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RECEIVED SEPTEMBER 23, 2008

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FLUOR

Memorandum

M4W41-SLF-08-1052

To: H. Hampt E6-35 Date: September 23, 2008

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

cc: w/Attachments

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

Subject: FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20081664 - SAF NUMBER F08-148

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

(2) HNF-SD-CD-QAPP-017, Rev. 9, Waste Sampling & Characterization Facility Quality Assurance Plan

This letter contains the following information for sample delivery group WSCF20081664:

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

SLF/grf

Attachments 4

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M4W41-SLF-08-1052

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20081664
Data Deliverable Date: 22-sep-2008
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
F08-148	B1WN00	W08GR03235	SOIL
	B1WN03	W08GR03236	SOIL

M4W41-SLF-08-1052

ATTACHMENT 2

NARRATIVE

Consisting of 4 pages
Including cover page

Introduction

Two (2) S&GRP samples were received at the WSCF Laboratory on August 6, 2008. Samples were successfully analyzed at the WSCF Laboratory 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 13 through 15, for a complete listing of approved analytical methods.

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 page 18 for QC details. Analytical Note(s):

- Sample results were D flagged if dilution(s) were required.
- Sample results that were less than the reportable limit, however greater than the method detection limit were B flagged.
- Matrix Spike, Matrix Spike Duplicate and Sample Duplicate analyzed on sample B1WB32 (SDG 20081670, SAF F08-093).

All other QC controls are within the established limits.

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

- Matrix Spike, Matrix Spike Duplicate and Sample Duplicate analyzed on sample B1VC72 (SDG 20081633, SAF F08-090).
- All QC controls are within the established limits.

ICP-AES Metals – 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 page 20 for QC details. Analytical Note(s):

- Sample results were D flagged if dilution(s) were required.
- Matrix Spike, Matrix Spike Duplicate and Sample Duplicate analyzed on sample B1WB37 (SDG 20081560, SAF F08-093).
- Iron – Sample concentrations exceeded the spiking levels by a factor of 4. Spike recoveries are not valid. Check and high standards were analyzed to ensure Iron linearity because sample results are greater than the calibration standard..

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 21 for QC details. Analytical Note(s):

- Matrix Spike, Matrix Spike Duplicate and Sample Duplicate analyzed on sample B1W188 (SDG 20081522, SAF F08-132) and B1VDX9 (SDG 20081540, SAF F08-101)
- The recovery for Manganese in the MS was slightly below the established laboratory limit of 70% at 69% (this low recovery for Manganese also caused the laboratory established RPD value to not be exceeded). Therefore, the Manganese result in the samples was N flagged.

All QC controls are within the established limits.

Total Dissolved Solids – analyzed for organic moisture correction.

Organic Comments

TPHD-WA – 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. See page 25 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1WN17, SDG 20081668, SAF# F08-148).
- The surrogate recovery for ortho-terphenyl in the laboratory preparation blank was below the laboratory established limit of 70% at 65%. The data was accepted since the ortho-terphenly recovery in the MS/MSD and LCS met the laboratory established criteria.

All other 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 (*Matrix Spikes apply only to Neptunium, Technetium & Tritium and Matrix Spike Duplicate applies to Neptunium*), Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 29 through 31 for QC details. Analytical Note(s):

- Gamma Energy Analysis (GEA): Duplicate was analyzed on sample# B1WN00 of this SDG.
- Uranium Isotopic Analysis: Duplicate RPD value for U-234 and U-238 did not meet the established limit for the laboratory. We attributed the difference in the duplicate results to the non-homogenous nature of soil.
- Tc-99: Duplicate was analyzed on sample# B1WN00 of this SDG.
- The recovery for Tc-99 in the MS was slightly below the established laboratory limit of 75% at 72.9%

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



Andrew Kopriva
WSCF Client Services

M4W41-SLF-08-1052

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 25 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

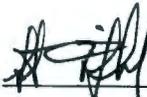
for

Groundwater Remediation Program

Richland, WA 99354

Attention: Steve Trent

Analytical:

 S.F. Fitzgerald 9/23/08

Client Services:

 A. Kopriva 9/23/08

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

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Contract#: FH-EIS-2003-MEM-001

