RECEIVED AUGUST 1, 2007

0077991

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

FLUOR

Memorandum

M4W41-SLF-07-489

To:	H. Hampt	E6-35	Date:	July 25, 2007
From:	S. L. Fitzgerald, Manager WSCF Analytical			
cc:	w/Attachments			
	T. F. Dale	S3-30	S. J. Trent	E6-35
	H. K. Meznarich	S3-30	D. D. Wright	S3-30
	P. D. Mix	S3-30	File/LB	
	J. E. Trechter			

Subject: FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20071102 – SAF NUMBER F07-035

Reference:
(1) Groundwater Protection Program-Letter of Instruction, FH-EIS-2003-MEM-001, October 31, 2002

(2) HNF-SD-CD-QAPP-017, Rev. 8, Waste Sampling & Characterization Facility Quality Assurance Plan

This letter contains the following information for sample delivery group WSCF20071102:

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

SLF/grf

Attachments 4

RECEIVED
JUN 2 6 2008
EDMC

M4W41-SLF-07-489

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20071102
Data Deliverable Date: 16-jul-2007
Data Deliverable: Cover Sheet

SAF#	Sample ID		WSCF#	Matrix
F07-035	B1NBC2	G	W07GR01530	WATER
	B1NBC3	G	W07GR01531	WATER

M4W41-SLF-07-489

ATTACHMENT 2

NARRATIVE

Consisting of 4 pages
Including cover page

Sample Delivery Group	**WSCF20071102**
Sample Matrix	**Water**
Data Deliverable	**Summary Report**

Introduction

Two (2) groundwater samples were received at the WSCF Laboratory on June 28, 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 12 through 13, for a complete listing of approved analytical methods.

Inorganic Comments

Anions – Hold time requirements for this analysis were met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See pages 17 through 18 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 page 19 for QC details. Analytical Note(s):

- Sample results were D flagged (dilution).
- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1NVW8 (SDG# 20071032, SAF# F06-027).

- B1NBC3 – Iron and Magnesium contamination detected in the blank was evaluated and sample result was C flagged.

- Magnesium – Matrix Spike Duplicate was less than established laboratory limits; however, the Matrix Spike was within established limits. No flags issued.

- Iron and Magnesium – Spike Relative Percent Differences (RPDs) exceeded established laboratory limits.

- Calcium – insufficient spike concentration. 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.

All other QC controls are within the established limits.

ICP-MS Metals – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See pages 20 through 21 for QC details.

All QC controls are within the established limits.

Total Alkalinity – The hold time requirement for this analysis was not met. A Duplicate and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. Analytical Note(s):

- QC as Total Alkalinity is offered below (not included in the Data Summary Report, Attachment 3),

    - LCS % Recovery (121 mg/L) = 105%

    - LCS % Recovery (123 mg/L) = 107%

    - Duplicate Relative Percent Difference (RPD) = 1%

All QC controls are within the established limits.

Total Dissolved Solids – The hold time requirement for this analysis was met. A Duplicate, Blank and Laboratory Control Sample were analyzed for this sample delivery group. See page 22 for QC details. Analytical Note(s):

- Duplicate QC was analyzed on a non-GRP sample.

All QC controls are within the established limits.

Total Suspended Solids – The hold time requirement for this analysis was met. A Duplicate, Blank and Laboratory Control Sample were analyzed for this sample delivery group. See page 23 for QC details. Analytical Note(s):

- Duplicate QC was analyzed on a non-GRP sample.

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 (Technetium and Tritium) Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 27 through 30 for QC details. Analytical Note(s):

- Gross Alpha/Beta – Duplicate QC was analyzed on sample# B1NV28 (SDG# 20071090, SAF# F07-028).
- Strontium-85 (Tracer) and Strontium-89/90 – Duplicate QC was analyzed on sample# B1NV31 (SDG# 20071090, SAF# F07-028).
- Technetium-99 – Duplicate and Matrix Spike were analyzed on sample# B1NWH4 (SDG# 20071068, SAF# F07-058).
- Tritium – A Blank, Sample Duplicate, Matrix Spike and Laboratory Control Sample were run with this group.

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

John Trechter for Pauline Mix
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-07-489

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 24 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

Groundwater Remediation Program

Richland, WA 99354

Attention: Steve Trent

Analytical: S. Fitzgerald 7/26/07

Client Services: John Troeckter 7/25/07

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.

