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FLUOR

Memorandum

M4W41-SLF-07-563

To: H. Hampt E6-35 Date: August 22, 2007

From: S. L. Fitzgerald, Manager by William H. Baird
WSCF Analytical Lab

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	S3-30		

Subject: FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20071155 – SAF NUMBER F07-045

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 WSCF20071155:

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

SLF/grf

Attachments 4

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ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20071155
Data Deliverable Date: 23-aug-2007
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
F07-045	B1NF52	W07GR01730	WATER
	B1NF82	W07GR01731	WATER
	B1NF93	W07GR01728	WATER
	B1NFK4	W07GR01729	WATER

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ATTACHMENT 2

NARRATIVE

Consisting of 3 pages
Including cover page

Sample Delivery Group	**WSCF20071155**
Sample Matrix	**Water**
Data Deliverable	**Summary Report**

Introduction

Four (4) groundwater samples were received at the WSCF Laboratory on July 9, 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 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 17 for QC details. Analytical Note(s):

- Sample results were D flagged if dilution(s) were required.
- Sample results that were greater than the reportable limit, however less than the method detection limit were B flagged.
- Phosphate – Matrix Spike and Matrix Spike Duplicate recoveries were less than established laboratory limits due to possible matrix interference. Sample results were N flagged.

All other QC controls are within the established limits.

ICP-MS Metals (TC-99) – 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 18 for QC details.

All QC controls are within the established limits.

pH – The hold time requirement for this analysis was met. A Duplicate and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See page 19 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 20 for QC details. Analytical Note(s):

- Duplicates were analyzed on samples B1L949 (SDG# 20071148, SAF# F07-006) and B1NYJ9 (SDG# 20071142).

Organic Comments

VOA – The hold time requirement for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample, were analyzed with this delivery group per the GRP Letter of Instruction. See pages 26 through 28 for QC details.

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.

for Scot L. Fitzgerald
WSCF Analytical Laboratory Manager

Pauline D. Mix
WSCF Client Services

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

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

M4W41-SLF-07-563

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 22 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

Groundwater Remediation Program

Richland, WA 99354

Attention: Steve Trent

Analytical: William H. Baird WWBaird 8/22/07

Client Services: P.D. Miz 8/21/2007

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.

Contract#: FH-EIS-2003-MEM-001
Report#: WSCF20071155
Report Date: 21-aug-2007
Report WGPP/ver. 5.2
Groundwater Remediation Program

w13qlog v4.2 21-aug-2007 13:45:27

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20071155

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
32479	1	32870	36932	LCS		pH Direct Measurement
32479	3	32870	36932	DUP	W07C000128	pH Direct Measurement
32479	5	32870	36932	DUP	W07GR01730	pH Direct Measurement
32479	4	32870	36932	SAMPLE	W07GR01730	pH Direct Measurement
32479	6	32870	36932	SAMPLE	W07GR01731	pH Direct Measurement
32506	2	32897	36963	BLANK		Anions by Ion Chromatography
32506	9	32897	36963	BLANK		Anions by Ion Chromatography
32506	3	32897	36963	LCS		Anions by Ion Chromatography
32506	5	32897	36963	DUP	W07GR01730	Anions by Ion Chromatography
32506	6	32897	36963	MS	W07GR01730	Anions by Ion Chromatography
32506	7	32897	36963	MSD	W07GR01730	Anions by Ion Chromatography
32506	4	32897	36963	SAMPLE	W07GR01730	Anions by Ion Chromatography
32506	7	32897	36963	SPK-RPD	W07GR01730	Anions by Ion Chromatography
32506	8	32897	36963	SAMPLE	W07GR01731	Anions by Ion Chromatography
32580	1	32972	37044	LCS		Total Alkalinity as mg/L CaCO3
32580	14	32972	37044	LCS		Total Alkalinity as mg/L CaCO3
32580	21	32972	37044	LCS		Total Alkalinity as mg/L CaCO3
32580	3	32972	37044	DUP	W07GR01703	Total Alkalinity as mg/L CaCO3
32580	4	32972	37044	SAMPLE	W07GR01730	Total Alkalinity as mg/L CaCO3
32580	5	32972	37044	SAMPLE	W07GR01731	Total Alkalinity as mg/L CaCO3
32580	10	32972	37044	DUP	W07P001309	Total Alkalinity as mg/L CaCO3
32816	1	33211	37285	BLANK		ICP-200.8 MS All possible meta
32816	2	33211	37285	LCS		ICP-200.8 MS All possible meta
32816	4	33211	37285	MS	W07GR01729	ICP-200.8 MS All possible meta
32816	5	33211	37285	MSD	W07GR01729	ICP-200.8 MS All possible meta
32816	3	33211	37285	SAMPLE	W07GR01729	ICP-200.8 MS All possible meta
32816	5	33211	37285	SPK-RPD	W07GR01729	ICP-200.8 MS All possible meta