Report#: WSCF20081664

Report Date: 22-sep-2008

Report WGPP/ver. 5.2

Groundwater Remediation Program

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20081664

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
				SAMPLE	W08GR03235	Percent Solids
				SAMPLE	W08GR03236	Percent Solids
37573	1	38012	42357	BLANK		ICP-200.8 MS All possible meta
37573	2	38012	42357	LCS		ICP-200.8 MS All possible meta
37573	4	38012	42357	MS	W08GR02831	ICP-200.8 MS All possible meta
37573	5	38012	42357	MSD	W08GR02831	ICP-200.8 MS All possible meta
37573	5	38012	42357	SPK-RPD	W08GR02831	ICP-200.8 MS All possible meta
37573	7	38012	42357	MS	W08GR02880	ICP-200.8 MS All possible meta
37573	8	38012	42357	MSD	W08GR02880	ICP-200.8 MS All possible meta
37573	8	38012	42357	SPK-RPD	W08GR02880	ICP-200.8 MS All possible meta
37573	30	38012	42357	SAMPLE	W08GR03235	ICP-200.8 MS All possible meta
37573	31	38012	42357	SAMPLE	W08GR03236	ICP-200.8 MS All possible meta
37661	2	38098	42453	BLNK-PREP		Hexavalent chromium
37661	3	38098	42453	LCS		Hexavalent chromium
37661	5	38098	42453	DUP	W08GR03202	Hexavalent chromium
37661	6	38098	42453	MS	W08GR03202	Hexavalent chromium
37661	7	38098	42453	MSD	W08GR03202	Hexavalent chromium
37661	8	38098	42453	SPK-POST	W08GR03202	Hexavalent chromium
37661	7	38098	42453	SPK-RPD	W08GR03202	Hexavalent chromium
37661	17	38098	42453	SAMPLE	W08GR03235	Hexavalent chromium
37661	18	38098	42453	SAMPLE	W08GR03236	Hexavalent chromium
37718	2	38151	42522	BLANK		Anions by Ion Chromatography
37718	17	38151	42522	BLANK		Anions by Ion Chromatography
37718	3	38151	42522	LCS		Anions by Ion Chromatography
37718	8	38151	42522	SAMPLE	W08GR03235	Anions by Ion Chromatography
37718	9	38151	42522	SAMPLE	W08GR03236	Anions by Ion Chromatography
37718	5	38151	42522	DUP	W08GR03258	Anions by Ion Chromatography
37718	6	38151	42522	MS	W08GR03258	Anions by Ion Chromatography
37718	7	38151	42522	MSD	W08GR03258	Anions by Ion Chromatography
37718	7	38151	42522	SPK-RPD	W08GR03258	Anions by Ion Chromatography
37993	1	38414	42932	BLANK		ICP Metals Analysis, Grd H2O P
37993	2	38414	42932	LCS		ICP Metals Analysis, Grd H2O P
37993	4	38414	42932	MS	W08GR02989	ICP Metals Analysis, Grd H2O P
37993	5	38414	42932	MSD	W08GR02989	ICP Metals Analysis, Grd H2O P
37993	5	38414	42932	SPK-RPD	W08GR02989	ICP Metals Analysis, Grd H2O P
37993	13	38414	42932	SAMPLE	W08GR03235	ICP Metals Analysis, Grd H2O P
37993	14	38414	42932	SAMPLE	W08GR03236	ICP Metals Analysis, Grd H2O P

W13q Worklist/Batch/QC Report for Group# WSCF20081664

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			42810	BLANK		NWTPH-D TPH Diesel Range (Wa)
			42810	LCS		NWTPH-D TPH Diesel Range (Wa)
			42810	SAMPLE	W08GR03235	NWTPH-D TPH Diesel Range (Wa)
			42810	SURR	W08GR03235	NWTPH-D TPH Diesel Range (Wa)
			42810	SAMPLE	W08GR03236	NWTPH-D TPH Diesel Range (Wa)
			42810	SURR	W08GR03236	NWTPH-D TPH Diesel Range (Wa)
			42810	MS	W08GR03257	NWTPH-D TPH Diesel Range (Wa)
			42810	MSD	W08GR03257	NWTPH-D TPH Diesel Range (Wa)
			42810	SPK-RPD	W08GR03257	NWTPH-D TPH Diesel Range (Wa)