Contract#: FH-EIS-2003-MEM-001
Report#: WSCF20071102
Report Date: 25-jul-2007
Report WGPP/ver. 5.2

w13qlog v4.2 25-jul-2007 11:37:31

Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20071102

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
32490	1	32881	36955	BLANK		TC99 by Liquid Scin.
32490	4	32881	36955	LCS		TC99 by Liquid Scin.
32490	3	32881	36955	DUP	W07GR01488	TC99 by Liquid Scin.
32490	2	32881	36955	MS	W07GR01488	TC99 by Liquid Scin.
32490	5	32881	36955	SAMPLE	W07GR01530	TC99 by Liquid Scin.
32490	6	32881	36955	SAMPLE	W07GR01531	TC99 by Liquid Scin.
32533	1	32924	37017	BLANK		Gross Alpha/Gross Beta (AB32)
32533	2	32924	37017	LCS		Gross Alpha/Gross Beta (AB32)
32533	3	32924	37017	DUP	W07GR01520	Gross Alpha/Gross Beta (AB32)
32533	14	32924	37017	SAMPLE	W07GR01530	Gross Alpha/Gross Beta (AB32)
32533	15	32924	37017	SAMPLE	W07GR01531	Gross Alpha/Gross Beta (AB32)
32497	1	32888	37025	BLANK		Strontium 89/90
32497	2	32888	37025	LCS		Strontium 89/90
32497	3	32888	37025	DUP	W07GR01524	Strontium 89/90
32497	16	32888	37025	SAMPLE	W07GR01530	Strontium 89/90
32497	17	32888	37025	SURR	W07GR01530	Strontium 89/90
32497	18	32888	37025	SAMPLE	W07GR01531	Strontium 89/90
32497	19	32888	37025	SURR	W07GR01531	Strontium 89/90
32620	1	33012	37136	BLANK		Tritium by Liq Sct column prep
32620	4	33012	37136	LCS		Tritium by Liq Sct column prep
32620	5	33012	37136	SAMPLE	W07GR01530	Tritium by Liq Sct column prep
32620	3	33012	37136	DUP	W07GR01531	Tritium by Liq Sct column prep
32620	2	33012	37136	MS	W07GR01531	Tritium by Liq Sct column prep
32620	6	33012	37136	SAMPLE	W07GR01531	Tritium by Liq Sct column prep

w13qlog v4.2 25-jul-2007 11:37:31

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20071102

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
				SAMPLE	W07GR01530	Total Alkalinity (Titrimetric)
				SAMPLE	W07GR01531	Total Alkalinity (Titrimetric)
32394	2	32785	36844	BLANK		Anions by Ion Chromatography
32394	9	32785	36844	BLANK		Anions by Ion Chromatography
32394	3	32785	36844	LCS		Anions by Ion Chromatography
32394	5	32785	36844	DUP	W07GR01530	Anions by Ion Chromatography
32394	6	32785	36844	MS	W07GR01530	Anions by Ion Chromatography
32394	7	32785	36844	MSD	W07GR01530	Anions by Ion Chromatography
32394	4	32785	36844	SAMPLE	W07GR01530	Anions by Ion Chromatography
32394	7	32785	36844	SPK-RPD	W07GR01530	Anions by Ion Chromatography
32394	8	32785	36844	SAMPLE	W07GR01531	Anions by Ion Chromatography
32423	1	32815	36860	BLANK		ICP-200.8 MS All possible meta
32423	2	32815	36860	LCS		ICP-200.8 MS All possible meta
32423	4	32815	36860	MS	W07GR01530	ICP-200.8 MS All possible meta
32423	5	32815	36860	MSD	W07GR01530	ICP-200.8 MS All possible meta
32423	3	32815	36860	SAMPLE	W07GR01530	ICP-200.8 MS All possible meta
32423	5	32815	36860	SPK-RPD	W07GR01530	ICP-200.8 MS All possible meta
32423	6	32815	36860	SAMPLE	W07GR01531	ICP-200.8 MS All possible meta
32439	2	32830	36872	BLANK		Tot Dissolved Solids 180C Dry
32439	1	32830	36872	LCS		Tot Dissolved Solids 180C Dry
32439	4	32830	36872	DUP	W07C000122	Tot Dissolved Solids 180C Dry
32439	6	32830	36872	SAMPLE	W07GR01531	Tot Dissolved Solids 180C Dry
32432	2	32824	36886	BLANK		Total Suspended Solids
32432	1	32824	36886	LCS		Total Suspended Solids
32432	4	32824	36886	DUP	W07C000122	Total Suspended Solids
32432	5	32824	36886	SAMPLE	W07GR01531	Total Suspended Solids
32397	1	32788	36898	BLANK		ICP Metals Analysis, Grd H20 P
32397	2	32788	36898	LCS		ICP Metals Analysis, Grd H20 P
32397	4	32788	36898	MS	W07GR01398	ICP Metals Analysis, Grd H20 P
32397	5	32788	36898	MSD	W07GR01398	ICP Metals Analysis, Grd H20 P
32397	5	32788	36898	SPK-RPD	W07GR01398	ICP Metals Analysis, Grd H20 P
32397	17	32788	36898	SAMPLE	W07GR01530	ICP Metals Analysis, Grd H20 P
32397	18	32788	36898	SAMPLE	W07GR01531	ICP Metals Analysis, Grd H20 P

