

RECEIVED AUGUST 8, 2007

0081888

Fluor Hanford
WSCF Analytical Lab
P.O. Box 1000
Richland, WA 99352
Telephone 373-7495
Telefax 372-0456

FLUOR

Memorandum

M4W41-SLF-07-510

To: H. Hampt E6-35

Date: August 2, 2007

From: S. L. Fitzgerald, Manager
WSCF Analytical Lab *SLF* *SLF*

cc: w/Attachments

T. F. Dale S3-30
D. Felmy (PNNL) K6-75
H. K. Meznarich S3-30
P. D. Mix S3-30

J. E. Trechter S3-30
S. J. Trent E6-35
D. D. Wright S3-30
File/LB ✓

Subject: FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20071027

- Reference:
- 1) Letter of Instruction for Analytical Services for the Groundwater Performance Assessment Project and Analytical Laboratory Transition Plan, FH-0602422, September 19, 2006
 - 2) HNF-SD-CD-QAPP-017, Rev. 8, Waste Sampling & Characterization Facility Quality Assurance Plan

This transmittal contains the following information for sample delivery group WSCF20071027:

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

SLF/grf

Attachments 4

RECEIVED
JAN 22 2009
EDMC

M4W41-SLF-07-510

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20071027
Data Deliverable Date: 02-aug-2007
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
I07-049	B1NJT7	W07P001171	WATER
	B1NJT8	W07P001172	WATER
	B1NJV1	W07P001173	WATER
	B1NJV2	W07P001174	WATER
	B1NJV7	W07P001166	WATER
	B1NJV8	W07P001167	WATER
	B1NJV3	W07P001175	WATER
	B1NJV4	W07P001176	WATER
S07-002	B1M7L6	W07P001168	WATER
W07-006	B1NMV5	W07P001157	WATER
	B1NMW0	W07P001158	WATER
	B1NMX0	W07P001159	WATER
	B1NMX5	W07P001161	WATER
	B1NMY0	W07P001160	WATER
	B1NN10	W07P001162	WATER
	B1NN39	W07P001163	WATER
	B1NN41	W07P001165	WATER
	B1NN46	W07P001164	WATER
	B1NN61	W07P001169	WATER
	B1NN73	W07P001170	WATER

M4W41-SLF-07-510

ATTACHMENT 2

NARRATIVE

Consisting of 4 pages
Including cover page

Sample Delivery Group	WSCF20071027
Sample Matrix	Water
Data Deliverable	Summary Report

Introduction

Twenty (20) groundwater samples were received at the WSCF Laboratory on June 19, 2007. Samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Remediation Program – Letter of Instruction*, referenced in the cover letter.

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

It should be noted that the attached chain of custody was stamped “iced” and initialed by the WSCF Laboratory Sample Custodian during sample receiving, indicating the presence of ice in the sample container.

Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report*, pages 14 through 16, for a complete listing of approved analytical methods.

Inorganic Comments

Anions – Holding time requirements for this analysis were met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See pages 36 through 39 for QC details. Analytical Note(s):

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

All QC controls are within the established limits.

ICP-AES Metals – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See pages 40 through 43 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1NJW9 (SDG# 20071043).

- Calcium, Magnesium and Sodium – insufficient spike concentrations. Sample concentrations were greater than four times the spike concentration. For results higher than the highest calibration standard, a high-level standard and an ICP interference check sample were analyzed to ensure acceptable sample results.
- Zinc (B1NJW9) – The Matrix Spike and the Spike Relative Percent Difference (RPD) were outside established laboratory limits. However, the Matrix Spike Duplicate was within established laboratory limits and no flags were issued.

All other QC controls are within the established limits.

ICP-MS Metals – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See page 44 for QC details. Analytical Note(s):

- Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1P1B1 (SDG# 20071116) and B1NJV8 of this SDG.
- Uranium (B1P1B1) – insufficient spike concentrations. Sample concentrations were several times greater than the spike concentration.

All other QC controls are within the established limits.

Total Alkalinity – The hold time requirement for this analysis was met. A Duplicate and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See page 45 for QC details. Analytical Note(s):

- Duplicate was analyzed on sample# B1NMW5 (SDG# 20071021).

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 per the GRP Letter of Instruction. See pages 57 through 60 for QC details. Analytical Note(s):

- Sample results were J flagged if analytical results were less than the lowest calibration standard, however greater than the method detection limit.
- Ethylbenzene contamination detected in the Blank was evaluated and there was no affect on sample results.

All other QC controls are within the established limits.

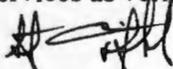
Radiochemistry Comments

Rad Chem – There are no hold times associated with WSCF’s radiochemical methods. A Duplicate, Matrix Spike, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 65 through 66 for QC details. Analytical Note(s):

- Tritium – Duplicate and Matrix Spike were analyzed on sample# B1NJY9 (SDG# 20071013).

All QC controls are within the established limits.

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



Scot L. Fitzgerald
WSCF Analytical Laboratory Manager



Pauline D. Mix
WSCF Client Services

Abbreviations

Hg – mercury
IC – ion chromatography
ICP – inductively coupled plasma
ICP/AES – ICP/atomic emission spectroscopy
ICP/MS – ICP/mass spectrometry
Total U – total uranium
AT/TB – total alpha/total beta
AEA – Alpha Energy Analysis
WTPH-G – Total Hydrocarbons-Gasoline

Am – americium
Cm – curium
Pu – plutonium
Np – neptunium
GEA – gamma energy analysis
H3 – Tritium
Sr – Strontium 89, 90
WTPH-D – Total Hydrocarbons-Diesel
TSS – Total Suspended Solids

M4W41-SLF-07-510

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 59 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

GPAP
Richland, WA 99352

Attention: Steve Trent E6-35

Analytical:

Heath S. Fitzgerald 8/2/07

Client Services:

RDy P.D. May 8/2/2007

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#: WSCF20071027
Report Date: 1-aug-2007
Report WGPP/ver. 5.2
GPAP

Page 1

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20071027

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
32279	2	32666	36728	BLANK		Anions by Ion Chromatography
32279	12	32666	36728	BLANK		Anions by Ion Chromatography
32279	3	32666	36728	LCS		Anions by Ion Chromatography
32279	8	32666	36728	SAMPLE	W07P001157	Anions by Ion Chromatography
32279	9	32666	36728	SAMPLE	W07P001158	Anions by Ion Chromatography
32279	10	32666	36728	SAMPLE	W07P001159	Anions by Ion Chromatography
32279	11	32666	36728	SAMPLE	W07P001160	Anions by Ion Chromatography
32279	5	32666	36728	DUP	W07P001169	Anions by Ion Chromatography
32279	6	32666	36728	MS	W07P001169	Anions by Ion Chromatography
32279	7	32666	36728	MSD	W07P001169	Anions by Ion Chromatography
32279	4	32666	36728	SAMPLE	W07P001169	Anions by Ion Chromatography
32279	7	32666	36728	SPK-RPD	W07P001169	Anions by Ion Chromatography
32281	2	32668	36732	BLANK		Anions by Ion Chromatography
32281	12	32668	36732	BLANK		Anions by Ion Chromatography
32281	19	32668	36732	BLANK		Anions by Ion Chromatography
32281	3	32668	36732	LCS		Anions by Ion Chromatography
32281	5	32668	36732	DUP	W07P001161	Anions by Ion Chromatography
32281	6	32668	36732	MS	W07P001161	Anions by Ion Chromatography
32281	7	32668	36732	MSD	W07P001161	Anions by Ion Chromatography
32281	4	32668	36732	SAMPLE	W07P001161	Anions by Ion Chromatography
32281	7	32668	36732	SPK-RPD	W07P001161	Anions by Ion Chromatography
32281	9	32668	36732	SAMPLE	W07P001162	Anions by Ion Chromatography
32281	10	32668	36732	SAMPLE	W07P001163	Anions by Ion Chromatography
32281	11	32668	36732	SAMPLE	W07P001164	Anions by Ion Chromatography
32281	8	32668	36732	SAMPLE	W07P001167	Anions by Ion Chromatography
32281	14	32668	36732	DUP	W07P001172	Anions by Ion Chromatography
32281	15	32668	36732	MS	W07P001172	Anions by Ion Chromatography
32281	16	32668	36732	MSD	W07P001172	Anions by Ion Chromatography
32281	13	32668	36732	SAMPLE	W07P001172	Anions by Ion Chromatography
32281	16	32668	36732	SPK-RPD	W07P001172	Anions by Ion Chromatography
32281	17	32668	36732	SAMPLE	W07P001174	Anions by Ion Chromatography
32281	18	32668	36732	SAMPLE	W07P001176	Anions by Ion Chromatography
32373	1	32764	36820	LCS		Total Alkalinity as mg/L CaCO3
32373	13	32764	36820	LCS		Total Alkalinity as mg/L CaCO3
32373	20	32764	36820	LCS		Total Alkalinity as mg/L CaCO3
32373	3	32764	36820	DUP	W07P001152	Total Alkalinity as mg/L CaCO3
32373	7	32764	36820	SAMPLE	W07P001157	Total Alkalinity as mg/L CaCO3
32373	8	32764	36820	SAMPLE	W07P001158	Total Alkalinity as mg/L CaCO3
32373	9	32764	36820	SAMPLE	W07P001159	Total Alkalinity as mg/L CaCO3
32373	10	32764	36820	SAMPLE	W07P001160	Total Alkalinity as mg/L CaCO3
32373	11	32764	36820	SAMPLE	W07P001161	Total Alkalinity as mg/L CaCO3
32373	12	32764	36820	SAMPLE	W07P001162	Total Alkalinity as mg/L CaCO3
32373	14	32764	36820	SAMPLE	W07P001163	Total Alkalinity as mg/L CaCO3
32373	15	32764	36820	SAMPLE	W07P001164	Total Alkalinity as mg/L CaCO3
32373	16	32764	36820	SAMPLE	W07P001165	Total Alkalinity as mg/L CaCO3
32373	17	32764	36820	SAMPLE	W07P001169	Total Alkalinity as mg/L CaCO3
32373	18	32764	36820	SAMPLE	W07P001170	Total Alkalinity as mg/L CaCO3
32487	1	32878	36939	BLANK		ICP-200.8 MS All possible meta
32487	2	32878	36939	LCS		ICP-200.8 MS All possible meta