W13q Worklist/Batch/QC Report for Group# WSCF20081664

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
37575	1	38014	42419	BLANK		TC99 by Liquid Scin.
37575	4	38014	42419	LCS		TC99 by Liquid Scin.
37575	3	38014	42419	DUP	W08GR03235	TC99 by Liquid Scin.
37575	2	38014	42419	MS	W08GR03235	TC99 by Liquid Scin.
37575	8	38014	42419	SAMPLE	W08GR03235	TC99 by Liquid Scin.
37575	9	38014	42419	SAMPLE	W08GR03236	TC99 by Liquid Scin.
37696	1	38130	42696	BLANK		Strontium 89/90
37696	2	38130	42696	LCS		Strontium 89/90
37696	3	38130	42696	DUP	W08GR03235	Strontium 89/90
37696	4	38130	42696	SAMPLE	W08GR03235	Strontium 89/90
37696	5	38130	42696	SURR	W08GR03235	Strontium 89/90
37696	6	38130	42696	SAMPLE	W08GR03236	Strontium 89/90
37696	7	38130	42696	SURR	W08GR03236	Strontium 89/90
38045	1	38465	42901	BLANK		Uranium Isotopics by AEA
38045	2	38465	42901	LCS		Uranium Isotopics by AEA
38045	3	38465	42901	DUP	W08GR03235	Uranium Isotopics by AEA
38045	10	38465	42901	SAMPLE	W08GR03235	Uranium Isotopics by AEA
38045	11	38465	42901	SURR	W08GR03235	Uranium Isotopics by AEA
38045	12	38465	42901	SAMPLE	W08GR03236	Uranium Isotopics by AEA
38045	13	38465	42901	SURR	W08GR03236	Uranium Isotopics 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-265-403	LA-265-403: Hexavalent Chromium analysis by Spectrophotometer EPA SW-846 7196A HEXAVALENT CHROMIUM HEIS 7196_CR6 Hexavalent Chromium
LA-505-411	LA-505-411: ELEMENTAL ANALYSIS BY INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPE HEIS 6010_METALS_ICP Inductively Coupled Plasma-Atomic Emmision Spectrometry
LA-505-412	LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY EPA-600/R-94-111 200.8 DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLAS HEIS 200.8_METALS_ICPMS Inductively Coupled Plasma - Mass Spectrometry HEIS RADISOTOPES_ICPMS Radioisotopes by ICP/MS
LA-519-412	LA-519-412: TOTAL RESIDUE/% SOLIDS DRIED AT 103 - 105 C EPA-600/4-79-020 160.1 Resisual, Filterable EPA-600/4-79-020 160.3 RESIDUE, TOTAL HEIS 160.1_TDS Residual, Filterable Standard Methods 2540B Total Solids Dried at 103-105 C
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>.

Report Date: 22-sep-2008

Report#: WSCF20081664

Report WGPPM/5.2

13 of 36

Page 3

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-523-493	NWTPH-Diesel and/or Gasoline
	HEIS WTPH_DIESEL (HEIS) Total Petroleum Hydrocarbons in Diesel
	WDOE TPHD Total Petroleum Hydrocarbons in Diesel

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>.

Report Date: 22-sep-2008

Report#: WSCF20081664

Report WGPPM/5.2

Page 1

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	Plutonium 89/90
LA-508-421	LA-508-421: OPERATION OF THE TRI-CARB MODEL 2500TR LIQUID SCINTILLATION ANALYZER
HEIS ALPHA_LSC	A/B Liquid Scintillation
HEIS BETA_LSC	A/B Liquid Scintillation
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 PUIISO_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>.

Report Date: 22-sep-2008
Report#: WSCF20081664
Report WGPPM/5.2

Page 2

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-148
Sample # W08GR03235
Client ID: B1WN00

**TRENT
WSCF**

Matrix: SOIL

Group #: WSCF20081664
Department: Inorganic
Sampled: 08/06/08
Received: 08/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography Prep											08/20/08
Anions by Ion Chromatography											
Nitrogen in Nitrate	NO3-N	LA-533-410	BD	1.11	mg/kg			50.00	0.25		08/20/08
Hexavalent Chromium Prep											08/12/08
Hexavalent Chromium											
Hexavalent Chromium	18540-29-9	LA-285-403	U	< 0.100	mg/kg			1.00	0.10		08/12/08
ICP Metals Analysis, Grd H2O P Prep											09/11/08
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-6	LA-505-411		1.61e+04	mg/kg			1.01e+002	2.5		09/14/08
ICP-200.8 MS All possible meta Prep											08/11/08
ICP-200.8 MS All possible meta											
Manganese	7439-96-5	LA-505-412	N	232	mg/kg			0.99	0.0994		08/13/08
Chromium	7440-47-3	LA-505-412		97.9	mg/kg			0.99	0.497		08/13/08
Arsenic	7440-38-2	LA-505-412		1.87	mg/kg			0.99	0.398		08/13/08
Total solids											
Total solids	TS	LA-519-412		97.9	Percent			1.00	0.0		08/11/08

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(inorg)
 U - Analyzed for but not detected above limiting criteria(inorg)

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

Report WGPP/ver. 5.2
 Groundwater Remediation Program

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-148
Sample # W08GR03236
Client ID: B1WN03

**TRENT
WSCF**

Matrix: SOIL

Group #: WSCF20081664
Department: Inorganic
Sampled: 08/06/08
Received: 08/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography Prep											08/20/08
Anions by Ion Chromatography											
Nitrogen in Nitrate	NO3-N	LA-533-410	BD	1.23	mg/kg			50.00	0.25		08/20/08
Hexavalent Chromium Prep											08/12/08
Hexavalent Chromium											
Hexavalent Chromium	18540-29-9	LA-265-403	U	< 0.100	mg/kg			1.00	0.10		08/12/08
ICP Metals Analysis, Grd H2O P Prep											09/11/08
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-6	LA-505-411		1.76e +04	mg/kg			99.33	2.5		09/14/08
ICP-200.8 MS All possible meta Prep											08/11/08
ICP-200.8 MS All possible meta											
Manganese	7439-96-5	LA-505-412	N	277	mg/kg			0.99	0.0993		08/13/08
Chromium	7440-47-3	LA-505-412		168	mg/kg			0.99	0.497		08/13/08
Arsenic	7440-38-2	LA-505-412		1.46	mg/kg			0.99	0.397		08/13/08
Total solids											
Total solids	TS	LA-519-412		98.1	Percent			1.00	0.0		08/11/08

