0077101

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FLUOR

Memorandum

M4W41-SLF-07-672

To: H. Hampt E6-35 Date: September 27, 2007

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

cc: w/Attachments

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

Subject: FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20071460

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 WSCF20071460:

- Cover Sheet (Attachment 1)
- Narrative (Attachment 2)
- Analytical Results (Attachment 3)
- Sample Receipt Information (Attachment 4)
- Issue Resolution Form (Attachment 5)

SLF/cmj

Attachments 5

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EDMC

RECEIVED
SEP 27 2007

M4W41-SLF-07-672

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20071460
Data Deliverable Date: 28-sep-2007
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
I07-058	B1P4J5	W07P001503	WATER
W07-008	B1P861	W07P001510	WATER
	B1P8L2	W07P001505	WATER
	B1P8L7	W07P001508	WATER
	B1P8N6	W07P001507	WATER
	B1P8P1	W07P001504	WATER
	B1P8R1	W07P001511	WATER
	B1P8T5	W07P001512	WATER
	B1P9J9	W07P001509	WATER
	B1P9K4	W07P001506	WATER

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ATTACHMENT 2

NARRATIVE

Consisting of 4 pages
Including cover page

Sample Delivery Group	**WSCF20071460**
Sample Matrix	**Water**
Data Deliverable	**Summary Report**

Introduction

Ten (10) groundwater samples were received at the WSCF Laboratory on August 15, 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. Additionally, a draft copy of a proposed Issue Resolution Form is included as Attachment 5 documenting missed 48-hour hold time requirement for anions.

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 13-14, for a complete listing of approved analytical methods.

Inorganic Comments

Anions – 48-hold time requirement for this analysis was not met. See comment below. 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 26-31 for QC details. Analytical Note(s):

- 48-hour hold time requirement was not met. Refer to proposed IRF (Attachment 5) for detail.
- Sample results were D flagged if dilution(s) were required.
- Sample results that were less than the reportable limit, however greater than the method detection limit, were B flagged.

- Duplicates, Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1P9Y6 (SDG# 20071479); B1P9P5 (SDG# 20071493); and, B1P9J9 and B1P8P1 of this SDG.

- Nitrite-N – Matrix Spike and Matrix Spike Duplicate (B1P9Y6) recoveries exceeded established laboratory limits. Affected sample results were N flagged.

All other QC controls are within the established limits.

Cyanide – The hold time requirement for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See page 32 for QC details. Analytical Note(s):

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

All QC controls are within the established limits.

Hexavalent Chromium – The hold time requirement for this analysis was met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See page 33 for QC details.

All 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 34 for QC details. Analytical Note(s):

- Duplicate was analyzed on samples B1P978 (SDG# 20071364) and B1P9J9 of this SDG.

All QC controls are within the established limits.

Radiochemistry Comments

Rad Chem – There are no hold times associated with WSCF's radiochemical methods. A Duplicate, Matrix Spike, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 43-44 for QC details. Analytical Note(s):

- Tritium – Duplicate and Matrix Spike were analyzed on sample# B1NXT2 (SDG# 20071384).

- Gross Alpha – Duplicate Relative Percent Difference (RPD) slightly exceeded established laboratory limits. No flags issued.

All other 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

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ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 38 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

GPAP
Richland, WA 99352

Attention: Steve Trent E6-35

Analytical: S. Fitzgerald 9/27/07

Client Services: P. D. Miy 9/26/2007

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#: WSCF20071460
Report Date: 26-sep-2007
Report WGPP/ver. 5.2
GPAP

w13qlog v4.2 26-sep-2007 12:20:54

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20071460

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
33016	2	33417	37502	BLANK		Anions by Ion Chromatography
33016	12	33417	37502	BLANK		Anions by Ion Chromatography
33016	3	33417	37502	LCS		Anions by Ion Chromatography
33016	8	33417	37502	SAMPLE	W07P001508	Anions by Ion Chromatography
33016	5	33417	37502	DUP	W07P001509	Anions by Ion Chromatography
33016	6	33417	37502	MS	W07P001509	Anions by Ion Chromatography
33016	7	33417	37502	MSD	W07P001509	Anions by Ion Chromatography
33016	4	33417	37502	SAMPLE	W07P001509	Anions by Ion Chromatography
33016	7	33417	37502	SPK-RPD	W07P001509	Anions by Ion Chromatography
33016	9	33417	37502	SAMPLE	W07P001510	Anions by Ion Chromatography
33016	10	33417	37502	SAMPLE	W07P001511	Anions by Ion Chromatography
33016	11	33417	37502	SAMPLE	W07P001512	Anions by Ion Chromatography
33023	2	33424	37505	BLANK		Hexavalent chromium
33023	3	33424	37505	LCS		Hexavalent chromium
33023	5	33424	37505	DUP	W07P001503	Hexavalent chromium
33023	6	33424	37505	MS	W07P001503	Hexavalent chromium
33023	7	33424	37505	MSD	W07P001503	Hexavalent chromium
33023	4	33424	37505	SAMPLE	W07P001503	Hexavalent chromium
33023	7	33424	37505	SPK-RPD	W07P001503	Hexavalent chromium
33037	1	33437	37522	BLANK		Cyanide by Midi/Spectrophotom
33037	2	33437	37522	LCS		Cyanide by Midi/Spectrophotom
33037	6	33437	37522	MS	W07P001504	Cyanide by Midi/Spectrophotom
33037	7	33437	37522	MSD	W07P001504	Cyanide by Midi/Spectrophotom
33037	5	33437	37522	SAMPLE	W07P001504	Cyanide by Midi/Spectrophotom
33037	7	33437	37522	SPK-RPD	W07P001504	Cyanide by Midi/Spectrophotom
33037	8	33437	37522	SAMPLE	W07P001505	Cyanide by Midi/Spectrophotom
33037	9	33437	37522	SAMPLE	W07P001506	Cyanide by Midi/Spectrophotom
33037	10	33437	37522	SAMPLE	W07P001507	Cyanide by Midi/Spectrophotom
33037	11	33437	37522	SAMPLE	W07P001508	Cyanide by Midi/Spectrophotom
33037	12	33437	37522	SAMPLE	W07P001509	Cyanide by Midi/Spectrophotom
33037	13	33437	37522	SAMPLE	W07P001511	Cyanide by Midi/Spectrophotom
33037	14	33437	37522	SAMPLE	W07P001512	Cyanide by Midi/Spectrophotom
33038	2	33440	37534	BLANK		Anions by Ion Chromatography
33038	12	33440	37534	BLANK		Anions by Ion Chromatography
33038	3	33440	37534	LCS		Anions by Ion Chromatography
33016	8	33440	37534	SAMPLE	W07P001508	Anions by Ion Chromatography
33016	9	33440	37534	SAMPLE	W07P001510	Anions by Ion Chromatography
33016	10	33440	37534	SAMPLE	W07P001511	Anions by Ion Chromatography
33038	5	33440	37534	DUP	W07P001545	Anions by Ion Chromatography
33038	6	33440	37534	MS	W07P001545	Anions by Ion Chromatography
33038	7	33440	37534	MSD	W07P001545	Anions by Ion Chromatography
33038	7	33440	37534	SPK-RPD	W07P001545	Anions by Ion Chromatography
33067	1	33471	37541	LCS		Total Alkalinity as mg/L CaCO3
33067	13	33471	37541	LCS		Total Alkalinity as mg/L CaCO3
33067	24	33471	37541	LCS		Total Alkalinity as mg/L CaCO3
33067	3	33471	37541	DUP	W07P001463	Total Alkalinity as mg/L CaCO3
33067	18	33471	37541	SAMPLE	W07P001504	Total Alkalinity as mg/L CaCO3
33067	19	33471	37541	SAMPLE	W07P001505	Total Alkalinity as mg/L CaCO3

