08/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		12/08/08
Chromium	7440-47-3	LA-505-411		74.0	ug/L			1.00	13		12/08/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		12/08/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		12/08/08
Vanadium	7440-62-2	LA-505-411	B	16.4	ug/L			1.00	12		12/08/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		12/08/08
Calcium	7440-70-2	LA-505-411		2.26e+04	ug/L			1.00	73		12/08/08
Strontium	7440-24-6	LA-505-411		205	ug/L			1.00	4.0		12/08/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		12/08/08
ICP-200.8 MS All possible meta Prep											**12/30/08**
ICP-200.8 MS All possible meta											
Arsenic	7440-38-2	LA-505-412		4.05	ug/L			1.00	0.400		12/30/08

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-009
Sample # W08P005165
Client ID: B1XLJ5 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Inorganic
Sampled: 11/23/08
Received: 11/24/08

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	BD	0.0631	mg/L			2.00	0.046		11/24/08
Chloride	16887-00-6	LA-533-410	D	10.7	mg/L			2.00	0.094		11/24/08
Nitrogen in Nitrite	NO2-N	LA-533-410	BD	0.0903	mg/L			2.00	0.026		11/24/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	2.90	mg/L			2.00	0.024		11/24/08
Sulfate	14808-79-8	LA-533-410	D	58.8	mg/L			2.00	0.26		11/24/08
ICP Metals Analysis, Grd H20 P Prep											**11/25/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		12/08/08
Magnesium	7439-95-4	LA-505-411		6.43e+03	ug/L			1.00	50		12/08/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		12/08/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		12/08/08
Potassium	7440-09-7	LA-505-411		7.95e+04	ug/L			1.00	1.7e+02		12/08/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		12/08/08
Sodium	7440-23-5	LA-505-411		1.04e+04	ug/L			1.00	51		12/08/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		12/08/08
Barium	7440-39-3	LA-505-411		37.7	ug/L			1.00	4.0		12/08/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		12/08/08
Chromium	7440-47-3	LA-505-411	B	60.2	ug/L			1.00	13		12/08/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		12/08/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		12/08/08
Vanadium	7440-62-2	LA-505-411	B	14.8	ug/L			1.00	12		12/08/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		12/08/08
Calcium	7440-70-2	LA-505-411		1.92e+04	ug/L			1.00	73		12/08/08
Strontium	7440-24-6	LA-505-411		185	ug/L			1.00	4.0		12/08/08

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-009
Sample # W08P005165
Client ID: B1XLJ5 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Inorganic
Sampled: 11/23/08
Received: 11/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		12/08/08
ICP-200.8 MS All possible meta Prep											**12/30/08**
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		1.47	ug/L			1.00	0.0500		12/30/08
Arsenic	7440-38-2	LA-505-412		3.86	ug/L			1.00	0.400		12/30/08

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.(org)

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-009
Sample # W08P005166
Client ID: B1XLJ7 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Inorganic
Sampled: 11/23/08
Received: 11/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**11/25/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		12/08/08
Magnesium	7439-95-4	LA-505-411		1.30e+04	ug/L			1.00	50		12/08/08
Manganese	7439-96-5	LA-505-411		63.5	ug/L			1.00	4.0		12/08/08
Nickel	7440-02-0	LA-505-411	B	14.2	ug/L			1.00	4.0		12/08/08
Potassium	7440-09-7	LA-505-411		1.21e+05	ug/L			1.00	1.7e+02		12/08/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		12/08/08
Sodium	7440-23-5	LA-505-411		3.13e+04	ug/L			1.00	51		12/08/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		12/08/08
Barium	7440-39-3	LA-505-411		34.6	ug/L			1.00	4.0		12/08/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		12/08/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		12/08/08
Cobalt	7440-48-4	LA-505-411	B	8.20	ug/L			1.00	4.0		12/08/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		12/08/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		12/08/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		12/08/08
Calcium	7440-70-2	LA-505-411		4.75e+04	ug/L			1.00	73		12/08/08
Strontium	7440-24-6	LA-505-411		410	ug/L			1.00	4.0		12/08/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		12/08/08
ICP-200.8 MS All possible meta Prep											**12/30/08**
ICP-200.8 MS All possible meta											
Arsenic	7440-38-2	LA-505-412		2.81	ug/L			1.00	0.400		12/30/08

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.(org)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-009
Sample # W08P005167
Client ID: B1XLJ8 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Inorganic
Sampled: 11/23/08
Received: 11/24/08

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	< 0.116	mg/L			5.00	0.12		11/24/08
Chloride	16887-00-6	LA-533-410	D	28.1	mg/L			5.00	0.23		11/24/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0640	mg/L			5.00	0.064		11/24/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	7.25	mg/L			5.00	0.060		11/24/08
Sulfate	14808-79-8	LA-533-410	D	209	mg/L			5.00	0.66		11/24/08
ICP Metals Analysis, Grd H20 P Prep											**11/25/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		12/08/08
Magnesium	7439-95-4	LA-505-411		1.33e+04	ug/L			1.00	50		12/08/08
Manganese	7439-96-5	LA-505-411		61.2	ug/L			1.00	4.0		12/08/08
Nickel	7440-02-0	LA-505-411	B	13.9	ug/L			1.00	4.0		12/08/08
Potassium	7440-09-7	LA-505-411		1.22e+05	ug/L			1.00	1.7e+02		12/08/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		12/08/08
Sodium	7440-23-5	LA-505-411		3.12e+04	ug/L			1.00	51		12/08/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		12/08/08
Barium	7440-39-3	LA-505-411		35.2	ug/L			1.00	4.0		12/08/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		12/08/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		12/08/08
Cobalt	7440-48-4	LA-505-411	B	7.20	ug/L			1.00	4.0		12/08/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		12/08/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		12/08/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		12/08/08
Calcium	7440-70-2	LA-505-411		4.94e+04	ug/L			1.00	73		12/08/08
Strontium	7440-24-6	LA-505-411		419	ug/L			1.00	4.0		12/08/08

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(inorg)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-009
Sample # W08P005167
Client ID: B1XLJ8 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Inorganic
Sampled: 11/23/08
Received: 11/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		12/08/08
ICP-200.8 MS All possible meta Prep											**12/30/08**
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		2.13	ug/L			1.00	0.0500		12/30/08
Arsenic	7440-38-2	LA-505-412		3.04	ug/L			1.00	0.400		12/30/08

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(inorg)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S09-011
Sample # W08P005168
Client ID: B1XLX9 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Inorganic
Sampled: 11/23/08
Received: 11/24/08

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		11/24/08
Chloride	16887-00-6	LA-533-410	DU	< 0.0938	mg/L			2.00	0.094		11/24/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		11/24/08
Nitrogen in Nitrate	NO3-N	LA-533-410	DU	< 0.0242	mg/L			2.00	0.024		11/24/08
Sulfate	14808-79-8	LA-533-410	DU	< 0.264	mg/L			2.00	0.26		11/24/08

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.(org)

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S09-011
Sample # W08P005169
Client ID: B1XLX8 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Inorganic
Sampled: 11/23/08
Received: 11/24/08

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	< 0.116	mg/L			5.00	0.12		11/24/08
Chloride	16887-00-6	LA-533-410	D	26.3	mg/L			5.00	0.23		11/24/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0640	mg/L			5.00	0.064		11/24/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	15.1	mg/L			5.00	0.060		11/24/08
Sulfate	14808-79-8	LA-533-410	D	205	mg/L			5.00	0.66		11/24/08