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(inorg)
 U - Analyzed for but not detected above limiting criteria(inorg)

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

Report WGPP/ver. 5.2
 Groundwater Remediation Program

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081664
 Matrix: SOLID
 Test: Anions by Ion Chromatography

Sample Date: 08/05/08
 Receive Date: 08/07/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR03258											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Nitrogen in Nitrate	NO3-N	5.5052		RPD			4.074	20.000		08/20/08
MS	Nitrogen in Nitrate	NO3-N	0.44175	98.167	% Recov	80.000	120.000				08/20/08
MSD	Nitrogen in Nitrate	NO3-N	0.448948	99.766	% Recov	80.000	120.000				08/20/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	99.766		RPD			1.616	20.000		08/20/08
BATCH QC											
BLANK	Nitrogen in Nitrate	NO3-N	< 5e-3	n/a	mg/L	0.000	0.040			U	08/20/08
BLANK	Nitrogen in Nitrate	NO3-N	< 5e-3	n/a	mg/L	0.000	0.040			U	08/20/08
LCS	Nitrogen in Nitrate	NO3-N	92.2328	102.367	% Recov	80.000	120.000				08/20/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081664
 Matrix: SOLID
 Test: Hexavalent chromium

Sample Date: 08/03/08
 Receive Date: 08/05/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR03202											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Hexavalent chromium	18540-29-9	< 0.10		RPD			n/a	15.000	U	08/12/08
MS	Hexavalent chromium	18540-29-9	18.45	92.714	% Recov	75.000	125.000				08/12/08
MS	Hexavalent chromium	18540-29-9	383	78.969	% Recov	75.000	125.000				08/12/08
MSD	Hexavalent chromium	18540-29-9	17.11	85.764	% Recov	75.000	125.000				08/12/08
SPK-POST	Hexavalent chromium	18540-29-9	0.0499	93.097	% Recov	75.000	125.000				08/12/08
SPK-RPD	Hexavalent chromium	18540-29-9	85.764		RPD			7.788	20.000		08/12/08
BATCH QC											
BLNK-PREP	Hexavalent chromium	18540-29-9	< 0.10	n/a	ug/g	0.000	2.000			U	08/12/08
LCS	Hexavalent chromium	18540-29-9	19.76	101.594	% Recov	80.000	120.000				08/12/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081664
 Matrix: SOLID
 Test: ICP Metals Analysis, Grd H2O P

Sample Date: 07/23/08
 Receive Date: 07/28/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR02989											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Iron	7439-89-6	2680	2680.000	% Recov	75.000	125.000			*	09/14/08
MSD	Iron	7439-89-6	2050	2056.169	% Recov	75.000	125.000			*	09/14/08
SPK-RPD	Iron	7439-89-6	2056.169		RPD			26.343	20.000	*	09/14/08
BATCH QC											
BLANK	Iron	7439-89-6	< 2.5e-2	n/a	ug/mL					U	09/14/08
LCS	Iron	7439-89-6	12090	89.562	% Recov	47.000	152.000				09/14/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081664
 Matrix: SOLID
 Test: ICP-200.8 MS All possible meta