33067	20	33471	37541	SAMPLE	W07P001506	Total Alkalinity as mg/L CaCO3
33067	21	33471	37541	SAMPLE	W07P001507	Total Alkalinity as mg/L CaCO3
33067	22	33471	37541	SAMPLE	W07P001508	Total Alkalinity as mg/L CaCO3
33067	23	33471	37541	SAMPLE	W07P001509	Total Alkalinity as mg/L CaCO3
33071	2	33475	37545	BLANK		Anions by Ion Chromatography
33071	10	33475	37545	BLANK		Anions by Ion Chromatography
33071	3	33475	37545	LCS		Anions by Ion Chromatography
33071	8	33475	37545	SAMPLE	W07P001506	Anions by Ion Chromatography
33071	9	33475	37545	SAMPLE	W07P001507	Anions by Ion Chromatography
33071	5	33475	37545	DUP	W07P001550	Anions by Ion Chromatography
33071	6	33475	37545	MS	W07P001550	Anions by Ion Chromatography
33071	7	33475	37545	MSD	W07P001550	Anions by Ion Chromatography
33071	7	33475	37545	SPK-RPD	W07P001550	Anions by Ion Chromatography
33072	2	33476	37546	BLANK		Anions by Ion Chromatography
33072	12	33476	37546	BLANK		Anions by Ion Chromatography
33072	3	33476	37546	LCS		Anions by Ion Chromatography
33072	5	33476	37546	DUP	W07P001504	Anions by Ion Chromatography
33072	6	33476	37546	MS	W07P001504	Anions by Ion Chromatography
33072	7	33476	37546	MSD	W07P001504	Anions by Ion Chromatography
33072	4	33476	37546	SAMPLE	W07P001504	Anions by Ion Chromatography
33072	7	33476	37546	SPK-RPD	W07P001504	Anions by Ion Chromatography
33072	8	33476	37546	SAMPLE	W07P001505	Anions by Ion Chromatography
33102	1	33507	37571	LCS		Total Alkalinity as mg/L CaCO3
33102	13	33507	37571	LCS		Total Alkalinity as mg/L CaCO3
33102	24	33507	37571	LCS		Total Alkalinity as mg/L CaCO3
33102	3	33507	37571	DUP	W07P001510	Total Alkalinity as mg/L CaCO3
33102	2	33507	37571	SAMPLE	W07P001510	Total Alkalinity as mg/L CaCO3
33102	4	33507	37571	SAMPLE	W07P001511	Total Alkalinity as mg/L CaCO3
33102	5	33507	37571	SAMPLE	W07P001512	Total Alkalinity as mg/L CaCO3

w13qlog`v4.2 26-sep-2007 12:20:54

Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20071460

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
33021	1	33422	37853	BLANK		Gross Alpha/Gross Beta (AB32)
33021	2	33422	37853	LCS		Gross Alpha/Gross Beta (AB32)
33021	3	33422	37853	DUP	W07P001504	Gross Alpha/Gross Beta (AB32)
33021	4	33422	37853	SAMPLE	W07P001504	Gross Alpha/Gross Beta (AB32)
33021	5	33422	37853	SAMPLE	W07P001505	Gross Alpha/Gross Beta (AB32)
33021	6	33422	37853	SAMPLE	W07P001506	Gross Alpha/Gross Beta (AB32)
33021	7	33422	37853	SAMPLE	W07P001507	Gross Alpha/Gross Beta (AB32)
33006	1	33407	37989	BLANK		Tritium by Liq Sct column prep
33006	2	33407	37989	LCS		Tritium by Liq Sct column prep
33006	4	33407	37989	DUP	W07P001489	Tritium by Liq Sct column prep
33006	5	33407	37989	MS	W07P001489	Tritium by Liq Sct column prep
33006	7	33407	37989	SAMPLE	W07P001504	Tritium by Liq Sct column prep
33006	8	33407	37989	SAMPLE	W07P001505	Tritium by Liq Sct column prep
33006	9	33407	37989	SAMPLE	W07P001506	Tritium by Liq Sct column prep
33006	10	33407	37989	SAMPLE	W07P001507	Tritium by Liq Sct column prep
33006	11	33407	37989	SAMPLE	W07P001508	Tritium by Liq Sct column prep
33006	14	33407	37989	SAMPLE	W07P001509	Tritium by Liq Sct column prep
33006	12	33407	37989	SAMPLE	W07P001511	Tritium by Liq Sct column prep
33006	13	33407	37989	SAMPLE	W07P001512	Tritium by Liq Sct column prep

WSCF
METHOD REFERENCES REPORT

Department: Inorganic

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

LA-265-403	LA-265-403: Hexavalent Chromium analysis by Spectrophotometer	
	EPA SW-846 7196A	HEXAVALENT CHROMIUM
	HEIS 7196_CR6	Hexavalent Chromium
LA-531-411	LA-531-411: ALKALINITY (TITRIMETRIC)	
	HEIS 2320B	Alkalinity
	Standard Methods 2320B	Alkalinity
LA-533-410	LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY	
	EPA-600/R-94-111 300.0	DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY
	HEIS 300.0_ANIONS_IC	Determination of Inorganic Anions by Ion Chromatography
LA-695-402	LA-695-402: DETERMINATION OF CYANIDE BY MIDIDISTILLATION AND SPECTROPHOTOMETRIC	
	EPA-600/4-79-020 335.2	Cyanide, Total
	HEIS 335.2_CYANIDE	Cyanide, Total

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

WSCF
METHOD REFERENCES REPORT

Department: Radiochemistry

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

LA-508-415	LA-508-415: OPERATION OF THE PROTEAN 2-INCH ALPHA/BETA COUNTING SYSTEM FOR GROSS	
	HEIS ALPHA_GPC	GROSS ALPHA GPC
	HEIS BETA_GPC	GROSS BETA GPC
	HEIS SRTOT_SEP_PRECIP_GPC	Strontium 89/90
LA-508-421	LA-508-421: OPERATION OF THE TRI-CARB MODEL 2500TR LIQUID SCINTILLATION ANALYZER	
	HEIS ALPHA_LSC	A/B Liquid Scintilillation
	HEIS BETA_LSC	A/B Liquid Scintilallation
	HEIS TC99_3MDSK_LSC	TC99 by Liquid Scintillation
	HEIS TRITIUM_EIE_LSC	Tritium Liquid Scintillation

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I07-058
Sample # W07P001503
Client ID: B1P4J5 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071460
Department: Inorganic
Sampled: 08/15/07
Received: 08/15/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Hexavalent Chromium											
Hexavalent Chromium	18540-29-9	LA-265-403		0.0521	mg/L			1.00	2.0e-03		08/15/07

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

B - The analyte < the RDL but > = the IDL/MDL (inorg)
D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

D - Analyte was identified at a secondary dilution factor
N - Spike sample recovery is outside control limits.(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-008
Sample # W07P001504
Client ID: B1P8P1 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071460
Department: Inorganic
Sampled: 08/15/07
Received: 08/15/07

