



Friday, April 19, 2019

Karen Waters-Husted
CH2M HILL Plateau Remediation Company
825 Jadwin Avenue
Richland, WA 99352

Re: ALS Workorder: 1903436
Project Name: AEA, MARCH 2019
Project Number: I19-012

Dear Ms. Waters-Husted:

One water sample was received from CH2M HILL Plateau Remediation Company, on 3/23/2019. The sample was scheduled for the following analysis:

Gamma Spectroscopy

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the method employed.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

ALS Environmental
Katie M. O'Brien
Project Manager

We certify that this data package is in compliance with the SOW, both technically and for completeness, including a full description of, explanation of, and corrective actions for, any and all deviations, from either the analyses requested or the case narrative requested. Release of the data contained in this hard copy data package has been authorized by the Laboratory Analytical Manager (or designee) and the laboratory's client services representative as verified by their signatures on this report.

ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 1903436

Client Name: CH2M HILL Plateau Remediation Company

Client Project Name: AEA,MARCH 2019

Client Project Number: I19-012

Client PO Number: BOA 54854

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B3N7C9	1903436-1		WATER	22-Mar-19	11:19

CH2M Hill Plateau Remediation Company <i>gull/103</i>		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 1903436		C.O.C. # I19-012-061 Page 1 of 1
Collector: Kevin Patterson /CHPRC	Contact/Requester: Karen Waters-Husted	Telephone No.: 509-376-4650		
SAF No.: I19-012	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300071		
Project Title: AEA, March 2019	Logbook No.: HNF-N-506 105	Ice Chest No.: 6 W55749-598		
Shipped To (Lab): ALS Environmental Ft. Collins	Method of Shipment: Commercial Carrier	Bill of Lading/Air Bill No.: 7747982663		
Protocol: SURV	Priority: 30 Days	Offsite Property No.: 10740		
POSSIBLE SAMPLE HAZARDS/REMARK ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1		SPECIAL INSTRUCTIONS N/A		
Sample No. B3N7C9	Filter * N	Time MAR 22 2019 1119	No/Type Container 1x4-L G/P	GAMMA_GS: COMMON; GAMMA_GS: GW 01
		Sample Analysis	Holding Time 6 Months	Preservative HNO3 to pH <2

①

Relinquished By: <i>Kevin Patterson</i> Print First and Last Name: Kevin Patterson	Signature: <i>[Signature]</i>	Date/Time: MAR 22 2019 1255	Received By: <i>Janelle Zunker</i> Print First and Last Name: Janelle Zunker	Signature: <i>[Signature]</i>	Date/Time: MAR 22 2019 1255
Relinquished By: <i>[Signature]</i>	Signature: <i>[Signature]</i>	Date/Time: <i>[Signature]</i>	Received By: FEDEx	Signature: <i>[Signature]</i>	Date/Time:
Relinquished By: FedEx	Signature: <i>[Signature]</i>	Date/Time:	Received By: <i>Emily Lyons</i> Print First and Last Name: Emily Lyons	Signature: <i>[Signature]</i>	Date/Time: 03.23.19 0925
Relinquished By:	Signature:	Date/Time:	Received By:	Signature:	Date/Time:
Relinquished By:	Signature:	Date/Time:	Received By:	Signature:	Date/Time:
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process):				Disposed By:
Printed On 2/27/2019	FSR ID = FSR76659				Date/Time:

Matrix *
 S = Soil DS = Drum Solids
 SE = Sediment DL = Drum Liquid
 SO = Solid T = Tissue
 SL = Sludge WI = Wipe
 W = Water L = Liquid
 O = Oil V = Vegetation
 A = Air X = Other