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

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20082290
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date: 11/23/08
Receive Date:11/24/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P005157											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	6.5548		RPD			0.090	20.000		11/24/08
DUP	Fluoride	16984-48-8	0.3729		RPD			2.828	20.000		11/24/08
DUP	Nitrogen in Nitrite	NO2-N	<2.56e-2		RPD			n/a	20.000	U	11/24/08
DUP	Nitrogen in Nitrate	NO3-N	3.7774		RPD			0.494	20.000		11/24/08
DUP	Sulfate	14808-79-8	18.2618		RPD			0.298	20.000		11/24/08
MS	Chloride	16887-00-6	1.0131	102.853	% Recov	80.000	120.000				11/24/08
MS	Fluoride	16984-48-8	0.52305	103.574	% Recov	80.000	120.000				11/24/08
MS	Nitrogen in Nitrite	NO2-N	0.43635	88.689	% Recov	80.000	120.000				11/24/08
MS	Nitrogen in Nitrate	NO3-N	0.4229	95.034	% Recov	80.000	120.000				11/24/08
MS	Sulfate	14808-79-8	1.79905	90.861	% Recov	80.000	120.000				11/24/08
MSD	Chloride	16887-00-6	1.08435	110.086	% Recov	80.000	120.000				11/24/08
MSD	Fluoride	16984-48-8	0.50975	100.941	% Recov	80.000	120.000				11/24/08
MSD	Nitrogen in Nitrite	NO2-N	0.4394	89.309	% Recov	80.000	120.000				11/24/08
MSD	Nitrogen in Nitrate	NO3-N	0.4279	96.157	% Recov	80.000	120.000				11/24/08
MSD	Sulfate	14808-79-8	1.83675	92.765	% Recov	80.000	120.000				11/24/08
SPK-RPD	Chloride	16887-00-6	110.086		RPD			6.793	20.000		11/24/08
SPK-RPD	Fluoride	16984-48-8	100.941		RPD			2.575	20.000		11/24/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	89.309		RPD			0.697	20.000		11/24/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	96.157		RPD			1.175	20.000		11/24/08
SPK-RPD	Sulfate	14808-79-8	92.765		RPD			2.074	20.000		11/24/08
Lab ID: W08P005168											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	<9.38e-2		RPD			n/a	20.000	U	11/24/08
DUP	Fluoride	16984-48-8	<4.64e-2		RPD			n/a	20.000	U	11/24/08
DUP	Nitrogen in Nitrite	NO2-N	<2.56e-2		RPD			n/a	20.000	U	11/24/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20082290
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date: 11/23/08
Receive Date:11/24/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
DUP	Nitrogen in Nitrate	NO3-N	<2.42e-2		RPD			n/a	20.000	U	11/24/08
DUP	Sulfate	14808-79-8	<0.264		RPD			n/a	20.000	U	11/24/08
MS	Chloride	16887-00-6	0.97115	98.594	% Recov	80.000	120.000				11/24/08
MS	Fluoride	16984-48-8	0.46785	92.644	% Recov	80.000	120.000				11/24/08
MS	Nitrogen in Nitrite	NO2-N	0.5022	102.073	% Recov	80.000	120.000				11/24/08
MS	Nitrogen in Nitrate	NO3-N	0.45305	101.809	% Recov	80.000	120.000				11/24/08
MS	Sulfate	14808-79-8	1.8987	95.894	% Recov	80.000	120.000				11/24/08
MSD	Chloride	16887-00-6	0.96555	98.025	% Recov	80.000	120.000				11/24/08
MSD	Fluoride	16984-48-8	0.4607	91.228	% Recov	80.000	120.000				11/24/08
MSD	Nitrogen in Nitrite	NO2-N	0.5003	101.687	% Recov	80.000	120.000				11/24/08
MSD	Nitrogen in Nitrate	NO3-N	0.45495	102.236	% Recov	80.000	120.000				11/24/08
MSD	Sulfate	14808-79-8	1.9078	96.354	% Recov	80.000	120.000				11/24/08
SPK-RPD	Chloride	16887-00-6	98.025		RPD			0.579	20.000		11/24/08
SPK-RPD	Fluoride	16984-48-8	91.228		RPD			1.540	20.000		11/24/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	101.687		RPD			0.379	20.000		11/24/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	102.236		RPD			0.419	20.000		11/24/08
SPK-RPD	Sulfate	14808-79-8	96.354		RPD			0.479	20.000		11/24/08

BATCH QC

BLANK	Chloride	16887-00-6	<4.69e-2	n/a	mg/L	0.000	0.030			U	11/24/08
BLANK	Chloride	16887-00-6	<4.69e-2	n/a	mg/L	0.000	0.030			U	11/24/08
BLANK	Chloride	16887-00-6	<4.69e-2	n/a	mg/L	0.000	0.030			U	11/24/08
BLANK	Fluoride	16984-48-8	<2.32e-2	n/a	mg/L	0.000	0.030			U	11/24/08
BLANK	Fluoride	16984-48-8	<2.32e-2	n/a	mg/L	0.000	0.030			U	11/24/08
BLANK	Fluoride	16984-48-8	<2.32e-2	n/a	mg/L	0.000	0.030			U	11/24/08
BLANK	Nitrogen in Nitrite	NO2-N	<1.28e-2	n/a	mg/L	0.000	0.020			U	11/24/08
BLANK	Nitrogen in Nitrite	NO2-N	<1.28e-2	n/a	mg/L	0.000	0.020			U	11/24/08
BLANK	Nitrogen in Nitrite	NO2-N	<1.28e-2	n/a	mg/L	0.000	0.020			U	11/24/08
BLANK	Nitrogen in Nitrate	NO3-N	<1.21e-2	n/a	mg/L	0.000	0.040			U	11/24/08
BLANK	Nitrogen in Nitrate	NO3-N	<1.21e-2	n/a	mg/L	0.000	0.040			U	11/24/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20082290
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 Nitrate	NO3-N	<1.21e-2	n/a	mg/L	0.000	0.040			U	11/24/08
BLANK	Sulfate	14808-79-8	<0.132	n/a	mg/L	0.000	0.200			U	11/24/08
BLANK	Sulfate	14808-79-8	<0.132	n/a	mg/L	0.000	0.200			U	11/24/08
BLANK	Sulfate	14808-79-8	<0.132	n/a	mg/L	0.000	0.200			U	11/24/08
LCS	Chloride	16887-00-6	196.3927	98.690	% Recov	80.000	120.000				11/24/08
LCS	Chloride	16887-00-6	195.9815	98.483	% Recov	80.000	120.000				11/24/08
LCS	Fluoride	16984-48-8	103.7672	101.733	% Recov	80.000	120.000				11/24/08
LCS	Fluoride	16984-48-8	105.3944	103.328	% Recov	80.000	120.000				11/24/08
LCS	Nitrogen in Nitrite	NO2-N	99.5342	100.135	% Recov	80.000	120.000				11/24/08
LCS	Nitrogen in Nitrite	NO2-N	99.7522	100.354	% Recov	80.000	120.000				11/24/08
LCS	Nitrogen in Nitrate	NO3-N	92.0938	102.440	% Recov	80.000	120.000				11/24/08
LCS	Nitrogen in Nitrate	NO3-N	92.0491	102.391	% Recov	80.000	120.000				11/24/08
LCS	Sulfate	14808-79-8	395.8491	98.962	% Recov	80.000	120.000				11/24/08
LCS	Sulfate	14808-79-8	393.5657	98.391	% Recov	80.000	120.000				11/24/08

Lab ID: W08P005158
BATCH QC ASSOCIATED WITH SAMPLE

DUP	Chloride	16887-00-6	<9.38e-2		RPD			n/a	20.000	U	11/24/08
DUP	Fluoride	16984-48-8	<4.64e-2		RPD			n/a	20.000	U	11/24/08
DUP	Nitrogen in Nitrite	NO2-N	<2.56e-2		RPD			n/a	20.000	U	11/24/08
DUP	Nitrogen in Nitrate	NO3-N	<2.42e-2		RPD			n/a	20.000	U	11/24/08
DUP	Sulfate	14808-79-8	<0.264		RPD			n/a	20.000	U	11/24/08
MS	Chloride	16887-00-6	0.98815	100.320	% Recov	80.000	120.000				11/24/08
MS	Fluoride	16984-48-8	0.42045	83.257	% Recov	80.000	120.000				11/24/08
MS	Nitrogen in Nitrite	NO2-N	0.45395	92.266	% Recov	80.000	120.000				11/24/08
MS	Nitrogen in Nitrate	NO3-N	0.4182	93.978	% Recov	80.000	120.000				11/24/08
MS	Sulfate	14808-79-8	1.8998	95.949	% Recov	80.000	120.000				11/24/08
MSD	Chloride	16887-00-6	0.99335	100.848	% Recov	80.000	120.000				11/24/08
MSD	Fluoride	16984-48-8	0.4709	93.248	% Recov	80.000	120.000				11/24/08
MSD	Nitrogen in Nitrite	NO2-N	0.46075	93.648	% Recov	80.000	120.000				11/24/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20082290
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date: 11/23/08
Receive Date:11/24/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Nitrogen in Nitrate	NO3-N	0.40085	90.079	% Recov	80.000	120.000				11/24/08
MSD	Sulfate	14808-79-8	1.9591	98.944	% Recov	80.000	120.000				11/24/08
SPK-RPD	Chloride	16887-00-6	100.848		RPD			0.525	20.000		11/24/08
SPK-RPD	Fluoride	16984-48-8	93.248		RPD			11.321	20.000		11/24/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	93.648		RPD			1.487	20.000		11/24/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	90.079		RPD			4.237	20.000		11/24/08
SPK-RPD	Sulfate	14808-79-8	98.944		RPD			3.073	20.000		11/24/08