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	D	0.238	mg/L			2.00	0.012		08/23/07
Chloride	16887-00-6	LA-533-410	D	19.1	mg/L			20.00	0.60		08/23/07
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0200	mg/L			2.00	0.020		08/23/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	41.1	mg/L			20.00	0.10		08/23/07
Sulfate	14808-79-8	LA-533-410	D	86.4	mg/L			20.00	1.4		08/23/07
Cyanide											
Cyanide	57-12-5	LA-695-402	U	< 4.00	ug/L			1.00	4.0		08/21/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		120	mg/L			1.00	1.0		08/16/07

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

B - The analyte < the RDL but > = the IDL/MDL (inorg)
D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

D - Analyte was identified at a secondary dilution factor
N - Spike sample recovery is outside control limits.(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-008
Sample # W07P001505
Client ID: B1P8L2 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071460
Department: Inorganic
Sampled: 08/15/07
Received: 08/15/07

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	BD	0.110	mg/L			5.00	0.030		08/23/07
Chloride	16887-00-6	LA-533-410	D	41.3	mg/L			5.00	0.15		08/23/07
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0500	mg/L			5.00	0.050		08/23/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	271	mg/L			1.01e+002	0.50		08/23/07
Sulfate	14808-79-8	LA-533-410	D	196	mg/L			1.01e+002	7.1		08/23/07
Cyanide											
Cyanide	57-12-5	LA-695-402	D	989	ug/L			5.00	20		08/21/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		100	mg/L			1.00	1.0		08/16/07

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

B - The analyte < the RDL but >= the IDL/MDL (inorg)
D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
D - Analyte was identified at a secondary dilution factor
N - Spike sample recovery is outside control limits.(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-008
Sample # W07P001506
Client ID: B1P9K4 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071460
Department: Inorganic
Sampled: 08/15/07
Received: 08/15/07

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	D	0.241	mg/L			2.00	0.012		08/22/07
Chloride	16887-00-6	LA-533-410	D	20.3	mg/L			20.00	0.60		08/22/07
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0200	mg/L			2.00	0.020		08/22/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	8.00	mg/L			20.00	0.10		08/22/07
Sulfate	14808-79-8	LA-533-410	D	90.0	mg/L			20.00	1.4		08/22/07
Cyanide											
Cyanide	57-12-5	LA-695-402	U	< 4.00	ug/L			1.00	4.0		08/21/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		130	mg/L			1.00	1.0		08/16/07

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

B - The analyte < the RDL but >= the IDL/MDL (inorg)
D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

D - Analyte was identified at a secondary dilution factor
N - Spike sample recovery is outside control limits.(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-008
Sample # W07P001507
Client ID: B1P8N6 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071460
Department: Inorganic
Sampled: 08/15/07
Received: 08/15/07

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	D	0.218	mg/L			2.00	0.012		08/22/07
Chloride	16887-00-6	LA-533-410	D	18.0	mg/L			20.00	0.60		08/22/07
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0200	mg/L			2.00	0.020		08/22/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	67.8	mg/L			20.00	0.10		08/22/07
Sulfate	14808-79-8	LA-533-410	D	94.3	mg/L			20.00	1.4		08/22/07
Cyanide											
Cyanide	57-12-5	LA-695-402	U	< 4.00	ug/L			1.00	4.0		08/21/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		120	mg/L			1.00	1.0		08/16/07

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

B - The analyte < the RDL but >= the IDL/MDL (inorg)
D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

D - Analyte was identified at a secondary dilution factor
N - Spike sample recovery is outside control limits.(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-008
Sample # W07P001508
Client ID: B1P8L7 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071460
Department: Inorganic
Sampled: 08/15/07
Received: 08/15/07

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	D	0.563	mg/L			2.00	0.012		08/22/07
Chloride	16887-00-6	LA-533-410	D	23.3	mg/L			20.00	0.60		08/16/07
Nitrogen in Nitrite	NO2-N	LA-533-410	DNU	< 0.0200	mg/L			2.00	0.020		08/22/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	31.9	mg/L			20.00	0.10		08/16/07
Sulfate	14808-79-8	LA-533-410	D	88.0	mg/L			20.00	1.4		08/16/07
Cyanide											
Cyanide	57-12-5	LA-695-402		57.7	ug/L			1.00	4.0		08/21/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		100	mg/L			1.00	1.0		08/16/07

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

B - The analyte < the RDL but >= the IDL/MDL (inorg)
D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

D - Analyte was identified at a secondary dilution factor
N - Spike sample recovery is outside control limits.(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-008
Sample # W07P001509
Client ID: B1P9J9 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071460
Department: Inorganic
Sampled: 08/15/07
Received: 08/15/07

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		0.273	mg/L			1.00	6.0e-03		08/16/07
Chloride	16887-00-6	LA-533-410	D	10.7	mg/L			10.00	0.30		08/16/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		08/16/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	3.92	mg/L			10.00	0.050		08/16/07
Sulfate	14808-79-8	LA-533-410	D	46.3	mg/L			10.00	0.70		08/16/07
Cyanide											
Cyanide	57-12-5	LA-695-402	U	< 4.00	ug/L			1.00	4.0		08/21/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		120	mg/L			1.00	1.0		08/16/07

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

B - The analyte < the RDL but > = the IDL/MDL (inorg)
D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
D - Analyte was identified at a secondary dilution factor
N - Spike sample recovery is outside control limits.(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-008
Sample # W07P001510
Client ID: B1P861 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071460
Department: Inorganic
Sampled: 08/15/07
Received: 08/15/07

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		0.376	mg/L			1.00	6.0e-03		08/16/07
Chloride	16887-00-6	LA-533-410	D	11.6	mg/L			10.00	0.30		08/22/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		08/16/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	9.25	mg/L			10.00	0.050		08/22/07
Sulfate	14808-79-8	LA-533-410	D	51.0	mg/L			10.00	0.70		08/22/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		140	mg/L			1.00	1.0		08/23/07

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

B - The analyte < the RDL but > = the IDL/MDL (inorg)
D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

D - Analyte was identified at a secondary dilution factor
N - Spike sample recovery is outside control limits.(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-008
Sample # W07P001511
Client ID: B1P8R1 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071460
Department: Inorganic
Sampled: 08/15/07
Received: 08/15/07

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	D	0.232	mg/L			2.00	0.012		08/22/07
Chloride	16887-00-6	LA-533-410	D	12.2	mg/L			10.00	0.30		08/16/07
Nitrogen in Nitrite	NO2-N	LA-533-410	DNU	< 0.0200	mg/L			2.00	0.020		08/22/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	19.4	mg/L			10.00	0.050		08/16/07
Sulfate	14808-79-8	LA-533-410	D	68.7	mg/L			10.00	0.70		08/16/07
Cyanide											
Cyanide	57-12-5	LA-695-402	U	< 4.00	ug/L			1.00	4.0		08/21/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		100	mg/L			1.00	1.0		08/23/07

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

B - The analyte < the RDL but > = the IDL/MDL (inorg)
D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

D - Analyte was identified at a secondary dilution factor
N - Spike sample recovery is outside control limits.(inorg)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-008
Sample # W07P001512
Client ID: B1P8T5 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071460
Department: Inorganic
Sampled: 08/15/07
Received: 08/15/07

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	D	0.249	mg/L			2.00	0.012		08/16/07
Chloride	16887-00-6	LA-533-410	D	18.3	mg/L			10.00	0.30		08/16/07
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0200	mg/L			2.00	0.020		08/16/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	8.88	mg/L			10.00	0.050		08/16/07
Sulfate	14808-79-8	LA-533-410	D	86.7	mg/L			10.00	0.70		08/16/07
Cyanide											
Cyanide	57-12-5	LA-695-402	U	< 4.00	ug/L			1.00	4.0		08/21/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		130	mg/L			1.00	1.0		08/23/07

