

**FINAL REPORT FOR WATER SAMPLES RECEIVED IN
DECEMBER, 2013 - SAF No. X14-007**

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SDG: 222S20131328**

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Prepared for:

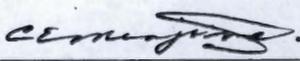


CH2M Hill Plateau Remediation Co.
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Prepared by:



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 12-31-2013
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222-S LABORATORY

FINAL REPORT FOR WATER SAMPLES RECEIVED IN DECEMBER, 2013 SAF No. X14-007

1.0 INTRODUCTION

This final report presents the results for nineteen water samples taken on December 2, 2013. The samples were analyzed in accordance with Sampling Authorization Form X14-007; *Aquifer Tubes, November 2013*, and ATL-MP-1011; *ATL Quality Assurance Project Plan for 222-S Laboratory (QAPP)*. The following attachments are included in this report.

Attachment 1	Data Summary Report
Attachment 2	Quality Control Sample
Attachment 3	Holding Time Report
Attachment 4	Receipt Paperwork

2.0 SAMPLE RECEIPT AND HANDLING

The samples were received on December 2, 2013, with adequate paperwork. The measured temperature at receipt was -0.2°C .

3.0 ANALYTICAL RESULTS SUMMARY

The Data Summary Report (Attachment 1) presents the final analytical results. The “Det Limit” column in Attachment 1 contains the method detection limit (MDL).

In Attachment 1, the column labeled “A#” indicates the aliquot class or the method used for sample preparation before analysis. For analysis without a preparation step, this column is left blank.

The “Qual Flags” column in Attachments 1 and 2 contain data qualifier flags that are defined as follows:

- “U” indicates that the reported result is less than the MDL
- “B” indicates that the reported result is greater than the MDL, but lower than the estimated quantitation limit (EQL).

Manual calculations using rounded results from the Data Summary Report or result calculation forms may differ slightly from the actual results derived from the raw data.

3.1 ANALYSES

3.1.1 Hexavalent Chromium by Spectrophotometric Determination

The hexavalent chromium analysis was performed on direct aliquots of the samples. Fifteen samples from this sample delivery group were analyzed for hexavalent chromium in analytical batch # 44636. The RPD (relative percent difference) exceeded the $\leq 20\%$ requirement; however,

since sample and duplicate results were both below the EQL, this criterion does not apply. All other requirements in the SAF and QAPP were met.

3.1.2 Anions by Ion Chromatography

The ion chromatography analysis for anions was performed on direct aliquots of the samples. Four samples from this sample delivery group were analyzed for Anions in analytical batch #44652. Sample B2T1K3 (S13M000149) was used as quality control sample (see Attachment 2). All requirements in the SAF and the QAPP were met.

4.0 PROCEDURES

Table 1 lists the analytical procedures used for analysis of the samples.

Table 1. Analytical Procedures.

Analysis	Preparation Method	Analysis Procedure
Hexavalent Chromium Analysis by Spectrophotometric Determination	N/A	LA-265-101 Rev. H-0 SW-846 7196A
Anions By Ion Chromatography	N/A	LA-533-166 Rev. B-1-A SW-846 9056A

5.0 REFERENCES

ATL-MP-1011, 2013, *ATL Quality Assurance Project Plan for 222-S Laboratory*, Rev. 12-B, Advanced Technologies and Laboratories International, Inc., Richland, Washington.

Sampling Authorization Form X14-007; *Aquifer Tubes*, November 2013, CH2M Hill, Plateau Remediation Company, Richland, Washington

SW-846, 1986, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods*, Third Edition, as amended, U.S. Environmental Protection Agency, Washington, D.C.

