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Memorandum

M8141-SLF-06-330

To: S. J. Trent A0-21 Date: November 1, 2006

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

cc: (w/attachments)

T. F. Dale	S3-30	J. E. Trechter	S3-30
H. K. Meznarich	S3-30	D. D. Wright	S3-30
P. D. Mix	S3-30	File/LB	

Subject: FINAL RESULTS FOR 200-ZP-1 /200 UP-1 RI SAMPLING AND ANALYSIS (LAUNDRY FACILITY) GROUNDWATER SAMPLE – SAMPLE DELIVERY GROUP WSCF20061212 – SAF NUMBER F06-022

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 a narrative (Attachment 1) for sample delivery group WSCF20061212, the analytical results (Attachment 2), and the sample receipt information (Attachment 3).

SLF/grf

Attachments 3

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AUG 20 2007
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NOV 2006
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M8141-SLF-06-330

ATTACHMENT 1

NARRATIVE

Consisting of 4 pages
Including cover page

Sample Delivery Group	**WSCF20061212**
Sample Matrix	**WATER**
Sample Visual	**N/A**
SAF Number	**F06-022**
Data Deliverable	**Summary Report**

Introduction

Two (2) 200-ZP-1 / 200-UP-1 RI Sampling and Analysis (Laundry Facility) Groundwater samples (B1JX34 and B1JX48) were received at the WSCF Laboratory on October 2, 2006. The 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 (GRP) – Letter of Instruction*, referenced in the cover letter.

The narrative (Attachment 1) will address sample characteristics, analyses requested and general information in performance of the analytical methods. A Data Summary Report (Attachment 2) includes analytical results, a comment report detailing method abnormalities, tentatively identified peaks if applicable, method references, and Laboratory QC information. Copies of the chain of custody and sample receipt are included as Attachment 3.

It should be noted that the attached chain of custody was stamped "iced", initialed and dated 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,* page 12, page 22 and page 28, for a complete listing of approved analytical methods

Inorganic Comments

Anions - Hold time requirements were met. A Blank, Duplicate, Laboratory Control Sample, Matrix Spike and Matrix Spike Duplicate were analyzed with each delivery group per GRP Letter of Instruction. See page 9 for QC details.

All QC controls are within the established limits.

Hexavalent Chromium - The hold time for this analysis was met. A Blank, Duplicate, Matrix Spike and Matrix Spike Duplicate were analyzed with each delivery group per the GRP Letter of Instruction. See page 10 for QC details.

All QC controls are within the established limits.

ICP-MS Metals – The hold time for this analysis was met. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spike Duplicate were analyzed with each delivery group per the GRP Letter of Instruction. See page 11 for QC details. Analytical Notes:

- Preparation Date: 03-oct-2006.
- Matrix Spike and Matrix Spike Duplicate QC was analyzed a 200-PO-1 WTP sample# B1JX20 (SDG# 20061146, SAF# F06-022).

All QC controls are within the established limits.

Organic Comments

VOA – The hold time for this analysis was met. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spike Duplicate were analyzed with each delivery group per the GRP Letter of Instruction. See pages 18 through 20 for QC details. Analytical Notes:

- Matrix Spike and Matrix Spike Duplicate QC was analyzed a 200-PO-1 WTP sample# B1JX35 (SDG# 20061236, SAF# F06-022).
- Chloroform- sample B1JX48 result was J flagged; result was less than the lowest calibration standard but greater than the detection limit.

All QC controls are within the established limits.

Radiochemistry Comments

RadChem – There are no hold times associated with WSCF's radiochemical methods. A Blank, Duplicate QC, Matrix Spike (Technetium only) and a Laboratory Control Sample were analyzed with this delivery group. See pages 24 and 26 for QC details. Analytical Note:

- Strontium-90 – Batch QC was performed on a non-GRP (Sample# S667124, SDG# 20061204). Refer to table below for Batch QC detail.

Batch QC Data (Results) - Based on SDG# 20061204				
Sample Number	Lab Sample ID	Isotope	QC	
			Results (pCi/L)	RPD %
Strontium-90				
S667124	W060003424	Sr-90	3.100E+00	
DUPLICATE	W060003424	Sr-90	3.050E+00	1.6%

All QC controls are within the established limits.