w13qlog v4.2 21-aug-2007 13:45:27

Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20071155

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			37500	BLANK		VOA Ground Water Protection
			37500	LCS		VOA Ground Water Protection
			37500	MS	W07GR01728	VOA Ground Water Protection
			37500	MSD	W07GR01728	VOA Ground Water Protection
			37500	SAMPLE	W07GR01728	VOA Ground Water Protection
			37500	SPK-RPD	W07GR01728	VOA Ground Water Protection
			37500	SURR	W07GR01728	VOA Ground Water Protection
			37500	SAMPLE	W07GR01730	VOA Ground Water Protection
			37500	SURR	W07GR01730	VOA Ground Water Protection
			37500	SAMPLE	W07GR01731	VOA Ground Water Protection
			37500	SURR	W07GR01731	VOA Ground Water Protection

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-212-402	Determination of pH Direct Measurement	
	EPA SW-846 9040B	pH ELECTROMETRIC MEASUREMENT
	EPA-600/4-79-020 150.1	pH
	HEIS 150.1_PH	pH
LA-505-412	LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY	
	EPA-600/R-94-111 200.8	DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLAS
	HEIS 200.8_METALS_ICPMS	Inductively Coupled Plasma - Mass Spectrometry
LA-531-411	LA-531-411: ALKALINITY (TITRIMETRIC)	
	HEIS 2320B	Alkalinity
	Standard Methods 2320B	Alkalinity
LA-533-410	LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY	
	EPA-600/R-94-111 300.0	DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY
	HEIS 300.0_ANIONS_IC	Determination of Inorganic Anions by Ion Chromatography

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

WSCF
METHOD REFERENCES REPORT

Department: Organic

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

LA-523-455	LA-523-455: VOLATILE SAMPLE ANALYSIS BY SW-846	
	EPA SW-846 8000B	DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS
	EPA SW-846 8260B	VOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)
	HEIS 8260_VOA_GCMS	Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-045
Sample # W07GR01729
Client ID: B1NFK4 TRENT WSCF

Matrix: WATER

Group #: WSCF20071155
Department: Inorganic
Sampled: 07/09/07
Received: 07/09/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP-200.8 MS All possible meta											
Technetium by ICP-MS	7440-26-8	LA-505-412		0.100	ug/L			1.00	1.0e-03		07/25/07

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)
N - Spike sample recovery is outside control limits.(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-045
Sample # W07GR01730
Client ID: B1NF52 TRENT WSCF

Matrix: WATER

Group #: WSCF20071155
Department: Inorganic
Sampled: 07/09/07
Received: 07/09/07

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		0.326	mg/L			1.00	6.0e-03		07/10/07
Chloride	16887-00-6	LA-533-410	D	27.9	mg/L			10.00	0.30		07/10/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		07/10/07
Bromide	24959-67-9	LA-533-410	B	0.220	mg/L			1.00	0.030		07/10/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	32.8	mg/L			10.00	0.050		07/10/07
Phosphate (P) by IC	PO4-P	LA-533-410	NU	< 0.0400	mg/L			1.00	0.040		07/10/07
Sulfate	14808-79-8	LA-533-410	D	52.9	mg/L			10.00	0.70		07/10/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		110	mg/L			1.00	1.0		07/16/07
pH Measurement											
pH Measurement	PH	LA-212-402		7.47	pH			1.00	0.010		07/09/07

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)
N - Spike sample recovery is outside control limits.(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-045
Sample # W07GR01731
Client ID: B1NF82 TRENT WSCF