1903436

ORIGIN D:PSGA (509) 373-3560
JANELLE ZUNGER
CH2M
6289 LATAM ST.
RICHLAND, WA 99354
UNITED STATES US

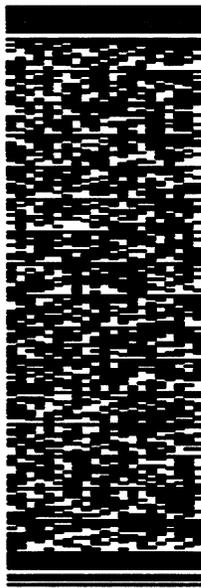
SHIP DATE: 22MAR19
ACTWGT: 24.00 LB
CMD: 10706605/INMET4100
BILL THIRD PARTY

TO JULIE ELLINGSON

ALS GLOBAL
225 COMMERCE DRIVE

10-2

FORT COLLINS CO 80524
(970) 480-1511 REF: 10748
NV DEPT:



565.J146D3/23AD

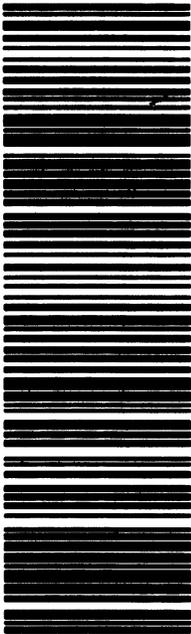
MP# 7747 7832 6153
0263
Mst# 7747 7832 6131

0201

3 of 3
SATURDAY 12:00P
PRIORITY OVERNIGHT

X0 FTCA

DSR 80524
CO-US DEN



After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.



Gamma Spectroscopy Case Narrative

CH2M HILL Plateau Remediation Company

AEA, MARCH 2019 – I19-012

Work Order Number: 1903436

1. The sample was prepared according to the current revision of SOP739.
2. The sample was analyzed for the presence of gamma emitting radionuclides according to the current revision of SOP713. The analysis was completed on 04/02/2019.
3. The analysis results for the sample are reported in units of pCi/L. The sample was not filtered prior to analysis.
4. Sample volume was insufficient to allow preparation of a duplicate. A duplicate analysis of sample 1903436-1 was performed in lieu of a prepared duplicate.
5. In accordance with project specific instructions, the evaluation threshold for Relative Percent Difference (RPD) has been set at 20%. RPD is defined as:

$$RPD = \frac{|S - D|}{(S + D)/2} * 100$$

Where: S = sample activity result and D = duplicate activity result. RPD is not evaluated for sample/duplicate pairs where the reported activity is less than 5 times the sample specific MDC, as indicated with an "NC" on the Duplicate Sample Results (RPD) page.

6. There are cases where the magnitude of negative activity is greater than the 2σ TPU. Under typical conditions, where background data is normally distributed and analyzed by paired observations, this event is likely to occur at least 2.5% of the time. Review of the data does not indicate a problem with the instrument or reporting systems and results are reported without further qualification.
7. No problems were encountered with either the client sample or the associated quality control samples. All quality control criteria were met.



The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Pik Yee Yuen
Pik Yee Yuen
Radiochemistry Primary Data Reviewer

4/15/19
Date

Kath M. O.
Radiochemistry Final Data Reviewer

4/19/19
Date

Gamma Spectroscopy Results

PAI 713 Rev 14

Method Blank Results

Lab Name: ALS -- Fort Collins

Work Order Number: 1903436

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: AEA, MARCH 2019 I19-012

Lab ID: GS190325-2AMB	Sample Matrix: WATER	Prep Batch: GS190325-2	Final Aliquot: 1000 ml
Library: FANP.LIB	Prep SOP: PAI 739 Rev 12	QCBatchID: GS190325-2-1	Result Units: pCi/l
	Date Collected: 25-Mar-19	Run ID: GS190325-2A	File Name: 190305d05
	Date Prepared: 25-Mar-19	Count Time: 1000 minutes	
	Date Analyzed: 01-Apr-19		

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10198-40-0	Co-60	-2.91E+00 +/- 2.84E+00	5.06E+00		NA	U
13967-70-9	Cs-134	-1.90E+00 +/- 2.73E+00	4.67E+00		NA	U
10045-97-3	Cs-137	2.07E+00 +/- 2.59E+00	4.24E+00	1.00E+01	NA	U
14683-23-9	Eu-152	-1.96E+00 +/- 1.41E+01	2.43E+01		NA	U
15585-10-1	Eu-154	-1.84E+01 +/- 1.47E+01	2.60E+01		NA	U
14391-16-3	Eu-155	-6.17E+00 +/- 9.79E+00	1.67E+01		NA	U
13966-00-2	K-40	-1.19E+02 +/- 8.59E+01	1.44E+02		NA	U
14234-35-6	Sb-125	3.46E+00 +/- 6.12E+00	1.05E+01		NA	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TP
 Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
 Y2 - Chemical Yield outside default limits.
 SQ - Spectral quality prevents accurate quantitation.
 SI - Nuclide identification and/or quantitation is tentative.
 TI - Nuclide identification is tentative.
 R - Nuclide has exceeded 8 half-lives.
 M - Requested MDC not met.
 B - Analyte concentration greater than MDC.
 B3 - Analyte concentration greater than MDC but less than Requested MDC.
 DL - Decision Level

Abbreviations:

TPU - Total Propagated Uncertainty
 MDC - Sample specific Minimum Detectable Concentration
 BDL - Below Detection Limit

Data Package ID: GSW1903436-1

Gamma Spectroscopy Results

PAI 713 Rev 14

Laboratory Control Sample(s)

Lab Name: ALS -- Fort Collins
Work Order Number: 1903436
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: AEA, MARCH 2019 I19-012

Lab ID: GS190325-2LCS	Sample Matrix: WATER	Prep Batch: GS190325-2	Final Aliquot: 1000 ml
Library: ANALYTICAL.LI	Prep SOP: PAI 739 Rev 12	QCBatchID: GS190325-2-1	Result Units: pCi/l
	Date Collected: 25-Mar-19	Run ID: GS190325-2A	File Name: 190407d03
	Date Prepared: 25-Mar-19	Count Time: 30 minutes	
	Date Analyzed: 02-Apr-19		

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
14596-10-2	Am-241	9.89E+04 +/- 1.17E+04	1.86E+03	1.010E+05	97.6	85 - 115	
10198-40-0	Co-60	4.32E+04 +/- 5.07E+03	1.25E+02	4.320E+04	100	85 - 115	
10045-97-3	Cs-137	3.83E+04 +/- 4.50E+03	2.11E+02	3.840E+04	99.7	85 - 115	

Comments:

Qualifiers/Flags:
 U - Result is less than the sample specific MDC or less than the associated TP
 Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
 Y2 - Chemical Yield outside default limits.
 L - LCS Recovery below lower control limit.
 H - LCS Recovery above upper control limit.
 P - LCS Recovery within control limits.
 M - The requested MDC was not met.
 M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:
 TPU - Total Propagated Uncertainty
 MDC - Minimum Detectable Concentration
 SQ - Spectral quality prevents accurate quantitation.
 SI - Nuclide identification and/or quantitation is tentative.
 TI - Nuclide identification is tentative.
 R - Nuclide has exceeded 8 halfives.

Data Package ID: GSW1903436-1

Gamma Spectroscopy Results

PAI 713 Rev 14

Duplicate Sample Results (DER)

Lab Name: ALS -- Fort Collins

Work Order Number: 1903436

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: AEA, MARCH 2019 I19-012

Field ID:	B3N7C9
Lab ID:	1903436-1DUP

Library: FANP.LIB

Sample Matrix: WATER

Prep SOP: PAI 739 Rev 12

Date Collected: 22-Mar-19

Date Prepared: 25-Mar-19

Date Analyzed: 01-Apr-19

Prep Batch: GS190325-2

QCBatchID: GS190325-2-1

Run ID: GS190325-2A

Count Time: 500 minutes

Report Basis: Unfiltered

Final Aliquot: 1000 ml

Prep Basis: Unfiltered

Moisture(%): NA

Result Units: pCi/l

File Name: 190660d04

CASNO	Analyte	Sample				Duplicate				DER	DER Lim
		Result +/-	2 s TPU	MDC	Flags	Result +/-	2 s TPU	MDC	Flags		
10198-40-0	Co-60	6.72E-01 +/-	2.31E+00	3.88E+00	U	5.13E+00 +/-	5.75E+00	9.33E+00	U	1.44	3
13967-70-9	Cs-134	0E+00 +/-	2.21E+00	3.71E+00	U	-1.74E+00 +/-	4.94E+00	8.52E+00	U	0.645	3
10045-97-3	Cs-137	-1.06E+00 +/-	2.12E+00	3.63E+00	U	-6.53E-02 +/-	4.78E+00	8.22E+00	U	0.38	3
14683-23-9	Eu-152	4.47E-01 +/-	1.54E+01	2.60E+01	U	1.09E+01 +/-	2.86E+01	4.87E+01	U	0.641	3
15585-10-1	Eu-154	3.71E-02 +/-	1.11E+01	1.88E+01	U	-5.89E+00 +/-	2.98E+01	5.21E+01	U	0.374	3
14391-16-3	Eu-155	-1.43E+00 +/-	8.18E+00	1.38E+01	U	7.32E+00 +/-	7.10E+00	1.14E+01	U	1.61	3
13966-00-2	K-40	-4.46E+00 +/-	4.42E+01	7.42E+01	U	-5.21E+01 +/-	1.19E+02	2.05E+02	U	0.749	3
14234-35-6	Sb-125	1.68E+00 +/-	4.97E+00	8.78E+00	U	7.73E+00 +/-	9.77E+00	1.70E+01	U	1.1	3

Comments:

Duplicate Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

D - DER is greater than Control Limit of 3

LT - Result is less than Request MDC, greater than sample specific MDC

M - Requested MDC not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

L - LCS Recovery below lower control limit.

H - LCS Recovery above upper control limit.

P - LCS, Matrix Spike Recovery within control limits.

N - Matrix Spike Recovery outside control limits

Abbreviations:

TPU - Total Propagated Uncertainty

DER - Duplicate Error Ratio

BDL - Below Detection Limit

NR - Not Reported

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 half-lives.

G - Sample density differs by more than 15% of LCS density.

Data Package ID: GSW1903436-1

Gamma Spectroscopy Results

PAI 713 Rev 14

Duplicate Sample Results (RPD)

Lab Name: ALS -- Fort Collins
 Work Order Number: 1903436
 Client Name: CH2M HILL Plateau Remediation Company
 ClientProject ID: AEA, MARCH 2019 I19-012

Field ID:	B3N7C9
Lab ID:	1903436-1DUP

Library: FANP.LIB

Sample Matrix: WATER
 Prep SOP: PAI 739 Rev 12
 Date Collected: 22-Mar-19
 Date Prepared: 25-Mar-19
 Date Analyzed: 01-Apr-19

Prep Batch: GS190325-2
 QCBatchID: GS190325-2-1
 Run ID: GS190325-2A
 Count Time: 500 minutes
 Report Basis: Unfiltered

Final Aliquot: 1000 ml
 Prep Basis: Unfiltered
 Moisture(%): NA
 Result Units: pCi/l
 File Name: 190660d04

CASNO	Analyte	Sample				Duplicate				RPD	RPD Lim
		Result +/-	2 s TPU	MDC	Flags	Result +/-	2 s TPU	MDC	Flags		
10198-40-0	Co-60	6.72E-01 +/-	2.31E+00	3.88E+00	U	5.13E+00 +/-	5.75E+00	9.33E+00	U	NC	20
13967-70-9	Cs-134	0E+00 +/-	2.21E+00	3.71E+00	U	-1.74E+00 +/-	4.94E+00	8.52E+00	U	NC	20
10045-97-3	Cs-137	-1.06E+00 +/-	2.12E+00	3.63E+00	U	-6.53E-02 +/-	4.78E+00	8.22E+00	U	NC	20
14683-23-9	Eu-152	4.47E-01 +/-	1.54E+01	2.60E+01	U	1.09E+01 +/-	2.86E+01	4.87E+01	U	NC	20
15585-10-1	Eu-154	3.71E-02 +/-	1.11E+01	1.88E+01	U	-5.89E+00 +/-	2.98E+01	5.21E+01	U	NC	20
14391-16-3	Eu-155	-1.43E+00 +/-	8.18E+00	1.38E+01	U	7.32E+00 +/-	7.10E+00	1.14E+01	U	NC	20
13966-00-2	K-40	-4.46E+00 +/-	4.42E+01	7.42E+01	U	-5.21E+01 +/-	1.19E+02	2.05E+02	U	NC	20
14234-35-6	Sb-125	1.68E+00 +/-	4.97E+00	8.78E+00	U	7.73E+00 +/-	9.77E+00	1.70E+01	U	NC	20

Comments:

Qualifiers/Flags:

- + - Duplicate RPD not within limits.
- U - Result is less than the sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
- Y2 - Chemical Yield outside default limits.
- M - Requested MDC not met.
- M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
- L - LCS Recovery below lower control limit.
- H - LCS Recovery above upper control limit.
- P - LCS, Matrix Spike Recovery within control limits.
- N - Matrix Spike Recovery outside control limits
- NC - Not Calculated for duplicate results less than 5 times MDC

Abbreviations:

- TPU - Total Propagated Uncertainty
- BDL - Below Detection Limit
- NR - Not Reported
- SQ - Spectral quality prevents accurate quantitation.
- SI - Nuclide identification and/or quantitation is tentative.
- TI - Nuclide identification is tentative.
- R - Nuclide has exceeded 8 halfives.
- G - Sample density differs by more than 15% of LCS density.

Data Package ID: GSW1903436-1

Gamma Spectroscopy Results

PAI 713 Rev 14

Sample Results

Lab Name: ALS -- Fort Collins
Work Order Number: 1903436
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: AEA, MARCH 2019 I19-012

Field ID:	B3N7C9
Lab ID:	1903436-1

Library: FANP.LIB
Analysis ReqCode: GAMMA_GS: CO

Sample Matrix: WATER
Prep SOP: PAI 739 Rev 12
Date Collected: 22-Mar-19
Date Prepared: 25-Mar-19
Date Analyzed: 31-Mar-19

Prep Batch: GS190325-2
QCBatchID: GS190325-2-1
Run ID: GS190325-2A
Count Time: 400 minutes
Report Basis: Unfiltered

Final Aliquot: 1000 ml
Prep Basis: Unfiltered
Moisture(%): NA
Result Units: pCi/l
File Name: 190336d10

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10198-40-0	Co-60	6.72E-01 +/- 2.31E+00	3.88E+00		NA	U
13967-70-9	Cs-134	0E+00 +/- 2.21E+00	3.71E+00		NA	U
10045-97-3	Cs-137	-1.06E+00 +/- 2.12E+00	3.63E+00	1E+01	NA	U
14683-23-9	Eu-152	4.47E-01 +/- 1.54E+01	2.60E+01		NA	U
15585-10-1	Eu-154	3.71E-02 +/- 1.11E+01	1.88E+01		NA	U
14391-16-3	Eu-155	-1.43E+00 +/- 8.18E+00	1.38E+01		NA	U
13966-00-2	K-40	-4.46E+00 +/- 4.42E+01	7.42E+01		NA	U
14234-35-6	Sb-125	1.68E+00 +/- 4.97E+00	8.78E+00		NA	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TP
 Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
 Y2 - Chemical Yield outside default limits.
 M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
 M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty
 MDC - Sample specific Minimum Detectable Concentration
 BDL - Below Detection Limit
 DL - Decision Level

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 half-lives.

G - Sample density differs by more than 15% of LCS density.

Data Package ID: GSW1903436-1

Gamma Spectroscopy Results

PAI 713 Rev 14

Sample Duplicate Results

Lab Name: ALS -- Fort Collins
Work Order Number: 1903436
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: AEA, MARCH 2019 I19-012

Field ID:	B3N7C9
Lab ID:	1903436-1DUP

Library: FANP.LIB

Sample Matrix: WATER
Prep SOP: PAI 739 Rev 12
Date Collected: 22-Mar-19
Date Prepared: 25-Mar-19
Date Analyzed: 01-Apr-19

Prep Batch: GS190325-2
QCBatchID: GS190325-2-1
Run ID: GS190325-2A
Count Time: 500 minutes
Report Basis: Unfiltered

Final Aliquot: 1000 ml
Prep Basis: Unfiltered
Moisture(%): NA
Result Units: pCi/l
File Name: 190660d04

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10198-40-0	Co-60	5.13E+00 +/- 5.75E+00	9.33E+00		NA	U
13967-70-9	Cs-134	-1.74E+00 +/- 4.94E+00	8.52E+00		NA	U
10045-97-3	Cs-137	-6.53E-02 +/- 4.78E+00	8.22E+00	1E+01	NA	U
14683-23-9	Eu-152	1.09E+01 +/- 2.86E+01	4.87E+01		NA	U
15585-10-1	Eu-154	-5.89E+00 +/- 2.98E+01	5.21E+01		NA	U
14391-16-3	Eu-155	7.32E+00 +/- 7.10E+00	1.14E+01		NA	U
13966-00-2	K-40	-5.21E+01 +/- 1.19E+02	2.05E+02		NA	U
14234-35-6	Sb-125	7.73E+00 +/- 9.77E+00	1.70E+01		NA	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU.
 Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
 Y2 - Chemical Yield outside default limits.
 M - The requested MDC was not met.
 M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

SQ - Spectral quality prevents accurate quantitation.
 SI - Nuclide identification and/or quantitation is tentative.
 TI - Nuclide identification is tentative.
 R - Nuclide has exceeded 8 halfives.
 G - Sample density differs by more than 15% of LCS density.

D - DER is greater than Control Limit of 3

Abbreviations:

TPU - Total Propagated Uncertainty
 MDC - Sample specific Minimum Detectable Concentration
 BDL - Below Detection Limit
 DL - Decision Level

Data Package ID: GSW1903436-1

Date Printed:

Monday, April 15, 2019

ALS -- Fort Collins

Page 1 of 1

LIMS Version: 6.894

Prep Batch ID: GS190325-2

Start Date: 03/25/19	End Date: 03/31/19	Concentration Method: NONE	Batch Created By: sdw
Start Time: 12:00	End Time: 12:00	Extract Method: PAI 73912	Date Created: 03/25/19
Prep Analyst: Steven D. White		Initial Volume Units: ml	Time Created: 13:34
Comments:		Final Volume Units: ml	Validated By: sdw
<div style="border: 1px solid black; height: 30px; width: 100%;"></div>			Date Validated: 03/25/19
			Time Validated: 13:58

QC Batch ID: GS190325-2-1

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
GS190325-2A	MB	XXXXXX	WATER	XXXXXX	1000	1000	NONE	1	1903379
GS190325-2	LCS	XXXXXX	WATER	XXXXXX	1000	1000	NONE	1	1903379
1903436-1	DUP	B3N7C9	WATER	3/22/2019	1000	1000	NONE	1	1903436
1903379-1	SMP	XXXXXX	WATER	XXXXXX	1000	1000	NONE	1	1903379
1903379-2	SMP	XXXXXX	WATER	XXXXXX	1000	1000	NONE	1	1903379
1903436-1	SMP	B3N7C9	WATER	3/22/2019	1000	1000	NONE	1	1903436

QC Types

CAR	Carrier reference sample	DUP	Laboratory Duplicate
LCS	Laboratory Control Sample	LCSD	Laboratory Control Sample Duplicat
MB	Method Blank	MS	Laboratory Matrix Spike
MSD	Laboratory Matrix Spike Duplicate	REP	Sample replicate
RVS	Reporting Level Verification Standar	SMP	Field Sample
SYS	Sample Yield Spike		