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

B - The analyte < the RDL but >= the IDL/MDL (inorg)
D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

D - Analyte was identified at a secondary dilution factor
N - Spike sample recovery is outside control limits.(inorg)

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WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20071460
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		ANIONS: Due to problems with inconsistent injections, samples W07P001504-W07P001507 were re-analyzed after the 48 hour holding time for nitrite-N and nitrate-N. The original results for the direct analysis of W07P001504 were consistent with the re-analysis in that nitrite-N was not detected in either sample. The original analysis for the 10X dilution was one of the samples with injection problems. The original results for both dilutions for W07P001505 had injection problems. The original results of the 10X dilution for W07P001506 were consistent with the re-analysis. The original analysis was 7.88 ug/mL for nitrate-N. The original analysis for nitrite-N was one of the samples with injection problems. The original results for W07P001507 were consistent with the re-analysis The original analysis was 65.5 ug/mL for nitrate-N and nitrite-N was not detected in the 2X dilution. SDB 8/24/07 Due to problems with inconsistent injections, the nitrite-N holding time was also missed on samples W07P001508 and W07P001511. The nitrate-N holding time was missed on sample W07P001510. SDB 8/29/07 W07P001504-1507/Gross alpha dup is flagged for poor RPD but the sample activity is low level. RPD doesn't apply to low level samples. lmh

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

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071460
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date: 08/15/07
Receive Date:08/15/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P001509											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	11.0617		RPD			3.085	20.000		08/16/07
DUP	Fluoride	16984-48-8	0.2702		RPD			0.884	20.000		08/16/07
DUP	Nitrogen in Nitrite	NO2-N	<1e-2		RPD			n/a	20.000	U	08/16/07
DUP	Nitrogen in Nitrate	NO3-N	3.9321		RPD			0.405	20.000		08/16/07
DUP	Sulfate	14808-79-8	47.1241		RPD			1.807	20.000		08/16/07
MS	Chloride	16887-00-6	0.99987	100.997	% Recov	75.000	125.000				08/16/07
MS	Fluoride	16984-48-8	0.5181	103.207	% Recov	75.000	125.000				08/16/07
MS	Nitrogen in Nitrite	NO2-N	0.5298	106.386	% Recov	75.000	125.000				08/16/07
MS	Nitrogen in Nitrate	NO3-N	0.45748	101.437	% Recov	75.000	125.000				08/16/07
MS	Sulfate	14808-79-8	1.98898	100.454	% Recov	75.000	125.000				08/16/07
MSD	Chloride	16887-00-6	0.99856	100.865	% Recov	75.000	125.000				08/16/07
MSD	Fluoride	16984-48-8	0.5064	100.876	% Recov	75.000	125.000				08/16/07
MSD	Nitrogen in Nitrite	NO2-N	0.4942	99.237	% Recov	75.000	125.000				08/16/07
MSD	Nitrogen in Nitrate	NO3-N	0.45575	101.053	% Recov	75.000	125.000				08/16/07
MSD	Sulfate	14808-79-8	2.00117	101.069	% Recov	75.000	125.000				08/16/07
SPK-RPD	Chloride	16887-00-6	100.865		RPD			0.131	20.000		08/16/07
SPK-RPD	Fluoride	16984-48-8	100.876		RPD			2.284	20.000		08/16/07
SPK-RPD	Nitrogen in Nitrite	NO2-N	99.237		RPD			6.954	20.000		08/16/07
SPK-RPD	Nitrogen in Nitrate	NO3-N	101.053		RPD			0.379	20.000		08/16/07
SPK-RPD	Sulfate	14808-79-8	101.069		RPD			0.610	20.000		08/16/07
BATCH QC											
BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	08/16/07
BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	08/16/07
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	08/16/07
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	08/16/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071460
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	<1e-2	n/a	mg/L	0.000	0.020			U	08/16/07
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	08/16/07
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	08/16/07
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	08/16/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	08/16/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	08/16/07
LCS	Chloride	16887-00-6	207.561	103.781	% Recov	80.000	120.000				08/16/07
LCS	Fluoride	16984-48-8	108.5366	107.462	% Recov	80.000	120.000				08/16/07
LCS	Nitrogen in Nitrite	NO2-N	103.248	103.248	% Recov	80.000	120.000				08/16/07
LCS	Nitrogen in Nitrate	NO3-N	95.3472	104.547	% Recov	80.000	120.000				08/16/07
LCS	Sulfate	14808-79-8	401.5685	100.392	% Recov	80.000	120.000				08/16/07

Lab ID: W07P001545
BATCH QC ASSOCIATED WITH SAMPLE

DUP	Chloride	16887-00-6	57.0108		RPD			0.406	20.000		08/22/07
DUP	Fluoride	16984-48-8	0.4146		RPD			2.147	20.000		08/22/07
DUP	Nitrogen in Nitrite	NO2-N	<1e-2		RPD			n/a	20.000	U	08/22/07
DUP	Nitrogen in Nitrate	NO3-N	14.5184		RPD			0.260	20.000		08/22/07
DUP	Sulfate	14808-79-8	33.2958		RPD			4.668	20.000		08/22/07
MS	Chloride	16887-00-6	0.92174	93.105	% Recov	75.000	125.000				08/22/07
MS	Fluoride	16984-48-8	0.5158	102.749	% Recov	75.000	125.000				08/22/07
MS	Nitrogen in Nitrite	NO2-N	0.6555	131.627	% Recov	75.000	125.000			*	08/22/07
MS	Nitrogen in Nitrate	NO3-N	0.45491	100.867	% Recov	75.000	125.000				08/22/07
MS	Sulfate	14808-79-8	2.03755	102.907	% Recov	75.000	125.000				08/22/07
MSD	Chloride	16887-00-6	0.96862	97.840	% Recov	75.000	125.000				08/22/07
MSD	Fluoride	16984-48-8	0.5108	101.753	% Recov	75.000	125.000				08/22/07
MSD	Nitrogen in Nitrite	NO2-N	0.6518	130.884	% Recov	75.000	125.000			*	08/22/07
MSD	Nitrogen in Nitrate	NO3-N	0.46307	102.676	% Recov	75.000	125.000				08/22/07
MSD	Sulfate	14808-79-8	1.96756	99.372	% Recov	75.000	125.000				08/22/07
SPK-RPD	Chloride	16887-00-6	97.840		RPD			4.960	20.000		08/22/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071460
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date: 08/20/07
Receive Date:08/20/07