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR02831											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Arsenic	7440-38-2	93.94	93.940	% Recov	70.000	130.000				08/13/08
MS	Chromium	7440-47-3	88.6	88.600	% Recov	70.000	130.000				08/13/08
MSD	Arsenic	7440-38-2	94.64	94.640	% Recov	70.000	130.000				08/13/08
MSD	Chromium	7440-47-3	88.65	88.650	% Recov	70.000	130.000				08/13/08
SPK-RPD	Arsenic	7440-38-2	94.640		RPD			0.742	20.000		08/13/08
SPK-RPD	Chromium	7440-47-3	88.650		RPD			0.056	20.000		08/13/08
Lab ID: W08GR02880											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Arsenic	7440-38-2	88.45	88.450	% Recov	70.000	130.000				08/13/08
MS	Chromium	7440-47-3	84.63	84.630	% Recov	70.000	130.000				08/13/08
MS	Manganese	7439-96-5	69.2	69.200	% Recov	70.000	130.000				08/13/08
MSD	Arsenic	7440-38-2	92.63	92.630	% Recov	70.000	130.000				08/13/08
MSD	Chromium	7440-47-3	91	91.000	% Recov	70.000	130.000				08/13/08
MSD	Manganese	7439-96-5	97.9	97.900	% Recov	70.000	130.000				08/13/08
SPK-RPD	Arsenic	7440-38-2	92.630		RPD			4.617	20.000		08/13/08
SPK-RPD	Chromium	7440-47-3	91.000		RPD			7.254	20.000		08/13/08
SPK-RPD	Manganese	7439-96-5	97.900		RPD			34.351	20.000		08/13/08
BATCH QC											
BLANK	Arsenic	7440-38-2	<0.4	n/a	ug/L					U	08/13/08
BLANK	Chromium	7440-47-3	<0.5	n/a	ug/L					U	08/13/08
BLANK	Manganese	7439-96-5	<0.1	n/a	ug/L					U	08/13/08
LCS	Arsenic	7440-38-2	133.1	100.833	% Recov	75.000	134.000				08/13/08
LCS	Chromium	7440-47-3	70.44	96.626	% Recov	77.000	125.000				08/13/08
LCS	Manganese	7439-96-5	436.8	96.424	% Recov	83.000	118.000				08/13/08

WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F08-148

Group #: WSCF20081664
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		<p>ICP-MS: Manganese showed low spike recovery. "N" flag</p> <p>Tc-99 matrix spike recovery is slightly outside the limits. Since all the other QC checks came out fine, this batch has been approved. Imh</p> <p>ORGANICS: Sample concentrations corrected for moisture and reported dry weight basis. gar</p> <p>TPH-D: Surrogate low in the blank at 65% Rec. but good in the samples, LCS, MS, and MSD. gar</p> <p>U-234 & U-238 duplicate is flagged for poor RPD due to the inhomogeneity of the sample. Imh</p> <p>ICP-AES: Iron sample results exceeds spiking level by a factor of 4 so spike recoveries are not valid. High standard used to ensure iron linearity because sample results are greater than the calibration standard.</p>

Lab Areas: VALGROUP - Group Validation
LOGSAMP - Login for Sample

VALTEST - Test Validation
LOGTEST - Login for Tests

TESTDATA - Test Data Entry

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22 of 36

WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-148
Sample # W08GR03235
Client ID: B1WN00

TRENT
 WSCF

Matrix: SOIL

Group #: WSCF20081664
Department: Organic
Sampled: 08/06/08
Received: 08/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
NWTPH-D TPH Diesel Range (Wa) Prep											
NWTPH-D TPH Diesel Range (Wa)											
Total Pet. Hydrocarbons Diesel	TPHDIESEL	LA-523-493	U	< 4.10e+03	ug/kg			1.00	4.1e+03		09/11/08
Kerosene	TPHKEROSENE	LA-523-493	U	< 4.10e+03	ug/kg			1.00	4.1e+03		09/11/08

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(inorg)
 U - Analyzed for but not detected above limiting criteria(inorg)

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

Report WGPP/ver. 5.2
 Groundwater Remediation Program

WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-148
Sample # W08GR03236
Client ID: B1WN03

TRENT
WSCF

Matrix: SOIL

Group #: WSCF20081664
Department: Organic
Sampled: 08/06/08
Received: 08/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
NWTPH-D TPH Diesel Range (Wa) Prep											
NWTPH-D TPH Diesel Range (Wa)											
Total Pet. Hydrocarbons Diesel	TPHDIESEL	LA-523-493	U	< 4.00e+03	ug/kg			1.00	4.0e+03		09/11/08
Kerosene	TPHKEROSENE	LA-523-493	U	< 4.00e+03	ug/kg			1.00	4.0e+03		09/11/08

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)

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Report WGPP/ver. 5.2

Groundwater Remediation Program

24 OF 36

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081664
 Matrix: SOLID
 Test: NWT PH-D TPH Diesel Range (Wa)

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR03235											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	ortho-Terphenyl	Surr	84-15-1	14329	70.200	% Recov	70.000	130.000			09/11/08
Lab ID: W08GR03236											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	ortho-Terphenyl	Surr	84-15-1	16245	80.400	% Recov	70.000	130.000			09/11/08
Lab ID: W08GR03257											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	ortho-Terphenyl	Surr	84-15-1	16128	80.000	% Recov	70.000	130.000			09/11/08
MS	Total Pet. Hydrocarbons Diesel		TPHDIESEL	86642	86.000	% Recov	75.000	125.000			09/11/08
MSD	ortho-Terphenyl	Surr	84-15-1	15435	76.200	% Recov	70.000	130.000			09/11/08
MSD	Total Pet. Hydrocarbons Diesel		TPHDIESEL	89926	88.800	% Recov	75.000	125.000			09/11/08
SPK-RPD	ortho-Terphenyl	Surr	84-15-1	76.200		RPD			4.866	20.000	09/11/08
SPK-RPD	Total Pet. Hydrocarbons Diesel		TPHDIESEL	88.800		RPD			3.204	20.000	09/11/08
BATCH QC											
BLANK	Kerosene		TPHKEROSENE	< 100	n/a	ug/L				U	09/11/08
BLANK	ortho-Terphenyl	Surr	84-15-1	322.94	64.600	% Recov	70.000	130.000			09/11/08
BLANK	Total Pet. Hydrocarbons Diesel		TPHDIESEL	< 75	n/a	ug/L				U	09/11/08
LCS	ortho-Terphenyl	Surr	84-15-1	451.16	90.200	% Recov	70.000	130.000			09/11/08
LCS	Total Pet. Hydrocarbons Diesel		TPHDIESEL	2265.2	90.600	% Recov	80.000	120.000			09/11/08