Attachment 1

DATA SUMMARY REPORT

DATA SUMMARY REPORT FOR SAMPLE DELIVERY GROUP 20131328

Customer Sample ID	Laboratory Sample ID	A	CAS #	Analyte	Result Unit	Standard % Recovery	Blank	Result	Duplicate	RPD	Matrix Spike % Recovery	Det Limit	Qual Flags
B2RWP8	S13M000160		16984-48-8	Fluoride	ug/mL	99.3	<3.00E-03	0.0540	n/a	n/a	n/a	3.00E-03	
B2RWP8	S13M000160		16887-00-6	Chloride	ug/mL	100	<9.00E-03	0.869	n/a	n/a	n/a	9.00E-03	
B2RWP8	S13M000160		14797-65-0	Nitrite	ug/mL	108	<0.0160	<0.0160	n/a	n/a	n/a	0.0160	U
B2RWP8	S13M000160		14808-79-8	Sulfate	ug/mL	99.2	<0.0130	10.4	n/a	n/a	n/a	0.0130	
B2RWP8	S13M000160		14797-55-8	Nitrate	ug/mL	98.6	<9.00E-03	0.108	n/a	n/a	n/a	9.00E-03	B
B2RX06	S13M000159		16984-48-8	Fluoride	ug/mL	99.3	<3.00E-03	<0.0150	n/a	n/a	n/a	0.0150	U
B2RX06	S13M000159		16887-00-6	Chloride	ug/mL	100	<9.00E-03	4.96	n/a	n/a	n/a	0.0450	
B2RX06	S13M000159		14797-65-0	Nitrite	ug/mL	108	<0.0160	<0.0800	n/a	n/a	n/a	0.0800	U
B2RX06	S13M000159		14808-79-8	Sulfate	ug/mL	99.2	<0.0130	35.4	n/a	n/a	n/a	0.0650	
B2RX06	S13M000159		14797-55-8	Nitrate	ug/mL	98.6	<9.00E-03	<0.0450	n/a	n/a	n/a	0.0450	U
B2RXV1	S13M000158		16984-48-8	Fluoride	ug/mL	99.3	<3.00E-03	0.0670	n/a	n/a	n/a	3.00E-03	
B2RXV1	S13M000158		16887-00-6	Chloride	ug/mL	100	<9.00E-03	1.03	n/a	n/a	n/a	9.00E-03	
B2RXV1	S13M000158		14797-65-0	Nitrite	ug/mL	108	<0.0160	<0.0160	n/a	n/a	n/a	0.0160	U
B2RXV1	S13M000158		14808-79-8	Sulfate	ug/mL	99.2	<0.0130	10.0	n/a	n/a	n/a	0.0130	
B2RXV1	S13M000158		14797-55-8	Nitrate	ug/mL	98.6	<9.00E-03	1.08	n/a	n/a	n/a	9.00E-03	
B2T1C1	S13M000157		16984-48-8	Fluoride	ug/mL	99.3	<3.00E-03	<3.00E-03	n/a	n/a	n/a	3.00E-03	U
B2T1C1	S13M000157		16887-00-6	Chloride	ug/mL	100	<9.00E-03	<9.00E-03	n/a	n/a	n/a	9.00E-03	U
B2T1C1	S13M000157		14797-65-0	Nitrite	ug/mL	108	<0.0160	<0.0160	n/a	n/a	n/a	0.0160	U
B2T1C1	S13M000157		14808-79-8	Sulfate	ug/mL	99.2	<0.0130	<0.0130	n/a	n/a	n/a	0.0130	U
B2T1C1	S13M000157		14797-55-8	Nitrate	ug/mL	98.6	<9.00E-03	<9.00E-03	n/a	n/a	n/a	9.00E-03	U
B2RWP9	S13M000168		18540-29-9	Hexavalent Chromium	ug/mL	103	<9.00E-03	0.105	n/a	n/a	n/a	9.68E-03	
B2RX07	S13M000166		18540-29-9	Hexavalent Chromium	ug/mL	103	<9.00E-03	0.150	n/a	n/a	n/a	9.68E-03	
B2RX09	S13M000169		18540-29-9	Hexavalent Chromium	ug/mL	103	<9.00E-03	0.117	n/a	n/a	n/a	9.68E-03	
B2RX11	S13M000167		18540-29-9	Hexavalent Chromium	ug/mL	103	<9.00E-03	0.146	n/a	n/a	n/a	9.68E-03	
B2RX46	S13M000144		18540-29-9	Hexavalent Chromium	ug/mL	103	<9.00E-03	<9.68E-03	n/a	n/a	n/a	9.68E-03	U
B2RX56	S13M000145		18540-29-9	Hexavalent Chromium	ug/mL	103	<9.00E-03	0.0170	n/a	n/a	n/a	9.68E-03	B
B2RX58	S13M000146		18540-29-9	Hexavalent Chromium	ug/mL	103	<9.00E-03	0.0297	n/a	n/a	n/a	9.68E-03	B
B2RX74	S13M000147		18540-29-9	Hexavalent Chromium	ug/mL	103	<9.00E-03	<9.68E-03	n/a	n/a	n/a	9.68E-03	U
B2RXN2	S13M000161		18540-29-9	Hexavalent Chromium	ug/mL	103	<9.00E-03	0.0116	n/a	n/a	n/a	9.68E-03	B
B2RXV2	S13M000165		18540-29-9	Hexavalent Chromium	ug/mL	103	<9.00E-03	<9.68E-03	n/a	n/a	n/a	9.68E-03	U
B2RXV9	S13M000164		18540-29-9	Hexavalent Chromium	ug/mL	103	<9.00E-03	0.0440	n/a	n/a	n/a	9.68E-03	B
B2T0L4	S13M000163		18540-29-9	Hexavalent Chromium	ug/mL	103	<9.00E-03	<9.68E-03	n/a	n/a	n/a	9.68E-03	U
B2T1C2	S13M000162		18540-29-9	Hexavalent Chromium	ug/mL	103	<9.00E-03	<9.68E-03	n/a	n/a	n/a	9.68E-03	U
B2T1D4	S13M000142		18540-29-9	Hexavalent Chromium	ug/mL	103	<9.00E-03	0.0161	0.0364	77.3	102	9.68E-03	B
B2T1D5	S13M000143		18540-29-9	Hexavalent Chromium	ug/mL	103	<9.00E-03	<9.68E-03	n/a	n/a	n/a	9.68E-03	U

Attachment 2

QUALITY CONTROL SAMPLES

16-dec-2013 11:52:34

DSR.Jar v. 2.7.31

WSCF Diversion FY14

Data Summary Report

SDG Number	Customer Sample ID	Laboratory Sample Id	A	CAS #	Analyte	Result Unit	Standard % Recovery	Blank	Result	Duplicate	RPD	Matrix Spike % Recovery	Det Limit	Qual Flags
222S20131323	B2T1K3	S13M000149		16984-48-8	Fluoride	ug/mL	99.3	<3.00E-03	0.173	0.199	14.0	98.1	0.0150	
222S20131323	B2T1K3	S13M000149		16887-00-6	Chloride	ug/mL	100	<9.00E-03	6.47	7.36	12.9	104	0.0450	
222S20131323	B2T1K3	S13M000149		14797-65-0	Nitrite	ug/mL	108	<0.0160	<0.0800	<0.0800	n/a	105	0.0800	U
222S20131323	B2T1K3	S13M000149		14808-79-8	Sulfate	ug/mL	99.2	<0.0130	35.3	35.5	0.709	98.4	0.0650	
222S20131323	B2T1K3	S13M000149		14797-55-8	Nitrate	ug/mL	98.6	<9.00E-03	3.35	3.62	7.98	98.3	0.0450	