Matrix: WATER

Group #: WSCF20071155
Department: Inorganic
Sampled: 07/09/07
Received: 07/09/07

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		0.315	mg/L			1.00	6.0e-03		07/10/07
Chloride	16887-00-6	LA-533-410	D	27.2	mg/L			10.00	0.30		07/10/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		07/10/07
Bromide	24959-67-9	LA-533-410	B	0.215	mg/L			1.00	0.030		07/10/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	32.6	mg/L			10.00	0.050		07/10/07
Phosphate (P) by IC	PO4-P	LA-533-410	NU	< 0.0400	mg/L			1.00	0.040		07/10/07
Sulfate	14808-79-8	LA-533-410	D	53.1	mg/L			10.00	0.70		07/10/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		110	mg/L			1.00	1.0		07/16/07
pH Measurement											
pH Measurement	PH	LA-212-402		7.49	pH			1.00	0.010		07/09/07

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)
N - Spike sample recovery is outside control limits.(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071155
Matrix: WATER
Test: Anions by Ion Chromatography

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

Lab ID: W07GR01730
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
DUP	Bromide	24959-67-9	0.2588		RPD			16.388	20.000		07/10/07
DUP	Chloride	16887-00-6	27.5399		RPD			1.146	20.000		07/10/07
DUP	Fluoride	16984-48-8	0.322		RPD			1.112	20.000		07/10/07
DUP	Nitrogen in Nitrite	NO2-N	<1e-2		RPD			n/a	20.000	U	07/10/07
DUP	Nitrogen in Nitrate	NO3-N	33.1559		RPD			1.097	20.000		07/10/07
DUP	Phosphate (P) by IC	PO4-P	<4e-2		RPD			n/a	20.000	U	07/10/07
DUP	Sulfate	14808-79-8	53.4497		RPD			0.970	20.000		07/10/07
MS	Bromide	24959-67-9	1.9191	96.924	% Recov	75.000	125.000				07/10/07
MS	Chloride	16887-00-6	1.05378	106.442	% Recov	75.000	125.000				07/10/07
MS	Fluoride	16984-48-8	0.5252	104.622	% Recov	75.000	125.000				07/10/07
MS	Nitrogen in Nitrite	NO2-N	0.5683	115.274	% Recov	75.000	125.000				07/10/07
MS	Nitrogen in Nitrate	NO3-N	0.41717	92.499	% Recov	75.000	125.000				07/10/07
MS	Phosphate (P) by IC	PO4-P	0.5736	60.126	% Recov	75.000	125.000		*		07/10/07
MS	Sulfate	14808-79-8	2.03328	102.691	% Recov	75.000	125.000				07/10/07
MSD	Bromide	24959-67-9	1.9731	99.652	% Recov	75.000	125.000				07/10/07
MSD	Chloride	16887-00-6	1.03265	104.308	% Recov	75.000	125.000				07/10/07
MSD	Fluoride	16984-48-8	0.527	104.980	% Recov	75.000	125.000				07/10/07
MSD	Nitrogen in Nitrite	NO2-N	0.5779	117.221	% Recov	75.000	125.000				07/10/07
MSD	Nitrogen in Nitrate	NO3-N	0.40225	89.191	% Recov	75.000	125.000				07/10/07
MSD	Phosphate (P) by IC	PO4-P	0.5694	59.686	% Recov	75.000	125.000		*		07/10/07
MSD	Sulfate	14808-79-8	2.09297	105.706	% Recov	75.000	125.000				07/10/07
SPK-RPD	Bromide	24959-67-9	99.652		RPD			2.776	20.000		07/10/07
SPK-RPD	Chloride	16887-00-6	104.308		RPD			2.025	20.000		07/10/07
SPK-RPD	Fluoride	16984-48-8	104.980		RPD			0.342	20.000		07/10/07
SPK-RPD	Nitrogen in Nitrite	NO2-N	117.221		RPD			1.675	20.000		07/10/07
SPK-RPD	Nitrogen in Nitrate	NO3-N	89.191		RPD			3.641	20.000		07/10/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20071155
Matrix: WATER
Test: Anions by Ion Chromatography