Strontium-85 – Radiochemical Tracer Recovery Data are summarized below:

Radiochemical Tracer Percent Recovery			
Sample Number	**Lab Sample ID**	**Isotope**	**Tracer Recovery**
Strontium-85			
BLANK		Sr-85	94.3%
LCS		Sr-85	96.8%
S667124	W060003424	Sr-85	83.5%
DUPLICATE	W060003424	Sr-85	80.7%
B1JX48	W060003428	Sr-85	88.5%

This Summary Report is in compliance with the SOW, both technically and for completeness. Release of the data contained in this hard copy report has been authorized by the WSCF Laboratory Analytical Manager and Client Services, as verified by the following signature.

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

M8141-SLF-06-330

ATTACHMENT 2

ANALYTICAL RESULTS

Consisting of 24 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

Groundwater Remediation Program

Richland, WA 99354

Attention: Steve Trent A0-21

Analytical: S. Fitzgerald

Client Services: R.P. Mix 11/1/2006

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#: WSCF20061212
Report Date: 1-nov-2006
Report WGPP/ver. 5.2
Groundwater Remediation Program

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent A0-21
SAF Number: F06-022
Sample # W060003428
Client ID: B1JX48 TRENT WSCF
Matrix: WATER

Group #: WSCF20061212
Department: Inorganic
Sampled: 10/02/06
Received: 10/02/06

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		0.432	mg/L			1.00	5.5e-03		10/02/06
Nitrogen in Nitrate	NO3-N	LA-533-410		6.26	mg/L			10.00	0.073		10/02/06
Hexavalent Chromium											
Hexavalent Chromium	18540-29-9	LA-265-403	U	< 2.00e-03	mg/L			1.00	2.0e-03		10/03/06
ICP-200.8 MS All possible meta Prep											**10/03/06**
ICP-200.8 MS All possible meta											
Manganese	7439-96-5	LA-505-412		55.0	ug/L			1.00	0.100	0.100	10/04/06
Cadmium	7440-43-9	LA-505-412	U	< 0.100	ug/L			1.00	0.100	0.200	10/04/06
Lead	7439-92-1	LA-505-412	U	< 0.100	ug/L			1.00	0.100	0.250	10/04/06
Uranium	7440-61-1	LA-505-412		0.976	ug/L			1.00	0.0500	0.100	10/04/06

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

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

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20061212
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date: 10/02/06
Receive Date: 10/02/06

Lab ID: W060003428

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	Fluoride	16984-48-8	0.4281		RPD			0.999	20.000		10/02/06
DUP	Nitrogen in Nitrate	NO3-N	6.1731		RPD			1.342	20.000		10/02/06
MS	Fluoride	16984-48-8	0.575	116.162	% Recov	75.000	125.000				10/02/06
MS	Nitrogen in Nitrate	NO3-N	0.4587	105.448	% Recov	75.000	125.000				10/02/06
MSD	Fluoride	16984-48-8	0.5964	120.485	% Recov	75.000	125.000				10/02/06
MSD	Nitrogen in Nitrate	NO3-N	0.4633	106.506	% Recov	75.000	125.000				10/02/06

BATCH QC

BLANK	Fluoride	16984-48-8	<5.5e-3	n/a	mg/L	0.000	300.000			U	10/02/06
BLANK	Fluoride	16984-48-8	<5.5e-3	n/a	mg/L	0.000	300.000			U	10/02/06
BLANK	Nitrogen in Nitrate	NO3-N	<7.3e-3	n/a	mg/L	0.000	300.000			U	10/02/06
BLANK	Nitrogen in Nitrate	NO3-N	<7.3e-3	n/a	mg/L	0.000	300.000			U	10/02/06
LCS	Fluoride	16984-48-8	107.8038	107.804	% Recov	80.000	120.000				10/02/06
LCS	Nitrogen in Nitrate	NO3-N	88.6793	100.887	% Recov	80.000	120.000				10/02/06

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20061212
Matrix: WATER
Test: Hexavalent chromium

Sample Date: 10/02/06
Receive Date: 10/02/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W060003428											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Hexavalent chromium	18540-29-9	<0.002		RPD			n/a	15.000	U	10/03/06
MS	Hexavalent chromium	18540-29-9	0.0549	103.977	% Recov	85.000	115.000				10/03/06
MSD	Hexavalent chromium	18540-29-9	0.0549	103.977	% Recov	85.000	115.000				10/03/06
SPK-RPD	Hexavalent chromium	18540-29-9	103.977		RPD			0.000	20.000		10/03/06
Lab ID: W06P000002											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Hexavalent chromium	18540-29-9	0.2480		RPD			0.000	15.000		10/03/06
MS	Hexavalent chromium	18540-29-9	0.0523	99.053	% Recov	85.000	115.000				10/03/06
MSD	Hexavalent chromium	18540-29-9	0.0523	99.053	% Recov	85.000	115.000				10/03/06
SPK-RPD	Hexavalent chromium	18540-29-9	99.053		RPD			0.000	20.000		10/03/06
BATCH QC											
BLANK	Hexavalent chromium	18540-29-9	<0.002	n/a	mg/L	0.000	2.000			U	10/03/06
BLANK	Hexavalent chromium	18540-29-9	<0.002	n/a	mg/L	0.000	2.000			U	10/03/06
LCS	Hexavalent chromium	18540-29-9	0.0512	103.018	% Recov	80.000	120.000				10/03/06