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
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-519-422	LA-519-422: TOTAL DISSOLVED SOLIDS DRIED AT 180 C	
	EPA-600/4-79-020 160.1	Resisual, Filterable
	HEIS 160.1_TDS	Residual, Filterable
LA-519-423	LA-519-423: NON FILTERABLE RESIDUE (TOTAL SUSPENDED SOLIDS)	
	EPA-600/4-79-020 160.2	RESIDUE, NON-FILTERABLE
	HEIS 160.2_TSS	Residue, Non-filterabble
	Standard Methods 2540D	Total Suspended Solids Dried at 103-105 C
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.

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-035
Sample # W07GR01530
Client ID: B1NBC2 GRP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071102
Department: Inorganic
Sampled: 06/28/07
Received: 06/28/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography											
Chloride	16887-00-6	LA-533-410	D	17.8	mg/L			10.00	0.30		06/29/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		06/29/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	6.46	mg/L			10.00	0.050		06/29/07
Sulfate	14808-79-8	LA-533-410	D	63.6	mg/L			10.00	0.70		06/29/07
ICP Metals Analysis, Grd H20 P Prep											**07/02/07**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	DU	< 45.0	ug/L			5.00	45		07/05/07
Magnesium	7439-95-4	LA-505-411	D	1.60e+04	ug/L			5.00	30		07/05/07
Calcium	7440-70-2	LA-505-411	D	5.18e+04	ug/L			5.00	1.7e+02		07/05/07
ICP-200.8 MS All possible meta Prep											**07/02/07**
ICP-200.8 MS All possible meta											
Manganese	7439-96-5	LA-505-412		0.273	ug/L			1.00	0.100		07/03/07
Cadmium	7440-43-9	LA-505-412	U	< 0.100	ug/L			1.00	0.100		07/03/07
Chromium	7440-47-3	LA-505-412		198	ug/L			1.00	0.500		07/03/07
Lead	7439-92-1	LA-505-412	U	< 0.100	ug/L			1.00	0.100		07/03/07
Uranium	7440-61-1	LA-505-412		2.26	ug/L			1.00	0.0500		07/03/07
Arsenic	7440-38-2	LA-505-412		1.29	ug/L			1.00	0.400		07/03/07
Total Alkalinity (Titrimetric)											
Carbonate as (mg/L CO3)	ALKALINITY	LA-531-411	U	< 1.00	mg/L			1.00	1.0		07/05/07
Bicarbonate as (mg/L HCO3)	ALKALINITY	LA-531-411		100	mg/L			1.00	1.0		07/05/07
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		100	mg/L			1.00	1.0		07/05/07