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SPK-RPD	Phosphate (P) by IC	PO4-P	59.686		RPD			0.734	20.000		07/10/07
SPK-RPD	Sulfate	14808-79-8	105.706		RPD			2.894	20.000		07/10/07
BATCH QC											
BLANK	Bromide	24959-67-9	<3e-2	n/a	mg/L	0.000	0.100			U	07/09/07
BLANK	Bromide	24959-67-9	<3e-2	n/a	mg/L	0.000	0.100			U	07/10/07
BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	07/10/07
BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	07/09/07
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	07/09/07
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	07/10/07
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	07/10/07
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	07/09/07
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	07/09/07
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	07/10/07
BLANK	Phosphate (P) by IC	PO4-P	<4e-2	n/a	mg/L	0.000	0.200			U	07/10/07
BLANK	Phosphate (P) by IC	PO4-P	<4e-2	n/a	mg/L	0.000	0.200			U	07/09/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	07/10/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	07/09/07
LCS	Bromide	24959-67-9	403.8378	100.959	% Recov	80.000	120.000				07/09/07
LCS	Chloride	16887-00-6	192.5404	96.270	% Recov	80.000	120.000				07/09/07
LCS	Fluoride	16984-48-8	103.3747	102.351	% Recov	80.000	120.000				07/09/07
LCS	Nitrogen in Nitrite	NO2-N	98.898	99.295	% Recov	80.000	120.000				07/09/07
LCS	Nitrogen in Nitrate	NO3-N	90.1456	98.844	% Recov	80.000	120.000				07/09/07
LCS	Phosphate (P) by IC	PO4-P	197.9915	102.693	% Recov	80.000	120.000				07/09/07
LCS	Sulfate	14808-79-8	381.7265	95.432	% Recov	80.000	120.000				07/09/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071155
Matrix: WATER
Test: ICP-200.8 MS All possible meta

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR01729											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Technetium by ICP-MS	7440-26-8	.191	94.089	% Recov	70.000	130.000				07/25/07
MSD	Technetium by ICP-MS	7440-26-8	.192	94.581	% Recov	70.000	130.000				07/25/07
SPK-RPD	Technetium by ICP-MS	7440-26-8	94.581		RPD			0.522	20.000		07/25/07
BATCH QC											
BLANK	Technetium by ICP-MS	7440-26-8	< .001	n/a	ug/L	-999.000	999.000			U	07/25/07
LCS	Technetium by ICP-MS	7440-26-8	.2011	99.064	% Recov	85.000	115.000				07/25/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071155
Matrix: WATER
Test: pH Direct Measurement

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07C000128											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	pH Direct Measurement	PH	9.79		RPD			0.204	20.000		07/09/07
Lab ID: W07GR01730											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	pH Direct Measurement	PH	7.50		RPD			0.401	20.000		07/09/07
BATCH QC											
LCS	pH Direct Measurement	PH	8.00	1.000	Ratio	0.900	1.100				07/09/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071155
Matrix: WATER
Test: Total Alkalinity as mg/L CaCO3

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR01703											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Alkalinity as mg/L CaCO3	ALKALINITY	172		RPD			0.583	20.000		07/16/07
Lab ID: W07P001309											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Alkalinity as mg/L CaCO3	ALKALINITY	142		RPD			0.707	20.000		07/16/07
BATCH QC											
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	42.73	95.379	%Recove	80.000	120.000				07/16/07
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	122	106.087	%Recove	80.000	120.000				07/16/07
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	123.8	107.652	%Recove	80.000	120.000				07/16/07

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F07-045

Group #: WSCF20071155
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		IC Anion - MS/MSD recoveries out of limits for phosphate due to possible matrix interference. Data N-flagged. Anion concentration in sample below MDL. DTS

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-045
Sample # W07GR01728
Client ID: B1NF93 TRENT WSCF

Matrix: WATER

Group #: WSCF20071155
Department: Organic
Sampled: 07/09/07
Received: 07/09/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/20/07
Trichloroethene	79-01 6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/20/07
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/20/07
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/20/07
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/20/07
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/20/07

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)
N - Spike sample recovery is outside control limits.(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-045
Sample # W07GR01730
Client ID: B1NF52 TRENT WSCF

Matrix: WATER

Group #: WSCF20071155
Department: Organic
Sampled: 07/09/07
Received: 07/09/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/20/07
Trichloroethene	79-01-6	LA-523-455		8.40	ug/L			1.00	1.0		07/20/07
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/20/07
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/20/07
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/20/07
Carbon tetrachloride	56-23-5	LA-523-455		1.70e+03	ug/L			1.00	10		07/23/07

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)
N - Spike sample recovery is outside control limits.(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-045
Sample # W07GR01731
Client ID: B1NF82 TRENT WSCF

Matrix: WATER

Group #: WSCF20071155
Department: Organic
Sampled: 07/09/07
Received: 07/09/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/20/07
Trichloroethene	79-01-6	LA-523-455		8.20	ug/L			1.00	1.0		07/20/07
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/20/07
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/20/07
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/20/07
Carbon tetrachloride	56-23-5	LA-523-455		2.00e+03	ug/L			1.00	10		07/23/07