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20061212
Matrix: WATER
Test: ICP-200.8 MS All possible meta

Sample Date: 09/19/06
Receive Date:09/19/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W060003266											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Cadmium	7440-43-9	36.02	90.050	% Recov	70.000	130.000				10/04/06
MS	Manganese	7439-96-5	32.92	82.300	% Recov	70.000	130.000				10/04/06
MS	Lead	7439-92-1	39.22	98.050	% Recov	70.000	130.000				10/04/06
MS	Uranium	7440-61-1	41.359	103.398	% Recov	70.000	130.000				10/04/06
MSD	Cadmium	7440-43-9	36.38	90.950	% Recov	70.000	130.000				10/04/06
MSD	Manganese	7439-96-5	34.72	86.800	% Recov	70.000	130.000				10/04/06
MSD	Lead	7439-92-1	39.77	99.425	% Recov	70.000	130.000				10/04/06
MSD	Uranium	7440-61-1	41.089	102.723	% Recov	70.000	130.000				10/04/06
SPK-RPD	Cadmium	7440-43-9	90.950		RPD			0.994	20.000		10/04/06
SPK-RPD	Manganese	7439-96-5	86.800		RPD			5.322	20.000		10/04/06
SPK-RPD	Lead	7439-92-1	99.425		RPD			1.393	20.000		10/04/06
SPK-RPD	Uranium	7440-61-1	102.723		RPD			0.655	20.000		10/04/06
BATCH QC											
BLANK	Cadmium	7440-43-9	<0.1	n/a	ug/L					U	10/04/06
BLANK	Manganese	7439-96-5	<0.1	n/a	ug/L					U	10/04/06
BLANK	Lead	7439-92-1	<0.1	n/a	ug/L					U	10/04/06
BLANK	Uranium	7440-61-1	<5e-2	n/a	ug/L					U	10/04/06
LCS	Cadmium	7440-43-9	37.36	93.400	% Recov	85.000	115.000				10/04/06
LCS	Manganese	7439-96-5	39.32	98.300	% Recov	85.000	115.000				10/04/06
LCS	Lead	7439-92-1	39.19	97.975	% Recov	85.000	115.000				10/04/06
LCS	Uranium	7440-61-1	38.58	96.450	% Recov	85.000	115.000				10/04/06

WSCF
METHOD REFERENCES REPORT

Department: Inorganic

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

LA-265-403 LA-265-403: Hexavalent Chromium analysis by Spectrophotometer

EPA SW-846 7196A	HEXAVALENT CHROMIUM
HEIS 7196_CR6	Hexavalent Chromium

LA-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-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.

w13qlog v4.2 01-nov-2006 10:33:28

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20061212

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
29803	2	30168	34147	BLANK		Anions by Ion Chromatography
29803	8	30168	34147	BLANK		Anions by Ion Chromatography
29803	3	30168	34147	LCS		Anions by Ion Chromatography
29803	5	30168	34147	DUP	W060003428	Anions by Ion Chromatography
29803	6	30168	34147	MS	W060003428	Anions by Ion Chromatography
29803	7	30168	34147	MSD	W060003428	Anions by Ion Chromatography
29803	4	30168	34147	SAMPLE	W060003428	Anions by Ion Chromatography
29813	2	30178	34157	BLANK		Hexavalent chromium
29813	13	30178	34157	BLANK		Hexavalent chromium
29813	3	30178	34157	LCS		Hexavalent chromium
29813	5	30178	34157	DUP	W060003428	Hexavalent chromium
29813	6	30178	34157	MS	W060003428	Hexavalent chromium
29813	7	30178	34157	MSD	W060003428	Hexavalent chromium
29813	4	30178	34157	SAMPLE	W060003428	Hexavalent chromium
29813	7	30178	34157	SPK-RPD	W060003428	Hexavalent chromium
29813	9	30178	34157	DUP	W06P000002	Hexavalent chromium
29813	10	30178	34157	MS	W06P000002	Hexavalent chromium
29813	11	30178	34157	MSD	W06P000002	Hexavalent chromium
29813	11	30178	34157	SPK-RPD	W06P000002	Hexavalent chromium
29827	1	30192	34173	BLANK		ICP-200.8 MS All possible meta
29827	2	30192	34173	LCS		ICP-200.8 MS All possible meta
29827	4	30192	34173	MS	W060003266	ICP-200.8 MS All possible meta
29827	5	30192	34173	MSD	W060003266	ICP-200.8 MS All possible meta
29827	5	30192	34173	SPK-RPD	W060003266	ICP-200.8 MS All possible meta
29827	7	30192	34173	SAMPLE	W060003428	ICP-200.8 MS All possible meta