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	101.753		RPD			0.974	20.000		08/22/07
SPK-RPD	Nitrogen in Nitrite	NO2-N	130.884		RPD			0.566	20.000		08/22/07
SPK-RPD	Nitrogen in Nitrate	NO3-N	102.676		RPD			1.778	20.000		08/22/07
SPK-RPD	Sulfate	14808-79-8	99.372		RPD			3.495	20.000		08/22/07
BATCH QC											
BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	08/22/07
BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	08/22/07
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	08/22/07
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	08/22/07
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	08/22/07
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	08/22/07
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	08/22/07
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	08/22/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	08/22/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	08/22/07
LCS	Chloride	16887-00-6	201.4824	100.741	% Recov	80.000	120.000				08/22/07
LCS	Fluoride	16984-48-8	100.8493	99.851	% Recov	80.000	120.000				08/22/07
LCS	Nitrogen in Nitrite	NO2-N	100.7208	100.721	% Recov	80.000	120.000				08/22/07
LCS	Nitrogen in Nitrate	NO3-N	94.7594	103.903	% Recov	80.000	120.000				08/22/07
LCS	Sulfate	14808-79-8	383.7592	95.940	% Recov	80.000	120.000				08/22/07
Lab ID: W07P001550											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	55.547		RPD			0.379	20.000		08/22/07
DUP	Fluoride	16984-48-8	0.3278		RPD			11.798	20.000		08/22/07
DUP	Nitrogen in Nitrite	NO2-N	0.2734		RPD			2.294	20.000		08/22/07
DUP	Nitrogen in Nitrate	NO3-N	16.9854		RPD			0.816	20.000		08/22/07
DUP	Sulfate	14808-79-8	108.6949		RPD			0.005	20.000		08/22/07
MS	Chloride	16887-00-6	0.95751	96.718	% Recov	75.000	125.000				08/22/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071460
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date: 08/21/07
Receive Date:08/21/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	Fluoride	16984-48-8	0.5021	100.020	% Recov	75.000	125.000				08/22/07
MS	Nitrogen in Nitrite	NO2-N	0.46475	93.323	% Recov	75.000	125.000				08/22/07
MS	Nitrogen in Nitrate	NO3-N	0.44776	99.282	% Recov	75.000	125.000				08/22/07
MS	Sulfate	14808-79-8	1.98426	100.215	% Recov	75.000	125.000				08/22/07
MSD	Chloride	16887-00-6	0.98311	99.304	% Recov	75.000	125.000				08/22/07
MSD	Fluoride	16984-48-8	0.5045	100.498	% Recov	75.000	125.000				08/22/07
MSD	Nitrogen in Nitrite	NO2-N	0.4632	93.012	% Recov	75.000	125.000				08/22/07
MSD	Nitrogen in Nitrate	NO3-N	0.45391	100.645	% Recov	75.000	125.000				08/22/07
MSD	Sulfate	14808-79-8	2.03729	102.893	% Recov	75.000	125.000				08/22/07
SPK-RPD	Chloride	16887-00-6	99.304		RPD			2.638	20.000		08/22/07
SPK-RPD	Fluoride	16984-48-8	100.498		RPD			0.477	20.000		08/22/07
SPK-RPD	Nitrogen in Nitrite	NO2-N	93.012		RPD			0.334	20.000		08/22/07
SPK-RPD	Nitrogen in Nitrate	NO3-N	100.645		RPD			1.363	20.000		08/22/07
SPK-RPD	Sulfate	14808-79-8	102.893		RPD			2.637	20.000		08/22/07

BATCH QC

BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	08/22/07
BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	08/22/07
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	08/22/07
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	08/22/07
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	08/22/07
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	08/22/07
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	08/22/07
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	08/22/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	08/22/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	08/22/07
LCS	Chloride	16887-00-6	204.6221	102.311	% Recov	80.000	120.000				08/22/07
LCS	Fluoride	16984-48-8	107.1179	106.057	% Recov	80.000	120.000				08/22/07
LCS	Nitrogen in Nitrite	NO2-N	100.0459	100.046	% Recov	80.000	120.000				08/22/07
LCS	Nitrogen in Nitrate	NO3-N	94.556	103.680	% Recov	80.000	120.000				08/22/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071460
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
LCS	Sulfate	14808-79-8	397.7913	99.448	% Recov	80.000	120.000				08/22/07
Lab ID: W07P001504											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	19.0778		RPD			0.101	20.000		08/23/07
DUP	Fluoride	16984-48-8	0.24		RPD			0.627	20.000		08/23/07
DUP	Nitrogen in Nitrite	NO2-N	<2e-2		RPD			n/a	20.000	U	08/23/07
DUP	Nitrogen in Nitrate	NO3-N	41.182		RPD			0.201	20.000		08/23/07
DUP	Sulfate	14808-79-8	86.6716		RPD			0.306	20.000		08/23/07
MS	Chloride	16887-00-6	0.99447	100.452	% Recov	75.000	125.000				08/23/07
MS	Fluoride	16984-48-8	0.47915	95.448	% Recov	75.000	125.000				08/23/07
MS	Nitrogen in Nitrite	NO2-N	0.4848	97.349	% Recov	75.000	125.000				08/23/07
MS	Nitrogen in Nitrate	NO3-N	0.448295	99.400	% Recov	75.000	125.000				08/23/07
MS	Sulfate	14808-79-8	2.009335	101.482	% Recov	75.000	125.000				08/23/07
MSD	Chloride	16887-00-6	0.987225	99.720	% Recov	75.000	125.000				08/23/07
MSD	Fluoride	16984-48-8	0.5096	101.514	% Recov	75.000	125.000				08/23/07
MSD	Nitrogen in Nitrite	NO2-N	0.48955	98.303	% Recov	75.000	125.000				08/23/07
MSD	Nitrogen in Nitrate	NO3-N	0.441035	97.790	% Recov	75.000	125.000				08/23/07
MSD	Sulfate	14808-79-8	1.989035	100.456	% Recov	75.000	125.000				08/23/07
SPK-RPD	Chloride	16887-00-6	99.720		RPD			0.731	20.000		08/24/07
SPK-RPD	Fluoride	16984-48-8	101.514		RPD			6.160	20.000		08/24/07
SPK-RPD	Nitrogen in Nitrite	NO2-N	98.303		RPD			0.975	20.000		08/24/07
SPK-RPD	Nitrogen in Nitrate	NO3-N	97.790		RPD			1.633	20.000		08/24/07
SPK-RPD	Sulfate	14808-79-8	100.456		RPD			1.016	20.000		08/24/07
BATCH QC											
BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	08/23/07
BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	08/24/07
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	08/23/07
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	08/24/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20071460
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	<1e-2	n/a	mg/L	0.000	0.020			U	08/24/07
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	08/23/07
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	08/23/07
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	08/24/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	08/24/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	08/23/07
LCS	Chloride	16887-00-6	204.4609	102.230	% Recov	80.000	120.000				08/23/07
LCS	Fluoride	16984-48-8	106.8547	105.797	% Recov	80.000	120.000				08/23/07
LCS	Nitrogen in Nitrite	NO2-N	100.4127	100.413	% Recov	80.000	120.000				08/23/07
LCS	Nitrogen in Nitrate	NO3-N	93.979	103.047	% Recov	80.000	120.000				08/23/07
LCS	Sulfate	14808-79-8	391.5365	97.884	% Recov	80.000	120.000				08/23/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071460
Matrix: WATER
Test: Cyanide by Midi/Spectrophotom

Sample Date: 08/15/07
Receive Date:08/15/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P001504											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Cyanide by Midi/Spectrophotom	57-12-5	39	99.744	% Recov	75.000	125.000				08/21/07
MSD	Cyanide by Midi/Spectrophotom	57-12-5	37.8	96.675	% Recov	75.000	125.000				08/21/07
SPK-RPD	Cyanide by Midi/Spectrophotom	57-12-5	96.675		RPD			3.125	20.000		08/21/07
BATCH QC											
BLANK	Cyanide by Midi/Spectrophotom	57-12-5	< 4	n/a	ug/L	-4.000	4.000			U	08/21/07
LCS	Cyanide by Midi/Spectrophotom	57-12-5	48.3	98.773	% Recov	85.000	115.000				08/21/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071460
Matrix: WATER
Test: Hexavalent chromium

