



Saturday, August 20, 2016

Dave Todak
CH2M HILL Plateau Remediation Company
2420 Stevens Center
Richland, WA 99352

Re: ALS Workorder: 1608286
Project Name: FY2016 200-UP-1 Remedial Action Wells Sampling and Analysis-Wa
Project Number: F16-007

Dear Mr. Todak:

Two water samples were received from CH2M HILL Plateau Remediation Company, on 8/13/2016. The samples were scheduled for the following analyses:

Metals
GC/MS Volatiles

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 methods employed.

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

Sincerely,

ALS Environmental
Julie Ellingson
Project Manager

ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 1608286
Client Name: CH2M HILL Plateau Remediation Company
Client Project Name: FY2016 200-UP-1 Remedial Action Wells Sampling and Analysis-
Client Project Number: F16-007
Client PO Number: BOA 54854

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B35XK7	1608286-1		WATER	11-Aug-16	15:00
B35XK8	1608286-2		WATER	11-Aug-16	15:00

CH2M Hill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F16-007-232

PAGE 1 OF 1

COLLECTOR
Juan Aguilar
/CHPRC

COMPANY CONTACT
TODAK, D

TELEPHONE NO.
376-6427

PROJECT COORDINATOR
TODAK, D

PRICE CODE 7H

DATA
TURNAROUND
30 Days / 30
Days

SAMPLING LOCATION
C9411, I-016

PROJECT DESIGNATION
FY2016 200-UP-1 Remedial Action Wells Sampling and Analysis - Water

SAF NO.
F16-007

AIR QUALITY

METHOD OF SHIPMENT
FEDERAL EXPRESS

ICE CHEST NO.

FIELD LOGBOOK NO.
HNF-645-4 / 30

ACTUAL SAMPLE DEPTH
427.53'

COA
300192

ORIGINAL

SHIPPED TO

ALS Environmental Ft. Collins

OFFSITE PROPERTY NO.
69411

BILL OF LADING/AIR BILL NO.
7769 8625 5359

7769 8625 5359

MATRIX*
A=Air
DL=Drum
L=Liquid
S=Soil
SE=Sediment
T=Tissue
V=Vegetation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/DATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA

PRESERVATION
HCl or H2SO4 to pH <2/Cool 14 Days

HOLDING TIME
aGs*

TYPE OF CONTAINER
3

NO. OF CONTAINER(S)
40ml

VOLUME
SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE ANALYSIS

SPECIAL HANDLING AND/OR STORAGE

WATER

SAMPLE DATE
8-11-16

SAMPLE TIME
1500

MATRIX*
WATER

DATE/TIME
AUG 11 2016 1530

DATE/TIME
AUG 12 2016 0845

LABORATORY RECEIVED BY

CHPRC

RECEIVED BY/STORED IN
SSU #1

DATE/TIME
AUG 11 2016 1530

DATE/TIME
AUG 12 2016 0845

DATE/TIME
AUG 12 2016 1400

FINAL SAMPLE DISPOSITION

REMOVED FROM

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LABORATORY RECEIVED BY



ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: CHPRC

Workorder No: 1608286

Project Manager: JME

Initials: SDM Date: 8-13-16

1. Does this project require any special handling in addition to standard ALS procedures?		YES	<input checked="" type="radio"/> NO
2. Are custody seals on shipping containers intact?	NONE	<input checked="" type="radio"/> YES	NO
3. Are Custody seals on sample containers intact?	NONE	<input checked="" type="radio"/> YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		<input checked="" type="radio"/> YES	NO
5. Are the COC and bottle labels complete and legible?		<input checked="" type="radio"/> YES	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		<input checked="" type="radio"/> YES	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	<input checked="" type="radio"/> YES	NO
9. Are all aqueous non-preserved samples pH 4-9?	<input checked="" type="radio"/> N/A	YES	NO
10. Is there sufficient sample for the requested analyses?		<input checked="" type="radio"/> YES	NO
11. Were all samples placed in the proper containers for the requested analyses?		<input checked="" type="radio"/> YES	NO
12. Are all samples within holding times for the requested analyses?		<input checked="" type="radio"/> YES	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		<input checked="" type="radio"/> YES	NO
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: ___ < green pea ___ > green pea	N/A	<input checked="" type="radio"/> YES	NO
15. Do any water samples contain sediment? Amount Amount of sediment: ___ dusting ___ moderate ___ heavy	N/A	YES	<input checked="" type="radio"/> NO
16. Were the samples shipped on ice?		<input checked="" type="radio"/> YES	NO
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: <input checked="" type="radio"/> #2 #4 RAD ONLY		<input checked="" type="radio"/> YES	NO
Cooler #: <u>1</u>			
Temperature (°C): <u>3.1</u>			
No. of custody seals on cooler: <u>2</u>			
External µR/hr reading: <u>13</u>			
Background µR/hr reading: <u>10</u>			
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> YES / NO / NA (If no, see Form 008.)			