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent A0-21
SAF Number: F06-022
Sample # W060003427
Client ID: B1JX34 TRENT WSCF

Matrix: WATER

Group #: WSCF20061212
Department: Organic
Sampled: 10/02/06
Received: 10/02/06

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		10/16/06
Trichloroethene	79-01-6	LA-523-455	U	<	1.00	ug/L			1.00	1.0		10/16/06
Benzene	71-43-2	LA-523-455	U	<	1.00	ug/L			1.00	1.0		10/16/06
Toluene	108-88-3	LA-523-455	U	<	1.00	ug/L			1.00	1.0		10/16/06
Chlorobenzene	108-90-7	LA-523-455	U	<	1.00	ug/L			1.00	1.0		10/16/06
1,1-Dichloroethane	75-34-3	LA-523-455	U	<	1.00	ug/L			1.00	1.0		10/16/06
Ethylbenzene	100-41-4	LA-523-455	U	<	1.00	ug/L			1.00	1.0		10/16/06
Styrene	100-42-5	LA-523-455	U	<	1.00	ug/L			1.00	1.0		10/16/06
cis-1,3-Dichloropropene	10061-01-5	LA-523-455	U	<	1.00	ug/L			1.00	1.0		10/16/06
trans-1,3-Dichloropropene	10061-02-6	LA-523-455	U	<	1.00	ug/L			1.00	1.0		10/16/06
1,2-Dichloroethane	107-06-2	LA-523-455	U	<	1.00	ug/L			1.00	1.0		10/16/06
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	<	1.00	ug/L			1.00	1.0		10/16/06
Dibromochloromethane	124-48-1	LA-523-455	U	<	1.00	ug/L			1.00	1.0		10/16/06
Tetrachloroethene	127-18-4	LA-523-455	U	<	1.00	ug/L			1.00	1.0		10/16/06
Xylenes (total)	1330-20-7	LA-523-455	U	<	1.00	ug/L			1.00	1.0		10/16/06
1,2-Dichloroethene(Total)	540-59-0	LA-523-455	U	<	1.00	ug/L			1.00	1.0		10/16/06
Carbon tetrachloride	56-23-5	LA-523-455	U	<	1.00	ug/L			1.00	1.0		10/16/06
2-Hexanone	591-78-6	LA-523-455	U	<	1.00	ug/L			1.00	1.0		10/16/06
Acetone	67-64-1	LA-523-455			20.0	ug/L			1.00	1.0		10/16/06
Chloroform	67-66-3	LA-523-455	U	<	1.00	ug/L			1.00	1.0		10/16/06
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<	1.00	ug/L			1.00	1.0		10/16/06
Bromomethane	74-83-9	LA-523-455	U	<	1.00	ug/L			1.00	1.0		10/16/06
1,1,2,2-Tetrachloroethane	79-34-5	LA-523-455	U	<	1.00	ug/L			1.00	1.0		10/16/06
Chloromethane	74-87-3	LA-523-455	U	<	1.00	ug/L			1.00	1.0		10/16/06

MDL=Minimum Detection Limit J - Analyte < lowest calibration but >= MDL.(org) U - Analyzed for but not detected above limiting criteria(inorg)
RQ=Result Qualifier U - Analyzed for but not detected above limiting criteria.(org)
TP Err=Total Propagated Error
DF=Dilution Factor
* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent A0-21
SAF Number: F06-022
Sample # W060003427
Client ID: B1JX34 TRENT WSCF

Matrix: WATER

Group #: WSCF20061212
Department: Organic
Sampled: 10/02/06
Received: 10/02/06

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Chloroethane	75-00-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
Bromoform	75-25-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
Bromodichloromethane	75-27-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
1,2-Dichloropropane	78-87-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent A0-21
SAF Number: F06-022
Sample # W060003428
Client ID: B1JX48 TRENT WSCF
Matrix: WATER