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

C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
D - Analyte was identified at a secondary dilution factor(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-035
Sample # W07GR01531
Client ID: B1NBC3 GRP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071102
Department: Inorganic
Sampled: 06/28/07
Received: 06/28/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography											
Chloride	16887-00-6	LA-533-410	D	18.9	mg/L			10.00	0.30		06/29/07
Nitrogen in Nitrite	NO2-N	LA-533-410		0.142	mg/L			1.00	0.010		06/29/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	7.21	mg/L			10.00	0.050		06/29/07
Sulfate	14808-79-8	LA-533-410	D	73.7	mg/L			10.00	0.70		06/29/07
ICP Metals Analysis, Grd H20 P Prep											**07/02/07**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	CD	156	ug/L			5.00	45		07/05/07
Magnesium	7439-95-4	LA-505-411	D	1.67e+04	ug/L			5.00	30		07/05/07
Calcium	7440-70-2	LA-505-411	D	5.40e+04	ug/L			5.00	1.7e+02		07/05/07
ICP-200.8 MS All possible meta Prep											**07/02/07**
ICP-200.8 MS All possible meta											
Manganese	7439-96-5	LA-505-412		25.0	ug/L			1.00	0.100		07/03/07
Cadmium	7440-43-9	LA-505-412	U	< 0.100	ug/L			1.00	0.100		07/03/07
Chromium	7440-47-3	LA-505-412		55.4	ug/L			1.00	0.500		07/03/07
Lead	7439-92-1	LA-505-412	U	< 0.100	ug/L			1.00	0.100		07/03/07
Uranium	7440-61-1	LA-505-412		2.52	ug/L			1.00	0.0500		07/03/07
Arsenic	7440-38-2	LA-505-412		0.558	ug/L			1.00	0.400		07/03/07
Total Alkalinity (Titrimetric)											
Carbonate as (mg/L CO3)	ALKALINITY	LA-531-411	U	< 1.00	mg/L			1.00	1.0		07/05/07
Bicarbonate as (mg/L HCO3)	ALKALINITY	LA-531-411		99.0	mg/L			1.00	1.0		07/05/07
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		99.0	mg/L			1.00	1.0		07/05/07
Total dissolved solids											
Total dissolved solids	TDS	LA-519-422		296	mg/L			1.00	9.0		07/03/07
Total suspended solids											

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

C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
D - Analyte was identified at a secondary dilution factor(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-035
Sample # W07GR01531
Client ID: B1NBC3 GRP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071102
Department: Inorganic
Sampled: 06/28/07
Received: 06/28/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total suspended solids	TSS	LA-519-423	U	<1	mg/L			1.00	1.0		07/02/07

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

C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
D - Analyte was identified at a secondary dilution factor(inorg)

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071102
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date: 06/28/07
Receive Date:06/28/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR01530											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	17.8433		RPD			0.248	20.000		06/29/07
DUP	Nitrogen in Nitrite	NO2-N	<1e-2		RPD			n/a	20.000	U	06/29/07
DUP	Nitrogen in Nitrate	NO3-N	6.517		RPD			0.877	20.000		06/29/07
DUP	Sulfate	14808-79-8	64.5146		RPD			1.486	20.000		06/29/07
MS	Chloride	16887-00-6	0.9956	100.566	% Recov	75.000	125.000				06/29/07
MS	Nitrogen in Nitrite	NO2-N	0.5216	105.801	% Recov	75.000	125.000				06/29/07
MS	Nitrogen in Nitrate	NO3-N	0.45922	101.823	% Recov	75.000	125.000				06/29/07
MS	Sulfate	14808-79-8	2.14289	108.227	% Recov	75.000	125.000				06/29/07
MSD	Chloride	16887-00-6	0.9836	99.354	% Recov	75.000	125.000				06/29/07
MSD	Nitrogen in Nitrite	NO2-N	0.5214	105.761	% Recov	75.000	125.000				06/29/07
MSD	Nitrogen in Nitrate	NO3-N	0.43996	97.552	% Recov	75.000	125.000				06/29/07
MSD	Sulfate	14808-79-8	2.0014	101.081	% Recov	75.000	125.000				06/29/07
SPK-RPD	Chloride	16887-00-6	99.354		RPD			1.212	20.000		06/29/07
SPK-RPD	Nitrogen in Nitrite	NO2-N	105.761		RPD			0.038	20.000		06/29/07
SPK-RPD	Nitrogen in Nitrate	NO3-N	97.552		RPD			4.284	20.000		06/29/07
SPK-RPD	Sulfate	14808-79-8	101.081		RPD			6.828	20.000		06/29/07
BATCH QC											
BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	06/29/07
BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	06/29/07
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	06/29/07
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	06/29/07
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	06/29/07
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	06/29/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	06/29/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	06/29/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071102
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	Chloride	16887-00-6	202.3621	101.181	% Recov	80.000	120.000				06/29/07
LCS	Nitrogen in Nitrite	NO2-N	103.5815	103.997	% Recov	80.000	120.000				06/29/07
LCS	Nitrogen in Nitrate	NO3-N	93.7115	102.754	% Recov	80.000	120.000				06/29/07
LCS	Sulfate	14808-79-8	396.0125	99.003	% Recov	80.000	120.000				06/29/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071102
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