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

If applicable, was the client contacted? YES / NO / NA Contact: _____ Date/Time: _____

Project Manager Signature / Date: JME 8/15/16

1608286

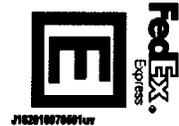
ORIGIN ID: PSCA (509) 373-3580
JANIELE ZUNKER
CHAM
6289 LATAH ST.
RICHLAND, WA 99354
UNITED STATES US

SHIP DATE: 12AUG16
ACTWGST: 52.00 LB
CAD: 10/068605/INET3780
BILL THIRD PARTY

TO JULIE ELLINGSON
ALS GLOBAL
225 COMMERCE DRIVE

FORT COLLINS CO 80524
(970) 490-1511 REF: 6941

PO. NV. DEPT.



13
-2
3.10c

544J11137014E8

TRK# 7769 8625 5359
0201
SATURDAY 12:00P
PRIORITY OVERNIGHT
DSR

X0 FTCA
CO-US DEN
80524



After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
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Metals

Case Narrative

CH2M HILL Plateau Remediation Company

FY2016 200-UP-1 Remedial Action Welles Sampling and Analysis- Water – F16-007

Work Order Number: 1608286

1. This report consists of 1 water sample.
2. The sample was received cool and intact by ALS on 08/13/16.
3. The sample was analyzed for dissolved metals. The sample had been filtered prior to receipt, and had a pH less than 2 upon receipt.
4. The sample was prepared and analyzed based on SW-846, 3rd Edition procedures.

For analysis by ICP-MS, the sample was digested following method 3005A and the current revision of SOP 806.

5. Analysis by ICP-MS followed method 6020A and the current revision of SOP 827.
6. All standards and solutions are NIST traceable and were used within their recommended shelf life.
7. The sample was prepared and analyzed within the established hold time.

All in house quality control procedures were followed, as described below.

8. General quality control procedures.
 - A preparation (method) blank and laboratory control sample were digested and analyzed with the sample in this digestion batch.
 - The preparation (method) blank associated with this digestion batch was below the reporting limit for the requested analytes. Sample results have been compared to the blank results.
 - All laboratory control sample criteria were met.



- All initial and continuing calibration blanks were below the reporting limit for the requested analytes.
- All initial and continuing calibration verifications were within the acceptance criteria for the requested analytes.
- The interference check samples associated with Method 6020A were analyzed.

9. Matrix specific quality control procedures.

Sample 1608286-1 was designated as the quality control sample for this analysis.

Similarity of matrix and therefore relevance of the QC results should not be automatically inferred for any sample other than the native sample selected for QC.

- A matrix spike and matrix spike duplicate were digested and analyzed with this batch. All acceptance criteria for accuracy were met.
- A serial dilution was analyzed with this ICP batch. All acceptance criteria were met with the following exception:

<u>Analyte</u>	<u>Sample ID</u>
Manganese	1608286-1L

The native sample result is flagged for serial dilution failure.

10. It is a standard practice that samples for ICP-MS are analyzed at a dilution. The 10X factor can be considered an artifact of the prep and does not indicate a secondary dilution and is therefore not flagged as a dilution.

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.



Jill Latelle
Inorganics Primary Data Reviewer

8/19/16
Date



Julie Ellinger
Inorganics Final Data Reviewer

8/20/16
Date



Inorganic Data Reporting Qualifiers

The following qualifiers are used as needed by the laboratory when reporting results of inorganic analyses.

- Result qualifier -- A "B" is entered if the reported value was obtained from a reading that was less than the Reporting Limit but greater than or equal to the Method Detection Limit (MDL). If the analyte was analyzed for but not detected a "U" is entered. For samples, negative values are reported as non-detects ("U" flagged). For blanks, if the absolute value of the negative value is above the MDL and below the reporting limit, then the result is "B" flagged.
- QC qualifier -- Specified entries and their meanings are as follows:
 - E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.
 - M - Duplicate injection precision was not met.
 - N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.
 - Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.
 - * - Duplicate analysis (relative percent difference) not within control limits.
 - S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.
 - C - The analyte was detected in both the sample and the associated QC blank, and the sample concentration was $\leq 20X$ the blank concentration.
 - D - Analyte was reported at a secondary dilution factor, typically $DF > 1$ (i.e., the primary preparation required dilution to either bring the analyte within the calibration range or to minimize interference). Required for organics/wetchem if the sample was diluted.

Dissolved ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS -- Fort Collins

Work Order Number: 1608286

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: FY2016 200-UP-1 Remedial Action Wells Sampling and Analysis

Field ID:	B35XK7
Lab ID:	1608286-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 11-Aug-16
Date Extracted: 16-Aug-16
Date Analyzed: 17-Aug-16
Prep Method: SW3005 Rev A

Prep Batch: IP160816-2
QCBatchID: IP160816-2-5
Run ID: IM160817-11A7
Cleanup: NONE
Basis: As Received
File Name: 104SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 50 ml
Final Volume: 50 ml
Result Units: UG/L
Clean DF: 1

Analysis ReqCode: 6020_METALS_I

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7439-96-5	MANGANESE	10	51	5	0.3		E
7440-61-1	URANIUM	10	0.57	0.1	0.027		

Data Package ID: *im1608286-1*

8/20/2016
ALS1608286

ICPMS Metals

Method SW6020A

Method Blank

Lab Name: ALS -- Fort Collins

Work Order Number: 1608286

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: FY2016 200-UP-1 Remedial Action Wells Sampling and Analysis

Lab ID: IP160816-2MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 16-Aug-16

Date Analyzed: 17-Aug-16

Prep Batch: IP160816-2

QCBatchID: IP160816-2-5

Run ID: IM160817-11A7

Cleanup: NONE

Basis: N/A

File Name: 068SMPL_

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-61-1	URANIUM	10	0.027	0.1	0.027	U	

Data Package ID: *im1608286-1*

Date Printed: Friday, August 19, 2016

ALS -- Fort Collins

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LIMS Version: 6.824

8/20/2016
ALS1608286

ICPMS Metals

Method SW6020A

Method Blank

Lab Name: ALS -- Fort Collins

Work Order Number: 1608286

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: FY2016 200-UP-1 Remedial Action Wells Sampling and Analysis

Lab ID: IP160816-2MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 16-Aug-16

Date Analyzed: 18-Aug-16

Prep Batch: IP160816-2

QCBatchID: IP160816-2-5

Run ID: IM160818-10A4

Cleanup: NONE

Basis: N/A

File Name: 008SMPL_

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7439-96-5	MANGANESE	10	0.3	5	0.3	U	

Data Package ID: *im1608286-1*

Date Printed: Friday, August 19, 2016

ALS -- Fort Collins

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LIMS Version: 6.824

8/20/2016
ALS1608286

ICPMS Metals

Method SW6020A

Laboratory Control Sample

Lab Name: ALS -- Fort Collins

Work Order Number: 1608286

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: FY2016 200-UP-1 Remedial Action Wells Sampling and Analysis

Lab ID: IM160816-2LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 08/16/2016

Date Analyzed: 08/18/2016

Prep Method: SW3005A

Prep Batch: IP160816-2

QCBatchID: IP160816-2-5

Run ID: IM160818-10A4

Cleanup: NONE

Basis: N/A

File Name: 009SMPL_

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7439-96-5	MANGANESE	100	97	5		97	80 - 120%
7440-61-1	URANIUM	10	8.94	0.1		89	80 - 120%

Data Package ID: *im1608286-1*

Date Printed: Friday, August 19, 2016

ALS -- Fort Collins

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LIMS Version: 6.824

ICPMS Metals

Method SW6020A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS -- Fort Collins

Work Order Number: 1608286

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: FY2016 200-UP-1 Remedial Action Wells Sampling and Anal

Field ID: B35XK7
LabID: 1608286-1MS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 11-Aug-16
Date Extracted: 16-Aug-16
Date Analyzed: 17-Aug-16
Prep Method: SW3005 Rev A

Prep Batch: IP160816-2
QCBatchID: IP160816-2-5
Run ID: IM160817-11A7
Cleanup: NONE
Basis: As Received

Sample Aliquot: 50 ml
Final Volume: 50 ml
Result Units: UG/L
File Name: 107SMPL_

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7439-96-5	MANGANESE	51		145		5	100	94	75 - 125%
7440-61-1	URANIUM	0.57		9.46		0.1	10	89	75 - 125%

Field ID: B35XK7
LabID: 1608286-1MSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 11-Aug-16
Date Extracted: 16-Aug-16
Date Analyzed: 17-Aug-16
Prep Method: SW3005 Rev A

Prep Batch: IP160816-2
QCBatchID: IP160816-2-5
Run ID: IM160817-11A7
Cleanup: NONE
Basis: As Received

Sample Aliquot: 50 ml
Final Volume: 50 ml
Result Units: UG/L
File Name: 108SMPL_

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7439-96-5	MANGANESE	151		100	100	5	20	4
7440-61-1	URANIUM	9.4		10	88	0.1	20	1

Data Package ID: *im1608286-1*



GC/MS Volatiles Case Narrative

CH2M HILL Plateau Remediation Company FY2016 200-UP-1 Remedial Action Wells Sampling and Analysis-water -- F16-007

Work Order Number: 1608286

1. This report consists of 1 water sample. The sample was received cool and intact by ALS on 08/13/16.

The sample was free of headspace prior to analysis and had a pH < 2 at the time of analysis.

2. The sample was prepared according to SW-846, 3rd Edition procedures. Specifically, the water sample was prepared using purge and trap procedures based on Method 5030C.
3. The sample was analyzed using GC/MS with an RTX-624, RTX-VMS, or equivalent capillary column according to the current revision of SOP 525 based on SW-846 Method 8260. All positive results were quantitated against the initial calibration standards using the internal standard technique. The identification of positive results was achieved by a comparison of the retention time and mass spectrum of the sample versus the daily calibration standard.
4. All initial calibration criteria were met.
5. All initial calibrations are verified by comparing a second source standard calibration verification (ICV) against the calibration curve. All criteria for initial calibration verification were met.
6. All compounds in the daily (continuing) calibration verification were within 20%D.
7. Methylene chloride, acetone and 2-butanone are common laboratory contaminants. In order to minimize the levels of these compounds detected in the gc/ms analysis, ALS has designated its volatile laboratory as a restricted access area. In addition, the laboratory has been equipped with a dedicated, air intake and exhaust system that operates under positive pressure in order to minimize cross contamination of these compounds. Due to fluctuations in ambient laboratory conditions, reported sample values for common laboratory contaminants may be due to lab contamination even if the compound in question is not detected in the associated method blank.



All method blank criteria were met.

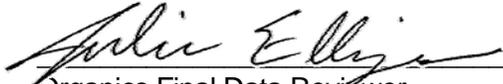
8. All laboratory control sample and laboratory control sample duplicate recoveries and RPDs were within the acceptance criteria.
9. A matrix spike and matrix spike duplicate were not performed. A laboratory control sample and laboratory control sample duplicate were performed instead.
10. The sample was analyzed within the established holding time.
11. All surrogate recoveries were within acceptance criteria.
12. All internal standard recoveries were within acceptance criteria.
13. Manual integrations are performed when needed to provide consistent and defensible data following the guidelines in the current revision of SOP 939.

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.



Emily Knodel
Organics Primary Data Reviewer

8/19/16
Date



Julie Elliza
Organics Final Data Reviewer

8/20/16
Date

ALS
Data Qualifier Flags
Organics

- U or ND:** This flag indicates that the compound was analyzed for but not detected.
- J:** This flag indicates an estimated value. This flag is used as follows : (1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the reporting limit (RL) but greater than the method detection limit (MDL); (3) when the retention time data indicate the presence of a compound that meets the GC identification criteria, and the result is less than the RL but greater than the MDL; and (4) the reported value is estimated.
- B:** This flag is used when the analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user. This flag shall be used for a tentatively identified compound (TIC) as well as for a positively identified target compound.
- E:** This flag identifies compounds whose concentration exceeds the upper level of the calibration range.
- A:** This flag indicates that a tentatively identified compound is a suspected aldol-condensation product.
- X:** This flag indicates that the analyte was diluted below an accurate quantitation level.
- *:** This flag indicates that a spike recovery is equal to or outside the control criteria used.
- +:** This flag indicates that the relative percent difference (RPD) equals or exceeds the control criteria.

8/20/2016
ALS1608286

GC/MS Volatiles

Method SW8260_25C

Method Blank

Lab Name: ALS -- Fort Collins

Work Order Number: 1608286

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: FY2016 200-UP-1 Remedial Action Wells Sampling and Analysis-

Lab ID: VL160816-3MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 16-Aug-16

Date Analyzed: 16-Aug-16

Prep Batch: VL160816-3

QCBatchID: VL160816-3-1

Run ID: VL160816-3A

Cleanup: NONE

Basis: N/A

File Name: C71086

Sample Aliquot: 10 ml

Final Volume: 10 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
56-23-5	CARBON TETRACHLORIDE	1	0.3	1	0.3	U	
79-01-6	TRICHLOROETHENE	1	0.3	1	0.3	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	26.5		25	106	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	23.8		25	95	84 - 118
2037-26-5	TOLUENE-D8	24.1		25	97	85 - 115

Data Package ID: VL1608286-1

Date Printed: Friday, August 19, 2016

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8/20/2016
ALS1608286

GC/MS Volatiles

Method SW8260_25C

Sample Results

Lab Name: ALS -- Fort Collins

Work Order Number: 1608286

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: FY2016 200-UP-1 Remedial Action Wells Sampling and Analysis-

Field ID:	B35XK8
Lab ID:	1608286-2

Sample Matrix: WATER

Prep Batch: VL160816-3

Analyst: Joe Kostelnik

% Moisture: N/A

QCBatchID: VL160816-3-1

Sample Aliquot: 10 ml

Date Collected: 11-Aug-16

Run ID: VL160816-3A

Final Volume: 10 ml

Date Extracted: 16-Aug-16

Cleanup: NONE

Result Units: UG/L

Date Analyzed: 16-Aug-16

Basis: As Received

Clean DF: 1

Analysis ReqCode: 8260_VOA_GCM

Prep Method: SW5030 Rev C

File Name: C71100

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
56-23-5	CARBON TETRACHLORIDE	1	5.4	1	0.3		
79-01-6	TRICHLOROETHENE	1	0.3	1	0.3	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	26.1		25	104	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	23.8		25	95	84 - 118
2037-26-5	TOLUENE-D8	24.1		25	97	85 - 115

Data Package ID: VL1608286-1

Date Printed: Friday, August 19, 2016

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GC/MS Volatiles

Method SW8260_25C

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS -- Fort Collins

Work Order Number: 1608286

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: FY2016 200-UP-1 Remedial Action Wells Sampling and Analysis-

Lab ID: VL160816-3LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 08/16/2016
Date Analyzed: 08/16/2016
Prep Method: SW5030C

Prep Batch: VL160816-3
QCBatchID: VL160816-3-1
Run ID: VL160816-3A
Cleanup: NONE
Basis: N/A
File Name: C71083

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
56-23-5	CARBON TETRACHLORIDE	10	10.4	1		104	77 - 122%
79-01-6	TRICHLOROETHENE	10	10.5	1		105	83 - 117%

Lab ID: VL160816-3LCSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 08/16/2016
Date Analyzed: 08/16/2016
Prep Method: SW5030C

Prep Batch: VL160816-3
QCBatchID: VL160816-3-1
Run ID: VL160816-3A
Cleanup: NONE
Basis: N/A
File Name: C71084

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
56-23-5	CARBON TETRACHLORIDE	10	10	1		100	20	4
79-01-6	TRICHLOROETHENE	10	10	1		100	20	4

Surrogate Recovery LCS/LCSD

CASNO	Target Analyte	Spike Added	LCS % Rec.	LCS Flag	LCSD % Rec.	LCSD Flag	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	25	108		106		85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	25	99		99		84 - 118
2037-26-5	TOLUENE-D8	25	100		99		85 - 115

Data Package ID: VL1608286-1