Sample Date: 08/15/07
Receive Date:08/15/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P001503											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Hexavalent chromium	18540-29-9	0.0521		RPD			0.000	15.000		08/15/07
MS	Hexavalent chromium	18540-29-9	0.0511	96.780	% Recov	85.000	115.000				08/15/07
MSD	Hexavalent chromium	18540-29-9	0.0498	94.318	% Recov	85.000	115.000				08/15/07
SPK-RPD	Hexavalent chromium	18540-29-9	94.318		RPD			2.577	20.000		08/15/07
BATCH QC											
BLANK	Hexavalent chromium	18540-29-9	<0.002	n/a	mg/L	0.000	2.000			U	08/15/07
LCS	Hexavalent chromium	18540-29-9	0.0534	107.445	% Recov	80.000	120.000				08/15/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071460
Matrix: WATER
Test: Total Alkalinity as mg/L CaCO3

Sample Date: 08/03/07
Receive Date:08/03/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P001463											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Alkalinity as mg/L CaCO3	ALKALINITY	121		RPD			0.830	20.000		08/16/07
BATCH QC											
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	121.0	105.217	%Recove	80.000	120.000				08/16/07
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	125.2	108.870	%Recove	80.000	120.000				08/16/07
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	121.1	105.304	%Recove	80.000	120.000				08/16/07
Lab ID: W07P001510											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Alkalinity as mg/L CaCO3	ALKALINITY	143.4		RPD			0.070	20.000		08/23/07
BATCH QC											
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	117.3	102.000	%Recove	80.000	120.000				08/23/07
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	123.8	107.652	%Recove	80.000	120.000				08/23/07
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	122.8	106.783	%Recove	80.000	120.000				08/23/07

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-008
Sample # W07P001504
Client ID: B1P8P1 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071460
Department: Radiochemistry
Sampled: 08/15/07
Received: 08/15/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha/Gross Beta (AB32)											
Gross alpha	12587-46-1	LA-508-415		7.20	pCi/L	+-3.02	pCi/L	1.00	2.8		08/21/07
Gross beta	12587-47-2	LA-508-415		750	pCi/L	+-75.0	pCi/L	1.00	6.8		08/21/07
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		1.20e+04	pCi/L	+-2.40e+03	pCi/L	1.00	2.1e+02		08/28/07

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

B - The analyte < the RDL but >= the IDL/MDL (inorg)
D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

D - Analyte was identified at a secondary dilution factor
N - Spike sample recovery is outside control limits.(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-008
Sample # W07P001505
Client ID: B1P8L2 PNNL-GPP WSCF
Matrix: WATER

Group #: WSCF20071460
Department: Radiochemistry
Sampled: 08/15/07
Received: 08/15/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha/Gross Beta (AB32)											
Gross alpha	12587-46-1	LA-508-415		290	pCi/L	+-37.7	pCi/L	1.00	6.9		08/21/07
Gross beta	12587-47-2	LA-508-415		1.90e+04	pCi/L	+-1.90e+03	pCi/L	1.00	14		08/21/07
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		1.00e+04	pCi/L	+-2.00e+03	pCi/L	1.00	2.1e+02		08/28/07

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

B - The analyte < the RDL but > = the IDL/MDL (inorg)
D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

D - Analyte was identified at a secondary dilution factor
N - Spike sample recovery is outside control limits.(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-008
Sample # W07P001506
Client ID: B1P9K4 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071460
Department: Radiochemistry
Sampled: 08/15/07
Received: 08/15/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha/Gross Beta (AB32)											
Gross alpha	12587-46-1	LA-508-415		7.60	pCi/L	+-2.89	pCi/L	1.00	2.5		08/21/07
Gross beta	12587-47-2	LA-508-415		320	pCi/L	+-35.2	pCi/L	1.00	6.5		08/21/07
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		9.20e+03	pCi/L	+-1.84e+03	pCi/L	1.00	2.1e+02		08/28/07

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

B - The analyte < the RDL but >= the IDL/MDL (inorg)
D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

D - Analyte was identified at a secondary dilution factor
N - Spike sample recovery is outside control limits.(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-008
Sample # W07P001507
Client ID: B1P8N6 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071460
Department: Radiochemistry
Sampled: 08/15/07
Received: 08/15/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha/Gross Beta (AB32)											
Gross alpha	12587-46-1	LA-508-415		56.0	pCi/L	+-9.52	pCi/L	1.00	3.0		08/21/07
Gross beta	12587-47-2	LA-508-415		3.00e+03	pCi/L	+-300	pCi/L	1.00	6.9		08/21/07
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		5.30e+03	pCi/L	+-1.11e+03	pCi/L	1.00	2.1e+02		08/28/07

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

B - The analyte < the RDL but >= the IDL/MDL (inorg)
D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

D - Analyte was identified at a secondary dilution factor
N - Spike sample recovery is outside control limits.(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-008
Sample # W07P001508
Client ID: B1P8L7 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071460
Department: Radiochemistry
Sampled: 08/15/07
Received: 08/15/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		1.00e+03	pCi/L	+-250	pCi/L	1.00	2.1e+02		08/28/07

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

B - The analyte < the RDL but >= the IDL/MDL (inorg)
D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

D - Analyte was identified at a secondary dilution factor
N - Spike sample recovery is outside control limits.(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-008
Sample # W07P001509
Client ID: B1P9J9 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071460
Department: Radiochemistry
Sampled: 08/15/07
Received: 08/15/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		2.80e+03	pCi/L	+-588	pCi/L	1.00	2.1e+02		08/28/07

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

B - The analyte < the RDL but > = the IDL/MDL (inorg)
D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

D - Analyte was identified at a secondary dilution factor
N - Spike sample recovery is outside control limits.(inorg)

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

Report WGPP/ver. 5.2
GPAP

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-008
Sample # W07P001511
Client ID: B1P8R1 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071460
Department: Radiochemistry
Sampled: 08/15/07
Received: 08/15/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		1.40e+03	pCi/L	+-336	pCi/L	1.00	2.1e+02		08/28/07

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

B - The analyte < the RDL but > = the IDL/MDL (inorg)
D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
D - Analyte was identified at a secondary dilution factor
N - Spike sample recovery is outside control limits.(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-008
Sample # W07P001512
Client ID: B1P8T5 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071460
Department: Radiochemistry
Sampled: 08/15/07
Received: 08/15/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		1.20e+04	pCi/L	+-2.40e+03	pCi/L	1.00	2.1e+02		08/28/07

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

B - The analyte < the RDL but >= the IDL/MDL (inorg)
D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

D - Analyte was identified at a secondary dilution factor
N - Spike sample recovery is outside control limits.(inorg)

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20071460
Matrix: WATER
Test: Gross Alpha/Gross Beta (AB32)

Sample Date: 08/15/07
Receive Date:08/15/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P001504											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Gross alpha	12587-46-1	9.0		RPD			22.222	20.000 *		08/21/07
DUP	Gross beta	12587-47-2	7.8E+02		RPD			3.922	20.000		08/21/07
BATCH QC											
BLANK	Gross alpha	12587-46-1	U8.5E-01	n/a	pCi/L	-10.000	10.000				08/21/07
BLANK	Gross beta	12587-47-2	U-1.6	n/a	pCi/L	-10.000	10.000				08/21/07
LCS	Gross alpha	12587-46-1	172.0	111.004	% Recov	80.000	120.000				08/21/07
LCS	Gross beta	12587-47-2	496.0	110.554	% Recov	80.000	120.000				08/21/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20071460
Matrix: WATER
Test: Tritium by Liq Sct column prep

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P001489											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tritium	10028-17-8	U1.1E+02		RPD			n/a	20.000		08/28/07
MS	Tritium	10028-17-8	16328.0	96.122	% Recov	75.000	125.000				08/28/07
BATCH QC											
BLANK	Tritium	10028-17-8	U-3.1E+01	n/a	pCi/L	-10.000	1000.000				08/28/07
LCS	Tritium	10028-17-8	2050.0	101.879	% Recov	80.000	120.000				08/28/07

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20071460
Department: Radiochemistry

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		ANIONS: Due to problems with inconsistent injections, samples W07P001504-W07P001507 were re-analyzed after the 48 hour holding time for nitrite-N and nitrate-N. The original results for the direct analysis of W07P001504 were consistent with the re-analysis in that nitrite-N was not detected in either sample. The original analysis for the 10X dilution was one of the samples with injection problems. The original results for both dilutions for W07P001505 had injection problems. The original results of the 10X dilution for W07P001506 were consistent with the re-analysis. The original analysis was 7.88 ug/mL for nitrate-N. The original analysis for nitrite-N was one of the samples with injection problems. The original results for W07P001507 were consistent with the re-analysis The original analysis was 65.5 ug/mL for nitrate-N and nitrite-N was not detected in the 2X dilution. SDB 8/24/07 Due to problems with inconsistent injections, the nitrite-N holding time was also missed on samples W07P001508 and W07P001511. The nitrate-N holding time was missed on sample W07P001510. SDB 8/29/07 W07P001504-1507/Gross alpha dup is flagged for poor RPD but the sample activity is low level. RPD doesn't apply to low level samples. lmh

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

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M4W41-SLF-07-672

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 12 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

ACKNOWLEDGMENT OF SAMPLES RECEIVED

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20071460

The following samples were received from you on 08/15/07. 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
W07P001503	B1P4J5	PNNL-GPP CR+6	Water	08/15/07
W07P001504	B1P8P1	PNNL-GPP @AB-32 @H3-33 @IC-30 ALKALI CN-02	Water	08/15/07
W07P001505	B1P8L2	PNNL-GPP @AB-32 @H3-33 @IC-30 ALKALI CN-02	Water	08/15/07
W07P001506	B1P9K4	PNNL-GPP @AB-32 @H3-33 @IC-30 ALKALI CN-02	Water	08/15/07
W07P001507	B1P8N6	PNNL-GPP @AB-32 @H3-33 @IC-30 ALKALI CN-02	Water	08/15/07
W07P001508	B1P8L7	PNNL-GPP @H3-33 @IC-30 ALKALI CN-02	Water	08/15/07
W07P001509	B1P9J9	PNNL-GPP @H3-33 @IC-30 ALKALI CN-02	Water	08/15/07
W07P001510	B1P861	PNNL-GPP @IC-30 ALKALI	Water	08/15/07
W07P001511	B1P8R1	PNNL-GPP @H3-33 @IC-30 ALKALI CN-02	Water	08/15/07
W07P001512	B1P8T5	PNNL-GPP @H3-33 @IC-30 ALKALI CN-02	Water	08/15/07

Test Acronym Description

Test Acronym	Description
@AB-32	Gross Alpha/Gross Beta (AB32)
@H3-33	Tritium by Liq Sct column prep
@IC-30	Anions by Ion Chromatography
ALKALI	Total Alkalinity as mg/L CaCO3
CN-02	Cyanide by Midi/Spectrophotom
CR+6	Hexavalent chromium

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

09/28/07

I07-058-97

Collector Steve Overdahl Fluor Hanford 20071460	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. I07-058	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title 100HR3IAM(1/2)-LOL AUGUST 2007	HNF-N-506-5	**Ice Chest No.** GW-1 **Temp.**
Shipped To (Lab) Waste Sampling & Characterization	**Method of Shipment** Govt. Vehicle	**Bill of Lading/Air Bill No.**
Protocol CERCLA	**Priority:** 45 Days	**Offsite Property No.**

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

SPECIAL INSTRUCTIONS **Hold Time** 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
B1P4J5 (F) WO7	P001503	W	81507	0908	1x500-mL aG	7196_CR6: Hexavalent Chromium (1)	Cool~4C

ICED
Initial
Date

Relinquished By	Received By
Print: Steve Overdahl Fluor Hanford Sign: Steve Overdahl Date/Time: AUG 15 2007 1232	Print: TA FRAZIER Sign: [signature] Date/Time: AUG 15 2007 1232
Relinquished By Date/Time	Received By Date/Time
Relinquished By Date/Time	Received By Date/Time
Relinquished By Date/Time	Received By Date/Time

Matrix *

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

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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

20071460

W07-008-189

Collector Roy Shepard Fluor Hanford	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. W07-008	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title RCRA, AUGUST 2007	HNF-N-506 9	**Ice Chest No.** SML 101 **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.**

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Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1P8P1	1504	W	8-15-07	1011	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1P8P1		W			1x500-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1P8P1		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1P8P1		W			1x250-mL G/P	335.2_CYANIDE: Cyanide (1)	NaOH to pH >= 12 Cool~4C
B1P8P1		W			1x500-mL G/P	ALPHABETA_GPC: Alpha + Beta (2); ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2

ICED
Initial
Date

1310

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Roy Shepard Fluor Hanford			AUG 15 2007 1310	TA FRAZIER			AUG 15 2007 1310
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

20071460

W07-008-149

Page 1 of 1

Fluor Hanford **Collector** F. M. HALL	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. W07-008	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title RCRA, AUGUST 2007	Logbook: HNF-N-506-8	**Ice Chest No.** 6W0-06-12 **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.**

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WSCF: Batch all GW samples submitted into one SDG, daily closure.
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Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1P8L2	1505	W	8/15/07	1212	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1P8L2	↓	W	↓	↓	1x500-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1P8L2		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1P8L2		W			1x250-mL G/P	335.2_CYANIDE: Cyanide (1)	NaOH to pH >= 12 Cool~4C
B1P8L2		W	↓	↓	1x500-mL G/P	ALPHABETA_GPC: Alpha + Beta (2); ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2

R. Wall 8/15/07

ICED
Initial
Date

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Fluor Hanford F.M. HALL			AUG 1 5 2007 1510	TA Fluor			AUG 1 5 2007 1510
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

20071460

W07-008-141

Page 1 of 1

Collector Fluor Hanford F. M. HALL	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. W07-008	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title RCRA, AUGUST 2007	Logbook: HNF-N-506-8	**Ice Chest No.** 6W0-06-12 **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.**

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Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1P9K4	1506	W	8/15/07	1032	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1P9K4		W			1x500-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1P9K4		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1P9K4		W			1x250-mL G/P	335.2_CYANIDE: Cyanide (1)	NaOH to pH >= 12 Cool~4C
B1P9K4		W			1x500-mL G/P	ALPHABETA_GPC: Alpha + Beta (2); ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2

J.R. Wall 8/15/07

ICED Initial Date

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Fluor Hanford F. M. HALL			AUG 15 2007 1510	TAMMZIA JAMES			AUG 15 2007 1510
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

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W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

2007 1460

W07-008-181

Collector Roy Shepard Fluor Hanford	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. W07-008	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title RCRA, AUGUST 2007	HNF-N-506 9	**Ice Chest No.** SML 101 **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
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Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1P8N6	1507	W	8-15-07	0917	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1P8N6		W			1x500-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1P8N6		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1P8N6		W			1x250-mL G/P	335.2_CYANIDE: Cyanide (1)	NaOH to pH >= 12 Cool~4C
B1P8N6		W			1x500-mL G/P	ALPHABETA_GPC: Alpha + Beta (2); ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2

ICED
Initial
Date

Relinquished By Roy Shepard Fluor Hanford Print Sign	Date/Time AUG 15 2007 1510	Received By TA FRAZIER Print Sign	Date/Time 1510 AUG 15 2007
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

Matrix *

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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

W07-008-157

Page 1 of 1

20071460

Collector Fluor Hanford F. M. HALL	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. W07-008	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title RCRA, AUGUST 2007	Logbook: HNF-N-506-8	**Ice Chest No.** 600-06-12 **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.**

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Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1P8L7	1508	W	8/15/07	1129	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1P8L7	↓	W	↓	↓	1x500-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1P8L7		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1P8L7		W			1x250-mL G/P	335.2_CYANIDE: Cyanide (1)	NaOH to pH >= 12 Cool~4C

L. Wall 8/15/07

ICED Initial Date

Relinquished By	Received By
Fluor Hanford F. M. HALL Print Sign Date/Time 8/15/07 1310 AUG 15 2007 1510	TAPRAZIA Jeressfigia Print Sign Date/Time 8/15/07 1310 AUG 15 2007 1510
Relinquished By Date/Time	Received By Date/Time
Relinquished By Date/Time	Received By Date/Time
Relinquished By Date/Time	Received By Date/Time

Matrix *

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A	= Air	X	= Other

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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

20071460

W07-008-133

Collector Fluor Hanford F.M. HALL	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. W07-008	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title RCRA- AUGUST 2007	Logbook: HNF-N-506-8	**Ice Chest No.** 600-06-12 **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.**

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Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1P9J9	1509	W	8/15/07	0942	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1P9J9	↓	W	↓	↓	1x500-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1P9J9	↓	W	↓	↓	1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1P9J9	↓	W	↓	↓	1x250-mL G/P	335.2_CYANIDE: Cyanide (1)	NaOH to pH >= 12 Cool~4C

R. Wall 8/15/07

ICED
Initial
Date

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Fluor Hanford F.M. HALL			AUG 15 2007 1510	TA GNAZIA			AUG 15 2007 1510
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

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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

20071460

W07-008-3

Collector Fluor Hanford F. M. HALL	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. W07-008	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title RCRA, AUGUST 2007	Logbook: HNF-N-506-8	**Ice Chest No.** 6000-0612 **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.**

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Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1P861	1510	W	8/15/07	0843	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1P861	↓	W	↓	↓	1x500-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C

R. Wall 8/15/07

ICED Initial Date

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Fluor Hanford F. M. HALL			AUG 1 5 2007 1510 1310	TA FRAZIER			AUG 1 5 2007 1510 1310
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S	= Soil	DS	= Drum Solid
SE	= Sediment	DL	= Drum Liquid
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
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A	= Air	X	= Other

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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

2007 1460

W07-008-205

Collector Roy Shepard Fluor Hanford	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. W07-008	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title RCRA, AUGUST 2007	HNF-N-506 9	**Ice Chest No.** SMC 101 **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
B1P8R1	1511	W	8-15-07	1159	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1P8R1		W			1x500-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1P8R1		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1P8R1		W			1x250-mL G/P	335.2_CYANIDE: Cyanide (1)	NaOH to pH >= 12 Cool~4C

ICED
Initial
Date

1310

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Roy Shepard Fluor Hanford			AUG 15 2007 1310	TA Frazier			AUG 15 2007 1310
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

20071460

W07-008-221

Collector ~~Roy Shepard~~ Fluor Hanford	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. W07-008	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title RCRA, AUGUST 2007	HNF-N-5069	**Ice Chest No.** SML101 **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
B1P8T5	1512	W	8-15-07	1118	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1P8T5		W			1x500-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1P8T5		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1P8T5		W			1x250-mL G/P	335.2_CYANIDE: Cyanide (1)	NaOH to pH >= 12 Cool~4C

ICED
Initial
Date

Relinquished By	Received By
~~Roy Shepard~~ Fluor Hanford Print / Sign / Date/Time 1510 AUG 15 2007	JA FRAZIER Print / Sign / Date/Time 1510 AUG 15 2007
Relinquished By / Date/Time	Received By / Date/Time
Relinquished By / Date/Time	Received By / Date/Time
Relinquished By / Date/Time	Received By / Date/Time

Matrix *

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

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

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M4W41-SLF-07-672

ATTACHMENT 5

ISSUE RESOLUTION FORM

Consisting of 2 pages
Including cover page

ISSUE RESOLUTION FORM

PNNL TRACKING NUMBER: F07-XXX

DRAFT

Date : **9-20-2007** SAF No. **W07-008**

SDG: **WSCF20071460** LOGIN No.: TEST: ANIONS (@IC-30) ***see detail below***

Sample No.(s)	**B1P8P1**	**(W07P001504)**	**Nitrite-N and Nitrate-N**
	B1P8L2	**(W07P001505)**	**Nitrite-N and Nitrate-N**
	B1P9K4	**(W07P001506)**	**Nitrite-N and Nitrate-N**
	B1P8N6	**(W07P001507)**	**Nitrite-N and Nitrate-N**
	B1P8L7	**(W07P001508)**	**Nitrite-N**
	B1P861	**(W07P001510)**	**Nitrate-N**
	B1P8R1	**(W07P001511)**	**Nitrite-N**

Submitted By:	PD Mix	Submitted To:	H Hampt
Phone No.	372-1488	Phone No.	376-4319
Fax No.	372-0456	Fax No	

ISSUE

Missed regulatory, 48-hour, holding time (Nitrite-N, Nitrate-N, or both Nitrite-N and Nitrate-N analyses) on several GRP samples.

Samples were collected and delivered to the WSCF Laboratory on August 15, 2007. Unfortunately, due to unexpected instrument problems, coupled with site closure on Friday, August 17, 2007 (Hanford grass fire); holding times for the samples identified above were delayed beyond the regulatory hold time requirement.

Sample instrument problems were fixed and samples were successfully analyzed on August 22 and August 23, 2007.

Except for failed Matrix Spike and Matrix Spike Duplicate recoveries (Nitrite-N Batch QC for samples **B1P8L7** and **B1P8R1**), all other QC controls were within established laboratory limits.

PROPOSED RESOLUTION

Proposed resolution is as follows

1. Since the Matrix Spike and Matrix Spike Duplicate recoveries were within QC controls; accept the Nitrite-N and Nitrate-N results for the following samples (accept as-is), and document missed holding time in the case narrative.

B1P8P1	**Nitrite-N and Nitrate-N**
B1P8L2	**Nitrite-N and Nitrate-N**
B1P9K4	**Nitrite-N and Nitrate-N**
B1P8N6	**Nitrite-N and Nitrate-N**
B1P861	**Nitrate-N**

2. Since the Matrix Spike and Matrix Spike Duplicate recoveries for Nitrite-N failed (exceeded QC controls); apply N flags to the Nitrite-N results for the following samples, and document missed holding time in the case narrative.

B1P8L7	**Nitrite-N**
B1P8R1	**Nitrite-N**

GRP COMMENTS

Signature and Date