Lab ID: W08P005204
BATCH QC ASSOCIATED WITH SAMPLE

DUP	Chloride	16887-00-6	9.7259		RPD			0.916	20.000		11/24/08
DUP	Fluoride	16984-48-8	<4.64e-2		RPD			n/a	20.000	U	11/24/08
DUP	Nitrogen in Nitrite	NO2-N	<2.56e-2		RPD			n/a	20.000	U	11/24/08
DUP	Nitrogen in Nitrate	NO3-N	3.4707		RPD			0.454	20.000		11/24/08
DUP	Sulfate	14808-79-8	39.6133		RPD			0.151	20.000		11/24/08
MS	Chloride	16887-00-6	1.0856	110.213	% Recov	80.000	120.000				11/24/08
MS	Fluoride	16984-48-8	0.4807	95.188	% Recov	80.000	120.000				11/24/08
MS	Nitrogen in Nitrite	NO2-N	0.40255	81.819	% Recov	80.000	120.000				11/24/08
MS	Nitrogen in Nitrate	NO3-N	0.4324	97.169	% Recov	80.000	120.000				11/24/08
MS	Sulfate	14808-79-8	1.8638	94.131	% Recov	80.000	120.000				11/24/08
MSD	Chloride	16887-00-6	1.16005	117.772	% Recov	80.000	120.000				11/24/08
MSD	Fluoride	16984-48-8	0.4535	89.802	% Recov	80.000	120.000				11/24/08
MSD	Nitrogen in Nitrite	NO2-N	0.3929	79.858	% Recov	80.000	120.000				11/24/08
MSD	Nitrogen in Nitrate	NO3-N	0.4279	96.157	% Recov	80.000	120.000				11/24/08
MSD	Sulfate	14808-79-8	1.7559	88.682	% Recov	80.000	120.000				11/24/08
SPK-RPD	Chloride	16887-00-6	117.772		RPD			6.631	20.000		11/24/08
SPK-RPD	Fluoride	16984-48-8	89.802		RPD			5.823	20.000		11/24/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	79.858		RPD			2.426	20.000		11/24/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	96.157		RPD			1.047	20.000		11/24/08
SPK-RPD	Sulfate	14808-79-8	88.682		RPD			5.961	20.000		11/24/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20082290
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date: 11/24/08
Receive Date:11/24/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BATCH QC											
BLANK	Chloride	16887-00-6	<4.69e-2	n/a	mg/L	0.000	0.030			U	11/24/08
BLANK	Chloride	16887-00-6	<4.69e-2	n/a	mg/L	0.000	0.030			U	11/24/08
BLANK	Chloride	16887-00-6	<4.69e-2	n/a	mg/L	0.000	0.030			U	11/24/08
BLANK	Fluoride	16984-48-8	<2.32e-2	n/a	mg/L	0.000	0.030			U	11/24/08
BLANK	Fluoride	16984-48-8	<2.32e-2	n/a	mg/L	0.000	0.030			U	11/24/08
BLANK	Fluoride	16984-48-8	<2.32e-2	n/a	mg/L	0.000	0.030			U	11/24/08
BLANK	Nitrogen in Nitrite	NO2-N	<1.28e-2	n/a	mg/L	0.000	0.020			U	11/24/08
BLANK	Nitrogen in Nitrite	NO2-N	<1.28e-2	n/a	mg/L	0.000	0.020			U	11/24/08
BLANK	Nitrogen in Nitrite	NO2-N	<1.28e-2	n/a	mg/L	0.000	0.020			U	11/24/08
BLANK	Nitrogen in Nitrate	NO3-N	<1.21e-2	n/a	mg/L	0.000	0.040			U	11/24/08
BLANK	Nitrogen in Nitrate	NO3-N	<1.21e-2	n/a	mg/L	0.000	0.040			U	11/24/08
BLANK	Nitrogen in Nitrate	NO3-N	<1.21e-2	n/a	mg/L	0.000	0.040			U	11/24/08
BLANK	Sulfate	14808-79-8	<0.132	n/a	mg/L	0.000	0.200			U	11/24/08
BLANK	Sulfate	14808-79-8	<0.132	n/a	mg/L	0.000	0.200			U	11/24/08
BLANK	Sulfate	14808-79-8	<0.132	n/a	mg/L	0.000	0.200			U	11/24/08
LCS	Chloride	16887-00-6	200.7667	100.888	% Recov	80.000	120.000				11/24/08
LCS	Chloride	16887-00-6	204.91	102.970	% Recov	80.000	120.000				11/24/08
LCS	Fluoride	16984-48-8	101.0496	99.068	% Recov	80.000	120.000				11/24/08
LCS	Fluoride	16984-48-8	107.7986	105.685	% Recov	80.000	120.000				11/24/08
LCS	Nitrogen in Nitrite	NO2-N	96.6952	97.279	% Recov	80.000	120.000				11/24/08
LCS	Nitrogen in Nitrite	NO2-N	99.1422	99.741	% Recov	80.000	120.000				11/24/08
LCS	Nitrogen in Nitrate	NO3-N	91.5311	101.814	% Recov	80.000	120.000				11/24/08
LCS	Nitrogen in Nitrate	NO3-N	90.328	100.476	% Recov	80.000	120.000				11/24/08
LCS	Sulfate	14808-79-8	405.018	101.255	% Recov	80.000	120.000				11/24/08
LCS	Sulfate	14808-79-8	408.8476	102.212	% Recov	80.000	120.000				11/24/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20082290
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date: 11/23/08
Receive Date: 11/24/08

