RECEIVED AUGUST 12, 2008

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FLUOR

Memorandum

M4W41-SLF-08-811

To:	H. Hampt	E6-35	Date:	August 12, 2008
From:	S. L. Fitzgerald, Manager WSCF Analytical Lab			

cc: w/Attachments

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

Subject: FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20081335

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

This transmittal contains the following information for sample delivery group WSCF20081335:

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

SLF/grf

Attachments 4

M4W41-SLF-08-811

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20081335
Data Deliverable Date: 15-aug-2008
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
I08-041	B1VKN4	W08P003298	WATER
	B1VKN7	W08P003309	WATER
S08-006	B1VLD9	W08P003305	WATER
	B1VLT6	W08P003307	WATER
	B1VLT7	W08P003308	WATER

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ATTACHMENT 2

NARRATIVE

Consisting of 3 pages
Including cover page

Introduction

Five groundwater samples were received at the WSCF Laboratory on July 2, 2008. Samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Remediation Program – Letter of Instruction*, referenced in the cover letter.

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

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

Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report,* pages 11 through 12, 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 16 through 18 for QC details. Analytical Note(s):

- Duplicates, Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1W359 and B1W273 (SDG# 20081321).
- Batch QC – B1W273 (Chloride) - Matrix Spike Duplicate recovery was less than established laboratory limits. Affected sample result was D flagged.
- Sample results were D flagged if dilution(s) were required.

All other QC controls are within the established limits.

ICP-MS Metals – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See page 19 for QC details. Analytical Note(s):

- Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1W383 and B1W385 (SDG# 20081385).

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 23 through 29 for QC details. Analytical Note(s):

- Gross Alpha / Gross Beta – Duplicate QC was analyzed on sample# B1VM97 (SDG# 20081323). Gross Alpha Duplicate Relative Percent Difference (RPD) slightly exceeded established laboratory limits.
- Americium-241 and 243 (tracer) – Duplicate QC was analyzed on sample# B1VM29 (SDG# 20081287).
- Plutonium-238, 239/240 and 242 (tracer) – Duplicate QC was analyzed on sample# B1VM29 (SDG# 20081287).
- Strontium-89/90 and 85 (tracer) – Duplicate QC was analyzed on sample# B1W1M5 (SDG# 20081334).
- Technetium-99 – Duplicate and Matrix Spike Duplicate were analyzed on sample# B1VKN0 (SDG# 20081312).
- Tritium – Duplicate and Matrix Spike were analyzed on sample# B1V6P3 (SDG# 20081297) and B1VLD9 of this SDG.

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

M4W41-SLF-08-811

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 24 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

GPAP
Richland, WA 99352

Attention: Steve Trent E6-35

Analytical: S. Fitzgerald 8/12/08

Client Services: D Thi F. D. Mix 8/11/2008

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

Report#: WSCF20081335
Report Date: 8-aug-2008
Report WGPP/ver. 5.2
GPAP

w13qlog v4.2 08-aug-2008 06:57:26

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20081335

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
36938	2	37363	41712	BLANK		Anions by Ion Chromatography
36938	13	37363	41712	BLANK		Anions by Ion Chromatography
36938	26	37363	41712	BLANK		Anions by Ion Chromatography
36938	3	37363	41712	LCS		Anions by Ion Chromatography
36938	14	37363	41712	LCS		Anions by Ion Chromatography
36938	7	37363	41712	DUP	W08P003255	Anions by Ion Chromatography
36938	8	37363	41712	MS	W08P003255	Anions by Ion Chromatography
36938	9	37363	41712	MSD	W08P003255	Anions by Ion Chromatography
36938	9	37363	41712	SPK-RPD	W08P003255	Anions by Ion Chromatography
36938	16	37363	41712	DUP	W08P003277	Anions by Ion Chromatography
36938	17	37363	41712	MS	W08P003277	Anions by Ion Chromatography
36938	18	37363	41712	MSD	W08P003277	Anions by Ion Chromatography
36938	18	37363	41712	SPK-RPD	W08P003277	Anions by Ion Chromatography
36938	25	37363	41712	SAMPLE	W08P003308	Anions by Ion Chromatography
37374	1	37799	42120	BLANK		ICP-200.8 MS All possible meta
37374	2	37799	42120	LCS		ICP-200.8 MS All possible meta
37374	21	37799	42120	SAMPLE	W08P003305	ICP-200.8 MS All possible meta
37374	22	37799	42120	SAMPLE	W08P003307	ICP-200.8 MS All possible meta
37374	23	37799	42120	SAMPLE	W08P003308	ICP-200.8 MS All possible meta
37374	4	37799	42120	MS	W08P003398	ICP-200.8 MS All possible meta
37374	5	37799	42120	MSD	W08P003398	ICP-200.8 MS All possible meta
37374	5	37799	42120	SPK-RPD	W08P003398	ICP-200.8 MS All possible meta
37374	7	37799	42120	MS	W08P003400	ICP-200.8 MS All possible meta
37374	8	37799	42120	MSD	W08P003400	ICP-200.8 MS All possible meta
37374	8	37799	42120	SPK-RPD	W08P003400	ICP-200.8 MS All possible meta