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: W07GR01398											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Calcium	7440-70-2	NA	n/a	% Recov	75.000	125.000				07/05/07
MS	Iron	7439-89-6	1053	105.300	% Recov	75.000	125.000				07/05/07
MS	Magnesium	7439-95-4	971	97.100	% Recov	75.000	125.000				07/05/07
MSD	Calcium	7440-70-2	NA	n/a	% Recov	75.000	125.000				07/05/07
MSD	Iron	7439-89-6	851	85.100	% Recov	75.000	125.000				07/05/07
MSD	Magnesium	7439-95-4	668	66.800	% Recov	75.000	125.000				07/05/07
SPK-RPD	Calcium	7440-70-2			RPD			n/a	20.000		07/05/07
SPK-RPD	Iron	7439-89-6	85.100		RPD			21.218	20.000 *		07/05/07
SPK-RPD	Magnesium	7439-95-4	66.800		RPD			36.974	20.000 *		07/05/07
BATCH QC											
BLANK	Calcium	7440-70-2	<34	n/a	ug/L					U	07/05/07
BLANK	Iron	7439-89-6	20.6	20.600	ug/L						07/05/07
BLANK	Magnesium	7439-95-4	6.6	6.600	ug/L						07/05/07
LCS	Calcium	7440-70-2	1057	105.700	% Recov	80.000	120.000				07/05/07
LCS	Iron	7439-89-6	1044	104.400	% Recov	80.000	120.000				07/05/07
LCS	Magnesium	7439-95-4	958.1	95.810	% Recov	80.000	120.000				07/05/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071102
Matrix: WATER
Test: ICP-200.8 MS All possible meta

Sample Date: 06/28/07
Receive Date:06/28/07

Lab ID: W07GR01530

BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	Arsenic	7440-38-2	40.082	100.205	% Recov	70.000	130.000				07/03/07
MS	Cadmium	7440-43-9	39.14	97.850	% Recov	70.000	130.000				07/03/07
MS	Chromium	7440-47-3	43	107.500	% Recov	70.000	130.000				07/03/07
MS	Manganese	7439-96-5	39.7473	99.368	% Recov	70.000	130.000				07/03/07
MS	Lead	7439-92-1	41.68	104.200	% Recov	70.000	130.000				07/03/07
MS	Uranium	7440-61-1	41.847	104.618	% Recov	70.000	130.000				07/03/07
MSD	Arsenic	7440-38-2	39.272	98.180	% Recov	70.000	130.000				07/03/07
MSD	Cadmium	7440-43-9	38.43	96.075	% Recov	70.000	130.000				07/03/07
MSD	Chromium	7440-47-3	36.3	90.750	% Recov	70.000	130.000				07/03/07
MSD	Manganese	7439-96-5	39.0273	97.568	% Recov	70.000	130.000				07/03/07
MSD	Lead	7439-92-1	40.97	102.425	% Recov	70.000	130.000				07/03/07
MSD	Uranium	7440-61-1	41.057	102.643	% Recov	70.000	130.000				07/03/07
SPK-RPD	Arsenic	7440-38-2	98.180		RPD			2.041	20.000		07/03/07
SPK-RPD	Cadmium	7440-43-9	96.075		RPD			1.831	20.000		07/03/07
SPK-RPD	Chromium	7440-47-3	90.750		RPD			16.898	20.000		07/03/07
SPK-RPD	Manganese	7439-96-5	97.568		RPD			1.828	20.000		07/03/07
SPK-RPD	Lead	7439-92-1	102.425		RPD			1.718	20.000		07/03/07
SPK-RPD	Uranium	7440-61-1	102.643		RPD			1.906	20.000		07/03/07

BATCH QC

BLANK	Arsenic	7440-38-2	<0.4	n/a	ug/L					U	07/03/07
BLANK	Cadmium	7440-43-9	<0.1	n/a	ug/L					U	07/03/07
BLANK	Chromium	7440-47-3	<0.5	n/a	ug/L					U	07/03/07
BLANK	Manganese	7439-96-5	<0.1	n/a	ug/L					U	07/03/07
BLANK	Lead	7439-92-1	<0.1	n/a	ug/L					U	07/03/07
BLANK	Uranium	7440-61-1	<5e-2	n/a	ug/L					U	07/03/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071102
Matrix: WATER
Test: ICP-200.8 MS All possible meta

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Arsenic	7440-38-2	37.79	94.475	% Recov	85.000	115.000				07/03/07
LCS	Cadmium	7440-43-9	38.45	96.125	% Recov	85.000	115.000				07/03/07
LCS	Chromium	7440-47-3	40.05	100.125	% Recov	85.000	115.000				07/03/07
LCS	Manganese	7439-96-5	39.81	99.525	% Recov	85.000	115.000				07/03/07
LCS	Lead	7439-92-1	39.11	97.775	% Recov	85.000	115.000				07/03/07
LCS	Uranium	7440-61-1	38.52	96.300	% Recov	85.000	115.000				07/03/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071102
Matrix: WATER
Test: Tot Dissolved Solids 180C Dry

Sample Date: 06/27/07
Receive Date:06/27/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07C000122											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tot Dissolved Solids 180C Dry	TDS	<9		RPD			n/a	20.000	U	07/03/07
BATCH QC											
BLANK	Tot Dissolved Solids 180C Dry	TDS	<9	n/a	mg/L	0.000	300.000			U	07/03/07
LCS	Tot Dissolved Solids 180C Dry	TDS	546	88.065	%rec	80.000	120.000				07/03/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071102
Matrix: WATER
Test: Total Suspended Solids

Sample Date: 06/27/07
Receive Date:06/27/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07C000122											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Suspended Solids	TSS	<1		RPD			n/a	20.000	U	07/02/07
BATCH QC											
BLANK	Total Suspended Solids	TSS	<1	n/a	mg/L	0.000	300.000			U	07/02/07
LCS	Total Suspended Solids	TSS	45.B	91.600	%rec	70.000	110.000				07/02/07

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F07-035

Group #: WSCF20071102
Department: Inorganic

Sample #	Client ID			Lab Area	Test	Comment
				VALGROUP		ICP-AES: High iron and magnesium preparation blank results; "C" flag if applicable. Calcium sample result beyond effective spike range (spike result marked "NA"). Check standard used to ensure calcium linearity because sample results are greater than the calibration standard. Low magnesium MSD recovery; no flag since all other QC is acceptable.
W07GR01530	B1NBC2	GRP	TRENT	TESTDATA	Total Alkalinity (Titrimetric)	Duplicate for QC: Carbonate: <1 mg/L as CO3 Bicarbonate: 99 mg/L as HCO3 Total: 99 mg/L as CaCo3

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
SAF Number: F07-035
Sample # W07GR01530
Client ID: B1NBC2 GRP TRENT WSCF
Matrix: WATER

Group #: WSCF20071102
Department: Radiochemistry
Sampled: 06/28/07
Received: 06/28/07

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	U	2.00	pCi/L	+-1.80	pCi/L	1.00	2.7		07/11/07
Gross beta	12587-47-2	LA-508-415	U	0.670	pCi/L	+-2.51	pCi/L	1.00	4.3		07/11/07
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415	U	-43.0	pCi/L	+-43.0	pCi/L	1.00	9.0		07/10/07
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		100	Percent			1.00	0.0		07/10/07
TC99 by Liquid Scin.											
Technetium-99	14133-76-7	LA-508-421	U	-2.20	pCi/L	+-2.20	pCi/L	1.00	2.6		07/09/07
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		920	pCi/L	+-276	pCi/L	1.00	2.3e+02		07/17/07

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

C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
D - Analyte was identified at a secondary dilution factor(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-035
Sample # W07GR01531
Client ID: B1NBC3 GRP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071102
Department: Radiochemistry
Sampled: 06/28/07
Received: 06/28/07

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	U	0.740	pCi/L	+-1.48	pCi/L	1.00	2.2		07/11/07
Gross beta	12587-47-2	LA-508-415	U	2.00	pCi/L	+-2.02	pCi/L	1.00	3.3		07/11/07
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415	U	-27.0	pCi/L	+-27.0	pCi/L	1.00	10		07/10/07
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		86.6	Percent			1.00	0.0		07/10/07
TC99 by Liquid Scin.											
Technetium-99	14133-76-7	LA-508-421	U	-3.10	pCi/L	+-3.10	pCi/L	1.00	2.6		07/09/07
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		1.20e+03	pCi/L	+-300	pCi/L	1.00	2.3e+02		07/17/07