Lab ID: W08P005162
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	990.4	99.040	% Recov	75.000	125.000				12/08/08
MS	Barium	7440-39-3	485.1	97.020	% Recov	75.000	125.000				12/08/08
MS	Beryllium	7440-41-7	532.8	106.560	% Recov	75.000	125.000				12/08/08
MS	Calcium	7440-70-2	-710	-71.000	% Recov	75.000	125.000			•	12/08/08
MS	Cadmium	7440-43-9	1056	105.600	% Recov	75.000	125.000				12/08/08
MS	Cobalt	7440-48-4	1020	102.000	% Recov	75.000	125.000				12/08/08
MS	Chromium	7440-47-3	1010.1	101.010	% Recov	75.000	125.000				12/08/08
MS	Copper	7440-50-8	965.3	96.530	% Recov	75.000	125.000				12/08/08
MS	Iron	7439-89-6	1007	100.700	% Recov	75.000	125.000				12/08/08
MS	Potassium	7440-09-7	11207	112.070	% Recov	75.000	125.000				12/08/08
MS	Magnesium	7439-95-4	1420	142.000	% Recov	75.000	125.000			•	12/08/08
MS	Manganese	7439-96-5	1020	102.000	% Recov	75.000	125.000				12/08/08
MS	Sodium	7440-23-5	1660	166.000	% Recov	75.000	125.000			•	12/08/08
MS	Nickel	7440-02-0	994.4	99.440	% Recov	75.000	125.000				12/08/08
MS	Antimony	7440-36-0	1078	107.800	% Recov	75.000	125.000				12/08/08
MS	Strontium	7440-24-6	518.9	103.780	% Recov	75.000	125.000				12/08/08
MS	Vanadium	7440-62-2	988.4	98.840	% Recov	75.000	125.000				12/08/08
MS	Zinc	7440-66-6	1053	105.300	% Recov	75.000	125.000				12/08/08
MSD	Silver	7440-22-4	983	98.300	% Recov	75.000	125.000				12/08/08
MSD	Barium	7440-39-3	481.5	96.300	% Recov	75.000	125.000				12/08/08
MSD	Beryllium	7440-41-7	527.5	105.500	% Recov	75.000	125.000				12/08/08
MSD	Calcium	7440-70-2	-2660	-266.000	% Recov	75.000	125.000			•	12/08/08
MSD	Cadmium	7440-43-9	1055	105.500	% Recov	75.000	125.000				12/08/08
MSD	Cobalt	7440-48-4	1006	100.600	% Recov	75.000	125.000				12/08/08
MSD	Chromium	7440-47-3	984.1	98.410	% Recov	75.000	125.000				12/08/08
MSD	Copper	7440-50-8	969	96.900	% Recov	75.000	125.000				12/08/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20082290
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date: 11/23/08
Receive Date:11/24/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Iron	7439-89-6	990.6	99.060	% Recov	75.000	125.000				12/08/08
MSD	Potassium	7440-09-7	11177	111.770	% Recov	75.000	125.000				12/08/08
MSD	Magnesium	7439-95-4	1230	123.000	% Recov	75.000	125.000				12/08/08
MSD	Manganese	7439-96-5	1008	100.800	% Recov	75.000	125.000				12/08/08
MSD	Sodium	7440-23-5	1550	155.000	% Recov	75.000	125.000				12/08/08
MSD	Nickel	7440-02-0	990.6	99.060	% Recov	75.000	125.000				12/08/08
MSD	Antimony	7440-36-0	1036	103.600	% Recov	75.000	125.000				12/08/08
MSD	Strontium	7440-24-6	509.9	101.980	% Recov	75.000	125.000				12/08/08
MSD	Vanadium	7440-62-2	976.3	97.630	% Recov	75.000	125.000				12/08/08
MSD	Zinc	7440-66-6	1047	104.700	% Recov	75.000	125.000				12/08/08
SPK-RPD	Silver	7440-22-4	98.300		RPD			0.750	20.000		12/08/08
SPK-RPD	Barium	7440-39-3	96.300		RPD			0.745	20.000		12/08/08
SPK-RPD	Beryllium	7440-41-7	105.500		RPD			1.000	20.000		12/08/08
SPK-RPD	Calcium	7440-70-2	-266.000		RPD			-115.727	20.000 *		12/08/08
SPK-RPD	Cadmium	7440-43-9	105.500		RPD			0.095	20.000		12/08/08
SPK-RPD	Cobalt	7440-48-4	100.600		RPD			1.382	20.000		12/08/08
SPK-RPD	Chromium	7440-47-3	98.410		RPD			2.608	20.000		12/08/08
SPK-RPD	Copper	7440-50-8	96.900		RPD			0.383	20.000		12/08/08
SPK-RPD	Iron	7439-89-6	99.060		RPD			1.642	20.000		12/08/08
SPK-RPD	Potassium	7440-09-7	111.770		RPD			0.268	20.000		12/08/08
SPK-RPD	Magnesium	7439-95-4	123.000		RPD			14.340	20.000		12/08/08
SPK-RPD	Manganese	7439-96-5	100.800		RPD			1.183	20.000		12/08/08
SPK-RPD	Sodium	7440-23-5	155.000		RPD			6.854	20.000		12/08/08
SPK-RPD	Nickel	7440-02-0	99.060		RPD			0.383	20.000		12/08/08
SPK-RPD	Antimony	7440-36-0	103.600		RPD			3.974	20.000		12/08/08
SPK-RPD	Strontium	7440-24-6	101.980		RPD			1.750	20.000		12/08/08
SPK-RPD	Vanadium	7440-62-2	97.630		RPD			1.232	20.000		12/08/08
SPK-RPD	Zinc	7440-66-6	104.700		RPD			0.571	20.000		12/08/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20082290
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	12/08/08
BLANK	Barium	7440-39-3	<4	n/a	ug/L					U	12/08/08
BLANK	Beryllium	7440-41-7	<4	n/a	ug/L					U	12/08/08
BLANK	Calcium	7440-70-2	<73	n/a	ug/L					U	12/08/08
BLANK	Cadmium	7440-43-9	<4	n/a	ug/L					U	12/08/08
BLANK	Cobalt	7440-48-4	<4	n/a	ug/L					U	12/08/08
BLANK	Chromium	7440-47-3	<13	n/a	ug/L					U	12/08/08
BLANK	Copper	7440-50-8	<6	n/a	ug/L					U	12/08/08
BLANK	Iron	7439-89-6	<25	n/a	ug/L					U	12/08/08
BLANK	Potassium	7440-09-7	<170	n/a	ug/L					U	12/08/08
BLANK	Magnesium	7439-95-4	<50	n/a	ug/L					U	12/08/08
BLANK	Manganese	7439-96-5	<4	n/a	ug/L					U	12/08/08
BLANK	Sodium	7440-23-5	<51	n/a	ug/L					U	12/08/08
BLANK	Nickel	7440-02-0	<4	n/a	ug/L					U	12/08/08
BLANK	Antimony	7440-36-0	<56	n/a	ug/L					U	12/08/08
BLANK	Strontium	7440-24-6	<4	n/a	ug/L					U	12/08/08
BLANK	Vanadium	7440-62-2	<12	n/a	ug/L					U	12/08/08
BLANK	Zinc	7440-66-6	<9	n/a	ug/L					U	12/08/08
LCS	Silver	7440-22-4	993.6	99.360	% Recov	80.000	120.000				12/08/08
LCS	Barium	7440-39-3	472.5	94.500	% Recov	80.000	120.000				12/08/08
LCS	Beryllium	7440-41-7	552.8	110.560	% Recov	80.000	120.000				12/08/08
LCS	Calcium	7440-70-2	1037	103.700	% Recov	80.000	120.000				12/08/08
LCS	Cadmium	7440-43-9	1105	110.500	% Recov	80.000	120.000				12/08/08
LCS	Cobalt	7440-48-4	1056	105.600	% Recov	80.000	120.000				12/08/08
LCS	Chromium	7440-47-3	1018	101.800	% Recov	80.000	120.000				12/08/08
LCS	Copper	7440-50-8	980.9	98.090	% Recov	80.000	120.000				12/08/08
LCS	Iron	7439-89-6	1010	101.000	% Recov	80.000	120.000				12/08/08
LCS	Potassium	7440-09-7	11400	114.000	% Recov	80.000	120.000				12/08/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20082290
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	Magnesium	7439-95-4	986.1	98.610	% Recov	80.000	120.000				12/08/08
LCS	Manganese	7439-96-5	1014	101.400	% Recov	80.000	120.000				12/08/08
LCS	Sodium	7440-23-5	1056	105.600	% Recov	80.000	120.000				12/08/08
LCS	Nickel	7440-02-0	1059	105.900	% Recov	80.000	120.000				12/08/08
LCS	Antimony	7440-36-0	1094	109.400	% Recov	80.000	120.000				12/08/08
LCS	Strontium	7440-24-6	506.3	101.260	% Recov	80.000	120.000				12/08/08
LCS	Vanadium	7440-62-2	1008	100.800	% Recov	80.000	120.000				12/08/08
LCS	Zinc	7440-66-6	1095	109.500	% Recov	80.000	120.000				12/08/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20082290
Matrix: WATER
Test: ICP-200.8 MS All possible meta

Sample Date: 11/19/08
Receive Date:11/19/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P004981											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Arsenic	7440-38-2	38.17	95.425	% Recov	70.000	130.000				12/30/08
MS	Uranium	7440-61-1	43.138	107.845	% Recov	70.000	130.000				12/30/08
MSD	Arsenic	7440-38-2	37.2	93.000	% Recov	70.000	130.000				12/30/08
MSD	Uranium	7440-61-1	42.398	105.995	% Recov	70.000	130.000				12/30/08
SPK-RPD	Arsenic	7440-38-2	93.000		RPD			2.574	20.000		12/30/08
SPK-RPD	Urenium	7440-61-1	105.995		RPD			1.730	20.000		12/30/08
Lab ID: W08P004982											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Arsenic	7440-38-2	40.22	100.550	% Recov	70.000	130.000				12/30/08
MS	Uranium	7440-61-1	43.727	109.317	% Recov	70.000	130.000				12/30/08
MSD	Arsenic	7440-38-2	41.55	103.875	% Recov	70.000	130.000				12/30/08
MSD	Uranium	7440-61-1	43.877	109.693	% Recov	70.000	130.000				12/30/08
SPK-RPD	Arsenic	7440-38-2	103.875		RPD			3.253	20.000		12/30/08
SPK-RPD	Uranium	7440-61-1	109.693		RPD			0.343	20.000		12/30/08
Lab ID: W08P005020											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Arsenic	7440-38-2	37.49	93.725	% Recov	70.000	130.000				12/30/08
MS	Uranium	7440-61-1	40.953	102.382	% Recov	70.000	130.000				12/30/08
MSD	Arsenic	7440-38-2	41.03	102.575	% Recov	70.000	130.000				12/30/08
MSD	Uranium	7440-61-1	44.103	110.258	% Recov	70.000	130.000				12/30/08
SPK-RPD	Arsenic	7440-38-2	102.575		RPD			9.017	20.000		12/30/08
SPK-RPD	Uranium	7440-61-1	110.258		RPD			7.408	20.000		12/30/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20082290
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
BATCH QC											
BLANK	Arsenic	7440-38-2	<0.4	n/a	ug/L					U	12/30/08
BLANK	Arsenic	7440-38-2	<0.4	n/a	ug/L					U	12/30/08
BLANK	Arsenic	7440-38-2	<0.4	n/a	ug/L					U	12/30/08
BLANK	Uranium	7440-61-1	<5e-2	n/a	ug/L					U	12/30/08
BLANK	Uranium	7440-61-1	<5e-2	n/a	ug/L					U	12/30/08
BLANK	Uranium	7440-61-1	<5e-2	n/a	ug/L					U	12/30/08
LCS	Arsenic	7440-38-2	39.57	98.925	% Recov	85.000	115.000				12/30/08
LCS	Arsenic	7440-38-2	39.13	97.825	% Recov	85.000	115.000				12/30/08
LCS	Arsenic	7440-38-2	39.55	98.875	% Recov	85.000	115.000				12/30/08
LCS	Uranium	7440-61-1	40.72	101.800	% Recov	85.000	115.000				12/30/08
LCS	Uranium	7440-61-1	40.23	100.575	% Recov	85.000	115.000				12/30/08
LCS	Uranium	7440-61-1	40.28	100.700	% Recov	85.000	115.000				12/30/08