w13qlog v4.2 08-aug-2008 06:57:26

Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20081335

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
37038	1	37464	42012	BLANK		TC99 by Liquid Scin.
37038	2	37464	42012	LCS		TC99 by Liquid Scin.
37038	3	37464	42012	DUP	W08P003233	TC99 by Liquid Scin.
37038	4	37464	42012	MS	W08P003233	TC99 by Liquid Scin.
37038	14	37464	42012	SAMPLE	W08P003298	TC99 by Liquid Scin.
37038	15	37464	42012	SAMPLE	W08P003309	TC99 by Liquid Scin.
37086	1	37513	42018	BLANK		Strontium 89/90
37086	2	37513	42018	LCS		Strontium 89/90
37086	3	37513	42018	DUP	W08P003297	Strontium 89/90
37086	6	37513	42018	SAMPLE	W08P003298	Strontium 89/90
37086	7	37513	42018	SURR	W08P003298	Strontium 89/90
37086	8	37513	42018	SAMPLE	W08P003305	Strontium 89/90
37086	9	37513	42018	SURR	W08P003305	Strontium 89/90
37086	10	37513	42018	SAMPLE	W08P003309	Strontium 89/90
37086	11	37513	42018	SURR	W08P003309	Strontium 89/90
37241	1	37674	42054	BLANK		Gross Alpha/Gross Beta (AB32)
37241	2	37674	42054	LCS		Gross Alpha/Gross Beta (AB32)
37241	3	37674	42054	DUP	W08P003283	Gross Alpha/Gross Beta (AB32)
37241	14	37674	42054	SAMPLE	W08P003305	Gross Alpha/Gross Beta (AB32)
36974	1	37397	42071	BLANK		Tritium by Liq Sct column prep
36974	2	37397	42071	LCS		Tritium by Liq Sct column prep
36974	4	37397	42071	DUP	W08P003217	Tritium by Liq Sct column prep
36974	3	37397	42071	MS	W08P003217	Tritium by Liq Sct column prep
36974	17	37397	42071	SAMPLE	W08P003298	Tritium by Liq Sct column prep
37164	1	37590	42108	BLANK		Tritium by Liq Sct column prep
37164	4	37590	42108	LCS		Tritium by Liq Sct column prep
37164	3	37590	42108	DUP	W08P003305	Tritium by Liq Sct column prep
37164	2	37590	42108	MS	W08P003305	Tritium by Liq Sct column prep
37164	11	37590	42108	SAMPLE	W08P003305	Tritium by Liq Sct column prep
37164	12	37590	42108	SAMPLE	W08P003309	Tritium by Liq Sct column prep
37292	1	37722	42115	BLANK		Gross Alpha on Alpha Plateau
37292	2	37722	42115	LCS		Gross Alpha on Alpha Plateau
37292	3	37722	42115	DUP	W08P003283	Gross Alpha on Alpha Plateau
37292	14	37722	42115	SAMPLE	W08P003305	Gross Alpha on Alpha Plateau
37434	1	37865	42218	BLANK		Plutonium Isotopics by AEA
37434	2	37865	42218	LCS		Plutonium Isotopics by AEA
37434	3	37865	42218	DUP	W08P003118	Plutonium Isotopics by AEA
37434	8	37865	42218	SAMPLE	W08P003305	Plutonium Isotopics by AEA
37434	9	37865	42218	SURR	W08P003305	Plutonium Isotopics by AEA
37435	1	37866	42219	BLANK		Americium by AEA
37435	2	37866	42219	LCS		Americium by AEA
37435	3	37866	42219	DUP	W08P003118	Americium by AEA
37435	8	37866	42219	SAMPLE	W08P003305	Americium by AEA
37435	9	37866	42219	SURR	W08P003305	Americium by AEA

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-505-412	LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY	
	EPA-600/R-94-111 200.8	DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLAS
	HEIS 200.8_METALS_ICPMS	Inductively Coupled Plasma - Mass Spectrometry
	HEIS RADISOTOPES_ICPMS	Radioisotopes by ICP/MS
LA-533-410	LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY	
	EPA-600/R-94-111 300.0	DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY
	HEIS 300.0_ANIONS_IC	Determination of Inorganic Anions by Ion Chromatography

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

WSCF
METHOD REFERENCES REPORT

Department: 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

LA-508-471 LA-508-471: ALPHA ENERGY ANALYZER DATA ACQUISITION AND SYSTEM CHECKOUT USING ALP

HEIS PUISO_IE_PRECIP_AEA	Plutonium by Alpha Energy Analysis
HEIS RAISO_AEA	Radium-226

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: S08-006
Sample # W08P003305
Client ID: B1VLD9 PNNL-GPP WSCF
Matrix: WATER

Group #: WSCF20081335
Department: Inorganic
Sampled: 07/02/08
Received: 07/02/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP-200.8 MS All possible meta Prep											**07/29/08**
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		22.3	ug/L			1.00	0.0500		07/30/08

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

D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
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: S08-006
Sample # W08P003307
Client ID: B1VLT6 PNNL-GPP WSCF
Matrix: WATER
Group #: WSCF20081335
Department: Inorganic
Sampled: 07/02/08
Received: 07/02/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP-200.8 MS All possible meta Prep											**07/29/08**
ICP-200.8 MS All possible meta											
Arsenic	7440-38-2	LA-505-412		1.45	ug/L			1.00	0.400		07/30/08

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

D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
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: S08-006
Sample # W08P003308
Client ID: B1VLT7 PNNL-GPP WSCF
Matrix: WATER
Group #: WSCF20081335
Department: Inorganic
Sampled: 07/02/08
Received: 07/02/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography											
Fluoride	16984-48-8	LA-533-410	D	3.11	mg/L			2.00	0.042		07/02/08
Chloride	16887-00-6	LA-533-410	DN	15.5	mg/L			2.00	0.22		07/02/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0198	mg/L			2.00	0.020		07/02/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	11.6	mg/L			10.00	0.36		07/02/08
Sulfate	14808-79-8	LA-533-410	D	103	mg/L			2.00	0.15		07/02/08
ICP-200.8 MS All possible meta Prep											**07/29/08**
ICP-200.8 MS All possible meta											
Arsenic	7440-38-2	LA-505-412		1.21	ug/L			1.00	0.400		07/30/08