32487	7	32878	36939	MS	W07P001167	ICP-200.8 MS All possible meta
32487	8	32878	36939	MSD	W07P001167	ICP-200.8 MS All possible meta
32487	6	32878	36939	SAMPLE	W07P001167	ICP-200.8 MS All possible meta
32487	8	32878	36939	SPK-RPD	W07P001167	ICP-200.8 MS All possible meta
32487	9	32878	36939	SAMPLE	W07P001172	ICP-200.8 MS All possible meta
32487	10	32878	36939	SAMPLE	W07P001174	ICP-200.8 MS All possible meta
32487	11	32878	36939	SAMPLE	W07P001176	ICP-200.8 MS All possible meta
32487	4	32878	36939	MS	W07P001293	ICP-200.8 MS All possible meta
32487	5	32878	36939	MSD	W07P001293	ICP-200.8 MS All possible meta
32487	5	32878	36939	SPK-RPD	W07P001293	ICP-200.8 MS All possible meta
32685	1	33077	37211	BLANK		ICP Metals Analysis, Grd H20 P
32685	2	33077	37211	LCS		ICP Metals Analysis, Grd H20 P
32685	8	33077	37211	SAMPLE	W07P001166	ICP Metals Analysis, Grd H20 P
32685	9	33077	37211	SAMPLE	W07P001171	ICP Metals Analysis, Grd H20 P
32685	10	33077	37211	SAMPLE	W07P001173	ICP Metals Analysis, Grd H20 P
32685	11	33077	37211	SAMPLE	W07P001175	ICP Metals Analysis, Grd H20 P
32685	4	33077	37211	MS	W07P001178	ICP Metals Analysis, Grd H20 P
32685	5	33077	37211	MSD	W07P001178	ICP Metals Analysis, Grd H20 P
32685	5	33077	37211	SPK-RPD	W07P001178	ICP Metals Analysis, Grd H20 P

W13q Worklist/Batch/QC Report for Group# WSCF20071027

WL#	S#	Batch	QC#	Tray	Type	Sample#	Test
			37240	BLANK			VOA Ground Water Protection
			37240	LCS			VOA Ground Water Protection
			37240	MS		W07P001167	VOA Ground Water Protection
			37240	MSD		W07P001167	VOA Ground Water Protection
			37240	SAMPLE		W07P001167	VOA Ground Water Protection
			37240	SPK-RPD		W07P001167	VOA Ground Water Protection
			37240	SURR		W07P001167	VOA Ground Water Protection
			37240	SAMPLE		W07P001168	VOA Ground Water Protection
			37240	SURR		W07P001168	VOA Ground Water Protection
			37240	SAMPLE		W07P001172	VOA Ground Water Protection
			37240	SURR		W07P001172	VOA Ground Water Protection
			37240	SAMPLE		W07P001174	VOA Ground Water Protection
			37240	SURR		W07P001174	VOA Ground Water Protection
			37240	SAMPLE		W07P001176	VOA Ground Water Protection
			37240	SURR		W07P001176	VOA Ground Water Protection

W13q Worklist/Batch/QC Report for Group# WSCF20071027

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
32383	1	32775	36881	BLANK		Tritium by Liq Sct column prep
32383	4	32775	36881	LCS		Tritium by Liq Sct column prep
32383	3	32775	36881	DUP	W07P001130	Tritium by Liq Sct column prep
32383	2	32775	36881	MS	W07P001130	Tritium by Liq Sct column prep
32383	9	32775	36881	SAMPLE	W07P001167	Tritium by Liq Sct column prep
32383	10	32775	36881	SAMPLE	W07P001176	Tritium by Liq Sct column prep
32385	1	32777	37015	BLANK		TC99 by Liquid Scin.
32385	4	32777	37015	LCS		TC99 by Liquid Scin.
32385	3	32777	37015	DUP	W07P001167	TC99 by Liquid Scin.
32385	2	32777	37015	MS	W07P001167	TC99 by Liquid Scin.
32385	5	32777	37015	SAMPLE	W07P001167	TC99 by Liquid Scin.
32385	6	32777	37015	SAMPLE	W07P001172	TC99 by Liquid Scin.
32385	7	32777	37015	SAMPLE	W07P001174	TC99 by Liquid Scin.
32385	8	32777	37015	SAMPLE	W07P001176	TC99 by Liquid Scin.

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
LA-531-411	LA-531-411: ALKALINITY (TITRIMETRIC) HEIS 2320B Alkalinity Standard Methods 2320B Alkalinity
LA-533-410	LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY EPA-600/R-94-111 300.0 DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY HEIS 300.0_ANIONS_IC Determination of Inorganic Anions by Ion Chromatography

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>.

Report Date: 1-aug-2007
Report#: WSCF20071027
Report WGPPM/5.2

Page 3

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>.

Report Date: 1-aug-2007
Report#: WSCF20071027
Report WGPPM/5.2

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-508-421	LA-508-421: OPERATION OF THE TRI-CARB MODEL 2500TR LIQUID SCINTILLATION ANALYZER
HEIS ALPHA_LSC	A/B Liquid Scintillation
HEIS BETA_LSC	A/B Liquid Scintillation
HEIS TC99_3MDSK_LSC	TC99 by Liquid Scintillation
HEIS TRITIUM_EIE_LSC	Tritium 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>.

Report Date: 1-aug-2007
Report#: WSCF20071027
Report WGPPM/5.2

Page 2

16 of 85

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-006
Sample # W07P001157
Client ID: B1NMV5 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Inorganic
Sampled: 06/19/07
Received: 06/19/07

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		0.291	mg/L			1.00	4.6e-03		06/20/07
Chloride	16887-00-6	LA-533-410		11.4	mg/L			1.00	0.032		06/20/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0130	mg/L			1.00	0.013		06/20/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	29.3	mg/L			10.00	0.048		06/20/07
Sulfate	14808-79-8	LA-533-410		23.8	mg/L			1.00	0.068		06/20/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		81.0	mg/L			1.00	1.0		06/26/07

MDL=Minimum Detection Limit

D - Analyte was identified at a secondary dilution factor(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

RQ=Result Qualifier

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

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

TP Err=Total Propagated Error

DF=Dilution Factor

* - 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: W07-006
Sample # W07P001158
Client ID: BINMW0 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Inorganic
Sampled: 06/19/07
Received: 06/19/07

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		0.397	mg/L			1.00	4.6e-03		06/20/07
Chloride	16887-00-6	LA-533-410		13.6	mg/L			1.00	0.032		06/20/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0130	mg/L			1.00	0.013		06/20/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	16.5	mg/L			10.00	0.048		06/20/07
Sulfate	14808-79-8	LA-533-410		27.1	mg/L			1.00	0.068		06/20/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		86.0	mg/L			1.00	1.0		06/26/07

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

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

J - Analyte < lowest calibration but > = MDL.(org)
 U - Analyzed for but not detected above limiting criteria.(org)

* - 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: W07-006
Sample # W07P001159
Client ID: BINMX0 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Inorganic
Sampled: 06/19/07
Received: 06/19/07

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		0.359	mg/L			1.00	4.6e-03		06/20/07
Chloride	16887-00-6	LA-533-410		6.83	mg/L			1.00	0.032		06/20/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0130	mg/L			1.00	0.013		06/20/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	10.9	mg/L			10.00	0.048		06/20/07
Sulfate	14808-79-8	LA-533-410		21.9	mg/L			1.00	0.068		06/20/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		84.0	mg/L			1.00	1.0		06/26/07

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

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

J - Analyte < lowest calibration but > = MDL (org)
 U - Analyzed for but not detected above limiting criteria (org)

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

Report WGPP/ver. 5.2
 GPAP

19 OF 85

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-006
Sample # W07P001160
Client ID: B1NMY0 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Inorganic
Sampled: 06/19/07
Received: 06/19/07

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		0.385	mg/L			1.00	4.6e-03		06/20/07
Chloride	16887-00-6	LA-533-410		7.86	mg/L			1.00	0.032		06/20/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0130	mg/L			1.00	0.013		06/20/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	15.5	mg/L			10.00	0.048		06/20/07
Sulfate	14808-79-8	LA-533-410		18.6	mg/L			1.00	0.068		06/20/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		93.0	mg/L			1.00	1.0		06/26/07

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

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

J - Analyte < lowest calibration but > = MDL.(org)
 U - Analyzed for but not detected above limiting criteria.(org)

* - 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: W07-006

Sample # W07P001161

Client ID: B1NMX5 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071027

Department: Inorganic

Sampled: 06/19/07

Received: 06/19/07

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		0.372	mg/L			1.00	4.6e-03		06/20/07
Chloride	16887-00-6	LA-533-410		12.4	mg/L			1.00	0.032		06/20/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0130	mg/L			1.00	0.013		06/20/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	16.8	mg/L			10.00	0.048		06/20/07
Sulfate	14808-79-8	LA-533-410		24.2	mg/L			1.00	0.068		06/20/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		88.0	mg/L			1.00	1.0		06/26/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

Report WGPP/ver. 5.2

GPAP

D - Analyte was identified at a secondary dilution factor(inorg)

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

J - Analyte < lowest calibration but > = MDL.(org)

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

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: W07-006

Sample # W07P001162

Client ID: B1NN10 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071027

Department: Inorganic

Sampled: 06/19/07

Received: 06/19/07

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		0.397	mg/L			1.00	4.6e-03		06/20/07
Chloride	16887-00-6	LA-533-410		12.2	mg/L			1.00	0.032		06/20/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0130	mg/L			1.00	0.013		06/20/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	6.10	mg/L			10.00	0.048		06/20/07
Sulfate	14808-79-8	LA-533-410	D	32.0	mg/L			10.00	0.68		06/20/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		96.0	mg/L			1.00	1.0		06/28/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

D - Analyte was identified at a secondary dilution factor(inorg)

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

J - Analyte < lowest calibration but > = MDL.(org)

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

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

GPAP

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-006
Sample # W07P001163
Client ID: B1NN39 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Inorganic
Sampled: 06/19/07
Received: 06/19/07

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		0.430	mg/L			1.00	4.6e-03		06/21/07
Chloride	16887-00-6	LA-533-410		8.59	mg/L			1.00	0.032		06/21/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0130	mg/L			1.00	0.013		06/21/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	10.7	mg/L			10.00	0.048		06/21/07
Sulfate	14808-79-8	LA-533-410		19.4	mg/L			1.00	0.068		06/21/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		83.0	mg/L			1.00	1.0		06/26/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

D - Analyte was identified at a secondary dilution factor(inorg)

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

J - Analyte < lowest calibration but > = MDL.(org)

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

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

GPAP

WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-006
Sample # W07P001164
Client ID: B1NN46 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Inorganic
Sampled: 06/19/07
Received: 06/19/07

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		0.372	mg/L			1.00	4.6e-03		06/21/07
Chloride	16887-00-6	LA-533-410		10.1	mg/L			1.00	0.032		06/21/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0130	mg/L			1.00	0.013		06/21/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	6.95	mg/L			10.00	0.048		06/21/07
Sulfate	14808-79-8	LA-533-410		26.3	mg/L			1.00	0.068		06/21/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		95.0	mg/L			1.00	1.0		06/26/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

D - Analyte was identified at a secondary dilution factor(inorg)

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

J - Analyte < lowest calibration but > = MDL.(org)

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

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

GPAP

WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-006
Sample # W07P001165
Client ID: B1NN41 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Inorganic
Sampled: 06/19/07
Received: 06/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		93.0	mg/L			1.00	1.0		06/28/07

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

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

J - Analyte < lowest calibration but > = MDL.(org)
 U - Analyzed for but not detected above limiting criteria.(org)