NA = Not Analyzed, ND = Not Detected

B - Estimated

U - < Det Limit

Attachment 3

HOLDING TIME REPORT

Ordered by Holding Time

All Hold Times - Status: Not Mailed

Holding Time	Sample Group	Sample	Matrix	Method	Prep Method	Sample Date	Received Date	Prep Date	Analysis Date	Missed Holding Time	Hold Time Days/Hr Remaining
12/03/13 07:30	20131328	S13M000143	LIQUID	CHROMIUM VI		12/02/13 07:30	12/02/13 14:26	N/A	12/02/13 21:50	N - A	10h
12/03/13 08:00	20131328	S13M000162	LIQUID	CHROMIUM VI		12/02/13 08:00	12/02/13 14:14	N/A	12/02/13 21:50	N - A	11h
12/03/13 08:15	20131328	S13M000163	LIQUID	CHROMIUM VI		12/02/13 08:15	12/02/13 14:14	N/A	12/02/13 21:50	N - A	11h
12/03/13 09:28	20131328	S13M000164	LIQUID	CHROMIUM VI		12/02/13 09:28	12/02/13 14:14	N/A	12/02/13 21:50	N - A	12h
12/03/13 09:49	20131328	S13M000165	LIQUID	CHROMIUM VI		12/02/13 09:49	12/02/13 14:14	N/A	12/02/13 21:50	N - A	12h
12/03/13 10:06	20131328	S13M000144	LIQUID	CHROMIUM VI		12/02/13 10:06	12/02/13 14:26	N/A	12/02/13 21:50	N - A	13h
12/03/13 10:13	20131328	S13M000167	LIQUID	CHROMIUM VI		12/02/13 10:13	12/02/13 14:14	N/A	12/02/13 21:50	N - A	13h
12/03/13 10:20	20131328	S13M000169	LIQUID	CHROMIUM VI		12/02/13 10:20	12/02/13 14:14	N/A	12/02/13 21:50	N - A	13h
12/03/13 10:28	20131328	S13M000166	LIQUID	CHROMIUM VI		12/02/13 10:28	12/02/13 14:14	N/A	12/02/13 21:50	N - A	13h
12/03/13 10:46	20131328	S13M000142	LIQUID	CHROMIUM VI		12/02/13 10:46	12/02/13 14:26	N/A	12/02/13 21:50	N - A	13h
12/03/13 10:46	20131328	S13M000145	LIQUID	CHROMIUM VI		12/02/13 10:46	12/02/13 14:26	N/A	12/02/13 21:50	N - A	13h
12/03/13 10:56	20131328	S13M000168	LIQUID	CHROMIUM VI		12/02/13 10:56	12/02/13 14:14	N/A	12/02/13 21:50	N - A	13h
12/03/13 11:05	20131328	S13M000146	LIQUID	CHROMIUM VI		12/02/13 11:05	12/02/13 14:26	N/A	12/02/13 21:50	N - A	14h
12/03/13 11:22	20131328	S13M000161	LIQUID	CHROMIUM VI		12/02/13 11:22	12/02/13 14:14	N/A	12/02/13 21:50	N - A	14h
12/03/13 11:29	20131328	S13M000147	LIQUID	CHROMIUM VI		12/02/13 11:29	12/02/13 14:26	N/A	12/02/13 21:50	N - A	14h
12/04/13 08:00	20131328	S13M000157	LIQUID	IC - ANIONS/SMALL ORG. ACIDS		12/02/13 08:00	12/02/13 14:14	N/A	12/03/13 18:20	N - A	14h
12/04/13 09:49	20131328	S13M000158	LIQUID	IC - ANIONS/SMALL ORG. ACIDS		12/02/13 09:49	12/02/13 14:14	N/A	12/03/13 18:53	N - A	15h
12/04/13 10:28	20131328	S13M000159	LIQUID	IC - ANIONS/SMALL ORG. ACIDS		12/02/13 10:28	12/02/13 14:14	N/A	12/03/13 19:26	N - A	15h
12/04/13 10:56	20131328	S13M000160	LIQUID	IC - ANIONS/SMALL ORG. ACIDS		12/02/13 10:56	12/02/13 14:14	N/A	12/03/13 20:00	N - A	14h

Attachment 4

RECEIPT PAPERWORK

222-S	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	ATS-LO-090-101 Rev <u>DG-0</u>
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Date Samples Received: 12-2-2013 Group #: 201301328
 Number of Samples: 13 19 mms 12/3/13
 Sample Custodian: Shirley L. White

Sample Custodian to Complete:

Action	Yes	No	N/A	Comments
RSA/COC provided?	L			
RSR provided?		L		
Verify GKI is complete		L		<input type="checkbox"/> In Project File
Received from an alpha facility?		L		<input type="checkbox"/> Contact PC for approval to release
Check that outer custody seal is intact, if present	L			
Record cooler temperature in centigrade, as appropriate	-02			<input type="checkbox"/> Check if no cooler and/or no ice
Samples are intact and in good condition	L			If No, provide comments below
Verify that COC or RSA is accurate and complete, containing the following information:				
• Client name and client sample number	L			
• Date and time of sampling	L			
• Sampling location or origin	L			
• Container type, size, and number	L			
• Preservatives (if used) are noted on the COC/RSA and sample bottle	L			
• Analysis request is clear	L			
• Signature of persons relinquishing and receiving samples	L			
• Date and/or time of sample custody exchange	L			
Verify that sample numbers on containers match the COC and/or RSA	L			
Samples stored properly (e.g., refrigeration)	L			

Notify the PC immediately if any problems are noted. Any "No" checked boxes require PC resolution. For WRPS samples, the initials block below is completed by the responsible WRPS PC.