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)
N - Spike sample recovery is outside control limits.(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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

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

WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent
Project Number F07-045 :F07-045

Group #: WSCF20071155
Department: Organic

Sample #	Client ID		Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W07GR01730	B1NF52	TRENT	VOA Ground Water Protection	SMP 13.474 Chloroform	67-66-3	13.47451		10	ug/L
W07GR01730	B1NF52	TRENT	VOA Ground Water Protection	SMP 8.924 Acetone	67-64-1	8.924866		5.8	ug/L
W07GR01731	B1NF82	TRENT	VOA Ground Water Protection	SMP 13.474 Chloroform	67-66-3	13.47443		11	ug/L
W07GR01731	B1NF82	TRENT	VOA Ground Water Protection	SMP 8.973 Acetone	67-64-1	8.973		5.5	ug/L

RQ=Result Qualifier

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071155
Matrix: WATER
Test: VOA Ground Water Protection

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

Lab ID: W07GR01728
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	1,1-Dichloroethene	75-35-4	23.240	93.000	% Recov	63.000	117.000				07/20/07
MS	Benzene	71-43-2	26.340	105.000	% Recov	75.000	129.000				07/20/07
MS	4-Bromofluorobenzene(Surr)	460-00-4	48.460	96.900	% Recov	84.000	116.000				07/20/07
MS	Chlorobenzene	108-90-7	21.620	86.500	% Recov	79.000	119.000				07/20/07
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	45.220	90.400	% Recov	82.000	136.000				07/20/07
MS	Toluene-d8(Surr)	2037-26-5	50.940	102.000	% Recov	89.000	119.000				07/20/07
MS	Toluene	108-88-3	26.080	104.000	% Recov	76.000	120.000				07/20/07
MS	Trichloroethene	79-01-6	22.500	90.000	% Recov	73.000	123.000				07/20/07
MSD	1,1-Dichloroethene	75-35-4	21.410	85.600	% Recov	63.000	117.000				07/20/07
MSD	Benzene	71-43-2	25.430	102.000	% Recov	75.000	129.000				07/20/07
MSD	4-Bromofluorobenzene(Surr)	460-00-4	48.200	96.400	% Recov	84.000	116.000				07/20/07
MSD	Chlorobenzene	108-90-7	21.220	84.900	% Recov	79.000	119.000				07/20/07
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	45.190	90.400	% Recov	82.000	136.000				07/20/07
MSD	Toluene-d8(Surr)	2037-26-5	50.510	101.000	% Recov	89.000	119.000				07/20/07
MSD	Toluene	108-88-3	25.380	102.000	% Recov	76.000	120.000				07/20/07
MSD	Trichloroethene	79-01-6	21.530	86.100	% Recov	73.000	123.000				07/20/07
SPK-RPD	1,1-Dichloroethene	75-35-4	85.600		RPD			8.287	20.000		07/20/07
SPK-RPD	Benzene	71-43-2	102.000		RPD			2.899	20.000		07/20/07
SPK-RPD	Chlorobenzene	108-90-7	84.900		RPD			1.867	20.000		07/20/07
SPK-RPD	1,2-Dichloroethane-d4(Surr)	17060-07-0	90.400		RPD			0.000	20.000		07/20/07
SPK-RPD	Toluene-d8(Surr)	2037-26-5	101.000		RPD			0.985	20.000		07/20/07
SPK-RPD	Toluene	108-88-3	102.000		RPD			1.942	20.000		07/20/07
SPK-RPD	Trichloroethene	79-01-6	86.100		RPD			4.429	20.000		07/20/07
SURR	4-Bromofluorobenzene(Surr)	460-00-4	48.860	97.700	% Recov	84.000	116.000				07/20/07
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	45.090	90.200	% Recov	82.000	136.000				07/20/07
SURR	Toluene-d8(Surr)	2037-26-5	51.500	103.000	% Recov	89.000	119.000				07/20/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071155
Matrix: WATER
Test: VOA Ground Water Protection

