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FINAL REPORT FOR SAMPLE RECEIVED IN DECEMBER, 2010, FROM 100-KR-GROUND WATER

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FINAL REPORT FOR THE SAMPLE RECEIVED IN DECEMBER, 2010, FROM 100-KR-4 GROUND WATER

1.0 INTRODUCTION

This final report presents the result for one ground water sample taken on December 10, 2010. The sample was analyzed in accordance with Sampling Authorization Form F10-208; *100-KR-4 Ground Water* (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 December 10, 2010, approximately one and one quarter hour after sampling, with adequate paperwork. The sample was not delivered to Door 13 in a cooler. The sample temperature was not measured. The sample was placed in to a refrigerator.

3.0 ANALYTICAL RESULTS SUMMARY

The Data Summary Report (Attachment 1) present the final analytical results for those analytes requested in the SAF. The "Det Limit" column in Attachment 1 contains the method detection limit (MDL) for non-radionuclide analyses.

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.

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 all samples. All requirements in the SAF and QAPP were met. Nitrate was detected below the quantitation level in two of the continuing calibration blanks. Since these nitrate concentrations in the blanks were less than 5% of the sample result, the data quality was not affected and reanalysis not required.

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	NA	SW-846 9056A

5.0 REFERENCES

ATL-MP-1011, 2010, *ATL Quality Assurance Project Plan for 222-S Laboratory*, Rev. 9-A, Applied Technologies and Laboratories International, Inc., Richland, Washington.

Sampling Authorization Form F10-208; 100 Area Remedial Investigation/Feasibility Analysis - 100-KR-4 Groundwater, 2010, CH2M Hill, Plateau Remediation Company, Richland, Washington

Attachment 1

DATA SUMMARY REPORT

WSCF GW Diversion FY11
Data Summary Report

Sample Group: 20101225

Customer Group or SDG Number: 222S20101225

Customer Sample ID: B27HK7A

Customer Sample ID: B27HK7A

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10M000619			16984-48-8	Fluoride	ug/mL	102	<1.61E-03	0.221	0.225	0.223	1.63	117	6.44E-03	n/a	
S10M000619			16887-00-6	Chloride	ug/mL	104	<9.98E-03	7.08	7.00	7.04	1.11	115	0.0399	n/a	
S10M000619			14797-65-0	Nitrite	ug/mL	102	<0.0192	<0.0768	<0.0768	n/a	n/a	116	0.0768	n/a	U
S10M000619			14808-79-8	Sulfate	ug/mL	107	<0.0187	31.4	31.3	31.4	0.191	117	0.0748	n/a	
S10M000619			24959-67-9	Bromide	ug/mL	108	<0.0580	<0.232	<0.232	n/a	n/a	123	0.232	n/a	U
S10M000619			14797-55-8	Nitrate	ug/mL	107	0.0328	16.8	16.8	16.8	0.0179	120	0.0832	n/a	
S10M000619			14265-44-2	Phosphate	ug/mL	107	<0.0167	<0.0668	<0.0668	n/a	n/a	121	0.0668	n/a	U

NA = Not Analyzed, ND = Not Detected

U - < Det Limit

Attachment 2

HOLDING TIME REPORT

Ordered by Holding Time

All Hold Times

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
12/12/10 08:18	20101225	S10M000619	LIQUID	IC - ANIONS/SMALL ORG. ACIDS		12/10/10 08:18	12/10/10 09:30	N/A	12/11/10 06:30	N	26h

Attachment 3

RECEIPT PAPERWORK

ATL	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	LO-090-101 Rev 6.6.0

Date Samples Received: 12.10.10 Group #: 20101225 / 1226

Number of Samples: 2

Sample Custodian: RT Steele

Sample Custodian to Complete:

Action	OK? (Y/N)	N/A	Comments
RSA/COC provided?	Y		
RSR provided?		✓	
Verify GKI is complete		✓	on file
Check that outer custody seal is intact, if present		✓	
Record cooler temperature in centigrade, as appropriate		✓	☐ Check if no cooler and/or no ice
Samples are intact and in good condition	Y		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	Y		
• Date and time of sampling	Y		
• Sampling location or origin	Y		
• Container type, size, and number	Y		
• Analysis request is clear	Y		
• Signature of persons relinquishing and receiving samples	Y		
• Date and/or time of sample custody exchange	Y		
Verify that sample numbers on containers match the COC and/or RSA	Y		
Samples stored properly (e.g., refrigeration)	Y		

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 RK Date 12.10.10

If No, comment on communication and resolution:

Other Comments:

A-6005-342 (REV 0)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F10-208-688	PAGE 1 OF 1
COLLECTOR Bates, Southerland	COMPANY CONTACT DYEKMAN, DL	TELEPHONE NO. 373-2530	PROJECT COORDINATOR RADLOFF, AW	PRICE CODE 7N	DATA TURNAROUND
SAMPLING LOCATION C7695 (199-K-195); I-039	PROJECT DESIGNATION 100 Area Remedial Investigation/Feasibility Analysis - 100-KR-4 Groundwat		SAF NO. F10-208	AIR QUALITY ☐	45 Days / 45 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HnF-N-593-1 pg 67	ACTUAL SAMPLE DEPTH 155	COA 300082ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO ~~Waste Sampling & Characterization~~ 222-S KS 12/10/10	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)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	HCl or H2SO4 to pH <2/Cool~4C	HNO3 to pH <2	HNO3 to pH <2	Cool~4C	HNO3 to pH <2	None
HOLDING TIME	14 Days	6 Months	28 Days	48 Hours	6 Months	6 Months
TYPE OF CONTAINER	aGs	G/P	G	P	G/P	G
NO. OF CONTAINER(S)	3	1	1	1	2	
VOLUME	40mL	500mL	500mL	500mL	1L	250mL
SAMPLE ANALYSIS	VOA - 8260 (TCL 100 Area RI/FS);	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	200.8_HG - ICPMS (100 Area RI/FS);	IC Anions - 300.0 (100 Area RI/FS);	Strontium-89,90 -- Total Sr;	Tritium - Ion Ex;

KS 12/10/10 N/A KS 12/10/10 N/A KS 12/10/10

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME						
B27HK7A	WATER	12-10-10	0818						

*

KS 12/10/10

LAB ID#s S10M000619
LAB Group# ~~20101224~~ ~~20100~~ 20101225
RTSteele 12.10.10

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
DWBates DWBates 12-10-10	930	RTSteele RTSteele 12.10.10	930
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
** The laboratory is to report all TICs for Method 8260.☐☐** The CACN for all analytical work at WSCF laboratory is 401697ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
~~(1) ICP/MS - 200.8 (100 Area RI/FS); ICP/MS - 200.8 (Add-on) (Uranium);~~ KS 12/10/10

☐ ~~ORIGINAL~~ ☐ ORIGINAL

* Samples deleted due to sample diversion

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

A-6003-618 (REV 2)