

**FINAL REPORT FOR WATER SAMPLES RECEIVED IN
DECEMBER, 2013 - SAF No. X14-002**

**Document No.: 20131337 Rev. 0
SDG: 222S20131337**

Carolina E. Menjivar
Advanced Technologies and Laboratories International, Inc.

Date Published
December 31, 2013

Prepared for:

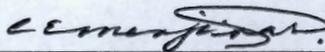


CH2M Hill Plateau Remediation Co.
P.O. Box 850
Richland, WA 99352

Prepared by:



ATL, Inc.
P.O. Box 250
Richland, WA 99352-0250
509-372-2525

 12-31-2013
C.E. Menjivar, ATL Project Coordinator

222-S LABORATORY

FINAL REPORT FOR WATER SAMPLES RECEIVED IN DECEMBER, 2013 SAF No. X14-002

1.0 INTRODUCTION

This final report presents the result for one water sample taken on December 3, 2013. The sample was analyzed in accordance with Sampling Authorization Form X14-002; *IBC5-ADD, October 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 sample was received on December 3, 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

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 Anions by Ion Chromatography

The ion chromatography analysis for anions was performed on direct aliquots of the sample. Sample B2RX38 (S13M000177) 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 procedure used for analysis of this sample.

Table 1. Analytical Procedures.

Analysis	Preparation Method	Analysis Procedure
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 X14-002; *IBC5-ADD, October 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

DTA SUMMARY REPORT FOR SAMPLE DELIVERY GROUP 20131337

Customer Sample ID	Laboratory Sample ID	A	CAS #	Analyte	Result Unit	Standard % Recovery	Blank	Result	Duplicate	RPD	Matrix Spike % Recovery	Det Limit	Qual Flags
B2RH93	S13M000170		16984-48-8	Fluoride	ug/mL	93.9	<3.00E-03	<0.0150	n/a	n/a	n/a	0.0150	U
B2RH93	S13M000170		16887-00-6	Chloride	ug/mL	96.3	<9.00E-03	5.09	n/a	n/a	n/a	0.0450	
B2RH93	S13M000170		14797-65-0	Nitrite	ug/mL	102	<0.0160	<0.0800	n/a	n/a	n/a	0.0800	U
B2RH93	S13M000170		14808-79-8	Sulfate	ug/mL	99.1	0.0660	26.2	n/a	n/a	n/a	0.0650	
B2RH93	S13M000170		14797-55-8	Nitrate	ug/mL	98.6	<9.00E-03	5.22	n/a	n/a	n/a	0.0450	

Attachment 2

QUALITY CONTROL SAMPLE

20131337 Rev. 0
DECEMBER 31, 2013

17-dec-2013 14:33:30

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
222S20131339	B2RX38	S13M000177		16984-48-8	Fluoride	ug/mL	93.9	<3.00E-03	0.110	0.109	0.913	95.2	3.00E-03	
222S20131339	B2RX38	S13M000177		16887-00-6	Chloride	ug/mL	96.3	<9.00E-03	1.92	1.90	0.732	96.1	9.00E-03	
222S20131339	B2RX38	S13M000177		14797-65-0	Nitrite	ug/mL	102	<0.0160	<0.0160	<0.0160	n/a	90.0	0.0160	U
222S20131339	B2RX38	S13M000177		14808-79-8	Sulfate	ug/mL	99.1	0.0660	17.9	17.8	0.645	92.6	0.0130	
222S20131339	B2RX38	S13M000177		14797-55-8	Nitrate	ug/mL	98.6	<9.00E-03	2.62	2.63	0.458	90.7	9.00E-03	

NA = Not Analyzed, ND = Not Detected

U - < Det Limit

B - Estimated

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
12/05/13 11:32	20131337	S13M000170	LIQUID	IC - ANIONS/SMALL ORG. ACIDS		12/03/13 11:32	12/03/13 14:30	N/A	12/04/13 17:49	N - A	18h

Attachment 4

RECEIPT PAPERWORK

222-S	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	ATS-LO-090-101 Rev <u>06.0</u>
--------------	---	--------------------------------

Date Samples Received: 12-3-2013 Group #: 20131337
 Number of Samples: 271 CEM 12/4/13
 Sample Custodian: [Signature]

Sample Custodian to Complete:

Action	Yes	No	N/A	Comments
RSA/COC provided?	✓			
RSR provided?		✓		
Verify GKI is complete		✓		<input checked="" type="checkbox"/> In Project File
Received from an alpha facility?		✓		<input type="checkbox"/> Contact PC for approval to release
Check that outer custody seal is intact, if present	✓			
Record cooler temperature in centigrade, as appropriate			0.0/-0.2	<input type="checkbox"/> Check if no cooler and/or no ice
Samples are intact and in good condition	✓			If No, provide comments below
Verify that COC or RSA is accurate and complete, containing the following information:				
• Client name and client sample number	✓			
• Date and time of sampling	✓			
• Sampling location or origin	✓			
• Container type, size, and number	✓			
• Preservatives (if used) are noted on the COC/RSA and sample bottle		✓		
• Analysis request is clear	✓			
• Signature of persons relinquishing and receiving samples	✓			
• Date and/or time of sample custody exchange	✓			
Verify that sample numbers on containers match the COC and/or RSA	✓			
Samples stored properly (e.g., refrigeration)	✓			

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 [Signature] Date 12-3-2013
 If No, comment on communication and resolution:

Other Comments:

DECEMBER 31, 2013

CH2M Hill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

X14-002-174

Page 1 of 1

Collector <i>J. Aguilar</i>	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. X14-002	Sampling Origin Hanford Site	Purchase Order/Charge Code 303269ES20
Project Title IBC5-ADD, OCTOBER 2013	Logbook No. HNF-N-506 <u>59/30</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 CERCLA ^{222-S} _{KS 12/3/13}	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

100-Area Generator Knowledge Information Form applies. The CACN for well analytical work at WSCF is unknown. It will be provided at a later date.

Hold Time

Total Activity Exemption: Yes No

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2RH93	/	N	W	12-3-13	1132'	1x60-mL P 300.0_ANIONS_IC: COMMON	48 Hours	Cool-4C

Group # 20131337
Sample # 513M000170

TRVL 14- 018

Relinquished By <i>J. Aguilar</i>	Print	Sign	Date/Time 12-3-13 1:1430	Received By <i>Shaven L Wadden</i>	Print	Sign	Date/Time 12-3-13 1430 ✓	<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			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:
100 Area 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: _____	_____	<input type="radio"/> Yes	<input checked="" type="radio"/> No	<input type="radio"/> Unknown
U Codes: _____	_____	<input type="radio"/> Yes	<input checked="" type="radio"/> No	<input type="radio"/> Unknown
K Codes: _____	_____	<input type="radio"/> Yes	<input checked="" type="radio"/> No	<input type="radio"/> Unknown
F Codes: _____	_____	<input type="radio"/> Yes	<input checked="" type="radio"/> No	<input type="radio"/> Unknown

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

D001: <input type="checkbox"/> FP <100°F	<input type="checkbox"/> FP ≥100 <140°F	<input type="checkbox"/> DOT Oxidizer	<input type="radio"/> Yes	<input checked="" type="radio"/> No	<input type="radio"/> Unknown		
D002: <input type="checkbox"/> pH ≤2	<input type="checkbox"/> pH ≥12.5	<input type="checkbox"/> Solid Corrosive (WSC2)	<input type="radio"/> Yes	<input checked="" type="radio"/> No	<input type="radio"/> Unknown		
D003: <input type="checkbox"/> Cyanide	<input type="checkbox"/> Sulfide	<input type="checkbox"/> Water Reactive	<input type="checkbox"/> Other _____	<input type="radio"/> Yes	<input checked="" type="radio"/> No	<input type="radio"/> Unknown	
D004-D043 (Identify applicable waste codes and concentrations):			(i.e., peroxide former, explosive, air reactive)		<input type="radio"/> Yes	<input checked="" type="radio"/> No	<input type="radio"/> 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: <input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown	WP01: <input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown
WT02: <input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown	WP02: <input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown
W001: <input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown	WP03: <input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown
List constituents and concentrations:	F003*: <input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> 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)

<input type="checkbox"/> PCB Liquid Waste	<input type="checkbox"/> PCB Bulk Product Waste	<input type="checkbox"/> PCB Transformer ≥500 ppm	<input type="checkbox"/> Unknown
<input type="checkbox"/> PCB Remediation Waste	<input type="checkbox"/> PCB R&D Waste	<input type="checkbox"/> PCB contaminated electrical equipment (capacitor/ballast) <500 ppm	
<input type="checkbox"/> PCB Spill Material	<input type="checkbox"/> PCB Item	<input type="checkbox"/> 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 SJ TRENT / [Signature] Date 12/3/07