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR01730											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	48.410	96.800	% Recov	84.000	116.000				07/20/07
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	45.070	90.100	% Recov	82.000	136.000				07/20/07
SURR	Toluene-d8(Surr)	2037-26-5	52.240	104.000	% Recov	89.000	119.000				07/20/07
Lab ID: W07GR01731											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	48.160	96.300	% Recov	84.000	116.000				07/20/07
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	44.690	89.400	% Recov	82.000	136.000				07/20/07
SURR	Toluene-d8(Surr)	2037-26-5	51.970	104.000	% Recov	89.000	119.000				07/20/07
BATCH QC											
BLANK	1,1-Dichloroethene	75-35-4	< 1.0	n/a	ug/L					U	07/20/07
BLANK	Benzene	71-43-2	< 1.0	n/a	ug/L					U	07/20/07
BLANK	4-Bromofluorobenzene(Surr)	460-00-4	48.770	97.500	% Recov	84.000	116.000				07/20/07
BLANK	Carbon tetrachloride	56-23-5	< 1.0	n/a	ug/L					U	07/20/07
BLANK	Chlorobenzene	108-90-7	< 1.0	n/a	ug/L					U	07/20/07
BLANK	1,2-Dichloroethane-d4(Surr)	17060-07-0	44.950	89.900	% Recov	82.000	136.000				07/20/07
BLANK	Toluene-d8(Surr)	2037-26-5	50.820	102.000	% Recov	89.000	119.000				07/20/07
BLANK	Toluene	108-88-3	< 1.0	n/a	ug/L					U	07/20/07
BLANK	Trichloroethene	79-01-6	< 1.0	n/a	ug/L					U	07/20/07
LCS	1,1-Dichloroethene	75-35-4	22.330	89.300	% Recov	70.000	130.000				07/20/07
LCS	Benzene	71-43-2	26.950	108.000	% Recov	70.000	130.000				07/20/07
LCS	4-Bromofluorobenzene(Surr)	460-00-4	47.160	94.300	% Recov	84.000	116.000				07/20/07
LCS	Chlorobenzene	108-90-7	22.020	88.100	% Recov	70.000	130.000				07/20/07
LCS	1,2-Dichloroethane-d4(Surr)	17060-07-0	44.560	89.100	% Recov	82.000	136.000				07/20/07
LCS	Toluene-d8(Surr)	2037-26-5	52.780	106.000	% Recov	89.000	119.000				07/20/07
LCS	Toluene	108-88-3	26.250	105.000	% Recov	70.000	130.000				07/20/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20071155
Matrix: WATER
Test: VOA Ground Water Protection

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Trichloroethene	79-01-6	21.470	85.900	% Recov	70.000	130.000				07/20/07

M4W41-SLF-07-563

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 6 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
08/23/07

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Groundwater Remediation Program
Richland, WA 99354
Attn: Steve Trent

Customer Code: GPP
PO#: 122597/ES10
Group#: 20071155
Project#: F07-045
Proj Mgr: Steve Trent G6-35
Phone: 373-5869

The following samples were received from you on 07/09/07. 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
W07GR01728	B1NF93	TRENT @VOA-GPP	Water	07/09/0
W07GR01729	B1NFK4	TRENT @2008	Water	07/09/0
W07GR01730	B1NF52	TRENT @IC-30 @VOA-GPP ALKALI PH-30	Water	07/09/0
W07GR01731	B1NF82	TRENT @IC-30 @VOA-GPP ALKALI PH-30	Water	07/09/0

Test Acronym Description

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@IC-30	Anions by Ion Chromatography
@VOA-GPP	VOA Ground Water Protection
ALKALI	Total Alkalinity as mg/L CaCO3
PH-30	pH Direct Measurement

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	DATA TURNAROUND
Mehrer/Hocking 20071155	Trent, SJ	373-5869	TRENT, SJ	7N	45 Days / 45 Days
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**	**AIR QUALITY**	
I-44-in-12	Purolite Resin Treatability Test - 200-ZP-1 OU		F07-045	☐	
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**COA**	**METHOD OF SHIPMENT**		
		122597ES10	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	HCl or H2SO4 to pH <2/Cool 4C
TYPE OF CONTAINER	aGs*
NO. OF CONTAINER(S)	4
VOLUME	40mL
SAMPLE ANALYSIS	VOA - 8260B (TCL) (Carbon tetrachloride)

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1NF93 W076R01728	WATER	7/9/07	0945	✓

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
MJ HOCKING	7/9/07 1125	TA FRAZIER	7/9/07 1125

SPECIAL INSTRUCTIONS

** WSCF will NOT initiate liquid scitillation anlysis of Tc-99 samples until directed to do so by S&GRP Sample and Data Management.