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

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

SDG Number: WSCF20081335
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date: 07/01/08
Receive Date:07/01/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003255											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	4.2839		RPD			1.135	20.000		07/02/08
DUP	Fluoride	16984-48-8	0.162		RPD			1.592	20.000		07/02/08
DUP	Nitrogen in Nitrite	NO2-N	<1.98e-2		RPD			n/a	20.000	U	07/02/08
DUP	Nitrogen in Nitrate	NO3-N	7.6548		RPD			0.571	20.000		07/02/08
DUP	Sulfate	14808-79-8	26.9904		RPD			0.677	20.000		07/02/08
MS	Chloride	16887-00-6	0.88615	89.060	% Recov	80.000	120.000				07/02/08
MS	Fluoride	16984-48-8	0.52005	105.487	% Recov	80.000	120.000				07/02/08
MS	Nitrogen in Nitrite	NO2-N	0.44545	90.539	% Recov	80.000	120.000				07/02/08
MS	Nitrogen in Nitrate	NO3-N	0.39825	89.294	% Recov	80.000	120.000				07/02/08
MS	Sulfate	14808-79-8	1.9368	98.816	% Recov	80.000	120.000				07/02/08
MSD	Chloride	16887-00-6	0.88445	88.889	% Recov	80.000	120.000				07/02/08
MSD	Fluoride	16984-48-8	0.50405	102.241	% Recov	80.000	120.000				07/02/08
MSD	Nitrogen in Nitrite	NO2-N	0.44655	90.762	% Recov	80.000	120.000				07/02/08
MSD	Nitrogen in Nitrate	NO3-N	0.3853	86.390	% Recov	80.000	120.000				07/02/08
MSD	Sulfate	14808-79-8	1.90475	97.181	% Recov	80.000	120.000				07/02/08
SPK-RPD	Chloride	16887-00-6	88.889		RPD			0.192	20.000		07/02/08
SPK-RPD	Fluoride	16984-48-8	102.241		RPD			3.125	20.000		07/02/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	90.762		RPD			0.246	20.000		07/02/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	86.390		RPD			3.306	20.000		07/02/08
SPK-RPD	Sulfate	14808-79-8	97.181		RPD			1.668	20.000		07/02/08
Lab ID: W08P003277											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	11.2944		RPD			0.014	20.000		07/02/08
DUP	Fluoride	16984-48-8	1.3871		RPD			2.452	20.000		07/02/08
DUP	Nitrogen in Nitrite	NO2-N	<1.98e-2		RPD			n/a	20.000	U	07/02/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20081335
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date: 07/01/08
Receive Date:07/01/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
DUP	Nitrogen in Nitrate	NO3-N	<7.2e-2		RPD			n/a	20.000	U	07/02/08
DUP	Sulfate	14808-79-8	<0.154		RPD			n/a	20.000	U	07/02/08
MS	Chloride	16887-00-6	0.97635	98.126	% Recov	80.000	120.000				07/02/08
MS	Fluoride	16984-48-8	0.4986	101.136	% Recov	80.000	120.000				07/02/08
MS	Nitrogen in Nitrite	NO2-N	0.4453	90.508	% Recov	80.000	120.000				07/02/08
MS	Nitrogen in Nitrate	NO3-N	0.4324	96.951	% Recov	80.000	120.000				07/02/08
MS	Sulfate	14808-79-8	1.9491	99.444	% Recov	80.000	120.000				07/02/08
MSD	Chloride	16887-00-6	0.77075	77.462	% Recov	80.000	120.000				07/02/08
MSD	Fluoride	16984-48-8	0.5049	102.414	% Recov	80.000	120.000				07/02/08
MSD	Nitrogen in Nitrite	NO2-N	0.4201	85.386	% Recov	80.000	120.000				07/02/08
MSD	Nitrogen in Nitrate	NO3-N	0.3822	85.695	% Recov	80.000	120.000				07/02/08
MSD	Sulfate	14808-79-8	1.9553	99.760	% Recov	80.000	120.000				07/02/08
SPK-RPD	Chloride	16887-00-6	77.462		RPD			23.537	20.000		07/02/08
SPK-RPD	Fluoride	16984-48-8	102.414		RPD			1.256	20.000		07/02/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	85.386		RPD			5.824	20.000		07/02/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	85.695		RPD			12.325	20.000		07/02/08
SPK-RPD	Sulfate	14808-79-8	99.760		RPD			0.317	20.000		07/02/08
BATCH QC											
BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	07/02/08
BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	07/02/08
BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	07/02/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	07/02/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	07/02/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	07/02/08
BLANK	Nitrogen in Nitrite	NO2-N	<9.9e-3	n/a	mg/L	0.000	0.020			U	07/02/08
BLANK	Nitrogen in Nitrite	NO2-N	<9.9e-3	n/a	mg/L	0.000	0.020			U	07/02/08
BLANK	Nitrogen in Nitrite	NO2-N	<9.9e-3	n/a	mg/L	0.000	0.020			U	07/02/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	07/02/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	07/02/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081335
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	07/02/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	07/02/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	07/02/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	07/02/08
LCS	Chloride	16887-00-6	198.6369	98.824	% Recov	80.000	120.000				07/02/08
LCS	Chloride	16887-00-6	199.1228	99.066	% Recov	80.000	120.000				07/02/08
LCS	Fluoride	16984-48-8	100.6263	101.030	% Recov	80.000	120.000				07/02/08
LCS	Fluoride	16984-48-8	99.46	99.859	% Recov	80.000	120.000				07/02/08
LCS	Nitrogen in Nitrite	NO2-N	96.6309	97.214	% Recov	80.000	120.000				07/02/08
LCS	Nitrogen in Nitrite	NO2-N	97.4719	98.060	% Recov	80.000	120.000				07/02/08
LCS	Nitrogen in Nitrate	NO3-N	92.8195	103.018	% Recov	80.000	120.000				07/02/08
LCS	Nitrogen in Nitrate	NO3-N	90.2278	100.142	% Recov	80.000	120.000				07/02/08
LCS	Sulfate	14808-79-8	399.2269	100.815	% Recov	80.000	120.000				07/02/08
LCS	Sulfate	14808-79-8	402.9517	101.755	% Recov	80.000	120.000				07/02/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081335
Matrix: WATER
Test: ICP-200.8 MS All possible meta

Sample Date: 07/09/08
Receive Date:07/09/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003398											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Arsenic	7440-38-2	40.645	101.613	% Recov	70.000	130.000				07/30/08
MS	Uranium	7440-61-1	44.12	110.300	% Recov	70.000	130.000				07/30/08
MSD	Arsenic	7440-38-2	37.945	94.863	% Recov	70.000	130.000				07/30/08
MSD	Uranium	7440-61-1	41.32	103.300	% Recov	70.000	130.000				07/30/08
SPK-RPD	Arsenic	7440-38-2	94.863		RPD			6.871	20.000		07/30/08
SPK-RPD	Uranium	7440-61-1	103.300		RPD			6.554	20.000		07/30/08
Lab ID: W08P003400											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Arsenic	7440-38-2	38.023	95.058	% Recov	70.000	130.000				07/30/08
MS	Uranium	7440-61-1	42.073	105.183	% Recov	70.000	130.000				07/30/08
MSD	Arsenic	7440-38-2	37.753	94.383	% Recov	70.000	130.000				07/30/08
MSD	Uranium	7440-61-1	42.003	105.008	% Recov	70.000	130.000				07/30/08
SPK-RPD	Arsenic	7440-38-2	94.383		RPD			0.713	20.000		07/30/08
SPK-RPD	Uranium	7440-61-1	105.008		RPD			0.167	20.000		07/30/08
BATCH QC											
BLANK	Arsenic	7440-38-2	<0.4	n/a	ug/L					U	07/30/08
BLANK	Uranium	7440-61-1	<5e-2	n/a	ug/L					U	07/30/08
LCS	Arsenic	7440-38-2	38.7	96.750	% Recov	85.000	115.000				07/30/08
LCS	Uranium	7440-61-1	37.73	94.325	% Recov	85.000	115.000				07/30/08

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-041
Sample # W08P003298
Client ID: B1VKN4 TRENT **Matrix:** WATER

Group #: WSCF20081335
Department: Radiochemistry
Sampled: 07/02/08
Received: 07/02/08

WSCF

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415	U	-3.00	pCi/L	+-3.00	pCi/L	1.00	0.81		07/16/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		98.9	Percent			1.00	0.0		07/16/08
TC99 by Liquid Scin.											
Tc-99 by Liquid Scin.	14133-76-7	LA-508-421	U	-1.10	pCi/L	+-3.43	pCi/L	1.00	6.0		07/13/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		2.40e+04	pCi/L	+-4.80e+03	pCi/L	1.00	2.0e+02		07/11/08

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

D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
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: S08-006
Sample # W08P003305
Client ID: B1VLD9 PNNL-GPP WSCF
Matrix: WATER

Group #: WSCF20081335
Department: Radiochemistry
Sampled: 07/02/08
Received: 07/02/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Americium by AEA											
Americium-241	14596-10-2	LA-508-471	U	0.110	pCi/L	+-0.143	pCi/L	1.00	0.23		08/05/08
Am-243 tracer by AEA	AM243	LA-508-471		20.0	pCi/L			1.00	0.10		08/05/08
Gross Alpha on Alpha Plateau											
Gross alpha on alpha plateau	12587-46-1	LA-508-415		9.10	pCi/L	+-2.55	pCi/L	1.00	1.9		07/28/08
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		450	pCi/L	+-45.0	pCi/L	1.00	3.2		07/24/08
Plutonium Isotopics by AEA											
Plutonium-238	13981-16-3	LA-508-471	U	0.0460	pCi/L	+-0.121	pCi/L	1.00	0.21		08/05/08
Pu-239/240 by AEA	PU-239/240	LA-508-471		0.820	pCi/L	+-0.279	pCi/L	1.00	0.085		08/05/08
Pu-242 tracer by AEA	PU242	LA-508-471		31.0	pCi/L			1.00	0.067		08/05/08
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415		140	pCi/L	+-16.8	pCi/L	1.00	0.77		07/16/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		104	Percent			1.00	0.0		07/16/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		7.80e+03	pCi/L	+-1.56e+03	pCi/L	1.00	2.2e+02		07/18/08

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

D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
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: I08-041
Sample # W08P003309
Client ID: B1VKN7 PNNL-GPP WSCF
Matrix: WATER

Group #: WSCF20081335
Department: Radiochemistry
Sampled: 07/02/08
Received: 07/02/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415	U	0.300	pCi/L	+-1.84	pCi/L	1.00	0.90		07/16/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		89.2	Percent			1.00	0.0		07/16/08
TC99 by Liquid Scin.											
Tc-99 by Liquid Scin.	14133-76-7	LA-508-421	U	1.20	pCi/L	+-3.61	pCi/L	1.00	6.0		07/13/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		360	pCi/L	+-162	pCi/L	1.00	2.2e+02		07/18/08

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

D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
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: WSCF20081335
Matrix: WATER
Test: Americium by AEA

Sample Date: 06/26/08
Receive Date:06/26/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003118											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Americium-241	14596-10-2	U9.2e-3		RPD			n/a	20.000		08/05/08
DUP	Am-243 tracer by AEA	AM243	20.01	90.670	% Recov	30.000	105.000				08/05/08
Lab ID: W08P003305											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Am-243 tracer by AEA	AM243	20.01	88.430	% Recov	30.000	105.000				08/05/08
BATCH QC											
BLANK	Americium-241	14596-10-2	U-3.8e-2	n/a	pCi/L	-10.000	1000.000				08/05/08
BLANK	Am-243 tracer by AEA	AM243	20.01	93.180	% Recov	30.000	105.000				08/05/08
LCS	Americium-241	14596-10-2	12	101.266	% Recov	80.000	120.000				08/05/08
LCS	Am-243 tracer by AEA	AM243	11.11	93.660	% Recov	30.000	105.000				08/05/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081335
Matrix: WATER
Test: Gross Alpha on Alpha Plateau

Sample Date: 07/01/08
Receive Date:07/01/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003283											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Gross alpha on alpha plateau	12587-46-1	1.3E+01		RPD			26.667	20.000 *		07/28/08
BATCH QC											
BLANK	Gross alpha on alpha plateau	12587-46-1-ap	U9.0E-02	n/a	pCi/L	-100.000	100.000				07/28/08
LCS	Gross alpha on alpha plateau	12587-46-1-ap	37.5	96.799	% Recov	80.000	120.000				07/28/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20081335
Matrix: WATER
Test: Gross Alpha/Gross Beta (AB32)

Sample Date: 07/01/08
Receive Date:07/01/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003283											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Gross beta	12587-47-2	10.1		RPD			2.000	20.000		07/24/08
BATCH QC											
BLANK	Gross beta	12587-47-2	U-2.9E-01	n/a	pCi/L	-10.000	10.000				07/24/08
LCS	Gross beta	12587-47-2	120.0	106.952	% Recov	80.000	120.000				07/24/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081335
Matrix: WATER
Test: Plutonium Isotopics by AEA