WSCF

ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number: F08-148

Group #: WSCF20081664
Department: Organic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		<p>ICP-MS: Manganese showed low spike recovery. "N" flag</p> <p>Tc-99 matrix spike recovery is slightly outside the limits. Since all the other QC checks came out fine, this batch has been approved. lmh</p> <p>ORGANICS: Sample concentrations corrected for moisture and reported dry weight basis. gar</p> <p>TPH-D: Surrogate low in the blank at 65% Rec. but good in the samples, LCS, MS, and MSD. gar</p> <p>U-234 & U-238 duplicate is flagged for poor RPD due to the inhomogeneity of the sample. lmh</p> <p>ICP-AES: Iron sample results exceeds spiking level by a factor of 4 so spike recoveries are not valid. High standard used to ensure iron linearity because sample results are greater than the calibration standard.</p>

Lab Areas: VALGROUP - Group Validation
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TESTDATA - Test Data Entry

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-148
Sample # W08GR03235
Client ID: B1WN00

TRENT
 WSCF

Matrix: SOIL

Group #: WSCF20081664
Department: Radiochemistry
Sampled: 08/06/08
Received: 08/06/08

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	-0.720	pCi/g	+0.893	pCi/g	1.00	0.39		08/20/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		89.3	Percent			1.00	0.0		08/20/08
TC99 by Liquid Scin.											
Tc-99 by Liquid Scin.	14133-76-7	LA-508-421	U	-0.200	pCi/g	+0.228	pCi/g	1.00	0.30		08/18/08
Uranium Isotopics by AEA											
Uranium-233/234	U-233/234	LA-508-471		0.220	pCi/g	+0.0704	pCi/g	1.00	5.1e-03		09/17/08
Uranium-235	15117-96-1	LA-508-471		0.0100	pCi/g	+9.30e-03	pCi/g	1.00	5.5e-03		09/17/08
Uranium-238	U-238	LA-508-471		0.240	pCi/g	+0.0744	pCi/g	1.00	5.1e-03		09/17/08
U-232 tracer by AEA	U232	LA-508-471		4.00	pCi/g			1.00	0.020		09/17/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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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(inorg)

U - Analyzed for but not detected above limiting criteria(inorg)

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

Report WGPP/ver. 5.2

Groundwater Remediation Program

27 of 36

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-148
Sample # W08GR03236
Client ID: B1WN03

**TRENT
WSCF**

Matrix: SOIL

Group #: WSCF20081664
Department: Radiochemistry
Sampled: 08/06/08
Received: 08/06/08

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	-0.790	pCi/g	+0.837	pCi/g	1.00	0.39		08/20/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		87.9	Percent			1.00	0.0		08/20/08
TC99 by Liquid Scin.											
Tc-99 by Liquid Scin.	14133-76-7	LA-508-421	U	-0.0430	pCi/g	+0.199	pCi/g	1.00	0.30		08/18/08
Uranium Isotopics by AEA											
Uranium-233/234	U-233/234	LA-508-471		0.130	pCi/g	+0.0455	pCi/g	1.00	0.013		09/17/08
Uranium-235	15117-98-1	LA-508-471		9.80e-03	pCi/g	+9.11e-03	pCi/g	1.00	5.3e-03		09/17/08
Uranium-238	U-238	LA-508-471		0.170	pCi/g	+0.0561	pCi/g	1.00	4.9e-03		09/17/08
U-232 tracer by AEA	U232	LA-508-471		4.00	pCi/g			1.00	0.032		09/17/08

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 (inorg)
 U - Analyzed for but not detected above limiting criteria (inorg)

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Report WGPP/ver. 5.2
 Groundwater Remediation Program

28 of 36

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081664
 Matrix: SOLID
 Test: Strontium 89/90