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

C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
D - Analyte was identified at a secondary dilution factor(inorg)

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071102
Matrix: WATER
Test: Gross Alpha/Gross Beta (AB32)

Sample Date: 06/26/07
Receive Date:06/27/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR01520											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Gross alpha	12587-46-1	U7.3E-01		RPD			n/a	20.000		07/11/07
DUP	Gross beta	12587-47-2	1.2E+02		RPD			0.000	20.000		07/11/07
BATCH QC											
BLANK	Gross alpha	12587-46-1	U8.4E-02	n/a	pCi/L	-10.000	10.000				07/11/07
BLANK	Gross beta	12587-47-2	U-7.8E-01	n/a	pCi/L	-10.000	10.000				07/11/07
LCS	Gross alpha	12587-46-1	41.0	105.834	% Recov	80.000	120.000				07/11/07
LCS	Gross beta	12587-47-2	120.0	106.952	% Recov	80.000	120.000				07/11/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071102
Matrix: WATER
Test: Strontium 89/90

Sample Date: 06/27/07
Receive Date:06/27/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR01524											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Sr-85 Tracer by Beta Counting	SR85	86.3	86.300	% Recov	30.000	105.000				07/10/07
DUP	Strontium-89/90	SR-RAD	U1.0		RPD			n/a	20.000		07/10/07
Lab ID: W07GR01530											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	100.0	100.000	% Recov	30.000	105.000				07/10/07
Lab ID: W07GR01531											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	86.6	86.600	% Recov	30.000	105.000				07/10/07
BATCH QC											
BLANK	Sr-85 Tracer by Beta Counting	SR85	97.6	97.600	% Recov	30.000	105.000				07/10/07
BLANK	Strontium-89/90	10098-97-2	U-4.7E+01	n/a	pCi/L	-10.000	100.000				07/10/07
LCS	Sr-85 Tracer by Beta Counting	SR85	100.4	100.400	% Recov	30.000	105.000				07/10/07
LCS	Strontium-89/90	10098-97-2	1540.0	89.613	% Recov	80.000	120.000				07/10/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071102
Matrix: WATER
Test: TC99 by Liquid Scin.

Sample Date: 06/25/07
Receive Date:06/25/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR01488											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Technetium-99	14133-76-7	42.1		RPD			7.134	20.000		07/09/07
MS	Technetium-99	14133-76-7	98.4	101.131	% Recov	75.000	125.000				07/09/07
BATCH QC											
BLANK	Technetium-99	14133-76-7	U-3.5	n/a	pCi/L	-10.000	10.000				07/09/07
LCS	Technetium-99	14133-76-7	122.2	100.493	% Recov	80.000	120.000				07/09/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071102
Matrix: WATER
Test: Tritium by Liq Sct column prep

Sample Date: 06/28/07
Receive Date:06/28/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR01531											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tritium	10028-17-8	1.4E+03		RPD			15.385	20.000		07/17/07
MS	Tritium	10028-17-8	15770.0	92.413	% Recov	75.000	125.000				07/17/07
BATCH QC											
BLANK	Tritium	10028-17-8	U-2.3E+01	n/a	pCi/L	-10.000	1000.000				07/17/07
LCS	Tritium	10028-17-8	1870.0	92.506	% Recov	80.000	120.000				07/17/07

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F07-035

Group #: WSCF20071102
Department: Radiochemistry

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		ICP-AES: High iron and magnesium preparation blank results; "C" flag if applicable. Calcium sample result beyond effective spike range (spike result marked "NA"). Check standard used to ensure calcium linearity because sample results are greater than the calibration standard. Low magnesium MSD recovery; no flag since 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.

M4W41-SLF-07-489

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 4 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
V13

7/5/07

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Groundwater Remediation Program

Richland, WA 99354
Attn: Steve Trent

Customer Code: GPP
PO#: 122339/ES10
Group#: 20071102
Project#: F07-035
Proj Mgr: Steve Trent A0-21
Phone: 373-5869

The following samples were received from you on 06/28/07. 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
W07GR01530	B1NBC2	GRP	TRENT	Water			06/28/07
		@2008	@AB-32	@ALKALIN	@GPP6010	@H3-33	
		@IC-30	@SR89_90	@TC99-30			
W07GR01531	B1NBC3	GRP	TRENT	Water			06/28/07
		@2008	@AB-32	@ALKALIN	@GPP6010	@H3-33	
		@IC-30	@SR89_90	@TC99-30	TDS-30	TSS-30	