Sample Date: 06/26/08
Receive Date:06/26/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003118											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Plutonium-238	13981-16-3	U-3.8e-2		RPD			n/a	20.000		08/05/08
DUP	Pu-239/240 by AEA	PU-239/240	U-1.9e-2		RPD			n/a	20.000		08/05/08
DUP	Pu-242 tracer by AEA	PU242	31.18	86.910	% Recov	30.000	105.000				08/05/08
Lab ID: W08P003305											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Pu-242 tracer by AEA	PU242	31.18	91.550	% Recov	30.000	105.000				08/05/08
BATCH QC											
BLANK	Plutonium-238	13981-16-3	U1.8e-2	n/a	pCi/L	-10.000	1000.000				08/05/08
BLANK	Pu-239/240 by AEA	PU-239/240	U1.8e-2	n/a	pCi/L	-10.000	1000.000				08/05/08
BLANK	Pu-242 tracer by AEA	PU242	31.18	88.520	% Recov	30.000	105.000				08/05/08
LCS	Pu-239/240 by AEA	PU-239/240	12.72	99.027	% Recov	80.000	120.000				08/05/08
LCS	Pu-242 tracer by AEA	PU242	17.3	92.970	% Recov	30.000	105.000				08/05/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081335
Matrix: WATER
Test: Strontium 89/90

Sample Date: 07/02/08
Receive Date:07/02/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003297											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Sr-85 Tracer by Beta Counting	SR85	89.2	89.200	% Recov	30.000	105.000				07/16/08
DUP	Strontium-89/90	SR-RAD	U-1.5		RPD			n/a	20.000		07/16/08
Lab ID: W08P003298											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	98.9	98.900	% Recov	30.000	105.000				07/16/08
Lab ID: W08P003305											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	104.0	104.000	% Recov	30.000	105.000				07/16/08
Lab ID: W08P003309											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	89.2	89.200	% Recov	30.000	105.000				07/16/08
BATCH QC											
BLANK	Sr-85 Tracer by Beta Counting	SR85	90.1	90.100	% Recov	30.000	105.000				07/16/08
BLANK	Strontium-89/90	10098-97-2	U2.5E-01	n/a	pCi/L	-10.000	100.000				07/16/08
LCS	Sr-85 Tracer by Beta Counting	SR85	103.8	103.800	% Recov	30.000	105.000				07/16/08
LCS	Strontium-89/90	10098-97-2	136.0	97.983	% Recov	80.000	120.000				07/16/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20081335
Matrix: WATER
Test: TC99 by Liquid Scin.

Sample Date: 06/30/08
Receive Date:06/30/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003233											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tc-99 by Liquid Scin.	14133-76-7	U-0.7		RPD			n/a	20.000		07/13/08
MS	Tc-99 by Liquid Scin.	14133-76-7	812.9	108.062	% Recov	75.000	125.000				07/13/08
BATCH QC											
BLANK	Tc-99 by Liquid Scin.	14133-76-7	U-0.3	n/a	pCi/L	-10.000	10.000				07/13/08
LCS	Tc-99 by Liquid Scin.	14133-76-7	200.2	106.433	% Recov	80.000	120.000				07/13/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081335
Matrix: WATER
Test: Tritium by Liq Sct column prep

Sample Date: 06/27/08
Receive Date:06/27/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003217											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tritium	10028-17-8	U9.7E+01		RPD			n/a	20.000		07/11/08
MS	Tritium	10028-17-8	24652	95.548	% Recov	75.000	125.000				07/11/08
BATCH QC											
BLANK	Tritium	10028-17-8	U68.5	n/a	pCi/L	-10.000	1000.000				07/11/08
LCS	Tritium	10028-17-8	3260.0	95.324	% Recov	80.000	120.000				07/11/08
Lab ID: W08P003305											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tritium	10028-17-8	8.4E+03		RPD			7.407	20.000		07/18/08
MS	Tritium	10028-17-8	22860.0	88.697	% Recov	75.000	125.000				07/18/08
BATCH QC											
BLANK	Tritium	10028-17-8	U5.4E+01	n/a	pCi/L	-10.000	1000.000				07/18/08
LCS	Tritium	10028-17-8	3250	95.135	% Recov	80.000	120.000				07/18/08