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR03235											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Sr-85 Tracer by Beta Counting	SR85	99.2	99.200	% Recov	30.000	105.000				08/20/08
DUP	Strontium-89/90	SR-RAD	U-1.6		RPD			n/a	20.000		08/20/08
SURR	Sr-85 Tracer by Beta Counting	SR85	89.3	89.300	% Recov	30.000	105.000				08/20/08
Lab ID: W08GR03236											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	87.9	87.900	% Recov	30.000	105.000				08/20/08
BATCH QC											
BLANK	Sr-85 Tracer by Beta Counting	SR85	83.1	83.100	% Recov	30.000	105.000				08/20/08
BLANK	Strontium-89/90	10098-97-2	U1.7E-01	n/a	pCi/g	10.000	300.000				08/20/08
LCS	Sr-85 Tracer by Beta Counting	SR85	87.2	87.200	% Recov	30.000	105.000				08/20/08
LCS	Strontium-89/90	10098-97-2	68.3	98.387	% Recov	80.000	120.000				08/20/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081664
 Matrix: SOLID
 Test: TC99 by Liquid Scin.

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR03235											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tc-99 by Liquid Scin.	14133-76-7	U-0.2		RPD			n/a	20.000		08/14/08
MS	Tc-99 by Liquid Scin.	14133-76-7	33.1	72.907	% Recov	75.000	125.000				08/14/08
BATCH QC											
BLANK	Tc-99 by Liquid Scin.	14133-76-7	U4.4e-02	n/a	pCi/g	-10.000	1000.000				08/14/08
LCS	Tc-99 by Liquid Scin.	14133-76-7	9.8	86.726	% Recov	80.000	120.000				08/14/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081664
 Matrix: SOLID
 Test: Uranium Isotopics by AEA

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR03235											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	U-232 tracer by AEA	U232	4.032	86.530	% Recov	30.000	105.000				09/17/08
DUP	Uranium-233/234	U-233/234	0.14		RPD			44.444	20.000		09/17/08
DUP	Uranium-235	15117-96-1	U4.1e-3		RPD			n/a	20.000		09/17/08
DUP	Uranium-238	U-238	0.13		RPD			59.459	20.000		09/17/08
SURR	U-232 tracer by AEA	U232	4.024	86.020	% Recov	30.000	105.000				09/17/08
Lab ID: W08GR03236											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	U-232 tracer by AEA	U232	4.048	97.290	% Recov	30.000	105.000				09/17/08
BATCH QC											
BLANK	U-232 tracer by AEA	U232	4.089	83.560	% Recov	30.000	105.000				09/17/08
BLANK	Uranium-233/234	13966-29-5	2.7e-2	0.027	pCi/g	-10.000	1000.000				09/17/08
BLANK	Uranium-235	15117-96-1	6.4e-3	0.006	pCi/g	-10.000	1000.000				09/17/08
BLANK	Uranium-238	24678-82-8	1.4e-2	0.014	pCi/g	-10.000	1000.000				09/17/08
LCS	U-232 tracer by AEA	U232	11.35	80.750	% Recov	30.000	105.000				09/17/08
LCS	Uranium-233/234	13966-29-5	n/a	n/a	% Recov	75.000	125.000				09/17/08
LCS	Uranium-235	15117-96-1	n/a	n/a	% Recov	75.000	125.000				09/17/08
LCS	Uranium-238	24678-82-8	20.14	106.252	% Recov	80.000	120.000				09/17/08

WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F08-148

Group #: WSCF20081664
Department: Radiochemistry

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		<p>ICP-MS: Manganese showed low spike recovery. "N" flag</p> <p>Tc-99 matrix spike recovery is slightly outside the limits. Since all the other QC checks came out fine, this batch has been approved. Imh</p> <p>ORGANICS: Sample concentrations corrected for moisture and reported dry weight basis. gar</p> <p>TPH-D: Surrogate low in the blank at 65% Rec. but good in the samples, LCS, MS, and MSD. gar</p> <p>U-234 & U-238 duplicate is flagged for poor RPD due to the inhomogeneity of the sample. Imh</p> <p>ICP-AES: Iron sample results exceeds spiking level by a factor of 4 so spike recoveries are not valid. High standard used to ensure iron linearity because sample results are greater than the calibration standard.</p>

Lab Areas: VALGROUP - Group Validation
LOGSAMP - Login for Sample

VALTEST - Test Validation
LOGTEST - Login for Tests

TESTDATA - Test Data Entry

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M4W41-SLF-08-1052

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 4 pages
Including cover page

Waste Sampling and Characterization Facility
P.O. BOX 1970 S3-30, Richland, WA 99352
PHONE: (509) 373-7004/FAX: (509) 373-7134

10/22/08

File 10B

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Groundwater Remediation Program

Richland, WA 99354
Attn: Steve Trent

Customer Code: GPP
PO#: 123630/ES10
Group#: 20081664
Project#: F08-148
Proj Mgr: Steve Trent E6-35
Phone: 373-5869