Group #: WSCF20061212
Department: Organic
Sampled: 10/02/06
Received: 10/02/06

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		10/16/06
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
Styrene	100-42-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
cis-1,3-Dichloropropene	10061-01-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
trans-1,3-Dichloropropene	10061-02-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
Dibromochloromethane	124-48-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
1,2-Dichloroethene(Total)	540-59-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
Carbon tetrachloride	56-23-5	LA-523-455		76.0	ug/L			1.00	1.0		10/16/06
2-Hexanone	591-78-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
Chloroform	67-66-3	LA-523-455	J	4.70	ug/L			1.00	1.0		10/16/06
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
Bromomethane	74-83-9	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
1,1,2,2-Tetrachloroethane	79-34-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
Chloromethane	74-87-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent A0-21
SAF Number: F06-022
Sample # W060003428
Client ID: B1JX48 TRENT WSCF

Matrix: WATER

Group #: WSCF20061212
Department: Organic
Sampled: 10/02/06
Received: 10/02/06

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Chloroethane	75-00-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
Bromoform	75-25-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
Bromodichloromethane	75-27-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
1,2-Dichloropropane	78-87-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/16/06

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

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

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20061212
Matrix: WATER
Test: VOA Ground Water Protection

Sample Date: 10/02/06
Receive Date:10/02/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W060003427											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	56.060	112.000	% Recov	84.000	116.000				10/16/06
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	50.040	100.000	% Recov	82.000	136.000				10/16/06
SURR	Toluene-d8(Surr)	2037-26-5	54.080	108.000	% Recov	89.000	119.000				10/16/06
Lab ID: W060003428											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	57.820	116.000	% Recov	84.000	116.000				10/16/06
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	55.740	111.000	% Recov	82.000	136.000				10/16/06
SURR	Toluene-d8(Surr)	2037-26-5	54.310	109.000	% Recov	89.000	119.000				10/16/06
Lab ID: W060003462											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	1,1-Dichloroethene	75-35-4	26.340	105.000	% Recov	63.000	117.000				10/16/06
MS	Benzene	71-43-2	25.900	104.000	% Recov	75.000	129.000				10/16/06
MS	4-Bromofluorobenzene(Surr)	460-00-4	56.890	114.000	% Recov	84.000	116.000				10/16/06
MS	Chlorobenzene	108-90-7	27.460	110.000	% Recov	79.000	119.000				10/16/06
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	55.150	110.000	% Recov	82.000	136.000				10/16/06
MS	Toluene-d8(Surr)	2037-26-5	52.820	106.000	% Recov	89.000	119.000				10/16/06
MS	Toluene	108-88-3	27.410	110.000	% Recov	76.000	120.000				10/16/06
MS	Trichloroethene	79-01-6	25.440	102.000	% Recov	73.000	123.000				10/16/06
MSD	1,1-Dichloroethene	75-35-4	27.840	111.000	% Recov	63.000	117.000				10/16/06
MSD	Benzene	71-43-2	25.910	104.000	% Recov	75.000	129.000				10/16/06
MSD	4-Bromofluorobenzene(Surr)	460-00-4	57.400	115.000	% Recov	84.000	116.000				10/16/06
MSD	Chlorobenzene	108-90-7	26.830	107.000	% Recov	79.000	119.000				10/16/06
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	52.910	106.000	% Recov	82.000	136.000				10/16/06
MSD	Toluene-d8(Surr)	2037-26-5	54.930	110.000	% Recov	89.000	119.000				10/16/06

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20061212
Matrix: WATER
Test: VOA Ground Water Protection

Sample Date: 10/04/06
Receive Date:10/05/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Toluene	108-88-3	27.610	110.000	% Recov	76.000	120.000				10/16/06
MSD	Trichloroethene	79-01-6	25.900	104.000	% Recov	73.000	123.000				10/16/06
SPK-RPD	1,1-Dichloroethene	75-35-4	111.000		RPD			5.556	20.000		10/16/06
SPK-RPD	Benzene	71-43-2	104.000		RPD			0.000	20.000		10/16/06
SPK-RPD	Chlorobenzene	108-90-7	107.000		RPD			2.765	20.000		10/16/06
SPK-RPD	1,2-Dichloroethane-d4(Surr)	17060-07-0	106.000		RPD			3.704	20.000		10/16/06
SPK-RPD	Toluene-d8(Surr)	2037-26-5	110.000		RPD			3.704	20.000		10/16/06
SPK-RPD	Toluene	108-88-3	110.000		RPD			0.000	20.000		10/16/06
SPK-RPD	Trichloroethene	79-01-6	104.000		RPD			1.942	20.000		10/16/06