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20081335
Department: Radiochemistry

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		Gross alpha RPD is slightly out of limits. Since all the other QC checks came out fine, this batch has been approved. lmh

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

M4W41-SLF-08-811

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 5 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

08/15/08

ACKNOWLEDGMENT OF SAMPLES RECEIVED

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20081335

The following samples were received from you on 07/02/08. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Waste Sampling and Characterization Facility.

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
W08P003298	B1VKN4	@H3-33 @SR89_90 @TC99-30	TRENT Water	07/02/08
W08P003305	B1VLD9	PNNL-GPP @2008 @AB-32 @AEA-30 @AEA-31 @ALPHA @H3-33 @SR89_90	Water	07/02/08
W08P003307	B1VLT6	PNNL-GPP @2008	Water	07/02/08
W08P003308	B1VLT7	PNNL-GPP @2008 @IC-30	Water	07/02/08
W08P003309	B1VKN7	PNNL-GPP @H3-33 @SR89_90 @TC99-30	Water	07/02/08

Test Acronym Description

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@AB-32	Gross Alpha/Gross Beta (AB32)
@AEA-30	Plutonium Isotopics by AEA
@AEA-31	Americium by AEA
@ALPHA	Gross Alpha on Alpha Plateau
@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.

FLUOR HANFORD 8/1/08

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

108-041-48

Page 1 of 1

Collector: Shepard	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: 108-041	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: 100KR4IAM(1), JUNE 2008	HNF-N-506-12	Ice Chest No.: 6WS-01D 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
** **

2008 1335

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

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VKN4	W58P 0032978	W	7-2-08	1078	1x1-L G/P	Strontium-89,90 -- Total Sr	HNO3 to pH <2
B1VKN4		W	↓	↓	1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	HCl to pH <2
B1VKN4		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Shepard			JUL 02 2008 1115	CA Hudson			JUL 02 2008 1115
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

S08-006-52

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Collector Roy Sickle	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. S08-006	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title SURV JUNE 2008	HNF-N-306-15	**Ice Chest No.** GW **Temp.**
Shipped To (Lab) Waste Sampling & Characterization	**Method of Shipment** Govt. Vehicle	**Bill of Lading/Air Bill No.**
Protocol SURV	**Priority:** 45 Days	**Offsite Property No.**

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

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

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VLD9	3305	W	7-2-08	1114	1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2); ALPHABETA_GPC: Alpha discrete + Beta (2)	HNO3 to pH <2
B1VLD9	↓	W	↓	↓	1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1VLD9		W			1x1000-mL G/P	AMCMISO_EIE_PLT_AEA: Am-241 (1)	HNO3 to pH <2
B1VLD9		W			1x1000-mL G/P	PUISO_PLATE_AEA: Pu-238 + 239/240 (2)	HNO3 to pH <2
B1VLD9		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2
B1VLD9	↓	W			1x1-L G/P	Strontium-89,90 -- Total Sr	HNO3 to pH <2
B1VLT6 (F)	3307	W			1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1)	HNO3 to pH <2
B1VLT7	3308	W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1VLT7	↓	W	↓	↓	1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1)	HNO3 to pH <2

ICED

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
Roy Sickle	JUL 02 2008 1205		JUL 02 2008 1205
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

I08-041-54

Page 1 of 1

Collector KE Hamilton	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. I08-041	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title 100KR4IAM(1), JUNE 2008	HWF-N-506-H	**Ice Chest No.** ERC-99-057 **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
** **

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

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VKN7	3309	W	7/2/08	1101	1x1-L G/P	Strontium-89,90 -- Total Sr	HNO3 to pH <2
B1VKN7	↓	W	↓	↓	1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	HCl to pH <2
B1VKN7	↓	W	↓	↓	1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
KE Hamilton	KE Hamilton		JUL 02 2008 1155	TA FRAZIER			JUL 02 2008 1155
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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