** WSCF will be provided with samples to be used for the development of the Tc-99 by ICP/MS method. S&GRP will not be charged for this method development work.

ICED
Initial
Date

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

A-6003-618(01/06)

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE 7N	DATA TURNAROUND
Mehrer/Hocking	Trent, SJ	373-5869	TRENT, SJ	AIR QUALITY ☐	45 Days / 45 Days
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**		
I-44-In-12	Purolite Resin Treatability Test - 200-ZP-1 OU		F07-045		
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**COA**	**METHOD OF SHIPMENT**		
		122597ES10	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(ULTREX)
TYPE OF CONTAINER	Nalgene
NO. OF CONTAINER(S)	1
VOLUME	500mL
SAMPLE ANALYSIS	Tc-99 by ICPMS (Technetium-99)

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	[redacted]
B1NFK4 1729	WATER	7/9/07	0945	✓

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
MJ HOCKING / [signature]	7/9/07 / 1125	JA FRAZIER [signature], Ity in	7/9/07 / 1125
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

** WSCF will NOT initiate liquid scitillation anlysis of Tc-99 samples until directed to do so by S&GRP Sample and Data Management.

** WSCF will be provided with samples to be used for the development of the Tc-99 by ICP/MS method. S&GRP will not be charged for this method development work.

ICED
Initial
Date

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

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	7N	DATA TURNAROUND
Mehrer/Hocking	Trent, SJ	373-5869	TRENT, SJ	AIR QUALITY	☐	45 Days / 45 Days
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**			
I-44-in-12	Purolite Resin Treatability Test - 200-ZP-1 OU		F07-045			
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**COA**	**METHOD OF SHIPMENT**			
		122597ES10	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	HCl or H2SO4 to pH <2/Cool 4C	Cool 4C	Cool 4C	None	HCl to pH <2						
TYPE OF CONTAINER	aGs*	P	G/P	G/P	G/P						
NO. OF CONTAINER(S)	4	1	1	1	2						
VOLUME	40mL	120mL	120mL	120mL	1000mL						
SAMPLE ANALYSIS	VOA - 8260B (TCL) (Carbon tetrachloride)	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	Alkalinity - 310.1;	pH - 150.1;	Technetium-99 (Technetium-99)						

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME										
B1NF52 1730	WATER	7/9/07	0945	✓	✓	✓	✓	✓					

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

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
MJ HOCKING	7/9/07/1125	TA FRAZIER	7/9/07/1125

SPECIAL INSTRUCTIONS

** WSCF will NOT initiate liquid scitillation anlysis of Tc-99 samples until directed to do so by S&GRP Sample and Data Management.

** WSCF will be provided with samples to be used for the development of the Tc-99 by ICP/MS method. S&GRP will not be charged for this method development work. (1)IC Anions - 300.0 {Bromide, Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphorus in phosphate, Sulfate}

ICED
Initial
Date

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

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE 7N	DATA TURNAROUND
Mehrer/Hocking	Trent, SJ	373-5869	TRENT, SJ	AIR QUALITY ☐	45 Days / 45 Days
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**		
I-44-eff-12	Purolite Resin Treatability Test - 200-ZP-1 OU		F07-045		
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**COA**	**METHOD OF SHIPMENT**		
		122597ES10	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	HCl or H2SO4 to pH <2/Cool 4C	Cool 4C	Cool 4C	None	HCl to pH <2
TYPE OF CONTAINER	aGs*	P	G/P	G/P	G/P
NO. OF CONTAINER(S)	4	1	1	1	2
VOLUME	40mL	120mL	120mL	120mL	1000mL
SAMPLE ANALYSIS	VOA - 8260B (TCL) (Carbon tetrachloride)	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	Alkalinity - 310.1;	pH - 150.1;	Technetium-99 (Technetium-99)

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B1NF82 1731	WATER	7/9/07	1000	✓	✓	✓	✓	✓

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
MJ HOCKING	7/9/07 1125	TA FRAZIER	7/9/07 1125

SPECIAL INSTRUCTIONS

** WSCF will NOT initiate liquid scitillation anlysis of Tc-99 samples until directed to do so by S&GRP Sample and Data Management.

** WSCF will be provided with samples to be used for the development of the Tc-99 by ICP/MS method. S&GRP will not be charged for this method development work. (1)IC Anions - 300.0 {Bromide, Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphorus in phosphate, Sulfate}

ICED
Initial
Date

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

A-6003-618(01/06)