BATCH QC

BLANK	1,1-Dichloroethane	75-34-3	< 1.0	n/a	ug/L					U	10/16/06
BLANK	1,1,1-Trichloroethane	71-55-6	< 1.0	n/a	ug/L					U	10/16/06
BLANK	1,1,2-Trichloroethane	79-00-5	< 1.0	n/a	ug/L					U	10/16/06
BLANK	1,1,2,2-Tetrachloroethane	79-34-5	< 1.0	n/a	ug/L	0.000	5.000			U	10/16/06
BLANK	1,1-Dichloroethene	75-35-4	< 1.0	n/a	ug/L					U	10/16/06
BLANK	1,2-Dichloroethane	107-06-2	< 1.0	n/a	ug/L					U	10/16/06
BLANK	1,2-Dichloroethene(Total)	540-59-0	< 1.0	n/a	ug/L					U	10/16/06
BLANK	2-Hexanone	591-78-6	< 1.0	n/a	ug/L					U	10/16/06
BLANK	4-Methyl-2-Pentanone	108-10-1	< 1.0	n/a	ug/L					U	10/16/06
BLANK	Acetone	67-64-1	< 1.0	n/a	ug/L					U	10/16/06
BLANK	Bromodichloromethane	75-27-4	< 1.0	n/a	ug/L					U	10/16/06
BLANK	Benzene	71-43-2	< 1.0	n/a	ug/L					U	10/16/06
BLANK	4-Bromofluorobenzene(Surr)	460-00-4	56.350	113.000	% Recov	84.000	116.000				10/16/06
BLANK	Bromoform	75-25-2	< 1.0	n/a	ug/L					U	10/16/06
BLANK	Carbon disulfide	75-15-0	< 1.0	n/a	ug/L					U	10/16/06
BLANK	Carbon tetrachloride	56-23-5	< 1.0	n/a	ug/L					U	10/16/06
BLANK	Dibromochloromethane	124-48-1	< 1.0	n/a	ug/L					U	10/16/06
BLANK	Chloroform	67-66-3	< 1.0	n/a	ug/L					U	10/16/06
BLANK	Chlorobenzene	108-90-7	< 1.0	n/a	ug/L					U	10/16/06

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20061212
Matrix: WATER
Test: VOA Ground Water Protection

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	cis-1,3-Dichloropropene	10061-01-5	< 1.0	n/a	ug/L					U	10/16/06
BLANK	Chloroethane	75-00-3	< 1.0	n/a	ug/L					U	10/16/06
BLANK	1,2-Dichloroethane-d4(Surr)	17060-07-0	52.580	105.000	% Recov	82.000	136.000				10/16/06
BLANK	1,2-Dichloropropane	78-87-5	< 1.0	n/a	ug/L					U	10/16/06
BLANK	Ethylbenzene	100-41-4	< 1.0	n/a	ug/L					U	10/16/06
BLANK	Bromomethane	74-83-9	< 1.0	n/a	ug/L					U	10/16/06
BLANK	Chloromethane	74-87-3	< 1.0	n/a	ug/L					U	10/16/06
BLANK	2-Butanone	78-93-3	< 1.0	n/a	ug/L					U	10/16/06
BLANK	Methylenechloride	75-09-2	< 1.0	n/a	ug/L					U	10/16/06
BLANK	Tetrachloroethene	127-18-4	< 1.0	n/a	ug/L					U	10/16/06
BLANK	Styrene	100-42-5	< 1.0	n/a	ug/L					U	10/16/06
BLANK	Xylenes (total)	1330-20-7	< 1.0	n/a	ug/L	0.000	5.000			U	10/16/06
BLANK	Toluene-d8(Surr)	2037-26-5	54.300	109.000	% Recov	89.000	119.000				10/16/06
BLANK	Toluene	108-88-3	< 1.0	n/a	ug/L					U	10/16/06
BLANK	trans-1,3-Dichloropropene	10061-02-6	< 1.0	n/a	ug/L					U	10/16/06
BLANK	Trichloroethene	79-01-6	< 1.0	n/a	ug/L					U	10/16/06
BLANK	Vinyl chloride	75-01-4	< 1.0	n/a	ug/L					U	10/16/06
LCS	1,1-Dichloroethene	75-35-4	25.880	104.000	% Recov	70.000	130.000				10/16/06
LCS	Benzene	71-43-2	26.250	105.000	% Recov	70.000	130.000				10/16/06
LCS	4-Bromofluorobenzene(Surr)	460-00-4	57.340	115.000	% Recov	84.000	116.000				10/16/06
LCS	Chlorobenzene	108-90-7	26.980	108.000	% Recov	70.000	130.000				10/16/06
LCS	1,2-Dichloroethane-d4(Surr)	17060-07-0	53.570	107.000	% Recov	82.000	136.000				10/16/06
LCS	Toluene-d8(Surr)	2037-26-5	55.100	110.000	% Recov	89.000	119.000				10/16/06
LCS	Toluene	108-88-3	27.730	111.000	% Recov	70.000	130.000				10/16/06
LCS	Trichloroethene	79-01-6	25.500	102.000	% Recov	70.000	130.000				10/16/06