The following samples were received from you on 08/06/08. 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
W08GR03235	B1WN00	TRENT @2008 @AEA-32 @GPP6010 @IC-30 @SR89_90 @TC99-30 @TPHD-WA CR+6 PERSOLID	Solid, or handle as if solid	08/06/08
W08GR03236	B1WN03	TRENT @2008 @AEA-32 @GPP6010 @IC-30 @SR89_90 @TC99-30 @TPHD-WA CR+6 PERSOLID	Solid, or handle as if solid	08/06/08

Test Acronym Description

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@AEA-32	Uranium Isotopics by AEA
@GPP6010	ICP Metals Analysis, Grd H2O P
@IC-30	Anions by Ion Chromatography
@SR89_90	Strontium 89/90
@TC99-30	TC99 by Liquid Scin.
@TPHD-WA	NWTPH-D TPH Diesel Range (Wa)
CR+6	Hexavalent chromium
PERSOLID	Percent Solids

COLLECTOR <i>Rosanne Rust</i>	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5870	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION C6454 I-003	PROJECT DESIGNATION K-West Characterization - Groundwater Contacted Sediments		SAF NO. F08-148	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.	FIELD LOGBOOK NO. <i>HNF-N-585-10 pg 4</i>	ACTUAL SAMPLE DEPTH <i>64.2' - 65.2'</i>	COA 123630ES10	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=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	Cool-4C	None	Cool-4C	Cool-4C	None							
		TYPE OF CONTAINER	aG	G/P	G/P	G/P	Square Bottle - Poly							
		NO. OF CONTAINER(S)	1	1	1	1	1							
		VOLUME	120mL	250mL	500mL	120mL	500mL							
		SPECIAL HANDLING AND/OR STORAGE <i>20081664 Lot #</i>	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS <i>024875</i>	SEE ITEM (2) IN SPECIAL INSTRUCTIONS <i>025088</i>	Chromium Hex - 7196; <i>029796</i>	IC Anions - 300.0 (Nitrogen in Nitrate) <i>024875</i>	SEE ITEM (3) IN SPECIAL INSTRUCTIONS <i>037548</i>						

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME										
B1WN00	SOIL	8-6-08	0900	✓	✓	✓	✓	✓					
<i>W-6620 3235</i>				/	/	/	/	/					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	(1)TPH-DieselKerosene Range - WTPH-D {Total petroleum hydrocarbons - kerosene range} (2)ICP/MS - 200.8 (TAL) {Chromium, Manganese} ICP/MS - 200.8 (Add-on) {Arsenic} ICP Metals - 6010B (TAL) {Iron} (3)Isotopic Uranium {Uranium-233/234, Uranium-235, Uranium-238} Strontium-89,90 -- Total Sr; Technetium-99;	
<i>Larry Rosanne - Larry Rosanne</i>	<i>8-6-08 / 1245</i>	<i>TA FRAZIER</i>	<i>8-6-08 1245</i>		
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		

ICED

35 of 36

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

COLLECTOR <i>ROSANÉ, RUST</i>	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5870	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE BN	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION C6454 I-004	PROJECT DESIGNATION K-West Characterization - Groundwater Contacted Sediments		SAF NO. F08-148	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.	FIELD LOGBOOK NO. <i>HNF-N-585-10 pg 4</i>	ACTUAL SAMPLE DEPTH <i>69.9 - 70.9'</i>	COA 123630E510	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=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	Cool~4C	None	Cool~4C	Cool~4C	None							
		TYPE OF CONTAINER	aG	G/P	G/P	G/P	Square Bottle - Poly							
		NO. OF CONTAINER(S)	1	1	1	1	1							
		VOLUME	120mL	250mL	500mL	120mL	500mL							
SPECIAL HANDLING AND/OR STORAGE		SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Nitrogen in Nitrate)	SEE ITEM (3) IN SPECIAL INSTRUCTIONS							
		<i>Lot #</i>	<i>024975</i>	<i>025098</i>	<i>029038</i>	<i>024975</i>	<i>637548</i>							

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME										
B1WN03	SOIL	8-6-08	1050	✓	✓	✓	✓	✓					
<i>3234</i>													

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	(1)TPH-DieselKerosene Range - WTPH-D {Total petroleum hydrocarbons - kerosene range} (2)ICP/MS - 200.8 (TAL) {Chromium, Manganese} ICP/MS - 200.8 (Add-on) {Arsenic} ICP Metals - 6010B (TAL) {Iron} (3)Isotopic Uranium {Uranium-233/234, Uranium-235, Uranium-238} Strontium-89,90 -- Total Sr; Technetium-99;	
<i>Larry ROSANÉ / Jerry Rosane</i>	<i>8-6-08/1245</i>	<i>JA Pina / J. Pina</i>	<i>8-6-08/1245</i>		
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		

ICED

36 of 37	LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
	FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME