

**FINAL REPORT FOR THE SAMPLES RECEIVED IN
MARCH, 2010, FOR SAF F09-070**

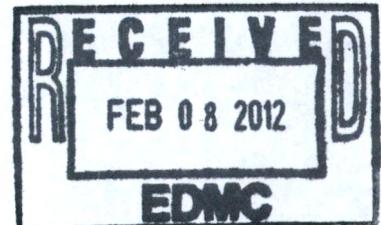
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222-S LABORATORY**FINAL REPORT FOR THE SAMPLES RECEIVED IN MARCH, 2010
FOR SAF No F09-070**

1.0 INTRODUCTION

This final report presents the results for one ground water sample taken on March 10, 2010. The sample was analyzed in accordance with Sampling Authorization Form F09-070; *ARRA 100-HR-3 Remedial process Optimization Wells – QC* (SAF) 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 | Holding Time Report |
| Attachment 3 | Receipt Paperwork |

2.0 SAMPLE RECEIPT AND HANDLING

The sample was received on March 10, 2010, with adequate paperwork. The measured temperature of the outside of the sample container was 12 °C. This was reported to the client on the laboratory's sample receipt check list (see Attachment 3).

3.0 ANALYTICAL RESULTS SUMMARY

The Data Summary Report (Attachment 1) presents the final analytical results for those analytes requested in the SAF. 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 Attachment 1 contains data qualifier flags that are defined as follows:

- "U" indicates that the reported result is less than the calculated method detection limit.
- "B" indicates that the reported result is greater than the method detection limit (MDL) and less 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 Anions by Ion Chromatography

The ion chromatography analysis for anions was performed on direct aliquots of the sample. All requirements in the SAF and QAPP were met.

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

Table 1. Analytical Procedures.

Analysis	Preparation Method	Analysis Procedure
Anions by Ion Chromatography	NA	SW846-9056A

4.0 REFERENCES

ATL-MP-1011, 2009, *ATL Quality Assurance Project Plan for 222-S Laboratory*, Rev. 9, Applied Technologies and Laboratories International, Inc., Richland, Washington.

Sampling Authorization Form F09-070; *ARRA 100 HR-3 Remedial Process Optimization Wells - QC*, CH2M Hill, Plateau Remediation Company, Richland, Washington.

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Attachment 1

DATA SUMMARY REPORT

WSCF - Anions & HexCr
 Data Summary of All Results

Sample Group: 20100269

Customer Group or SDG Number: 222S20100269

Customer Sample ID: B23PW8

Customer Sample ID: B23PW8

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10M000160			16984-48-8	Fluoride	ug/mL	94.6	<6.16E-03	<6.16E-03	<6.16E-03	n/a	n/a	97.2	6.16E-03	n/a	U
S10M000160			16887-00-6	Chloride	ug/mL	99.6	<3.10E-03	0.0183	0.0196	0.0189	6.81	95.7	3.10E-03	n/a	B
S10M000160			14797-65-0	Nitrite	ug/mL	91.2	<0.0400	<0.0400	<0.0400	n/a	n/a	89.1	0.0400	n/a	U
S10M000160			24959-67-9	Bromide	ug/mL	93.3	<0.0237	<0.0237	<0.0237	n/a	n/a	83.6	0.0237	n/a	U
S10M000160			14797-55-8	Nitrate	ug/mL	91.9	<0.0162	<0.0162	<0.0162	n/a	n/a	105	0.0162	n/a	U
S10M000160			14265-44-2	Phosphate	ug/mL	95.1	<0.0381	<0.0381	<0.0381	n/a	n/a	91.3	0.0381	n/a	U
S10M000160			14808-79-8	Sulfate	ug/mL	91.7	<0.0219	<0.0219	<0.0219	n/a	n/a	89.7	0.0219	n/a	U

NA = Not Analyzed, ND = Not Detected

B - Estimated

U - < Det Limit

20100269

Attachment 2

HOLDING TIME REPORT

20100269

Hold Time Report

SDG No 222S20100269

Client Sample ID	Sample Group	Sample	Matrix	Method	Sample Date	Received Date	Analysis Date	Missed Holding Time
B23PW8	20100269	S10M000160	LIQUID	SW846-9056	03/10/10 08:45	03/10/10 09:15	03/12/10 04:34	N

20100269

Attachment 3

RECEIPT PAPERWORK

ATL	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	LO-090-101 Rev <u>D.D.1</u>
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Date Samples Received: 3/10/10 Group #: 20100270³⁸
 Number of Samples: 6 269, 277
 Sample Custodian: Cheryl Edwards 269 GPR
3-11-10

Sample Custodian to Complete:

Action	OK? (Y/N)	N/A	Comments
RSA/COC provided?	✓		
RSR provided?		✓	
Verify GKI is complete	✓		
Check that outer custody seal is intact, if present	✓		
Record cooler temperature in centigrade, as appropriate <u>12°C</u>	✓		<input type="checkbox"/> Check if no cooler and/or no ice
Samples are intact and in good condition	✓		If No, provide comments on back
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	✓		
• 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. <u>refrigeration</u>)	✓		

Notify the PM immediately if any problems are noted. (A "No" answer requires Project Manager resolution.)

PM to Complete:

Samples acceptable for release? yes PM Initials _____ Date 3/10/10

If No, comment on communication and resolution:
per QR

Other Comments:

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				F09-070-021	PAGE 1 OF 1
COLLECTOR <i>Chason</i>	COMPANY CONTACT DYEKMAN, DL	TELEPHONE NO. 373-2530	PROJECT COORDINATOR DYEKMAN, DL		PRICE CODE 7N	DATA TURNAROUND 45 Days / 45 Days	
SAMPLING LOCATION C7590 (199-D5-130); I-001EB	PROJECT DESIGNATION ARRA 100-HR-3 Remedial Process Optimization Wells - QC		SAF NO. F09-070	AIR QUALITY <input type="checkbox"/>			
ICE CHEST NO.	FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 302160ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE			
SHIPPED TO <i>Waste Sampling & Characterization 222-5</i>	OFFSITE PROPERTY NO. N/A	BILL OF LADING/AIR BILL NO. N/A					
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) <i>8°C</i>	PRESERVATION HI to pH <2 HNO3 to pH <2 Cool ~4C	NO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	None
		TYPE OF CONTAINER G/P	G/P	P	G/P	G/P	G/P
		NO. OF CONTAINER(S)	2	1	1	1	1
		VOLUME	1L	500ml	500ML	500ML	250ML
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	Technetium-99 (Technetium-99)	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	Gross Alpha (Gross alpha) Gross Beta (Gross beta) SEE ITEM (4) IN SPECIAL INSTRUCTIONS
SAMPLE NO. B23PW8	MATRIX* WATER	SAMPLE DATE 3/10/10	SAMPLE TIME 0845				
<i>Grp # 201800265 269</i>		<i>cm 417110</i>					
<i>Sample # SIOM000160</i>							
CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS			
RELINQUISHED BY/REMOVED FROM <i>Helmus / Lubal Helms</i>	DATE/TIME 3/10/10	RECEIVED BY/STORED IN <i>[Signature]</i>	DATE/TIME 3/10/10	** The CACN for all analytical work at WSCF laboratory is 401649ES20. ** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. (1)ICP Metals - 6010B (TAL) {Sodium, Iron, Potassium, Barium, Chromium, Cobalt, Copper, Zinc, Manganese, Nickel, Vanadium, Calcium, Magnesium, Silver} ICP Metals - 6010B (Add-On) {Strontium} ICP/MS - 200.8 (Add-on) {Beryllium} ICP/MS - 200.8 (TAL) {Antimony, Cadmium} (2)IC Anions - 300.0 {Chloride, Nitrogen in Nitrite, Fluoride, Nitrogen in Nitrate, Sulfate} (3)Gamma Spectroscopy {Europium-155, Cesium-137, Europium-154, Europium-152, Cobalt-60} (4)Strontium-89,90 -- Total Sr {Total beta radiostromium}			
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				
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME			
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME			
		<i>Original retained w/samples for WSCF</i>		<i>Dayes 3/10/10</i>			