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20082290
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		Tc-99 matrix spike recovery failed due the high Tc-99 activity in the sample. Matrix spike recovery doesn't apply in this case. lmh ICP-AES: [Samples W08P5162-5167] Magnesium, sodium, and calcium sample results exceed spiking level by a factor of 4 so spike recoveries are not valid. Check and high standards used to ensure magnesium, sodium, calcium, and potassium linearity because sample results are greater than the calibration standard. Sample results < 5X MDL; "B" flag.

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: I09-007
Sample # W08P005156
Client ID: B1XKX2 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Organic
Sampled: 11/23/08
Received: 11/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Trichloroethene	79-01-6	LA-523-455	J	1.30	ug/L			1.00	1.0		12/03/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Carbon tetrachloride	56-23-5	LA-523-455	J	1.40	ug/L			1.00	1.0		12/03/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Chloroform	67-66-3	LA-523-455	J	2.10	ug/L			1.00	1.0		12/03/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		12/03/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		12/03/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-007
Sample # W08P005156
Client ID: B1XKX2 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Organic
Sampled: 11/23/08
Received: 11/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Ethyl cyanide	107-12-0	LA-523-455	U	< 2.00	ug/L			1.00	2.0		12/03/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08

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.(org)

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-007
Sample # W08P005157
Client ID: B1XKW1 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Organic
Sampled: 11/23/08
Received: 11/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Carbon tetrachloride	56-23-5	LA-523-455		20.0	ug/L			1.00	1.0		12/03/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Chloroform	67-66-3	LA-523-455	J	1.50	ug/L			1.00	1.0		12/03/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		12/03/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		12/03/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-007
Sample # W08P005157
Client ID: B1XKW1 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Organic
Sampled: 11/23/08
Received: 11/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Ethyl cyanide	107-12-0	LA-523-455	U	< 2.00	ug/L			1.00	2.0		12/03/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08

MDL=Minimum Detection Limit
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-007
Sample # W08P005158
Client ID: B1XKX3 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Organic
Sampled: 11/23/08
Received: 11/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		12/03/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		12/03/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08

MDL=Minimum Detection Limit
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-007
Sample # W08P005158
Client ID: B1XKX3 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Organic
Sampled: 11/23/08
Received: 11/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Ethyl cyanide	107-12-0	LA-523-455	U	< 2.00	ug/L			1.00	2.0		12/03/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-007
Sample # W08P005160
Client ID: B1XKY9 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Organic
Sampled: 11/23/08
Received: 11/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Carbon tetrachloride	56-23-5	LA-523-455	J	2.30	ug/L			1.00	1.0		12/03/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		12/03/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		12/03/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-007
Sample # W08P005160
Client ID: B1XKY9 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Organic
Sampled: 11/23/08
Received: 11/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Ethyl cyanide	107-12-0	LA-523-455	U	< 2.00	ug/L			1.00	2.0		12/03/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08

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.(org)

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S09-011
Sample # W08P005161
Client ID: B1XWD8 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Organic
Sampled: 11/23/08
Received: 11/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		12/03/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		12/03/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S09-011
Sample # W08P005161
Client ID: B1XWD8 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Organic
Sampled: 11/23/08
Received: 11/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Ethyl cyanide	107-12-0	LA-523-455	U	< 2.00	ug/L			1.00	2.0		12/03/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		12/03/08

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.(org)

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

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20082290
Matrix: WATER
Test: VOA Ground Water Protection

Sample Date: 11/21/08
Receive Date:11/21/08

Lab ID: W08P005129
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	21.510	86.000	% Recov	63.000	117.000				12/03/08
MS	Benzene	71-43-2	22.480	89.900	% Recov	75.000	129.000				12/03/08
MS	4-Bromofluorobenzene(Surr)	460-00-4	48.700	97.400	% Recov	75.000	125.000				12/03/08
MS	Chlorobenzene	108-90-7	25.040	100.000	% Recov	79.000	119.000				12/03/08
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	55.640	111.000	% Recov	75.000	125.000				12/03/08
MS	Toluene-d8(Surr)	2037-26-5	47.290	94.600	% Recov	75.000	125.000				12/03/08
MS	Toluene	108-88-3	24.120	96.500	% Recov	76.000	120.000				12/03/08
MS	Trichloroethene	79-01-6	19.760	79.000	% Recov	73.000	123.000				12/03/08
MSD	1,1-Dichloroethene	75-35-4	21.190	84.800	% Recov	63.000	117.000				12/03/08
MSD	Benzene	71-43-2	22.530	90.100	% Recov	75.000	129.000				12/03/08
MSD	4-Bromofluorobenzene(Surr)	460-00-4	48.830	97.700	% Recov	75.000	125.000				12/03/08
MSD	Chlorobenzene	108-90-7	24.500	98.000	% Recov	79.000	119.000				12/03/08
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	55.980	112.000	% Recov	75.000	125.000				12/03/08
MSD	Toluene-d8(Surr)	2037-26-5	48.610	97.200	% Recov	75.000	125.000				12/03/08
MSD	Toluene	108-88-3	24.320	97.300	% Recov	76.000	120.000				12/03/08
MSD	Trichloroethene	79-01-6	19.640	78.600	% Recov	73.000	123.000				12/03/08
SPK-RPD	1,1-Dichloroethene	75-35-4	84.800		RPD			1.405	20.000		12/03/08
SPK-RPD	Benzene	71-43-2	90.100		RPD			0.222	20.000		12/03/08
SPK-RPD	4-Bromofluorobenzene(Surr)	460-00-4	97.700		RPD			0.308	20.000		12/03/08
SPK-RPD	Chlorobenzene	108-90-7	98.000		RPD			2.020	20.000		12/03/08
SPK-RPD	1,2-Dichloroethane-d4(Surr)	17060-07-0	112.000		RPD			0.897	20.000		12/03/08
SPK-RPD	Toluene-d8(Surr)	2037-26-5	97.200		RPD			2.711	20.000		12/03/08
SPK-RPD	Toluene	108-88-3	97.300		RPD			0.826	20.000		12/03/08
SPK-RPD	Trichloroethene	79-01-6	78.600		RPD			0.508	20.000		12/03/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20082290
Matrix: WATER
Test: VOA Ground Water Protection

Sample Date: 11/23/08
Receive Date:11/24/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P005156											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	49.420	98.800	% Recov	75.000	125.000				12/03/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	56.760	114.000	% Recov	75.000	125.000				12/03/08
SURR	Toluene-d8(Surr)	2037-26-5	48.400	96.800	% Recov	75.000	125.000				12/03/08
Lab ID: W08P005157											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	49.150	98.300	% Recov	75.000	125.000				12/03/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	55.960	112.000	% Recov	75.000	125.000				12/03/08
SURR	Toluene-d8(Surr)	2037-26-5	47.920	95.800	% Recov	75.000	125.000				12/03/08
Lab ID: W08P005158											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	49.150	98.300	% Recov	75.000	125.000				12/03/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	55.990	112.000	% Recov	75.000	125.000				12/03/08
SURR	Toluene-d8(Surr)	2037-26-5	48.160	96.300	% Recov	75.000	125.000				12/03/08
Lab ID: W08P005160											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	48.740	97.500	% Recov	75.000	125.000				12/03/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	56.320	113.000	% Recov	75.000	125.000				12/03/08
SURR	Toluene-d8(Surr)	2037-26-5	47.860	95.700	% Recov	75.000	125.000				12/03/08
Lab ID: W08P005161											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	49.030	98.100	% Recov	75.000	125.000				12/03/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	56.060	112.000	% Recov	75.000	125.000				12/03/08
SURR	Toluene-d8(Surr)	2037-26-5	48.230	96.500	% Recov	75.000	125.000				12/03/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20082290
Matrix: WATER
Test: VOA Ground Water Protection

Sample Date: 11/23/08
Receive Date:11/24/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BATCH QC											
BLANK	1,1-Dichloroethane	75-34-3	< 1.0	n/a	ug/L					U	12/03/08
BLANK	1,1,1-Trichloroethane	71-55-6	< 1.0	n/a	ug/L					U	12/03/08
BLANK	1,1,2-Trichloroethane	79-00-5	< 1.0	n/a	ug/L					U	12/03/08
BLANK	1,1-Dichloroethene	75-35-4	< 1.0	n/a	ug/L					U	12/03/08
BLANK	1,2-Dichloroethane	107-06-2	< 1.0	n/a	ug/L					U	12/03/08
BLANK	1,4-Dichlorobenzene	106-46-7	< 1.0	n/a	ug/L					U	12/03/08
BLANK	1-Butanol	71-36-3	< 100	n/a	ug/L					U	12/03/08
BLANK	4-Methyl-2-Pentanone	108-10-1	< 1.0	n/a	ug/L					U	12/03/08
BLANK	Acetone	67-64-1	< 1.0	n/a	ug/L					U	12/03/08
BLANK	Benzene	71-43-2	< 1.0	n/a	ug/L					U	12/03/08
BLANK	4-Bromofluorobenzene(Surr)	460-00-4	49.280	98.600	% Recov	75.000	125.000				12/03/08
BLANK	Carbon disulfide	75-15-0	< 1.0	n/a	ug/L					U	12/03/08
BLANK	Carbon tetrachloride	56-23-5	< 1.0	n/a	ug/L					U	12/03/08
BLANK	Chloroform	67-66-3	< 1.0	n/a	ug/L					U	12/03/08
BLANK	Chlorobenzene	108-90-7	< 1.0	n/a	ug/L					U	12/03/08
BLANK	cis-1,2-Dichloroethylene	156-59-2	< 1.0	n/a	ug/L					U	12/03/08
BLANK	1,2-Dichloroethane-d4(Surr)	17060-07-0	56.130	112.000	% Recov	75.000	125.000				12/03/08
BLANK	trans-1,2-Dichloroethylene	156-60-5	< 1.0	n/a	ug/L					U	12/03/08
BLANK	Ethylbenzene	100-41-4	< 1.0	n/a	ug/L					U	12/03/08
BLANK	Ethyl cyanide	107-12-0	< 2.0	n/a	ug/L					U	12/03/08
BLANK	2-Butanone	78-93-3	< 1.0	n/a	ug/L					U	12/03/08
BLANK	Methylenechloride	75-09-2	< 1.0	n/a	ug/L					U	12/03/08
BLANK	Tetrachloroethene	127-18-4	< 1.0	n/a	ug/L					U	12/03/08
BLANK	Xylenes (total)	1330-20-7	< 1.0	n/a	ug/L	0.000	5.000			U	12/03/08
BLANK	Tetrahydrofuran	109-99-9	< 2.0	n/a	ug/L					U	12/03/08
BLANK	Toluene-dB(Surr)	2037-26-5	47.690	95.400	% Recov	75.000	125.000				12/03/08
BLANK	Toluene	108-88-3	< 1.0	n/a	ug/L					U	12/03/08
BLANK	Trichloroethene	79-01-6	< 1.0	n/a	ug/L					U	12/03/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20082290
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	Vinyl chloride	75-01-4	< 1.0	n/a	ug/L					U	12/03/08
LCS	1,1-Dichloroethene	75-35-4	20.100	80.400	% Recov	75.000	125.000				12/04/08
LCS	Benzene	71-43-2	23.510	94.000	% Recov	75.000	125.000				12/04/08
LCS	4-Bromofluorobenzene(Surr)	460-00-4	48.530	97.100	% Recov	75.000	125.000				12/04/08
LCS	Chlorobenzene	108-90-7	24.550	98.200	% Recov	75.000	125.000				12/04/08
LCS	1,2-Dichloroethane-d4(Surr)	17060-07-0	56.140	112.000	% Recov	75.000	125.000				12/04/08
LCS	Toluene-d8(Surr)	2037-26-5	50.240	100.000	% Recov	75.000	125.000				12/04/08
LCS	Toluene	108-88-3	24.840	99.400	% Recov	75.000	125.000				12/04/08
LCS	Trichloroethene	79-01-6	19.940	79.800	% Recov	75.000	125.000				12/04/08

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20082290
Department: Organic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		Tc-99 matrix spike recovery failed due the high Tc-99 activity in the sample. Matrix spike recovery doesn't apply in this case. lmh ICP-AES: [Samples W08P5162-5167] Magnesium, sodium, and calcium sample results exceed spiking level by a factor of 4 so spike recoveries are not valid. Check and high standards used to ensure magnesium, sodium, calcium, and potassium linearity because sample results are greater than the calibration standard. Sample results < 5X MDL; "B" flag.

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: I09-007
Sample # W08P005155
Client ID: B1XKX8 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Radiochemistry
Sampled: 11/23/08
Received: 11/24/08

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		260	pCi/L	+-52.0	pCi/L	1.00	6.1		12/04/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		8.80e+03	pCi/L	+-1.76e+03	pCi/L	1.00	2.4e+02		12/11/08

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.(org)

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

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

Report WGPP/ver. 5.2
GPAP

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-007
Sample # W08P005156
Client ID: B1XKX2 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Radiochemistry
Sampled: 11/23/08
Received: 11/24/08

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		110	pCi/L	+-23.1	pCi/L	1.00	6.1		12/04/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		2.40e+04	pCi/L	+-4.80e+03	pCi/L	1.00	2.4e+02		12/11/08

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.(org)

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-007
Sample # W08P005157
Client ID: B1XKW1 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Radiochemistry
Sampled: 11/23/08
Received: 11/24/08

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		397	pCi/L	+-79.4	pCi/L	1.00	6.1		12/05/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		1.80e+04	pCi/L	+-3.60e+03	pCi/L	1.00	2.4e+02		12/11/08

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.(org)

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-007
Sample # W08P005158
Client ID: B1XKX3 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Radiochemistry
Sampled: 11/23/08
Received: 11/24/08

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	-5.70	pCi/L	+-5.70	pCi/L	1.00	6.1		12/05/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421	U	11.0	pCi/L	+-110	pCi/L	1.00	2.4e+02		12/11/08

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.(org)

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

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Report WGPP/ver. 5.2
GPAP

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-007
Sample # W08P005159
Client ID: B1XKY2 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Radiochemistry
Sampled: 11/23/08
Received: 11/24/08

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		221	pCi/L	+-44.2	pCi/L	1.00	6.1		12/05/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		8.80e+03	pCi/L	+-1.76e+03	pCi/L	1.00	2.4e+02		12/11/08

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.(org)

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

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

Report WGPP/ver. 5.2
GPAP

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-007
Sample # W08P005160
Client ID: B1XKY9 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Radiochemistry
Sampled: 11/23/08
Received: 11/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		1.40e+04	pCi/L	+-2.80e+03	pCi/L	1.00	2.4e+02		12/11/08

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.(org)

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

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

Report WGPP/ver. 5.2
GPAP

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-005
Sample # W08P005163
Client ID: B1XHJ1 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082290
Department: Radiochemistry
Sampled: 11/23/08
Received: 11/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha on Alpha Plateau											
Gross alpha on alpha plateau	12587-46-1	LA-508-415	U	5.00e-03	pCi/L	+-1.00e-03	pCi/L	1.00	2.4		12/10/08
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		5.30	pCi/L	+-1.64	pCi/L	1.00	2.1		12/08/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		790	pCi/L	+-229	pCi/L	1.00	2.4e+02		12/11/08

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

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20082290
Matrix: WATER
Test: Gross Alpha on Alpha Plateau

Sample Date: 11/23/08
Receive Date:11/24/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P005163											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Gross alpha on alpha plateau	12587-46-1	U2.2E-01		RPD			n/a	20.000		12/10/08
BATCH QC											
BLANK	Gross alpha on alpha plateau	12587-46-1-ap	U1.1E-01	n/a	pCi/L	-100.000	100.000				12/10/08
LCS	Gross alpha on alpha plateau	12587-46-1-ap	41.8	89.012	% Recov	80.000	120.000				12/10/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20082290
Matrix: WATER
Test: Gross Alpha/Gross Beta (AB32)

Sample Date: 11/23/08
Receive Date:11/24/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P005163											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Gross beta	12587-47-2	5.8		RPD			9.009	20.000		12/08/08
BATCH QC											
BLANK	Gross beta	12587-47-2	U3.5E-01	n/a	pCi/L	-10.000	10.000				12/08/08
LCS	Gross beta	12587-47-2	143.0	105.186	% Recov	80.000	120.000				12/08/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20082290
Matrix: WATER
Test: TC99 by Liquid Scin.

Sample Date: 11/20/08
Receive Date:11/20/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P005001											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tc-99 by Liquid Scin.	14133-76-7	7.6E+03		RPD			5.128	20.000		12/04/08
MS	Tc-99 by Liquid Scin.	14133-76-7	76.6	12.025	% Recov	75.000	125.000				12/04/08
BATCH QC											
BLANK	Tc-99 by Liquid Scin.	14133-76-7	U-5.0	n/a	pCi/L	-10.000	10.000				12/04/08
LCS	Tc-99 by Liquid Scin.	14133-76-7	171.4	107.663	% Recov	80.000	120.000				12/04/08
Lab ID: W08P005157											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tc-99 by Liquid Scin.	14133-76-7	441.0		RPD			10.426	20.000		12/05/08
MS	Tc-99 by Liquid Scin.	14133-76-7	693	108.853	% Recov	75.000	125.000				12/05/08
BATCH QC											
BLANK	Tc-99 by Liquid Scin.	14133-76-7	U-4.6	n/a	pCi/L	-10.000	10.000				12/05/08
LCS	Tc-99 by Liquid Scin.	14133-76-7	166.8	104.774	% Recov	80.000	120.000				12/05/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20082290
Matrix: WATER
Test: Tritium by Liq Sct column prep

Sample Date: 11/23/08
Receive Date:11/24/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P005155											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tritium	10028-17-8	9.1E+03		RPD			3.352	20.000		12/11/08
MS	Tritium	10028-17-8	18720	84.251	% Recov	75.000	125.000				12/11/08
BATCH QC											
BLANK	Tritium	10028-17-8	U-9.3E+01	n/a	pCi/L	-10.000	1000.000				12/11/08
LCS	Tritium	10028-17-8	2720	94.807	% Recov	80.000	120.000				12/11/08

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20082290
Department: Radiochemistry

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		Tc-99 matrix spike recovery failed due the high Tc-99 activity in the sample. Matrix spike recovery doesn't apply in this case. lmh ICP-AES: [Samples W08P5162-5167] Magnesium, sodium, and calcium sample results exceed spiking level by a factor of 4 so spike recoveries are not valid. Check and high standards used to ensure magnesium, sodium, calcium, and potassium linearity because sample results are greater than the calibration standard. Sample results < 5X MDL; "B" flag.

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

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M4W41-SLF-09-008

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 15 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
01/08/09

ACKNOWLEDGMENT OF SAMPLES RECEIVED

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20082290

The following samples were received from you on 11/24/08. 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
W08P005155	B1XKX8	PNNL-GPP U @2008 @H3-33 @IC-30 @TC99-30	Water	11/23/08
W08P005156	B1XKX2	PNNL-GPP U @2008 @H3-33 @IC-30 @TC99-30 @VOA-GPP	Water	11/23/08
W08P005157	B1XKW1	PNNL-GPP U @2008 @H3-33 @IC-30 @TC99-30 @VOA-GPP	Water	11/23/08
W08P005158	B1XKX3	PNNL-GPP U @2008 @H3-33 @IC-30 @TC99-30 @VOA-GPP	Water	11/23/08
W08P005159	B1XKY2	PNNL-GPP U @2008 @H3-33 @IC-30 @TC99-30	Water	11/23/08
W08P005160	B1XKY9	PNNL-GPP @H3-33 @IC-30 @VOA-GPP	Water	11/23/08
W08P005161	B1XWD8	PNNL-GPP @VOA-GPP	Water	11/23/08
W08P005162	B1XHJ0	PNNL-GPP @GPP6010	Water	11/23/08
W08P005163	B1XHJ1	PNNL-GPP @AB-32 @ALPHA @GPP6010 @H3-33 @IC-30	Water	11/23/08
W08P005164	B1XLJ4	PNNL-GPP As @2008 @GPP6010	Water	11/23/08
W08P005165	B1XLJ5	PNNL-GPP As U @2008 @GPP6010 @IC-30	Water	11/23/08
W08P005166	B1XLJ7	PNNL-GPP As @2008 @GPP6010	Water	11/23/08
W08P005167	B1XLJ8	PNNL-GPP As U @2008 @GPP6010 @IC-30	Water	11/23/08
W08P005168	B1XLX9	PNNL-GPP @IC-30	Water	11/23/08
W08P005169	B1XLX8	PNNL-GPP @IC-30	Water	11/23/08

Test Acronym Description

Test Acronym	Description

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20082290

Test Acronym Description

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@AB-32	Gross Alpha/Gross Beta (AB32)
@ALPHA	Gross Alpha on Alpha Plateau
@GPP6010	ICP Metals Analysis, Grd H20 P
@H3-33	Tritium by Liq Sct column prep
@IC-30	Anions by Ion Chromatography
@TC99-30	TC99 by Liquid Scin.
@VOA-GPP	VOA Ground Water Protection

CHPRC

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

02/08/09 20082290

COC # I09-007-96

Collector: JP Herrick	Contact/Requester: Mike Neely	Telephone No.: 509-373-0654 MSIN FAX
SAF No.: 109-007	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: 2UP1 NOVEMBER 2008	HNF-N-506-18/49	Ice Chest No. Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: SURV	Priority: 45 Days	Offsite Property No.

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

SPECIAL INSTRUCTIONS Hold Time
FY08 and FY09 samples cannot be in the same SDG.
200 Area Generator Knowledge Information Form applies.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B1XKX8	W08P005155	W	11/23/08	0958	1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2
B1XKX8	↓	W	↓	↓	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	28 Days/48 Hours	Cool~4C
B1XKX8		W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	6 Months	HCl to pH <2
B1XKX8		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	6 Months	None

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
JP Herrick			11-24-08 0820	FM HALL			11-24-08 0820
FM HALL			11-24-08 0850	TA FRAZIER			11-24-08 0850

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

CHPRC

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # I09-007-88

Page 1 of 1

Collector: JP Herrick	Contact/Requester: Mike Neely	Telephone No.: 509-373-0654 MSIN FAX
SAF No.: I09-007	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: 2UPL NOVEMBER 2008	HNF-N-506-18/49	Ice Chest No. 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
** **

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

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B1XKX2	5156	W	11/23/08	1101	4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2 Cool~4C
B1XKX2		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2
B1XKX2		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	28 Days/48 Hours	Cool~4C
B1XKX2		W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	6 Months	HCl to pH <2
B1XKX2		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	6 Months	None

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
JP Herrick			0900 11-24-08		FM HALL		0800 11-24-08
	FM HALL		0850 11-24-08	TA FRAZIER			0850 11-24-08

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

CHPRC

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # I09-007-70

Page 1 of 1

Collector: JP Herrick	Contact/Requester: Mike Neely	Telephone No.: 509-373-0654 MSIN FAX
SAF No.: I09-007	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: 2UPL NOVEMBER 2008	HNF-N-506-18/49	Ice Chest No. 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
** **

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

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B1XKW1	5157	W	11/23/08	1151	4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2 Cool~4C
B1XKW1		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2
B1XKW1		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	28 Days/48 Hours	Cool~4C
B1XKW1		W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	6 Months	HCl to pH <2
B1XKW1		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	6 Months	None

ICED

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
JP Herrick	0850 11-24-08	FM Hall	0850 11-24-08
FM Hall	0850 11-24-08	TA Ramzim	0850 11-24-08

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

CHPRC

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # I09-007-89

Page 1 of 1

Collector: JP Herrick	Contact/Requester: Mike Neely	Telephone No.: 509-373-0654 MSIN FAX
SAF No.: I09-007	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: 2UPL NOVEMBER 2008	HNF-N-506-18/49	Ice Chest No. Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: SURV	Priority: 45 Days	Offsite Property No.