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent A0-21
Project Number F06-022

Group #: WSCF20061212
Department: Organic

Sample #	Client ID		Lab Area	Test	Comment
			VALGROUP		W060003428/Sr90 was counted with sample W060003424 that had the sample and duplicate QC. The two samples couldn't be worklisted together. Thus, the Duplicate QC doesn't appear with this sample in LIMS. The sample and dup results are listed below to show that the batch QC came out fine: W060003424/Sr90 = 3.1 pCi/L W060003424/DUP/Sr90 = 3.05 pCi/L The RPD is 2 %
W060003428	B1JX48	TRENT	VALTEST	VOA Ground Water Protection	VOA: A J-flag of a target compound indicates that it was found at a concentration less than that of the lowest calibration standard, but greater than the detection limit. gar

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
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.

w13qlog v4.2 01-nov-2006 10:33:28

Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20061212

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			34384	BLANK		VOA Ground Water Protection
			34384	LCS		VOA Ground Water Protection
			34384	SAMPLE	W060003427	VOA Ground Water Protection
			34384	SURR	W060003427	VOA Ground Water Protection
			34384	SAMPLE	W060003428	VOA Ground Water Protection
			34384	SURR	W060003428	VOA Ground Water Protection
			34384	MS	W060003462	VOA Ground Water Protection
			34384	MSD	W060003462	VOA Ground Water Protection
			34384	SPK-RPD	W060003462	VOA Ground Water Protection

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20061212
Matrix: WATER
Test: Strontium 89/90

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BATCH QC											
BLANK	Strontium-89/90	10098-97-2	4.1E-01	0.410	pCi/L	-10.000	100.000				10/09/06
LCS	Strontium-89/90	10098-97-2	176.0	102.415	% Recov	80.000	120.000				10/09/06

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent A0-21
SAF Number: F06-022
Sample # W060003428
Client ID: B1JX48 TRENT WSCF
Matrix: WATER

Group #: WSCF20061212
Department: Radiochemistry
Sampled: 10/02/06
Received: 10/02/06

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	0.610	pCi/L	+-1.46	pCi/L	1.00	0.98		10/09/06
TC99 by Liquid Scin.											
Technetium-99	14133-76-7	LA-508-421	U	1.80	pCi/L	+-1.44	pCi/L	1.00	2.2		10/05/06

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

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

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20061212
Matrix: WATER
Test: TC99 by Liquid Scin.

Sample Date: 10/02/06
Receive Date:10/02/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W060003428											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Technetium-99	14133-76-7	U1.6		RPD			n/a	20.000		10/05/06
MS	Technetium-99	14133-76-7	43.7	97.014	% Recov	75.000	125.000				10/05/06
BATCH QC											
BLANK	Technetium-99	14133-76-7	0.5	0.500	pCi/L	-10.000	10.000				10/05/06
LCS	Technetium-99	14133-76-7	112.4	99.822	% Recov	75.000	125.000				10/05/06

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent A0-21
Project Number F06-022

Group #: WSCF20061212
Department: Radiochemistry

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		W060003428/Sr90 was counted with sample WO6OOO3424 that had the sample and duplicate QC. The two samples couldn't be worklisted together. Thus, the Duplicate QC doesn't appear with this sample in LIMS. The sample and dup results are listed below to show that the batch QC came out fine: W060003424/Sr90 = 3.1 pCi/L WO6OOO3424/DUP/Sr90 = 3.05 pCi/L The RPD is 2 %

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
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

None No reference to any industry method.

LA-508-421 LA-508-421: OPERATION OF THE TRI-CARB MODEL 2500TR LIQUID SCINTILLATION ANALYZER

None No reference to any industry method.

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.

w13qlog v4.2 01-nov-2006 10:33:28

Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20061212

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
29824	1	30189	34203	BLANK		TC99 by Liquid Scin.
29824	2	30189	34203	LCS		TC99 by Liquid Scin.
29824	3	30189	34203	DUP	W060003428	TC99 by Liquid Scin.
29824	4	30189	34203	MS	W060003428	TC99 by Liquid Scin.
29824	5	30189	34203	SAMPLE	W060003428	TC99 by Liquid Scin.
29861	1	30227	34285	BLANK		Strontium 89/90
29861	2	30227	34285	LCS		Strontium 89/90
29861	3	30227	34285	SAMPLE	W060003428	Strontium 89/90

M8141-SLF-06-330

ATTACHMENT 3

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
11/01/06

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Groundwater Remediation Program
Richland, WA 99354
Attn: Steve Trent A0-21

Customer Code: GPP
PO#: 122579/ES20
Group#: 20061212
Project#: F06-022
Proj Mgr: Steve Trent A0-21
Phone: 373-5869

The following samples were received from you on 10/02/06. 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
W060003427	B1JX34	TRENT @VOA-GPP	Water	10/02/06
W060003428	B1JX48	TRENT @2008 @IC-30 @SR89_90 @TC99-30 @VOA-GPP CR+6	Water	10/02/06

Test Acronym Description

Test Acronym	Description
@2008	ICP-2008 MS All possible metal
@IC-30	Anions by Ion Chromatography
@SR89_90	Strontium 89/90
@TC99-30	TC99 by Liquid Scin.
@VOA-GPP	VOA Ground Water Protection
CR+6	Hexavalent chromium

11/01/06

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F06-022-110 PAGE 1 OF 1

COLLECTOR Pope/Pfister/Moklier/Hughes 20061212	**COMPANY CONTACT** BYRNES, ME	**TELEPHONE NO.** 373-3996	**PROJECT COORDINATOR** TRENT, SJ
SAMPLING LOCATION C5103 (299-W14-72), I-1 FB 2941	**PROJECT DESIGNATION** 200-ZP-1 and 200-UP-1 RI Sampling & Analysis (Laundry Facility) - GW		**SAF NO.** F06-022
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**COA** 122597 ~~121075~~ES20	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE
SHIPPED TO Waste Sampling & Characterization	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**

PRICE CODE 7N **DATA TURNAROUND** 45 Days / 45 Days

AIR QUALITY ☐

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 173.403 but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

TIE to: B1J X39

PRESERVATION	HCl to pH <2/Cool 4C
TYPE OF CONTAINER	aGs*
NO. OF CONTAINER(S)	3
VOLUME	40mL
SAMPLE ANALYSIS	VOA - 8260B (TCL);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1JX34 W06000342 7	WATER	10-2-06	1340	X

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

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
J.S. Pope / [signature]	10-2-06 1415	K Baber [signature]	10/2/06 1415

SPECIAL INSTRUCTIONS

ICED
KB Initial
10/2/06 Date

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

Fluor Hanford Inc. | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | F06-022-129 | PAGE 1 OF 1

COLLECTOR Pope/Pfister/Mokler/Hughes	**COMPANY CONTACT** BYRNES, ME	**TELEPHONE NO.** 373-3996	**PROJECT COORDINATOR** TRENT, SJ	**PRICE CODE** 7N	**DATA TURNAROUND**
SAMPLING LOCATION C5103 (299-W14-72), I-1 294'	**PROJECT DESIGNATION** 200-ZP-1 and 200-UP-1 RI Sampling & Analysis (Laundry Facility) - GW		**SAF NO.** F06-022	**AIR QUALITY** ☐	**45 Days / 45 Days**
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**COA** 122597 ~~121875~~ES20	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE		
SHIPPED TO Waste Sampling & Characterization	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**		

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 173.403 but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE: TIE TO : B1JX39

PRESERVATION	HCl to pH <2/Cool 4C	Cool 4C	HNO3 to pH <2	Cool 4C	HNO3 to pH <2	None				
TYPE OF CONTAINER	aGs*	P	P	P	P	P				
NO. OF CONTAINER(S)	3	1	1	1	2	2				
VOLUME	40mL	~~120~~mL 125	125mL	500mL	1L	1L				
SAMPLE ANALYSIS	VOA - 8260B (TCL);	IC Anions - 300.0 {Fluoride, Nitrogen in Nitrate}	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	Strontium-89,90 -- Total Sr;	Technetium-99 {Technetium-99}				

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME										
B1JX48 W06000342 8	WATER	10-2-06	1325	X	X	X	X	X	X				

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
J.S. Pope/	10-2-06 1415		10/2/06 1415
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

(1)ICP/MS - 200.8 (TAL) {Cadmium, Manganese} ICP/MS - 200.8 (Add-on) {Lead, Uranium}

ICED
Initial
10/2/06 Date

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