Test Acronym Description

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@AB-32	Gross Alpha/Gross Beta (AB32)
@ALKALIN	Total Alkalinity (Titrimetric)
@GPP6010	ICP Metals Analysis, Grd H20 P
@H3-33	Tritium by Liq Sct column prep
@IC-30	Anions by Ion Chromatography
@SR89_90	Strontium 89/90
@TC99-30	TC99 by Liquid Scin.
TDS-30	Tot Dissolved Solids 180C Dry
TSS-30	Total Suspended Solids

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE 7A	DATA TURNAROUND
	TRENT, SJ	373-5869	TRENT, SJ	AIR QUALITY ☐	3 Days / 15 Days
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**		
EC at 100-DR, INF/R1	Electro-Coagulation at the 100-DR - Water		F07-035		
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**COA**	**METHOD OF SHIPMENT**		
	HNF-N-500 1	122339ES10	GOVERNMENT VEHICLE		
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**		
Waste Sampling & Characterization	N/A		N/A		

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

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 HANDLING AND/OR STORAGE
20071102

PRESERVATION	HNO3 to pH <2	Cool 4C	HNO3 to pH <2	HNO3 to pH <2	HCl to pH <2	None	None			
TYPE OF CONTAINER	P	P	P	P	G/P	P	G			
NO. OF CONTAINER(S)	1	1	1	1	2	1	1			
VOLUME	500mL	120mL	1L	1L	1L	250mL	250mL			
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Gross Alpha; Gross Beta;	Strontium-89,90 -- Total Sr;	Technetium-99;	Generic Testing;	Tritium - Ion Ex;			

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME									
B1NBC2 W076R01550	WATER	6/28/07	1420	X	X	X	X	X	X	X		

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
PMGENT [signature] 1515	6/28/07	[signature] 1515	6/28/07

SPECIAL INSTRUCTIONS

** Laboratory is to run titrations for total carbonate and hydroxide from the bottle designated for Generic Testing.
(1)ICP/MS - 200.8 (TAL) {Cadmium, Chromium, Manganese} ICP/MS - 200.8 (Add-on) {Arsenic, Lead, Uranium} ICP Metals - 6010B (TAL) {Calcium, Iron, Magnesium}
(2)IC Anions - 300.0 {Chloride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate}

ICED
[signature] Initial
Date

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6007-618(01/06)

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE 7A	DATA TURNAROUND
	TRENT, SJ	373-5869	TRENT, SJ	AIR QUALITY ☐	3 Days / 15 Days
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**		
EC at 100-DR, EFF/ R1	Electro-Coagulation at the 100-DR - Water		F07-035		
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**COA**	**METHOD OF SHIPMENT**		
	HNF-N-500 1	122339ES10	GOVERNMENT VEHICLE		
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**		
Waste Sampling & Characterization	N/A		N/A		

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

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 HANDLING AND/OR STORAGE

PRESERVATION	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C	Cool 4C	HNO3 to pH <2	HNO3 to pH <2	HCl to pH <2	None	None
TYPE OF CONTAINER	G/P	G	P	P	P	P	P	P	G	P
NO. OF CONTAINER(S)	1	1	1	1	1	1	1	2	1	1
VOLUME	500mL	500mL	500mL	500mL	120mL	1L	1L	1L	250mL	250mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	TDS - 160.1;	TSS - 160.2;	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Gross Alpha; Gross Beta;	Strontium-89,90 -- Total Sr;	Technetium-99;	Tritium - Ion Ex;	Generic Testing;

PMG 6/28/07

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME									
B1NBC3 WO 7619531	WATER	6/28/07	1415	X		X	X	X	X	X	X	X

ICED
Initial
Date

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
PMGENT	1515 6/28/07	KBeebe	6/28/07 1515
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** Laboratory is to run titrations for total carbonate and hydroxide from the bottle designated for Generic Testing.
(1)ICP/MS - 200.8 (TAL) {Cadmium, Chromium, Manganese} ICP/MS - 200.8 (Add-on) {Arsenic, Lead, Uranium} ICP Metals - 6010B (TAL) {Calcium, Iron, Magnesium}
(2)IC Anions - 300.0 {Chloride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate}

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)