Samples acceptable for release? yes PC/SC Initials SLW Date 12-2-13

If No, comment on communication and resolution:

Other Comments:

DECEMBER 31, 2013

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X14-007-358 Page 1 of 1
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Collector m. White	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. X14-007	Sampling Origin Hanford Site	Purchase Order/Charge Code 303064ES20
Project Title AQUIFER TUBES, NOVEMBER 2013	Logbook No. HNF-N-506 62149	Ice Chest No. N/A
Shipped To (Lab) Waste Sampling & Characterization	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A
Protocol SURV 222-5 KS 12/2/13	Priority: 31 Days PRIORITY	Offsite Property No. N/A

POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)	SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Site Wide Generator Knowledge Information Form applies. The CACN for analytical work at WSCF is 403899. FY13 and FY14 samples cannot be in the same SDG.
--	--

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2T1D4 ✓	N	W	12-2-13	1046	1x500-mL aG	7196_CR6: COMMON	24 Hours	Cool-4C

GRP# 201313228 mms 12/13/13
 SAM# S13M000142 ✓

Relinquished By m. White <small>Print Sign</small>	Date/Time 12-2-13 1400	Received By Gulton <small>Print Sign</small>	Date/Time 12-2-13 1400	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By Gulton <small>Print Sign</small>	Date/Time 12/2/13 1426	Received By Sharon L Uolder <small>Print Sign</small>	Date/Time 12-2-13 1426	
Relinquished By	Date/Time	Received By	Date/Time	
Relinquished By	Date/Time	Received By	Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By	Date/Time

DECEMBER 31, 2013

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X14-007-359
		Page 1 of 1

Collector M. White	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. X14-007	Sampling Origin Hanford Site	Purchase Order/Charge Code 303064ES20
Project Title AQUIFER TUBES, NOVEMBER 2013	Logbook No. HNF-N-506 62149	Ice Chest No. N/A
Shipped To (Lab) Waste Sampling & Characterization <i>222-5 KS 12/2/13</i>	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A
Protocol SURV	Priority: 31 Days PRIORITY	Offsite Property No. N/A

POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)	SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Site Wide Generator Knowledge Information Form applies. The CACN for analytical work at WSCF is 403899. FY13 and FY14 samples cannot be in the same SDG.
--	--

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2T1D5	N	W	12-2-13	0730	1x500-mL aG	7196_CR6: COMMON	24 Hours	Cool-4C

GRP# 2013 13228 mms 12/13/13
SAM# S13M000143 ✓

Relinquished By M. White <i>mg White</i>	Print	Sign	Date/Time 12-2-13 1400	Received By Sharon L. Holden <i>Sharon L. Holden</i>	Print	Sign	Date/Time 12/2/13 1400	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By Sharon L. Holden <i>Sharon L. Holden</i>			Date/Time 12/2/13 1426	Received By Sharon L. Holden <i>Sharon L. Holden</i>			Date/Time 12-2-13/1426 ✓	
Relinquished By			Date/Time	Received By			Date/Time	
Relinquished By			Date/Time	Received By			Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)			Disposed By			Date/Time	

DECEMBER 31, 2013

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

X14-007-202

Page 1 of 1

Collector	M. White	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	X14-007	Sampling Origin	Hanford Site	Purchase Order/Charge Code	303064ES20
Project Title	AQUIFER TUBES, NOVEMBER 2013	Logbook No.	HNF-N-506 62/49	Ice Chest No.	N/A
Shipped To (Lab)	Waste Sampling & Characterization	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	SURV 222-5 KS 12/2/13	Priority:	31 Days PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

SPECIAL INSTRUCTIONS

Site Wide Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 403899.
FY13 and FY14 samples cannot be in the same SDG.

Hold Time

Total Activity Exemption: Yes No

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2RX46	N	W	12-2-13	1006	1x500-mL aG	7196_CR6: COMMON	24 Hours	Cool-4C

GRP # 201313228 mms 12/2/13
SAM # 513M000144 ✓

Relinquished By	M. White	Print	[Signature]	Sign	12-2-13 1400	Date/Time	Received By	Fulton	Print	[Signature]	Sign	12-2-13 1400	Date/Time	<p>Matrix *</p> <p>S = Soil DS = Drum Solids</p> <p>SE = Sediment DL = Drum Liquids</p> <p>SO = Solid T = Tissue</p> <p>SL = Sludge WI = Wipe</p> <p>W = Water L = Liquid</p> <p>O = Oil V = Vegetation</p> <p>A = Air X = Other</p>
Relinquished By	Fulton	Print	[Signature]	Sign	12/2/13 1426	Date/Time	Received By	Sharon Udden	Print	[Signature]	Sign	12-2-13 1426	Date/Time	
Relinquished By		Print		Sign		Date/Time	Received By		Print		Sign		Date/Time	
Relinquished By		Print		Sign		Date/Time	Received By		Print		Sign		Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)						Disposed By			Date/Time				

DECEMBER 31, 2013

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

X14-007-207

Page 1 of 1

Collector	M. White	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	X14-007	Sampling Origin	Hanford Site	Purchase Order/Charge Code	303064ES20
Project Title	AQUIFER TUBES, NOVEMBER 2013	Logbook No.	HNF-N-506 62149	Ice Chest No.	N/A
Shipped To (Lab)	Waste Sampling & Characterization	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	SURV 222-S KS 12/2/13	Priority:	31 Days PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
 *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No
 Site Wide Generator Knowledge Information Form applies.
 The CACN for analytical work at WSCF is 403899.
 FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2RX56	N	W	12-2-13	1046	1x500-mL aG	7196_CR6: COMMON	24 Hours	Cool-4C

CRP # 20131328 4 mms 12/15/13
 SAM # 513M000145 ✓

Relinquished By	M. White	Print	Sign	Date/Time	12-2-13 1400	Received By	Butler	Print	Sign	Date/Time	12-2-13 1400	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By	Butler	Print	Sign	Date/Time	12/2/13 1426	Received By	Sharon Udden	Print	Sign	Date/Time	12-2-13 1426	
Relinquished By		Print	Sign	Date/Time		Received By		Print	Sign	Date/Time		
Relinquished By		Print	Sign	Date/Time		Received By		Print	Sign	Date/Time		
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)						Disposed By			Date/Time		

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CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

X14-007-208

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Collector <i>M. White</i>	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. X14-007	Sampling Origin Hanford Site	Purchase Order/Charge Code 303064ES20
Project Title AQUIFER TUBES, NOVEMBER 2013	Logbook No. HNF-N-506 <i>62/49</i>	Ice Chest No. N/A
Shipped To (Lab) Waste Sampling & Characterization	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A
Protocol SURV <i>222-5 25 12/2/13</i>	Priority: 31 Days PRIORITY	Offsite Property No. N/A

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

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No
 Site Wide Generator Knowledge Information Form applies.
 The CACN for analytical work at WSCF is 403899.
 FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2RX58	N	W	12-2-13	1105	1x500-mL aG	7196_CR6: COMMON	24 Hours	Cool-4C

GRP# 201313228 mms 12/13/13
SAM # 513M000146 ✓

Relinquished By <i>M. White</i> <i>mwhite</i> <i>12-2-13 1400</i>	Received By <i>Sharon L. Holder</i> <i>Sharon L. Holder</i> <i>12-2-13 1400</i>	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other	
Relinquished By <i>Sharon L. Holder</i> <i>Sharon L. Holder</i> <i>12/2/13 1426</i>	Received By <i>Sharon L. Holder</i> <i>Sharon L. Holder</i> <i>12-2-13 1426 ✓</i>		
Relinquished By	Received By		
Relinquished By	Received By		
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

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CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

X14-007-216

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Collector <i>m. white</i>		Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. X14-007	Sampling Origin Hanford Site	Purchase Order/Charge Code 303064ES20	
Project Title AQUIFER TUBES, NOVEMBER 2013	Logbook No. HNF-N-506 <i>62/49</i>	Ice Chest No. N/A	
Shipped To (Lab) Waste Sampling & Characterization	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A	
Protocol SURV <i>222-S KS 12/2/13</i>	Priority: 31 Days PRIORITY	Offsite Property No. N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS
 *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No
 Site Wide Generator Knowledge Information Form applies.
 The CACN for analytical work at WSCF is 403899.
 FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2RX74	N	W	12/2/13	1129 ✓	1x500-mL aG	7196_CR6: COMMON	24 Hours	Cool-4C

*GRP# 201313228 mms 12/3/13
 SAM# 513M000147 ✓*

Relinquished By <i>m. white</i> <i>m white</i> <i>12/2/13 1400</i>	Received By <i>C. Sutton</i> <i>CS</i> <i>12/2/13 1405</i>	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other	
Relinquished By <i>C. Sutton</i> <i>12/2/13 1420</i>	Received By <i>Sharon Holden</i> <i>12-2-13 1426</i>		
Relinquished By	Received By		
Relinquished By	Received By		
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

CH2MHill Plateau Remediation Company

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CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #
X14-007-346

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Collector <i>J. Aguilar</i>	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. X14-007	Sampling Origin Hanford Site	Purchase Order/Charge Code 303064ES20
Project Title AQUIFER TUBES, NOVEMBER 2013	Logbook No. HNF-N-506 <u>59 / 29</u>	Ice Chest No. N/A
Shipped To (Lab) <u>Waste Sampling & Characterization</u>	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A
Protocol SURV <i>222-S KS 12/2/13</i>	Priority: 31 Days PRIORITY	Offsite Property No. N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No
Site Wide Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 403899.
FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2T1C1 ✓	N	W	12-2-13	0800 ✓	1x500-mL P	300.0_ANIONS_IC: COMMON	48 Hours	Cool~4C

GRP # 20131328⁸ CEM 12/3/13
SAM # 513M000157 ✓

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
<i>J. Aguilar</i>			12-2-13 1414	<i>Sharon Holden</i>			12-2-13 1414 ✓	S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By			Date/Time	Received By			Date/Time	
Relinquished By			Date/Time	Received By			Date/Time	
Relinquished By			Date/Time	Received By			Date/Time	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time
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CH2MHill Plateau Remediation Company

DECEMBER 31, 2013
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #
X14-007-310

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Collector <i>J. Aguilar</i>	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. X14-007	Sampling Origin Hanford Site	Purchase Order/Charge Code 303064ES20
Project Title AQUIFER TUBES, NOVEMBER 2013	Logbook No. HNF-N-506 <u>59/29</u>	Ice Chest No. N/A
Shipped To (Lab) <u>Waste Sampling & Characterization</u>	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A
Protocol SURV <i>222-S</i> <i>Ks 12/2/13</i>	Priority: 31 Days PRIORITY	Offsite Property No. N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No
Site Wide Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 403899.
FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2RXV1 ✓	N	W	12-2-13	0949 ✓	1x500-mL P	300.0_ANIONS_IC: COMMON	48 Hours	Cool-4C

GRP# 20131327⁸ CEM 12/3/13
SAM# 513M000158 ✓

Relinquished By <i>J. Aguilar</i> <i>Print</i> <i>Sign</i> <i>12-2-13 1414</i>	Received By <i>Sharon L. Holden</i> <i>Print</i> <i>Sign</i> <i>12-2-13 1414</i> ✓	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other	
Relinquished By	Received By		
Relinquished By	Received By		
Relinquished By	Received By		
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

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CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

X14-007-179

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Collector J. Aguilar	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. X14-007	Sampling Origin Hanford Site	Purchase Order/Charge Code 303064ES20
Project Title AQUIFER TUBES, NOVEMBER 2013	Logbook No. HNF-N-506 59/29	Ice Chest No. N/A
Shipped To (Lab) Waste Sampling & Characterization	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A
Protocol SURV 222-S <i>KS 12/2/13</i>	Priority: 31 Days PRIORITY	Offsite Property No. N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
 *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No
 Site Wide Generator Knowledge Information Form applies.
 The CACN for analytical work at WSCF is 403899.
 FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2RX06 ✓	N	W	12-2-13	1028 ✓	1x500-mL P	300.0_ANIONS_IC: COMMON	48 Hours	Cool-4C

GRP # 20131328⁸ CEM 12/3/13
SAM # S13M000159 ✓

Relinquished By J. Aguilar (Print/Sign)	Date/Time 12-2-13 1414	Received By Sharon Holder (Print/Sign)	Date/Time 12-2-13 1414 ✓	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By	Date/Time	Received By	Date/Time	
Relinquished By	Date/Time	Received By	Date/Time	
Relinquished By	Date/Time	Received By	Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By	Date/Time

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CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X14-007-138
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Collector J. Aguilar	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. X14-007	Sampling Origin Hanford Site	Purchase Order/Charge Code 303064ES20
Project Title AQUIFER TUBES, NOVEMBER 2013	Logbook No. HNF-N-506 59 / 29	Ice Chest No. N/A
Shipped To (Lab) Waste Sampling & Characterization	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A
Protocol SURV <i>222-5 KS 12/23</i>	Priority: 31 Days PRIORITY	Offsite Property No. N/A

POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)	SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Site Wide Generator Knowledge Information Form applies. The CACN for analytical work at WSCF is 403899. FY13 and FY14 samples cannot be in the same SDG.
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Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2RWP8 ✓	N	W	12-2-13	1056 ✓	1x500-mL P	300.0_ANIONS_IC: COMMON	48 Hours	Cool~4C

GRP# 20131328 XCEM 12/3/13
Samp# S13M000160 ✓

Relinquished By J. Aguilar	Print	Sign	Date/Time	Received By Sharon Holde, M. Holde	Print	Sign	Date/Time		
			12-2-13 1414				12-2-13 1414	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other	
Relinquished By	Date/Time	Received By	Date/Time						
Relinquished By	Date/Time	Received By	Date/Time						
Relinquished By	Date/Time	Received By	Date/Time						

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time
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DECEMBER 31, 2013

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

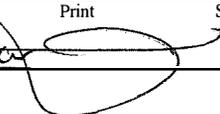
X14-007-288

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Collector <i>J. Aguilar</i>		Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. X14-007	Sampling Origin Hanford Site	Purchase Order/Charge Code 303064ES20	
Project Title AQUIFER TUBES, NOVEMBER 2013 <i>CA 12-2-13</i>	Logbook No. HNF-N-506 <i>59/29</i>	Ice Chest No. N/A	
Shipped To (Lab) <u>Waste Sampling & Characterization</u>	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A	
Protocol SURV <i>222-5</i>	Priority: 31 Days PRIORITY	Offsite Property No. N/A	
POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)		SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Site Wide Generator Knowledge Information Form applies. The CACN for analytical work at WSCF is 403899. FY13 and FY14 samples cannot be in the same SDG.	

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2RXN2	N	W	12-2-13	1122	1x500-mL aG	7196_CR6: COMMON	24 Hours	Cool-4C

6 RP # 20131328
Sam # 513 M00C161 /

Relinquished By <i>J. Aguilar</i> 	Print	Sign	Date/Time 12-2-13 1414	Received By <i>Sharon L. Woldan</i> 	Print	Sign	Date/Time 12-2-13 1414 ✓	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By			Date/Time	Received By			Date/Time	
Relinquished By			Date/Time	Received By			Date/Time	
Relinquished By			Date/Time	Received By			Date/Time	
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By		Date/Time

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CH2M Hill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

X14-007-347

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Collector <i>J. Aguilar</i>	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. X14-007	Sampling Origin Hanford Site	Purchase Order/Charge Code 303064ES20
Project Title AQUIFER TUBES, NOVEMBER 2013 <i>CO 12-2-13</i>	Logbook No. HNF-N-506 <i>59/29</i>	Ice Chest No. N/A
Shipped To (Lab) <u>Waste Sampling & Characterization</u>	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A
Protocol SURV <i>222-S</i>	Priority: 31 Days PRIORITY	Offsite Property No. N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

SPECIAL INSTRUCTIONS

Hold Time
Site Wide Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 403899.
FY13 and FY14 samples cannot be in the same SDG.

Total Activity Exemption: Yes No

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2T1C2 /	N	W	12-2-13	0800	1x500-mL aG	7196_CR6: COMMON	24 Hours	Cool~4C

GR # 20131328
SAM # 513 m000162 /

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
<i>J. Aguilar</i>			12-2-13 1414	<i>Sharon L. Holden</i>	<i>Sharon L. Holden</i>		12-2-13 1414 ✓	S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By			Date/Time	Received By			Date/Time	
Relinquished By			Date/Time	Received By			Date/Time	
Relinquished By			Date/Time	Received By			Date/Time	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time
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CH2MHill Plateau Remediation Company

DECEMBER 31, 2013
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.#
X14-007-342

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Collector <i>J. Aguilar</i>	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. X14-007	Sampling Origin Hanford Site	Purchase Order/Charge Code 303064ES20
Project Title AQUIFER TUBES, NOVEMBER 2013 <i>CA 12-2-13</i>	Logbook No. HNF-N-506 <i>59/29</i>	Ice Chest No. N/A
Shipped To (Lab) Waste Sampling & Characterization	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A
Protocol SURV <i>222-S</i>	Priority: 31 Days PRIORITY	Offsite Property No. N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No
Site Wide Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 403899.
FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2T0L4 ✓	N	W	12-2-13	0815 ✓	1x500-mL aG	7196_CR6: COMMON	24 Hours	Cool-4C

GRP # 20131328
SM # 513M000163 ✓

Relinquished By <i>J. Aguilar</i> Print Sign Date/Time <i>12-2-13 1414</i>	Received By <i>Sharon L. Holden</i> Print Sign Date/Time <i>12-2-13 1414</i> ✓	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other	
Relinquished By Date/Time	Received By Date/Time		
Relinquished By Date/Time	Received By Date/Time		
Relinquished By Date/Time	Received By Date/Time		
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

DECEMBER 31, 2013
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

CH2M Hill Plateau Remediation Company C.O.C.# **X14-007-314**

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Collector J. Aguilar	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. X14-007	Sampling Origin Hanford Site	Purchase Order/Charge Code 303064ES20
Project Title AQUIFER TUBES, NOVEMBER 2013 <small>60-12-273</small>	Logbook No. HNF-N-506 59/29	Ice Chest No. N/A
Shipped To (Lab) Waste Sampling & Characterization	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A
Protocol SURV 222-3	Priority: 31 Days PRIORITY	Offsite Property No. N/A

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

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No
Site Wide Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 403899.
FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2RXV9	✓	N	W	12-2-13	0928	1x500-mL aG 7196_CR6: COMMON	24 Hours	Cool-4C

GRP# 20131328
SAM# 513 M000164

Relinquished By J. Aguilar	Print	Sign	Date/Time 12-2-13 1414	Received By Sharon L. Holkan	Print	Sign	Date/Time 12-2-13 1414	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By			Date/Time	Received By SAH 12-2-13			Date/Time	
Relinquished By			Date/Time	Received By			Date/Time	
Relinquished By			Date/Time	Received By			Date/Time	
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By		Date Time

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CH2MHill Plateau Remediation Company
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
 C.O.C. # X14-007-311
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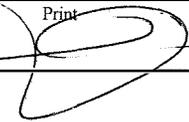
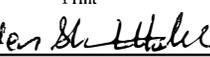
Collector J. Aguilar	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. X14-007	Sampling Origin Hanford Site	Purchase Order/Charge Code 303064ES20
Project Title AQUIFER TUBES, NOVEMBER 2013 <i>CA 12-2-13</i>	Logbook No. HNF-N-506 59/29	Ice Chest No. N/A
Shipped To (Lab) Waste Sampling & Characterization	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A
Protocol SURV 222 S	Priority: 31 Days PRIORITY	Offsite Property No. N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
 *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No
 Site Wide Generator Knowledge Information Form applies.
 The CACN for analytical work at WSCF is 403899.
 FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2RXV2	N	W	12-2-13	0949	1x500-mL aG	7196_CR6: COMMON	24 Hours	Cool-4C

CRP# 20131328 ✓
SAF# 513M000165 ✓

Relinquished By J. Aguilar  12-2-13 1414	Received By Sharon Haden  12-2-13 1414 ✓	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other	
Relinquished By	Received By		
Relinquished By	Received By		
Relinquished By	Received By		
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

CH2M Hill Plateau Remediation Company

DECEMBER 31, 2013
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.#
X14-007-180

Page 1 of 1

Collector <i>J. Aguilar</i>	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. X14-007	Sampling Origin Hanford Site	Purchase Order/Charge Code 303064ES20
Project Title AQUIFER TUBES, NOVEMBER 2013 <i>CA 12-2-13</i>	Logbook No. HNF-N-506 <i>59/29</i>	Ice Chest No. N/A
Shipped To (Lab) <u>Waste Sampling & Characterization</u>	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A
Protocol SURV <i>222-S</i>	Priority: 31 Days PRIORITY	Offsite Property No. N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

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

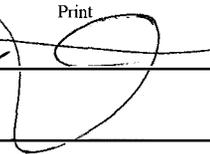
SPECIAL INSTRUCTIONS

Hold Time
Site Wide Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 403899.
FY13 and FY14 samples cannot be in the same SDG.

Total Activity Exemption: Yes No

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2RX07	✓	N	W	12-2-13	1028	✓ 1x500-mL aG 7196_CR6: COMMON	24 Hours	Cool-4C

Gept 2013 1328 ✓
SM# 513M000166 ✓

Relinquished By <i>J. Aguilar</i> 	Print	Sign	Date/Time 12-2-13 1414	Received By <i>Sharon Holden</i> 	Print	Sign	Date/Time 12-2-13 1414 ✓
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time
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- Matrix ***
- S = Soil
 - SE = Sediment
 - SO = Solid
 - SL = Sludge
 - W = Water
 - O = Oil
 - A = Air
 - DS = Drum Solids
 - DL = Drum Liquids
 - T = Tissue
 - WI = Wipe
 - L = Liquid
 - V = Vegetation
 - X = Other

DECEMBER 31, 2013

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

X14-007-182

Page 1 of 1

Collector <i>J. Aguilar</i>		Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. X14-007		Sampling Origin Hanford Site	Purchase Order/Charge Code 303064ES20
Project Title AQUIFER TUBES, NOVEMBER 2013 <i>CA 12-2-13</i>		Logbook No. HNF-N-506 <i>59129</i>	Ice Chest No. N/A
Shipped To (Lab) <u>Waste Sampling & Characterization</u>		Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A
Protocol SURV <i>222-S</i>		Priority: 31 Days PRIORITY	Offsite Property No. N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
 *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No
 Site Wide Generator Knowledge Information Form applies.
 The CACN for analytical work at WSCF is 403899.
 FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2RX11	✓	N	W	12-2-13	1013 ✓	1x500-mL aG 7196_CR6: COMMON	24 Hours	Cool-4C

GRP # 20131328 ✓
SM # 513m000167 ✓

Relinquished By <i>J. Aguilar</i>	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time <i>12-2-13 1414</i>	Received By <i>Sharon Holden</i>	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time <i>12-2-13 1414</i>	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By	Date/Time	Received By	Date/Time					
Relinquished By	Date/Time	Received By	Date/Time					
Relinquished By	Date/Time	Received By	Date/Time					
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)			Disposed By			Date/Time

DECEMBER 31, 2013

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

X14-007-139

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Collector J. Aguilar		Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. X14-007	Sampling Origin Hanford Site	Purchase Order/Charge Code 303064ES20	
Project Title AQUIFER TUBES, NOVEMBER 2013 <i>LA 12-2-13</i>	Logbook No. HNF-N-506 <i>59 / 29</i>	Ice Chest No. N/A	
Shipped To (Lab) Waste Sampling & Characterization^a	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A	
Protocol SURV <i>222-S</i>	Priority: 31 Days PRIORITY	Offsite Property No. N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS

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

SPECIAL INSTRUCTIONS

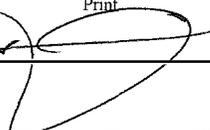
Hold Time

Total Activity Exemption: Yes No

Site Wide Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 403899.
FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2RWP9 ✓	N	W	12-2-13	1056 ✓	1x500-mL aG	7196_CR6: COMMON	24 Hours	Cool-4C

GRP# 20131328 ✓
SM# 513M000168 ✓

Relinquished By <i>J. Aguilar</i>  <i>12-2-13 1414</i>	Received By <i>Sharon L. Holden</i> <i>12-2-13 1414</i>	Matrix *
Relinquished By	Received By	S = Soil DS = Drum Solids
Relinquished By	Received By	SE = Sediment DL = Drum Liquids
Relinquished By	Received By	SO = Solid T = Tissue
Relinquished By	Received By	SL = Sludge WI = Wipe
Relinquished By	Received By	W = Water L = Liquid
Relinquished By	Received By	O = Oil V = Vegetation
Relinquished By	Received By	A = Air X = Other
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By
		Date/Time

DECEMBER 31, 2013

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

X14-007-181

Page 1 of 1

Collector J. Aguilar	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. X14-007	Sampling Origin Hanford Site	Purchase Order/Charge Code 303064ES20
Project Title AQUIFER TUBES, NOVEMBER 2013 <i>CD 12-2-13</i>	Logbook No. HNF-N-506 59/29	Ice Chest No. N/A
Shipped To (Lab) Waste Sampling & Characterization	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A
Protocol SURV <i>222-5</i>	Priority: 31 Days PRIORITY	Offsite Property No. N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

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

SPECIAL INSTRUCTIONS

Hold Time

Total Activity Exemption: Yes No

Site Wide Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 403899.
FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2RX09	✓	N	W	12-2-13	1020	1x500-mL aG 7196_CR6: COMMON	24 Hours	Cool~4C

*GCPTA 20131328
Sam # 513M000169 ✓*

Relinquished By J. Aguilar <i>[Signature]</i>	Date/Time 12-2-13 1414	Received By Sharon L Holden <i>[Signature]</i>	Date/Time 12-2-13 1414	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By	Date/Time	Received By	Date/Time	
Relinquished By	Date/Time	Received By	Date/Time	
Relinquished By	Date/Time	Received By	Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By	Date/Time

GENERATOR KNOWLEDGE INFORMATION

1. Chain of Custody Number NA CACN/COA NA Customer Identification Number NA

2. List generator knowledge or description of process that produced sample. Or list description of sample source:
Sitewide S&GRP Characterization and Monitoring Sampling and Analysis

MSDS Available? No Yes Hanford MSDS No. _____

3. List all waste codes and constituents associated with the waste or media that was sampled, regardless of CERCLA status.

a) Does the sample contain any of the following listed waste codes?

By checking "unknown" the customer understands that no knowledge is available following a careful search.

List Federal Waste Code(s):

List Constituent(s):

P Codes: _____ Yes No Unknown
U Codes: _____ Yes No Unknown
K Codes: _____ Yes No Unknown
F Codes: F001 - F005; F039 Yes No Unknown

b) List applicable characteristic waste codes, flash point, pH, constituents, and concentrations as appropriate.

D001: FP <100°F FP ≥100 <140°F DOT Oxidizer Yes No Unknown
D002: pH ≤2 pH ≥12.5 Solid Corrosive (WSC2) Yes No Unknown
D003: Cyanide Sulfide Water Reactive Other _____ Yes No Unknown
D004-D043 (Identify applicable waste codes and concentrations): _____ (i.e., peroxide former, explosive, air reactive) Yes No Unknown

N/A

c) If characteristic, list any known underlying hazardous constituents (UHCs) reasonably expected to be present, and their concentrations that may be present above the LDR treatment standard (40 CFR 268.48):

N/A

d) List any known Land Disposal Restrictions (LDR) subcategories, if applicable (40 CFR 268.40):

N/A

e) List any applicable Washington State dangerous waste codes: (not required if federally regulated)

(*State mixture rule for ignitability)

WT01: Yes No Unknown WP01: Yes No Unknown
WT02: Yes No Unknown WP02: Yes No Unknown
W001: Yes No Unknown WP03: Yes No Unknown
List constituents and concentrations: _____ F003:* Yes No Unknown

N/A

4. Is this material TSCA regulated for PCBs? Yes No Unknown Analysis Requested

List concentration if applicable: _____

If yes, what is the source of the PCBs? (see TSCA PCB Hanford Site User Guide, DOE/RL-2001-50)

PCB Liquid Waste PCB Bulk Product Waste PCB Transformer ≥500 ppm Unknown
 PCB Remediation Waste PCB R&D Waste PCB contaminated electrical equipment (capacitor/ballast) <500 ppm
 PCB Spill Material PCB Item Other PCB Waste (list) _____

5. Is this material TRU? Yes No Unknown

6. ACCURACY OF INFORMATION

Based on my inquiry of those individuals immediately responsible for obtaining this information, that to the best of my knowledge, the information entered in this document is true, accurate, and complete.

Print & Sign _____

SAJ / S J TRENT

Date

12/9/07