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

Report WGPP/ver. 5.2
 GPAP

25 of 85

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I07-049
Sample # W07P001166
Client ID: BINJV7 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Inorganic
Sampled: 06/19/07
Received: 06/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H2O P Prep											07/24/07
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		07/30/07
Magnesium	7439-95-4	LA-505-411		1.12e+04	ug/L			1.00	6.0		07/30/07
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		07/30/07
Nickel	7440-02-0	LA-505-411		4.30	ug/L			1.00	4.0		07/30/07
Potassium	7440-09-7	LA-505-411		4.22e+03	ug/L			1.00	45		07/30/07
Silver	7440-22-4	LA-505-411		5.60	ug/L			1.00	5.0		07/30/07
Sodium	7440-23-5	LA-505-411		2.66e+04	ug/L			1.00	27		07/30/07
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		07/30/07
Barium	7440-39-3	LA-505-411		43.0	ug/L			1.00	4.0		07/30/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		07/30/07
Chromium	7440-47-3	LA-505-411		178	ug/L			1.00	4.0		07/30/07
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		07/30/07
Copper	7440-50-8	LA-505-411	U	< 4.00	ug/L			1.00	4.0		07/30/07
Vanadium	7440-82-2	LA-505-411		22.7	ug/L			1.00	7.0		07/30/07
Zinc	7440-66-6	LA-505-411		54.1	ug/L			1.00	4.0		07/30/07
Calcium	7440-70-2	LA-505-411		3.57e+04	ug/L			1.00	34		07/30/07
Strontium	7440-24-8	LA-505-411		142	ug/L			1.00	4.0		07/30/07
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		07/30/07

MDL=Minimum Detection Limit

D - Analyte was identified at a secondary dilution factor.(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

RQ=Result Qualifier

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

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

TP Err=Total Propagated Error

DF=Dilution Factor

* - 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: I07-049
Sample # W07P001167
Client ID: B1NJV8 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Inorganic
Sampled: 06/19/07
Received: 06/19/07

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		0.375	mg/L			1.00	4.6e-03		06/21/07
Chloride	16887-00-6	LA-533-410		6.85	mg/L			1.00	0.032		06/21/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0130	mg/L			1.00	0.013		06/21/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	24.6	mg/L			10.00	0.048		06/21/07
Sulfate	14808-79-8	LA-533-410		17.2	mg/L			1.00	0.068		06/21/07
ICP-200.8 MS All possible meta Prep											07/05/07
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		1.95	ug/L			1.00	0.0500		07/10/07

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

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

J - Analyte < lowest calibration but > = MDL.(org)
 U - Analyzed for but not detected above limiting criteria.(org)

* - 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: W07-006
Sample # W07P001169
Client ID: B1NN61 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Inorganic
Sampled: 06/19/07
Received: 06/19/07

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		0.412	mg/L			1.00	4.6e-03		06/20/07
Chloride	16887-00-6	LA-533-410		4.85	mg/L			1.00	0.032		06/20/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0130	mg/L			1.00	0.013		06/20/07
Nitrogen in Nitrate	NO3-N	LA-533-410		1.54	mg/L			1.00	4.8e-03		06/20/07
Sulfate	14808-79-8	LA-533-410		15.4	mg/L			1.00	0.068		06/20/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		110	mg/L			1.00	1.0		06/26/07

MDL=Minimum Detection Limit

D - Analyte was identified at a secondary dilution factor(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

RQ=Result Qualifier

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

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

TP Err=Total Propagated Error

DF=Dilution Factor

* - 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: W07-006

Sample # W07P001170

Client ID: BINN73 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071027

Department: Inorganic

Sampled: 06/19/07

Received: 06/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		90.0	mg/L			1.00	1.0		06/26/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

D - Analyte was identified at a secondary dilution factor(inorg)

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

J - Analyte < lowest calibration but > = MDL.(org)

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

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

GPAP

WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I07-049
Sample # W07P001171
Client ID: B1NJT7 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Inorganic
Sampled: 06/19/07
Received: 06/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H2O P Prep											07/24/07
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-8	LA-505-411		14.1	ug/L			1.00	9.0		07/30/07
Magnesium	7439-95-4	LA-505-411		1.77e+04	ug/L			1.00	6.0		07/30/07
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		07/30/07
Nickel	7440-02-0	LA-505-411		7.00	ug/L			1.00	4.0		07/30/07
Potassium	7440-09-7	LA-505-411		5.39e+03	ug/L			1.00	45		07/30/07
Silver	7440-22-4	LA-505-411		5.10	ug/L			1.00	5.0		07/30/07
Sodium	7440-23-5	LA-505-411		2.44e+04	ug/L			1.00	27		07/30/07
Antimony	7440-36-0	LA-505-411		34.4	ug/L			1.00	32		07/30/07
Barium	7440-39-3	LA-505-411		57.1	ug/L			1.00	4.0		07/30/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		07/30/07
Chromium	7440-47-3	LA-505-411	U	< 4.00	ug/L			1.00	4.0		07/30/07
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		07/30/07
Copper	7440-50-8	LA-505-411	U	< 4.00	ug/L			1.00	4.0		07/30/07
Vanadium	7440-62-2	LA-505-411		21.8	ug/L			1.00	7.0		07/30/07
Zinc	7440-66-6	LA-505-411		55.6	ug/L			1.00	4.0		07/30/07
Calcium	7440-70-2	LA-505-411		5.65e+04	ug/L			1.00	34		07/30/07
Strontium	7440-24-6	LA-505-411		256	ug/L			1.00	4.0		07/30/07
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		07/30/07

MDL = Minimum Detection Limit

D - Analyte was identified at a secondary dilution factor (inorg)

J - Analyte < lowest calibration but > = MDL (org)

RQ = Result Qualifier

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

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

TP Err = Total Propagated Error

DF = Dilution Factor

* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

GPAP

30 of 85

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I07-049
Sample # W07P001172
Client ID: BINJT8 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Inorganic
Sampled: 06/19/07
Received: 06/19/07

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		0.342	mg/L			1.00	4.6e-03		06/21/07
Chloride	16887-00-6	LA-533-410		11.3	mg/L			1.00	0.032		06/21/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0130	mg/L			1.00	0.013		06/21/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	28.8	mg/L			10.00	0.048		06/21/07
Sulfate	14808-79-8	LA-533-410	D	31.7	mg/L			10.00	0.88		06/21/07
ICP-200.8 MS All possible meta Prep											07/05/07
ICP-200.8 MS All possible meta											
Uranium	7440-81-1	LA-505-412		45.9	ug/L			1.00	0.0500		07/10/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

D - Analyte was identified at a secondary dilution factor(inorg)

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

J - Analyte < lowest calibration but > = MDL.(org)

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

Report WGPP/ver. 5.2

GPAP

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: I07-049

Sample # W07P001173

Client ID: B1NJV1 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071027

Department: Inorganic

Sampled: 06/19/07

Received: 06/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H2O P Prep											
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-8	LA-505-411	U	< 9.00	ug/L			1.00	9.0		07/30/07
Magnesium	7439-95-4	LA-505-411		1.75e+04	ug/L			1.00	6.0		07/30/07
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		07/30/07
Nickel	7440-02-0	LA-505-411		9.00	ug/L			1.00	4.0		07/30/07
Potassium	7440-09-7	LA-505-411		5.34e+03	ug/L			1.00	45		07/30/07
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		07/30/07
Sodium	7440-23-5	LA-505-411		2.40e+04	ug/L			1.00	27		07/30/07
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		07/30/07
Barium	7440-39-3	LA-505-411		56.7	ug/L			1.00	4.0		07/30/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		07/30/07
Chromium	7440-47-3	LA-505-411	U	< 4.00	ug/L			1.00	4.0		07/30/07
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		07/30/07
Copper	7440-50-8	LA-505-411	U	< 4.00	ug/L			1.00	4.0		07/30/07
Vanadium	7440-62-2	LA-505-411		24.4	ug/L			1.00	7.0		07/30/07
Zinc	7440-66-6	LA-505-411		51.5	ug/L			1.00	4.0		07/30/07
Calcium	7440-70-2	LA-505-411		5.57e+04	ug/L			1.00	34		07/30/07
Strontium	7440-24-6	LA-505-411		254	ug/L			1.00	4.0		07/30/07
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		07/30/07

MDL=Minimum Detection Limit

D - Analyte was identified at a secondary dilution factor.(inorg)

J - Analyte < lowest calibration but >= MDL.(org)

RQ=Result Qualifier

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

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

TP Err=Total Propagated Error

DF=Dilution Factor

* - 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: I07-049
Sample # W07P001174
Client ID: B1NJV2 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Inorganic
Sampled: 06/19/07
Received: 06/19/07

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		0.347	mg/L			1.00	4.6e-03		06/21/07
Chloride	16887-00-6	LA-533-410		11.4	mg/L			1.00	0.032		06/21/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0130	mg/L			1.00	0.013		06/21/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	28.9	mg/L			10.00	0.048		06/21/07
Sulfate	14808-79-8	LA-533-410	D	31.5	mg/L			10.00	0.68		06/21/07
ICP-200.8 MS All possible meta Prep											07/05/07
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		47.2	ug/L			1.00	0.0500		07/10/07

MDL=Minimum Detection Limit

D - Analyte was identified at a secondary dilution factor.(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

RQ=Result Qualifier

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

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

TP Err=Total Propagated Error

DF=Dilution Factor

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

Report WGPP/ver. 5.2

GPAP

33 of 85

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I07-049
Sample # W07P001175
Client ID: B1NJW3 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Inorganic
Sampled: 06/19/07
Received: 06/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											07/24/07
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		07/30/07
Magnesium	7439-95-4	LA-505-411		1.17e +04	ug/L			1.00	6.0		07/30/07
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		07/30/07
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		07/30/07
Potassium	7440-09-7	LA-505-411		4.29e +03	ug/L			1.00	45		07/30/07
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		07/30/07
Sodium	7440-23-5	LA-505-411		2.62e +04	ug/L			1.00	27		07/30/07
Antimony	7440-36-0	LA-505-411		33.5	ug/L			1.00	32		07/30/07
Barium	7440-39-3	LA-505-411		48.9	ug/L			1.00	4.0		07/30/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		07/30/07
Chromium	7440-47-3	LA-505-411	U	< 4.00	ug/L			1.00	4.0		07/30/07
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		07/30/07
Copper	7440-50-8	LA-505-411	U	< 4.00	ug/L			1.00	4.0		07/30/07
Vanadium	7440-62-2	LA-505-411		26.9	ug/L			1.00	7.0		07/30/07
Zinc	7440-66-6	LA-505-411		81.9	ug/L			1.00	4.0		07/30/07
Calcium	7440-70-2	LA-505-411		3.86e +04	ug/L			1.00	34		07/30/07
Strontium	7440-24-6	LA-505-411		150	ug/L			1.00	4.0		07/30/07
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		07/30/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

D - Analyte was identified at a secondary dilution factor(inorg)

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

J - Analyte < lowest calibration but > = MDL.(org)

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

34 of 85

Report WGPP/ver. 5.2

GPAP

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I07-049
Sample # W07P001176
Client ID: BINJW4 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Inorganic
Sampled: 06/19/07
Received: 06/19/07

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		0.314	mg/L			1.00	4.6e-03		06/21/07
Chloride	16887-00-8	LA-533-410		9.19	mg/L			1.00	0.032		06/21/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0130	mg/L			1.00	0.013		06/21/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	26.0	mg/L			10.00	0.048		06/21/07
Sulfate	14808-79-8	LA-533-410		20.6	mg/L			1.00	0.068		06/21/07
ICP-200.8 MS All possible meta Prep											07/05/07
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		13.0	ug/L			1.00	0.0500		07/10/07

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

* - Indicates results that have NOT been validated;

D - Analyte was identified at a secondary dilution factor(inorg)

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

J - Analyte < lowest calibration but > = MDL.(org)

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

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

GPAP

35 of 85

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071027
 Matrix: WATER
 Test: Anions by Ion Chromatography

Sample Date: 06/19/07
 Receive Date: 06/19/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P001169											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	4.788		RPD			1.365	20.000		06/20/07
DUP	Fluoride	16984-48-8	0.3992		RPD			3.277	20.000		06/20/07
DUP	Nitrogen in Nitrite	NO2-N	<1.3e-2		RPD			n/a	20.000	U	06/20/07
DUP	Nitrogen in Nitrate	NO3-N	1.5311		RPD			0.690	20.000		06/20/07
DUP	Sulfate	14808-79-8	15.0954		RPD			2.274	20.000		06/20/07
MS	Chloride	16887-00-6	1.0105	102.071	% Recov	75.000	125.000				06/20/07
MS	Fluoride	16984-48-8	0.5215	103.884	% Recov	75.000	125.000				06/20/07
MS	Nitrogen in Nitrite	NO2-N	0.4814	97.647	% Recov	75.000	125.000				06/20/07
MS	Nitrogen in Nitrate	NO3-N	0.4459	98.869	% Recov	75.000	125.000				06/20/07
MS	Sulfate	14808-79-8	1.6775	84.722	% Recov	75.000	125.000				06/20/07
MSD	Chloride	16887-00-6	1.063	107.374	% Recov	75.000	125.000				06/20/07
MSD	Fluoride	16984-48-8	0.5253	104.641	% Recov	75.000	125.000				06/20/07
MSD	Nitrogen in Nitrite	NO2-N	0.4863	98.641	% Recov	75.000	125.000				06/20/07
MSD	Nitrogen in Nitrate	NO3-N	0.4627	102.594	% Recov	75.000	125.000				06/20/07
MSD	Sulfate	14808-79-8	1.8096	91.394	% Recov	75.000	125.000				06/20/07
SPK-RPD	Chloride	16887-00-6	107.374		RPD			5.064	20.000		06/20/07
SPK-RPD	Fluoride	16984-48-8	104.641		RPD			0.726	20.000		06/20/07
SPK-RPD	Nitrogen in Nitrite	NO2-N	98.641		RPD			1.013	20.000		06/20/07
SPK-RPD	Nitrogen in Nitrate	NO3-N	102.594		RPD			3.698	20.000		06/20/07
SPK-RPD	Sulfate	14808-79-8	91.394		RPD			7.577	20.000		06/20/07
BATCH QC											
BLANK	Chloride	16887-00-6	<3.264	n/a	mg/L	0.000	0.030			U	06/20/07
BLANK	Chloride	16887-00-6	<3.2e-2	n/a	mg/L	0.000	0.030			U	06/20/07
BLANK	Fluoride	16984-48-8	<4.6e-3	n/a	mg/L	0.000	0.030			U	06/20/07
BLANK	Fluoride	16984-48-8	<0.4692	n/a	mg/L	0.000	0.030			U	06/20/07

36 of 85

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071027
 Matrix: WATER
 Test: Anions by Ion Chromatography

Sample Date:
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	Nitrogen in Nitrite	NO2-N	< 1.326	n/a	mg/L	0.000	0.020			U	06/20/07
BLANK	Nitrogen in Nitrite	NO2-N	< 1.3e-2	n/a	mg/L	0.000	0.020			U	06/20/07
BLANK	Nitrogen in Nitrate	NO3-N	< 4.8e-3	n/a	mg/L	0.000	0.040			U	06/20/07
BLANK	Nitrogen in Nitrate	NO3-N	< 0.4896	n/a	mg/L	0.000	0.040			U	06/20/07
BLANK	Sulfate	14808-79-8	< 6.936	n/a	mg/L	0.000	0.200			U	06/20/07
BLANK	Sulfate	14808-79-8	< 6.8e-2	n/a	mg/L	0.000	0.200			U	06/20/07
LCS	Chloride	16887-00-6	204.8647	102.432	% Recov	80.000	120.000				06/20/07
LCS	Fluoride	16984-48-8	105.6651	104.619	% Recov	80.000	120.000				06/20/07
LCS	Nitrogen in Nitrite	NO2-N	102.1003	102.510	% Recov	80.000	120.000				06/20/07
LCS	Nitrogen in Nitrate	NO3-N	95.7695	105.010	% Recov	80.000	120.000				06/20/07
LCS	Sulfate	14808-79-8	406.4928	101.623	% Recov	80.000	120.000				06/20/07

Lab ID: W07P001161
 BATCH QC ASSOCIATED WITH SAMPLE

DUP	Chloride	16887-00-6	12.3592		RPD			0.260	20.000		06/20/07
DUP	Fluoride	16984-48-8	0.3583		RPD			3.698	20.000		06/20/07
DUP	Nitrogen in Nitrite	NO2-N	< 1.3e-2		RPD			n/a	20.000	U	06/20/07
DUP	Nitrogen in Nitrate	NO3-N	16.373		RPD			1.384	20.000		06/20/07
DUP	Sulfate	14808-79-8	24.1127		RPD			0.458	20.000		06/20/07
MS	Chloride	16887-00-6	0.8631	87.182	% Recov	75.000	125.000				06/20/07
MS	Fluoride	16984-48-8	0.5277	105.120	% Recov	75.000	125.000				06/20/07
MS	Nitrogen in Nitrite	NO2-N	0.5122	103.895	% Recov	75.000	125.000				06/20/07
MS	Nitrogen in Nitrate	NO3-N	0.4433	98.293	% Recov	75.000	125.000				06/20/07
MS	Sulfate	14808-79-8	1.9356	97.758	% Recov	75.000	125.000				06/20/07
MSD	Chloride	16887-00-6	0.8323	84.071	% Recov	75.000	125.000				06/20/07
MSD	Fluoride	16984-48-8	0.5101	101.614	% Recov	75.000	125.000				06/20/07
MSD	Nitrogen in Nitrite	NO2-N	0.5076	102.961	% Recov	75.000	125.000				06/20/07
MSD	Nitrogen in Nitrate	NO3-N	0.43448	96.337	% Recov	75.000	125.000				06/20/07
MSD	Sulfate	14808-79-8	1.794	90.606	% Recov	75.000	125.000				06/20/07
SPK-RPD	Chloride	16887-00-6	84.071		RPD			3.633	20.000		06/21/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071027
 Matrix: WATER
 Test: Anions by Ion Chromatography

Sample Date: 06/19/07
 Receive Date: 06/19/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SPK-RPD	Fluoride	16984-48-8	101.614		RPD			3.392	20.000		06/21/07
SPK-RPD	Nitrogen in Nitrite	NO2-N	102.961		RPD			0.903	20.000		06/21/07
SPK-RPD	Nitrogen in Nitrate	NO3-N	96.337		RPD			2.010	20.000		06/21/07
SPK-RPD	Sulfate	14808-79-8	90.606		RPD			7.594	20.000		06/21/07

Lab ID: W07P001172
BATCH QC ASSOCIATED WITH SAMPLE

DUP	Chloride	16887-00-6	11.3742		RPD			0.376	20.000		06/21/07
DUP	Fluoride	16984-48-8	0.3417		RPD			0.059	20.000		06/21/07
DUP	Nitrogen in Nitrite	NO2-N	< 1.3e-2		RPD			n/a	20.000	U	06/21/07
DUP	Nitrogen in Nitrate	NO3-N	28.9386		RPD			0.459	20.000		06/21/07
DUP	Sulfate	14808-79-8	31.3405		RPD			1.016	20.000		06/21/07
MS	Chloride	16887-00-6	0.9138	92.303	% Recov	75.000	125.000				06/21/07
MS	Fluoride	16984-48-8	0.5356	106.693	% Recov	75.000	125.000				06/21/07
MS	Nitrogen in Nitrite	NO2-N	0.5065	102.738	% Recov	75.000	125.000				06/21/07
MS	Nitrogen in Nitrate	NO3-N	0.46249	102.548	% Recov	75.000	125.000				06/21/07
MS	Sulfate	14808-79-8	2.02682	102.365	% Recov	75.000	125.000				06/21/07
MSD	Chloride	16887-00-6	0.9353	94.475	% Recov	75.000	125.000				06/21/07
MSD	Fluoride	16984-48-8	0.5373	107.032	% Recov	75.000	125.000				06/21/07
MSD	Nitrogen in Nitrite	NO2-N	0.5215	105.781	% Recov	75.000	125.000				06/21/07
MSD	Nitrogen in Nitrate	NO3-N	0.48649	107.869	% Recov	75.000	125.000				06/21/07
MSD	Sulfate	14808-79-8	2.03987	103.024	% Recov	75.000	125.000				06/21/07
SPK-RPD	Chloride	16887-00-6	94.475		RPD			2.326	20.000		06/21/07
SPK-RPD	Fluoride	16984-48-8	107.032		RPD			0.317	20.000		06/21/07
SPK-RPD	Nitrogen in Nitrite	NO2-N	105.781		RPD			2.919	20.000		06/21/07
SPK-RPD	Nitrogen in Nitrate	NO3-N	107.869		RPD			5.058	20.000		06/21/07
SPK-RPD	Sulfate	14808-79-8	103.024		RPD			0.642	20.000		06/21/07

BATCH QC

BLANK	Chloride	16887-00-6	< 3.2e-2	n/a	mg/L	0.000	0.030			U	06/21/07
-------	----------	------------	----------	-----	------	-------	-------	--	--	---	----------

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071027
 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	Chloride	16887-00-6	<3.2e-2	n/a	mg/L	0.000	0.030			U	06/21/07
BLANK	Chloride	16887-00-6	<3.2e-2	n/a	mg/L	0.000	0.030			U	06/20/07
BLANK	Fluoride	16984-48-8	<4.6e-3	n/a	mg/L	0.000	0.030			U	06/20/07
BLANK	Fluoride	16984-48-8	<4.6e-3	n/a	mg/L	0.000	0.030			U	06/21/07
BLANK	Fluoride	16984-48-8	<4.6e-3	n/a	mg/L	0.000	0.030			U	06/21/07
BLANK	Nitrogen in Nitrite	NO2-N	<1.3e-2	n/a	mg/L	0.000	0.020			U	06/21/07
BLANK	Nitrogen in Nitrite	NO2-N	<1.3e-2	n/a	mg/L	0.000	0.020			U	06/21/07
BLANK	Nitrogen in Nitrite	NO2-N	<1.3e-2	n/a	mg/L	0.000	0.020			U	06/20/07
BLANK	Nitrogen in Nitrate	NO3-N	<4.8e-3	n/a	mg/L	0.000	0.040			U	06/21/07
BLANK	Nitrogen in Nitrate	NO3-N	<4.8e-3	n/a	mg/L	0.000	0.040			U	06/20/07
BLANK	Nitrogen in Nitrate	NO3-N	<4.8e-3	n/a	mg/L	0.000	0.040			U	06/21/07
BLANK	Sulfate	14808-79-8	<6.8e-2	n/a	mg/L	0.000	0.200			U	06/21/07
BLANK	Sulfate	14808-79-8	<6.8e-2	n/a	mg/L	0.000	0.200			U	06/21/07
BLANK	Sulfate	14808-79-8	<6.8e-2	n/a	mg/L	0.000	0.200			U	06/20/07
LCS	Chloride	16887-00-6	197.3625	98.681	% Recov	80.000	120.000				06/20/07
LCS	Fluoride	16984-48-8	102.3775	101.364	% Recov	80.000	120.000				06/20/07
LCS	Nitrogen in Nitrite	NO2-N	101.0327	101.438	% Recov	80.000	120.000				06/20/07
LCS	Nitrogen in Nitrate	NO3-N	95.5387	104.757	% Recov	80.000	120.000				06/20/07
LCS	Sulfate	14808-79-8	398.0976	99.524	% Recov	80.000	120.000				06/20/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071027
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O P

Sample Date: 06/20/07
 Receive Date: 06/20/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P001178 BATCH QC ASSOCIATED WITH SAMPLE											
MS	Silver	7440-22-4	976.2	97.620	% Recov	75.000	125.000				07/30/07
MS	Barium	7440-39-3	487.3	97.460	% Recov	75.000	125.000				07/30/07
MS	Beryllium	7440-41-7	511.3	102.260	% Recov	75.000	125.000				07/30/07
MS	Calcium	7440-70-2	NA	n/a	% Recov	75.000	125.000				07/30/07
MS	Cadmium	7440-43-9	993.9	99.390	% Recov	75.000	125.000				07/30/07
MS	Cobalt	7440-48-4	996.1	99.610	% Recov	75.000	125.000				07/30/07
MS	Chromium	7440-47-3	979	97.900	% Recov	75.000	125.000				07/30/07
MS	Copper	7440-50-8	980.7	98.070	% Recov	75.000	125.000				07/30/07
MS	Iron	7439-89-6	1002	100.200	% Recov	75.000	125.000				07/30/07
MS	Potassium	7440-09-7	10007	100.070	% Recov	75.000	125.000				07/30/07
MS	Magnesium	7439-95-4	NA	n/a	% Recov	75.000	125.000				07/30/07
MS	Manganese	7439-96-5	1000	100.000	% Recov	75.000	125.000				07/30/07
MS	Sodium	7440-23-5	NA	n/a	% Recov	75.000	125.000				07/30/07
MS	Nickel	7440-02-0	981.1	98.110	% Recov	75.000	125.000				07/30/07
MS	Antimony	7440-36-0	1035	103.500	% Recov	75.000	125.000				07/30/07
MS	Strontium	7440-24-6	503.2	100.640	% Recov	75.000	125.000				07/30/07
MS	Vanadium	7440-62-2	985.3	98.530	% Recov	75.000	125.000				07/30/07
MS	Zinc	7440-66-6	726.1	72.610	% Recov	75.000	125.000				07/30/07
MSD	Silver	7440-22-4	970.2	97.020	% Recov	75.000	125.000				07/30/07
MSD	Barium	7440-39-3	486.9	97.380	% Recov	75.000	125.000				07/30/07
MSD	Beryllium	7440-41-7	508	101.800	% Recov	75.000	125.000				07/30/07
MSD	Calcium	7440-70-2	NA	n/a	% Recov	75.000	125.000				07/30/07
MSD	Cadmium	7440-43-9	992.5	99.250	% Recov	75.000	125.000				07/30/07
MSD	Cobalt	7440-48-4	988.3	98.830	% Recov	75.000	125.000				07/30/07
MSD	Chromium	7440-47-3	987.3	96.730	% Recov	75.000	125.000				07/30/07
MSD	Copper	7440-50-8	975.8	97.580	% Recov	75.000	125.000				07/30/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071027
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O P

Sample Date: 06/20/07
 Receive Date: 06/20/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Iron	7439-89-6	983.4	98.340	% Recov	75.000	125.000				07/30/07
MSD	Potassium	7440-09-7	984.7	98.470	% Recov	75.000	125.000				07/30/07
MSD	Magnesium	7439-95-4	NA	n/a	% Recov	75.000	125.000				07/30/07
MSD	Manganese	7439-98-5	994.5	99.450	% Recov	75.000	125.000				07/30/07
MSD	Sodium	7440-23-5	NA	n/a	% Recov	75.000	125.000				07/30/07
MSD	Nickel	7440-02-0	981.6	98.160	% Recov	75.000	125.000				07/30/07
MSD	Antimony	7440-38-0	988.9	98.890	% Recov	75.000	125.000				07/30/07
MSD	Strontium	7440-24-6	498.2	99.640	% Recov	75.000	125.000				07/30/07
MSD	Vanadium	7440-62-2	969.9	96.990	% Recov	75.000	125.000				07/30/07
MSD	Zinc	7440-66-6	971.1	97.110	% Recov	75.000	125.000				07/30/07
SPK-RPD	Silver	7440-22-4	97.020		RPD			0.817	20.000		07/30/07
SPK-RPD	Barium	7440-39-3	97.380		RPD			0.082	20.000		07/30/07
SPK-RPD	Beryllium	7440-41-7	101.600		RPD			0.648	20.000		07/30/07
SPK-RPD	Calcium	7440-70-2			RPD			n/a	20.000		07/30/07
SPK-RPD	Cadmium	7440-43-9	99.250		RPD			0.141	20.000		07/30/07
SPK-RPD	Cobalt	7440-48-4	98.830		RPD			0.786	20.000		07/30/07
SPK-RPD	Chromium	7440-47-3	96.730		RPD			1.202	20.000		07/30/07
SPK-RPD	Copper	7440-50-8	97.580		RPD			0.501	20.000		07/30/07
SPK-RPD	Iron	7439-89-6	98.340		RPD			1.874	20.000		07/30/07
SPK-RPD	Potassium	7440-09-7	98.470		RPD			1.612	20.000		07/30/07
SPK-RPD	Magnesium	7439-95-4			RPD			n/a	20.000		07/30/07
SPK-RPD	Manganese	7439-98-5	99.450		RPD			0.552	20.000		07/30/07
SPK-RPD	Sodium	7440-23-5			RPD			n/a	20.000		07/30/07
SPK-RPD	Nickel	7440-02-0	98.160		RPD			0.051	20.000		07/30/07
SPK-RPD	Antimony	7440-38-0	98.890		RPD			4.556	20.000		07/30/07
SPK-RPD	Strontium	7440-24-6	99.640		RPD			0.999	20.000		07/30/07
SPK-RPD	Vanadium	7440-62-2	96.990		RPD			1.575	20.000		07/30/07
SPK-RPD	Zinc	7440-66-6	97.110		RPD			28.871	20.000		07/30/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071027
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O 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	07/30/07
BLANK	Barium	7440-39-3	<4	n/a	ug/L					U	07/30/07
BLANK	Beryllium	7440-41-7	<4	n/a	ug/L					U	07/30/07
BLANK	Calcium	7440-70-2	<34	n/a	ug/L					U	07/30/07
BLANK	Cadmium	7440-43-9	<4	n/a	ug/L					U	07/30/07
BLANK	Cobalt	7440-48-4	<4	n/a	ug/L					U	07/30/07
BLANK	Chromium	7440-47-3	<4	n/a	ug/L					U	07/30/07
BLANK	Copper	7440-50-8	<4	n/a	ug/L					U	07/30/07
BLANK	Iron	7439-89-6	<9	n/a	ug/L					U	07/30/07
BLANK	Potassium	7440-09-7	<45	n/a	ug/L					U	07/30/07
BLANK	Magnesium	7439-95-4	<6	n/a	ug/L					U	07/30/07
BLANK	Manganese	7439-96-5	<4	n/a	ug/L					U	07/30/07
BLANK	Sodium	7440-23-5	<27	n/a	ug/L					U	07/30/07
BLANK	Nickel	7440-02-0	<4	n/a	ug/L					U	07/30/07
BLANK	Antimony	7440-36-0	<32	n/a	ug/L					U	07/30/07
BLANK	Strontium	7440-24-6	<4	n/a	ug/L					U	07/30/07
BLANK	Vanadium	7440-62-2	<7	n/a	ug/L					U	07/30/07
BLANK	Zinc	7440-66-6	<4	n/a	ug/L					U	07/30/07
LCS	Silver	7440-22-4	989.8	98.980	% Recov	80.000	120.000				07/30/07
LCS	Barium	7440-39-3	494.2	98.840	% Recov	80.000	120.000				07/30/07
LCS	Beryllium	7440-41-7	514.9	102.980	% Recov	80.000	120.000				07/30/07
LCS	Calcium	7440-70-2	1009	100.900	% Recov	80.000	120.000				07/30/07
LCS	Cadmium	7440-43-9	1001	100.100	% Recov	80.000	120.000				07/30/07
LCS	Cobalt	7440-48-4	1001	100.100	% Recov	80.000	120.000				07/30/07
LCS	Chromium	7440-47-3	978.7	97.870	% Recov	80.000	120.000				07/30/07
LCS	Copper	7440-50-8	999.1	99.910	% Recov	80.000	120.000				07/30/07
LCS	Iron	7439-89-6	1004	100.400	% Recov	80.000	120.000				07/30/07
LCS	Potassium	7440-09-7	9637	96.370	% Recov	80.000	120.000				07/30/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071027
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O 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	971.2	97.120	% Recov	80.000	120.000				07/30/07
LCS	Manganese	7439-96-5	1004	100.400	% Recov	80.000	120.000				07/30/07
LCS	Sodium	7440-23-5	996.3	99.630	% Recov	80.000	120.000				07/30/07
LCS	Nickel	7440-02-0	988.9	98.890	% Recov	80.000	120.000				07/30/07
LCS	Antimony	7440-38-0	1019	101.900	% Recov	80.000	120.000				07/30/07
LCS	Strontium	7440-24-6	499.7	99.940	% Recov	80.000	120.000				07/30/07
LCS	Vanadium	7440-62-2	989.3	98.930	% Recov	80.000	120.000				07/30/07
LCS	Zinc	7440-66-6	989.4	98.940	% Recov	80.000	120.000				07/30/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071027
 Matrix: WATER
 Test: ICP-200.8 MS All possible meta

Sample Date: 06/19/07
 Receive Date: 06/19/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P001167											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Uranium	7440-61-1	39.488	98.720	% Recov	70.000	130.000				07/10/07
MSD	Uranium	7440-61-1	39.488	98.720	% Recov	70.000	130.000				07/10/07
SPK-RPD	Uranium	7440-61-1	98.720		RPD			0.000	20.000		07/10/07
Lab ID: W07P001293											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Uranium	7440-61-1	n/a	n/a	% Recov	70.000	130.000				07/10/07
MSD	Uranium	7440-61-1	n/a	n/a	% Recov	70.000	130.000				07/10/07
SPK-RPD	Uranium	7440-61-1			RPD			n/a	20.000		07/10/07
BATCH QC											
BLANK	Uranium	7440-61-1	< 5e-2	n/a	ug/L					U	07/10/07
LCS	Uranium	7440-61-1	37.96	94.900	% Recov	85.000	115.000				07/10/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071027
 Matrix: WATER
 Test: Total Alkalinity as mg/L CaCO₃

Sample Date: 06/18/07
 Receive Date: 06/18/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P001152 BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Alkalinity as mg/L CaCO ₃	ALKALINITY	91.46		RPD			1.098	20.000		06/26/07
BATCH QC											
LCS	Total Alkalinity as mg/L CaCO ₃	ALKALINITY	44.23	98.728	%Recover	80.000	120.000				06/26/07
LCS	Total Alkalinity as mg/L CaCO ₃	ALKALINITY	124	107.826	%Recover	80.000	120.000				06/26/07
LCS	Total Alkalinity as mg/L CaCO ₃	ALKALINITY	123	106.957	%Recover	80.000	120.000				06/26/07

WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20071027
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		ICP-AES: Magnesium, sodium, and calcium sample results beyond effective spike range (spike results marked "NA"). Check and high standards used to ensure magnesium, sodium, and calcium linearity because sample results are greater than the calibration standard. Low zinc MS recovery; no flag issued because all other QC is acceptable.

Lab Areas: VALGROUP - Group Validation
LOGSAMP - Login for Sample

VALTEST - Test Validation
LOGTEST - Login for Tests

TESTDATA - Test Data Entry

This report may not be reproduced, except in its entirety without the written approval of the WSCF Laboratory.

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I07-049
Sample # W07P001167
Client ID: B1NJV8 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Organic
Sampled: 06/19/07
Received: 06/19/07

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		06/27/07
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Carbon tetrachloride	56-23-5	LA-523-455		40.0	ug/L			1.00	1.0		06/27/07
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Chloroform	67-66-3	LA-523-455	J	2.10	ug/L			1.00	1.0		06/27/07
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		06/27/07
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		06/27/07
trans-1,2-Dichloroethylene	156-80-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

D - Analyte was identified at a secondary dilution factor.(inorg)

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

J - Analyte < lowest calibration but > = MDL.(org)

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

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

GPAP

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: 107-049
Sample # W07P001167
Client ID: B1NJV8 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Organic
Sampled: 06/19/07
Received: 06/19/07

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		06/27/07
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07

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

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

J - Analyte < lowest calibration but > = MDL.(org)
 U - Analyzed for but not detected above limiting criteria.(org)

* - 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: S07-002
Sample # W07P001168
Client ID: BIM7L6 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Organic
Sampled: 06/19/07
Received: 06/19/07

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		06/27/07
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Methylenechloride	75-09-2	LA-523-455		5.20	ug/L			1.00	1.0		06/27/07
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		06/27/07
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		06/27/07
trans-1,2-Dichloroethylene	156-80-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

* - Indicates results that have NOT been validated;

D - Analyte was identified at a secondary dilution factor (inorg)

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

J - Analyte < lowest calibration but > = MDL (org)

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

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

GPAP

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S07-002
Sample # W07P001168
Client ID: B1M7L6 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Organic
Sampled: 06/19/07
Received: 06/19/07

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		06/27/07
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07

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

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

J - Analyte < lowest calibration but > = MDL.(org)
 U - Analyzed for but not detected above limiting criteria.(org)

* - 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: I07-049
Sample # W07P001172
Client ID: BINJT8 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Organic
Sampled: 06/19/07
Received: 06/19/07

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		06/27/07
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Carbon tetrachloride	56-23-5	LA-523-455		87.0	ug/L			1.00	1.0		06/27/07
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Chloroform	67-66-3	LA-523-455	J	2.40	ug/L			1.00	1.0		06/27/07
1,1,1-Trichloroethane	71-55-8	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		06/27/07
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		06/27/07
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/27/07

MDL = Minimum Detection Limit

D - Analyte was identified at a secondary dilution factor (inorg)

J - Analyte < lowest calibration but > = MDL (org)

RQ = Result Qualifier

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

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

TP Err = Total Propagated Error

DF = Dilution Factor

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

Report WGPP/ver. 5.2

GPAP

51 of 85

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I07-049
Sample # W07P001172
Client ID: BINJT8

PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Organic
Sampled: 06/19/07
Received: 06/19/07

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		08/27/07
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/27/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

D - Analyte was identified at a secondary dilution factor(inorg)

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

J - Analyte < lowest calibration but > = MDL.(org)

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

Report WGPP/ver. 5.2

GPAP

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I07-049
Sample # W07P001174
Client ID: B1NJV2 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Organic
Sampled: 06/19/07
Received: 06/19/07

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		06/28/07
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
Carbon tetrachloride	56-23-5	LA-523-455		84.0	ug/L			1.00	1.0		06/28/07
Acetone	67-64-1	LA-523-455	J	4.80	ug/L			1.00	1.0		06/28/07
Chloroform	67-66-3	LA-523-455	J	2.20	ug/L			1.00	1.0		06/28/07
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		06/28/07
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		06/28/07
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07

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

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

J - Analyte < lowest calibration but > = MDL.(org)
 U - Analyzed for but not detected above limiting criteria.(org)

* - 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: I07-049
Sample # W07P001174
Client ID: B1NJV2 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Organic
Sampled: 06/19/07
Received: 06/19/07

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		06/28/07
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

D - Analyte was identified at a secondary dilution factor(inorg)

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

J - Analyte < lowest calibration but > = MDL.(org)

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

* - 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: I07-049
Sample # W07P001176
Client ID: B1NJW4 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Organic
Sampled: 06/19/07
Received: 06/19/07

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		06/28/07
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
Carbon tetrachloride	56-23-5	LA-523-455		110	ug/L			1.00	1.0		06/28/07
Acetone	67-64-1	LA-523-455	J	4.20	ug/L			1.00	1.0		06/28/07
Chloroform	67-66-3	LA-523-455	J	3.40	ug/L			1.00	1.0		06/28/07
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		06/28/07
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		06/28/07
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07

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

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

J - Analyte < lowest calibration but > = MDL.(org)
 U - Analyzed for but not detected above limiting criteria.(org)

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

Report WGPP/ver. 5.2
 GPAP

55 of 85

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I07-049
Sample # W07P001176
Client ID: B1NJW4 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Organic
Sampled: 06/19/07
Received: 06/19/07

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		06/28/07
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/28/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

D - Analyte was identified at a secondary dilution factor(inorg)

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

J - Analyte < lowest calibration but > = MDL.(org)

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

Report WGPP/ver. 5.2

GPAP

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071027
 Matrix: WATER
 Test: VOA Ground Water Protection

Sample Date: 06/19/07
 Receive Date: 06/19/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P001167											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	1,1-Dichloroethene	75-35-4	28.130	113.000	% Recov	63.000	117.000				06/27/07
MS	Benzene	71-43-2	28.190	113.000	% Recov	75.000	129.000				06/27/07
MS	4-Bromofluorobenzene(Surr)	460-00-4	49.990	100.000	% Recov	84.000	116.000				06/27/07
MS	Chlorobenzene	108-90-7	20.510	82.000	% Recov	79.000	119.000				06/27/07
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	51.270	103.000	% Recov	82.000	136.000				06/27/07
MS	Toluene-d8(Surr)	2037-26-5	51.960	104.000	% Recov	89.000	119.000				06/27/07
MS	Toluene	108-88-3	25.300	101.000	% Recov	76.000	120.000				06/27/07
MS	Trichloroethene	79-01-6	23.620	94.500	% Recov	73.000	123.000				06/27/07
MSD	1,1-Dichloroethene	75-35-4	28.020	112.000	% Recov	63.000	117.000				06/27/07
MSD	Benzene	71-43-2	28.680	115.000	% Recov	75.000	129.000				06/27/07
MSD	4-Bromofluorobenzene(Surr)	460-00-4	50.140	100.000	% Recov	84.000	116.000				06/27/07
MSD	Chlorobenzene	108-90-7	20.190	80.800	% Recov	79.000	119.000				06/27/07
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	51.210	102.000	% Recov	82.000	136.000				06/27/07
MSD	Toluene-d8(Surr)	2037-26-5	52.190	104.000	% Recov	89.000	119.000				06/27/07
MSD	Toluene	108-88-3	25.850	103.000	% Recov	76.000	120.000				06/27/07
MSD	Trichloroethene	79-01-6	24.050	96.200	% Recov	73.000	123.000				06/27/07
SPK-RPD	1,1-Dichloroethene	75-35-4	112.000		RPD			0.889	20.000		06/27/07
SPK-RPD	Benzene	71-43-2	115.000		RPD			1.754	20.000		06/27/07
SPK-RPD	Chlorobenzene	108-90-7	80.800		RPD			1.474	20.000		06/27/07
SPK-RPD	1,2-Dichloroethane-d4(Surr)	17060-07-0	102.000		RPD			0.976	20.000		06/27/07
SPK-RPD	Toluene-d8(Surr)	2037-26-5	104.000		RPD			0.000	20.000		06/27/07
SPK-RPD	Toluene	108-88-3	103.000		RPD			1.961	20.000		06/27/07
SPK-RPD	Trichloroethene	79-01-6	96.200		RPD			1.783	20.000		06/27/07
SURR	4-Bromofluorobenzene(Surr)	460-00-4	48.920	97.800	% Recov	84.000	116.000				06/27/07
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	51.270	103.000	% Recov	82.000	136.000				06/27/07
SURR	Toluene-d8(Surr)	2037-26-5	52.520	105.000	% Recov	89.000	119.000				06/27/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071027
 Matrix: WATER
 Test: VOA Ground Water Protection

Sample Date: 06/19/07
 Receive Date: 06/19/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P001168											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	480-00-4	49.580	99.200	% Recov	84.000	116.000				06/27/07
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	51.630	103.000	% Recov	82.000	136.000				06/27/07
SURR	Toluene-d8(Surr)	2037-26-5	51.980	104.000	% Recov	89.000	119.000				06/27/07
Lab ID: W07P001172											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	480-00-4	49.040	98.100	% Recov	84.000	116.000				06/27/07
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	51.360	103.000	% Recov	82.000	136.000				06/27/07
SURR	Toluene-d8(Surr)	2037-26-5	52.210	104.000	% Recov	89.000	119.000				06/27/07
Lab ID: W07P001174											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	480-00-4	48.590	97.200	% Recov	84.000	116.000				06/28/07
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	52.380	105.000	% Recov	82.000	136.000				06/28/07
SURR	Toluene-d8(Surr)	2037-26-5	53.640	107.000	% Recov	89.000	119.000				06/28/07
Lab ID: W07P001176											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	480-00-4	48.620	97.200	% Recov	84.000	116.000				06/28/07
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	51.320	103.000	% Recov	82.000	136.000				06/28/07
SURR	Toluene-d8(Surr)	2037-26-5	52.880	106.000	% Recov	89.000	119.000				06/28/07
BATCH QC											
BLANK	1,1-Dichloroethane	75-34-3	< 1.0	n/a	ug/L					U	06/27/07
BLANK	1,1,1-Trichloroethane	71-55-6	< 1.0	n/a	ug/L					U	06/27/07
BLANK	1,1,2-Trichloroethane	79-00-5	< 1.0	n/a	ug/L					U	06/27/07
BLANK	1,1-Dichloroethene	75-35-4	< 1.0	n/a	ug/L					U	06/27/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20071027
 Matrix: WATER
 Test: VOA Ground Water Protection

Sample Date:
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	1,2-Dichloroethane	107-08-2	< 1.0	n/a	ug/L					U	06/27/07
BLANK	1,4-Dichlorobenzene	106-46-7	< 1.0	n/a	ug/L					U	06/27/07
BLANK	1-Butanol	71-36-3	< 100	n/a	ug/L					U	06/27/07
BLANK	4-Methyl-2-Pentanone	108-10-1	< 1.0	n/a	ug/L					U	06/27/07
BLANK	Acetone	67-64-1	< 1.0	n/a	ug/L					U	06/27/07
BLANK	Benzene	71-43-2	< 1.0	n/a	ug/L					U	06/27/07
BLANK	4-Bromofluorobenzene(Surr)	460-00-4	49.800	99.600	% Recov	84.000	116.000				06/27/07
BLANK	Carbon disulfide	75-15-0	< 1.0	n/a	ug/L					U	06/27/07
BLANK	Carbon tetrachloride	56-23-5	< 1.0	n/a	ug/L					U	06/27/07
BLANK	Chloroform	67-66-3	< 1.0	n/a	ug/L					U	06/27/07
BLANK	Chlorobenzene	108-90-7	< 1.0	n/a	ug/L					U	06/27/07
BLANK	cis-1,2-Dichloroethylene	156-59-2	< 1.0	n/a	ug/L					U	06/27/07
BLANK	1,2-Dichloroethane-d4(Surr)	17060-07-0	51.080	102.000	% Recov	82.000	136.000				06/27/07
BLANK	trans-1,2-Dichloroethylene	156-60-5	< 1.0	n/a	ug/L					U	06/27/07
BLANK	Ethylbenzene	100-41-4	11	11.000	ug/L						06/27/07
BLANK	Ethyl cyanide	107-12-0	< 2.0	n/a	ug/L					U	06/27/07
BLANK	2-Butanone	78-93-3	< 1.0	n/a	ug/L					U	06/27/07
BLANK	Methylenechloride	75-09-2	< 1.0	n/a	ug/L					U	06/27/07
BLANK	Tetrachloroethene	127-18-4	< 1.0	n/a	ug/L					U	06/27/07
BLANK	Xylenes (total)	1330-20-7	< 1.0	n/a	ug/L	0.000	5.000			U	06/27/07
BLANK	Tetrahydrofuran	109-99-9	< 2.0	n/a	ug/L					U	06/27/07
BLANK	Toluene-d8(Surr)	2037-26-5	52.750	106.000	% Recov	89.000	119.000				06/27/07
BLANK	Toluene	108-88-3	< 1.0	n/a	ug/L					U	06/27/07
BLANK	Trichloroethene	79-01-6	< 1.0	n/a	ug/L					U	06/27/07
BLANK	Vinyl chloride	75-01-4	< 1.0	n/a	ug/L					U	06/27/07
LCS	1,1-Dichloroethene	75-35-4	28.170	113.000	% Recov	70.000	130.000				06/28/07
LCS	Benzene	71-43-2	27.700	111.000	% Recov	70.000	130.000				06/28/07
LCS	4-Bromofluorobenzene(Surr)	460-00-4	49.520	99.000	% Recov	84.000	116.000				06/28/07
LCS	Chlorobenzene	108-90-7	20.420	81.700	% Recov	70.000	130.000				06/28/07
LCS	1,2-Dichloroethane-d4(Surr)	17060-07-0	50.510	101.000	% Recov	82.000	136.000				06/28/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071027
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
LCS	Toluene-d8(Surr)	2037-26-5	51.600	103.000	% Recov	89.000	119.000				06/28/07
LCS	Toluene	108-88-3	25.950	104.000	% Recov	70.000	130.000				06/28/07
LCS	Trichloroethene	79-01-6	23.870	95.500	% Recov	70.000	130.000				06/28/07

WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I07-049
Sample # W07P001167
Client ID: B1NJV8 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Radiochemistry
Sampled: 06/19/07
Received: 06/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
TC99 by Liquid Scin.											
Technetium-99	14133-76-7	LA-508-421		1.60e+04	pCi/L	+ -3.20e+03	pCi/L	1.00	6.1		07/13/07
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		2.50e+04	pCi/L	+ -5.00e+03	pCi/L	1.00	2.1e+02		06/29/07

MDL=Minimum Detection Limit

D - Analyte was identified at a secondary dilution factor(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

RQ=Result Qualifier

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

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

TP Err=Total Propagated Error

DF=Dilution Factor

* - 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: I07-049
Sample # W07P001172
Client ID: B1NJT8 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Radiochemistry
Sampled: 06/19/07
Received: 06/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
TC99 by Liquid Scin. Technetium-99	14133-76-7	LA-508-421		820	pCi/L	+ -164	pCi/L	1.00	6.1		07/13/07

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

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

J - Analyte < lowest calibration but > = MDL.(org)
 U - Analyzed for but not detected above limiting criteria.(org)

* - 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: I07-049
Sample # W07P001174
Client ID: B1NJV2 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Radiochemistry
Sampled: 06/19/07
Received: 06/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
TC99 by Liquid Scin.											
Technetium-99	14133-76-7	LA-508-421		840	pCi/L	+ -168	pCi/L	1.00	6.1		07/13/07

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

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

J - Analyte < lowest calibration but > = MDL.(org)
 U - Analyzed for but not detected above limiting criteria.(org)

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

Report WGPP/ver. 5.2
 GPAP

63 of 85

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I07-049
Sample # W07P001176
Client ID: BINJW4 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071027
Department: Radiochemistry
Sampled: 06/19/07
Received: 06/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
TC99 by Liquid Scin.											
Technetium-99	14133-76-7	LA-508-421		120	pCi/L	+ -24.0	pCi/L	1.00	6.1		07/13/07
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		8.60e +04	pCi/L	+ -1.72e +04	pCi/L	1.00	2.1e +02		06/29/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err= Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

D - Analyte was identified at a secondary dilution factor(Inorg)

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

J - Analyte < lowest calibration but > = MDL.(org)

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

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

GPAP

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071027
 Matrix: WATER
 Test: TC99 by Liquid Scin.

Sample Date: 06/19/07
 Receive Date: 06/19/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P001167											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Technetium-99	14133-76-7	U0.3		RPD			n/a	20.000		07/13/07
MS	Technetium-99	14133-76-7	241.9	99.449	% Recov	75.000	125.000				07/13/07
BATCH QC											
BLANK	Technetium-99	14133-76-7	U-2.8	n/a	pCi/L	-10.000	10.000				07/13/07
LCS	Technetium-99	14133-76-7	305.2	100.362	% Recov	80.000	120.000				07/13/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071027
 Matrix: WATER
 Test: Tritium by Liq Sct column prep

Sample Date: 06/15/07
 Receive Date: 06/15/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P001130											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tritium	10028-17-8	6.5E + 02		RPD			14.876	20.000		06/29/07
MS	Tritium	10028-17-8	15539.0	90.698	% Recov	75.000	125.000				06/29/07
BATCH QC											
BLANK	Tritium	10028-17-8	U-3.1E + 01	n/a	pCi/L	-10.000	1000.000				06/29/07
LCS	Tritium	10028-17-8	1810.0	89.185	% Recov	80.000	120.000				06/29/07

M4W41-SLF-07-510

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 19 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

ACKNOWLEDGMENT OF SAMPLES RECEIVED

08/02/07
td

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20071027

The following samples were received from you on 06/19/07. 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
W07P001157	B1NMV5	PNNL-GPP @IC-30	Water ALKALI	06/19/07
W07P001158	B1NMW0	PNNL-GPP @IC-30	Water ALKALI	06/19/07
W07P001159	B1NMX0	PNNL-GPP @IC-30	Water ALKALI	06/19/07
W07P001160	B1NMY0	PNNL-GPP @IC-30	Water ALKALI	06/19/07
W07P001161	B1NMX5	PNNL-GPP @IC-30	Water ALKALI	06/19/07
W07P001162	B1NN10	PNNL-GPP @IC-30	Water ALKALI	06/19/07
W07P001163	B1NN39	PNNL-GPP @IC-30	Water ALKALI	06/19/07
W07P001164	B1NN46	PNNL-GPP @IC-30	Water ALKALI	06/19/07
W07P001165	B1NN41	PNNL-GPP ALKALI	Water	06/19/07
W07P001166	B1NJV7	PNNL-GPP @GPP6010	Water	06/19/07
W07P001167	B1NJV8	PNNL-GPP @2008	Water @H3-33	06/19/07
W07P001168	B1M7L6	PNNL-GPP @VOA-GPP	Water @IC-30 @TC99-30 @VOA-GPP	06/19/07
W07P001169	B1NN61	PNNL-GPP @IC-30	Water ALKALI	06/19/07
W07P001170	B1NN73	PNNL-GPP ALKALI	Water	06/19/07
W07P001171	B1NJT7	PNNL-GPP @GPP6010	Water	06/19/07

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20071027

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
W07P001172	B1NJT8	PNNL-GPP @2008 @IC-30	Water @TC99-30 @VOA-GPP	06/19/07
W07P001173	B1NJV1	PNNL-GPP @GPP6010	Water	06/19/07
W07P001174	B1NJV2	PNNL-GPP @2008 @IC-30	Water @TC99-30 @VOA-GPP	06/19/07
W07P001175	B1NJW3	PNNL-GPP @GPP6010	Water	06/19/07
W07P001176	B1NJW4	PNNL-GPP @2008 @H3-33	Water @IC-30 @TC99-30 @VOA-GPP	06/19/07

Test Acronym Description

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@GPP6010	ICP Metals Analysis, Grd H2O 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
ALKALI	Total Alkalinity as mg/L CaCO3

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

W07-006-366

20071027

Page 1 of 1

Collector Fluor Hanford D. R. BREWINGTON	Contact/Requester Steve Trent	Telephone No. 509-373-5869	MSIN FAX
SAF No. W07-006	Sampling Origin Hanford Site	Purchase Order/Charge Code	
Project Title RCRA, JUNE 2007	100bak, HNF-N-506-6	Ice Chest No. SML-538	Temp.
Shipped To (Lab) Waste Sampling & Characterization	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.	
Protocol RCRA	Priority: 45 Days	Offsite Property No.	
POSSIBLE SAMPLE HAZARDS/REMARKS ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days. WSCF: Batch all GW samples submitted into one SDG, daily closure. All SDG's are to be sent to Steve Trent, FH	

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1NN10	1162	W	6/19/07	1226	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool 4C
B1NN10	↓	W	↓	↓	1x500-mL G/P	310.1_ALKALINITY: Alkalinity (1)	Cool 4C
<i>J. Wall</i> 6/19/07							
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p>ICED Initial Date</p> </div>							

Relinquished By Fluor Hanford D. R. BREWINGTON	Print <i>D.R. Brewington</i>	Sign <i>D.R. Brewington</i>	1400 Date/Time JUN 19 2007	Received By TA RAZIEN	Print <i>T. Razi</i>	Sign <i>T. Razi</i>	Date/Time JUN 19 2007 1400	<p>Matrix *</p> <p>S = Soil DS = Drum Solid SF = Sediment DL = Drum Liquid SO = Solid T = Tissue SI = Sludge WI = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other</p>
Relinquished By	Date/Time	Received By	Date/Time	Received By	Date/Time	Date/Time		
Relinquished By	Date/Time	Received By	Date/Time	Received By	Date/Time	Date/Time		
Relinquished By	Date/Time	Received By	Date/Time	Received By	Date/Time	Date/Time		
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)			Disposed By			Date/Time	

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

U.C.C. #

W07-006-374

20071027

Page 1 of 1

Collector Fluor Hanford D. R. BREWINGTON	Contact/Requester Steve Trent	Telephone No. 509-373-5869	MSIN FAX
SAF No. W07-006	Sampling Origin Hanford Site	Purchase Order/Charge Code	
Project Title RCRA, JUNE 2007	Logbook: HNF-N-506-6	Ice Chest No. SML-538	Temp.
Shipped To (Lab) Waste Sampling & Characterization	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.	
Protocol RCRA	Priority: 45 Days	Offsite Property No.	

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

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No
 All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days.
 WSCF: Batch all GW samples submitted into one SDG, daily closure.
 All SDG's are to be sent to Steve Trent, FH

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1NN39	1163	W	6/19/07	1126	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool 4C
B1NN39	↓	W	↓	↓	1x500-mL G/P	310.1_ALKALINITY: Alkalinity (1)	Cool 4C
 <div data-bbox="532 812 808 974" data-label="Text"> <p>R. Wood 6/19/07</p> </div> 							

ICED
 Initial
 Date

Relinquished By Fluor Hanford D. R. BREWINGTON	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time JUN 19 2007 1400	Received By TA #02162	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time JUN 19 2007 1400	Matrix * S = Soil DS = Drum Solid SF = Sediment DI = Drum Liquid SO = Solid T = Tissue SI = Sludge WI = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By	Date/Time	Received By	Date/Time	Received By	Date/Time	Date/Time		
Relinquished By	Date/Time	Received By	Date/Time	Received By	Date/Time	Date/Time		
Relinquished By	Date/Time	Received By	Date/Time	Received By	Date/Time	Date/Time		
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)			Disposed By		Date/Time		

7 of 85

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

W07-006-386

20071027

Page 1 of 1

Collector Fluor Hanford D. R. BREWINGTON	Contact/Requester Steve Trent	Telephone No. 509-373-5869	MSIN FAX
SAF No. W07-006	Sampling Origin Hanford Site	Purchase Order/Charge Code	
Project Title RCRA, JUNE 2007	Logbook: HNF-N-506-6	Ice Chest No. SML-538	Temp.
Shipped To (Lab) Waste Sampling & Characterization	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.	
Protocol RCRA	Priority: 45 Days	Offsite Property No.	

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

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No
 All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days.
 WSCF: Batch all GW samples submitted into one SDG, daily closure.
 All SDG's are to be sent to Steve Trent, FH

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1NN46	1164	W	6/19/07	1323	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool 4C
B1NN46	↓	W	↓	↓	1x500-mL G/P	310.1_ALKALINITY: Alkalinity (1)	Cool 4C
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p>ICED Initial Date</p> </div>							

A. Wall
6/19/07

Relinquished By Fluor Hanford D. R. BREWINGTON	Print Sign <i>[Signature]</i>	Date/Time 1400 JUN 19 2007	Received By TAPAZIONE	Print Sign <i>[Signature]</i>	Date/Time 1400 JUN 19 2007	Matrix *
Relinquished By	Date/Time	Received By	Date/Time	S = Soil DS = Drum Solid SF = Sediment DI = Drum Initial SO = Solid T = Tissue SL = Sludge W = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other		
Relinquished By	Date/Time	Received By	Date/Time			
Relinquished By	Date/Time	Received By	Date/Time			
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By		Date/Time	

77 of 85

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

W07-006-378
Page 1 of 1

20071027

Collector Fluor Hanford	Contact/Requester Steve Trent	Telephone No. 509-373-5869	MSIN FAX
SAF No. W07-006	Sampling Origin Hanford Site	Purchase Order/Charge Code	
Project Title RCRA JUNE 2007	Method of Shipment Govt. Vehicle	Ice Chest No. SML-538	Temp.
Shipped To (Lab) Waste Sampling & Characterization	Priority: 45 Days	Bill of Lading/Air Bill No.	
Protocol RCRA	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
 All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days.
 WSCF: Batch all GW samples submitted into one SDG, daily closure.
 All SDG's are to be sent to Steve Trent, FH

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1NN41	1165	W	6/19/07	1011	1x500-mL G/P	310.1_ALKALINITY: Alkalinity (1)	Cool 4C
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> ICED Initial Date </div>							

Relinquished By <i>[Signature]</i>	Date/Time JUN 19 2007 1400	Received By <i>[Signature]</i>	Date/Time JUN 19 2007 1400	Matrix * S = Soil DS = Drum Solid SF = Sediment DI = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By	Date/Time	Received By	Date/Time	
Relinquished By	Date/Time	Received By	Date/Time	
Relinquished By	Date/Time	Received By	Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By	Date/Time

07
06
05

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

L.O.C. #

107-049-16

20071027

Page 1 of 1

Collector	Contact/Requester Steve Trent	Telephone No. 509-373-5869	MSIN	FAX
SAF No. 107-049	Sampling Origin Hanford Site	Purchase Order/Charge Code		
Project Title 2UPL-LOL JUNE 2007	Logbook: HNF-N-506-6	Ice Chest No.	SML-538 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
 All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days.
 WSCF: Batch all GW samples submitted into one SDG, daily closure.
 All SDG's are to be sent to Steve Trent, FH

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1NJV7 (F)	W071001166	W	6/19/07	1011	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1NJV8	1167	W	↓	↓	4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	HCl or H2SO4 to pH <2 Cool 4C
B1NJV8	↓	W	↓	↓	1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2
B1NJV8	↓	W	↓	↓	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool 4C
B1NJV8	↓	W	↓	↓	1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	HCl to pH<2
B1NJV8	↓	W	↓	↓	1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> ICED Initial Date </div>							

A. Wald
6/19/07

Relinquished By <i>NR Prunty</i>	Print - Sign	Date/Time 1400	Received By <i>TA Prunty</i>	Print - Sign	Date/Time 1400	Matrix * S = Soil DS = Drum Solid SF = Sediment DI = Drum Liner SO = Solid T = Tissue SL = Sludge W = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By	Date/Time	Received By	Date/Time			
Relinquished By	Date/Time	Received By	Date/Time			
Relinquished By	Date/Time	Received By	Date/Time			
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time		

79 of 85

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

S07-002-108

20071027

Page 1 of 1

Collector	Contact/Requester Dot Stewart	Telephone No. MSIN FAX 509-376-5056
SAF No. S07-002	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title SURV. FEBRUARY 2007	Logbook: HNF-N-506-6	Ice Chest No. SML-538 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
 All Labs except WSCF: Batch all PNNL samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days.
 WSCF: Batch all PNNL GW samples submitted into one SDG, daily closure.

Sample No.	Lab ID	•	Date	Time	No/Type Container	Sample Analysis	Preservative
B1M7L6	1168	W	6/19/07	1011	1x20-mL P	Activity Scan	None
B1M7L6	↓	W	↓	↓	4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	HCl or H2SO4 to pH <2 Cool 4C
<div style="font-size: 2em; transform: rotate(-45deg); opacity: 0.5;"> P. Wall 6/19/07 </div>							
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> ICED Initial _____ Date _____ </div>							

Relinquished By	Print <i>DR. [Signature]</i>	Sign	Date/Time JUN 19 2007 1400	Received By	Print <i>TARAZIEN [Signature]</i>	Sign	Date/Time JUN 19 2007 1400	Matrix * S = Soil DS = Drum Solid SE = Sediment DI = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By			Date/Time	Received By			Date/Time	
Relinquished By			Date/Time	Received By			Date/Time	
Relinquished By			Date/Time	Received By			Date/Time	
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By		Date/Time

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

107-049-24
Page 1 of 1

20071027

Collector F. M. HALL	Contact/Requester Steve Trent	Telephone No. 509-373-5869	MSIN FAX
SAF No. 107-049	Sampling Origin Hanford Site	Purchase Order/Charge Code	
Project Title 2UJ1-LOL JUNE 2007	HNF-N-506-7	Ice Chest No. 562	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
 All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days.
 WSCF: Batch all GW samples submitted into one SDG, daily closure.
 All SDG's are to be sent to Steve Trent, FH

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1NJW3 (F)	1175	W	6/19/07	1415	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1NJW4	1176	W	↓	↓	4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	HCl or H2SO4 to pH <2 Cool 4C
B1NJW4	↓	W	↓	↓	1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2
B1NJW4	↓	W	↓	↓	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool 4C
B1NJW4	↓	W	↓	↓	1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	HCl to pH<2
B1NJW4	↓	W	↓	↓	1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None

ICED
Initial
Date

Relinquished By F. M. HALL	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time 1435 JUN 19 2007	Received By TA RYAN	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time 1435 JUN 19 2007	Matrix *
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time	S = Soil DS = Dism Solid SF = Sediment DI = Dism Inert SO = Solid T = Tissue SL = Sludge WI = Wine W = Water I = Inert O = Oil V = Vegetation A = Air X = Other
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time	
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time	
Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)			Disposed By			Date/Time	

85 of 85