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

SPECIAL INSTRUCTIONS **Hold Time**
FY08 and FY09 samples cannot be in the same SDG.
200 Area Generator Knowledge Information Form applies.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B1XKX3	5158	W	11/23/08	0735	4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2 Cool~4C
B1XKX3	↓	W	↓	↓	1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2
B1XKX3		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	28 Days/48 Hours	Cool~4C
B1XKX3		W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	6 Months	HCl to pH <2
B1XKX3		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	6 Months	None

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
JP Herrick	J. Herrick		11-24-08 0300	FM	HALL		11-24-08 0800
FM	HALL		11-24-08 0850	TA	FRAZIM		11-24-08 0850

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

CHPRC

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # I09-007-104

Page 1 of 1

Collector: JP Herrick	Contact/Requester: Mike Neely	Telephone No.: 509-373-0654 MSIN FAX
SAF No.: I09-007	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: 2UP1, NOVEMBER 2008	HNF-N-506-18/49	Ice Chest No. Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: SURV	Priority: 45 Days	Offsite Property No.

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

SPECIAL INSTRUCTIONS Hold Time
FY08 and FY09 samples cannot be in the same SDG.
200 Area Generator Knowledge Information Form applies.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B1XKY2	5159	W	11/23/08	0958	1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2
B1XKY2	↓	W	↓	↓	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	28 Days/48 Hours	Cool~4C
B1XKY2		W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	6 Months	HCl to pH <2
B1XKY2		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	6 Months	None

ICED

Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
JP Herrick	[signature]	0800 11-24-08	FM HALL	[signature]	0800 11-24-08
FM HALL	[signature]	0850 11-24-08	TA FRAZIM	[signature]	0850 11-24-08

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

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CHPRC

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # I09-007-118

Page 1 of 1

Collector: JP Herrick	Contact/Requester: Mike Neely	Telephone No.: 509-373-0654 MSIN FAX
SAF No.: 109-007	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: 2UP1 NOVEMBER 2008	HNF-11-506-18/19	Ice Chest No. Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: SURV	Priority: 45 Days	Offsite Property No.

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

SPECIAL INSTRUCTIONS **Hold Time**
FY08 and FY09 samples cannot be in the same SDG.
200 Area Generator Knowledge Information Form applies.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B1XKY9	5160	W	11/23/08	0832	4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2 Cool~4C
B1XKY9	↓	W	↓	↓	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	28 Days/48 Hours	Cool~4C
B1XKY9	↓	W	↓	↓	1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	6 Months	None

ICED

Relinquished By	Date/Time	Received By	Date/Time
Print: JP Herrick Sign: [signature]	0800 11-24-08	Print: FM HALL Sign: [signature]	0800 11-24-08
Print: FM HALL Sign: [signature]	0850 11-24-08	Print: JA FRAZIER Sign: [signature]	0850 11-24-08

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

CHPRC

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S09-011-372

Collector JP Herrick	Contact/Requester Mike Neely	Telephone No. 509-373-0654 MSIN FAX
SAF No. S09-011	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title SURV NOVEMBER 2008	HNF-N-506-18/49	Ice Chest No. 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
** **

SPECIAL INSTRUCTIONS Hold Time
FY08 and FY09 samples cannot be in the same SDG.
Site-Wide Generator Knowledge Information Form applies.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B1XWD8	5161	W	11/23/05	0332	1x60-mL P	Activity Scan	6 Months	None
B1XWD8	↓	W	↓	↓	4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2 Cool~4C

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
JP Herrick			11-24-08 0300	FM HAIL			11-24-08 0300
FM HAIL			11-24-08 0850	TA FRAZIER			11-24-08 0850

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

CHPRC

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # I09-005-114

Collector: L. WALL	Contact/Requester: Mike Neely	Telephone No.: 509-373-0654 MSIN FAX
SAF No.: I09-005	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: 100HR3IAM(1/2) NOVEMBER 2008	HNF-H-506 . 20/23	Ice Chest No. Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: CERCLA	Priority: 45 Days	Offsite Property No.

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

SPECIAL INSTRUCTIONS **Hold Time**
FY08 and FY09 samples cannot be in the same SDG.
100 Area Generator Knowledge Information Form applies.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B1XHJ0 (F)	5162	W	11-23-08	0944	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B1XHJ1	5163	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B1XHJ1		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	28 Days/48 Hours	Cool~4C
B1XHJ1		W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2); ALPHABETA_GPC: Alpha discrete + Beta (2)	6 Months	HNO3 to pH <2
B1XHJ1		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	6 Months	None

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
L. WALL	L. Wall		0800 11-24-08	F M HALL			0800 11-24-08
F M HALL			0850 11-24-08				0850 11-24-08

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

CHPRC

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # I09-009-90

Page 1 of 1

Collector: L. WALL	Contact/Requester: Mike Neely	Telephone No.: 509-373-0654 MSIN FAX
SAF No.: 109-009	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: ISRM NOVEMBER 2008	HNF-N-506-20/23	Ice Chest No. Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: CERCLA	Priority: 45 Days	Offsite Property No.

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

SPECIAL INSTRUCTIONS **Hold Time**
FY08 and FY09 samples cannot be in the same SDG.
200 Area Generator Knowledge Information Form applies.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B1XLJ4 (F)	5164	W	11-23-08	1135	1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1)	6 Months	HNO3 to pH <2
B1XLJ4 (F)	↓	W	↓	↓	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B1XLJ5	5165	W	↓	↓	1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1)	6 Months	HNO3 to pH <2
B1XLJ5	↓	W	↓	↓	1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2
B1XLJ5	↓	W	↓	↓	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B1XLJ5	↓	W	↓	↓	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	28 Days/48 Hours	Cool~4C

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
L. WALL	L. Wall		11-24-08	FM HALL			11-24-08
FM HALL			11-24-08 0850				11-24-08 0850

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

CHPRC

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # I09-009-94

Collector: L. WALL	Contact/Requester: Mike Neely	Telephone No.: 509-373-0654 MSIN FAX
SAF No.: I09-009	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: ISRM NOVEMBER 2008	HNF-N-526-20/23	Ice Chest No. Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: CERCLA	Priority: 45 Days	Offsite Property No.

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

SPECIAL INSTRUCTIONS Hold Time
FY08 and FY09 samples cannot be in the same SDG.
200 Area Generator Knowledge Information Form applies.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B1XLJ7 (F)	5166	W	11-23-08	1230	1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1)	6 Months	HNO3 to pH <2
B1XLJ7 (F)	5167	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B1XLJ8		W			1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1)	6 Months	HNO3 to pH <2
B1XLJ8		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2
B1XLJ8		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B1XLJ8		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	28 Days/48 Hours	Cool~4C

ICED

Relinquished By	Received By
Print: L. WALL Sign: L. Wall Date/Time: 0930 11-24-08	Print: FM HALL Sign: [signature] Date/Time: 0930 11-24-08
Print: FM HALL Sign: [signature] Date/Time: 0950 11-24-08	Print: [signature] Sign: [signature] Date/Time: 0950 11-24-08
Relinquished By: Date/Time:	Received By: Date/Time:
Relinquished By: Date/Time:	Received By: Date/Time:

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liquid	
SO = Solid		T = Tissue	
SL = Sludge		WI = 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

CHPRC

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S09-011-27

Page 1 of 1

Collector: L. WALL	Contact/Requester: Mike Neely	Telephone No.: 509-373-0654 MSIN FAX
SAF No.: S09-011	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: SURV. NOVEMBER 2008	HNF-IN-526-20/23	Ice Chest No. Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: SURV	Priority: 45 Days	Offsite Property No.

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

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

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B1XLX9	5168	W	11/23/08	0900	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	28 Days/48 Hours	Cool~4C

L. Wall 11/23/08

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
L. WALL	L. Wall		0800 11-24-08	F M HALL			0800 11-24-08
F M HALL			0850 11-24-08				0850 11-24-08
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

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CHPRC

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

S09-011-26

Collector L. WALL	Contact/Requester Mike Neely	Telephone No. 509-373-0654 MSIN FAX
SAF No. S09-011	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title SURV, NOVEMBER 2008	1HNF-N-526 · 20 - 23	Ice Chest No. 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
** **

SPECIAL INSTRUCTIONS Hold Time
FY08 and FY09 samples cannot be in the same SDG.
Site-Wide Generator Knowledge Information Form applies.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B1XLX8	5169	W	11-23-08	1037	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	28 Days/48 Hours	Cool~4C

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
L. WALL	L.D. Wall		0800 11-24-08	FM	HALL		0800 11-24-08
FM	HALL		0850 11-24-08				0830 11-24-08

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

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