

Tuesday, June 21, 2016

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

Re: ALS Workorder: 1606042
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 6/2/2016. The samples were scheduled for the following analyses:

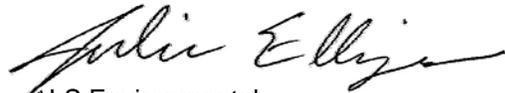
Metals
GC/MS Volatiles

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 Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1606042
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
B34965	1606042-1		WATER	01-Jun-16	10:04
B34966	1606042-2		WATER	01-Jun-16	10:04

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F16-007-051	PAGE 1 OF 1
COLLECTOR J.R. 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 C9414, I-005	PROJECT DESIGNATION FY2016 200-UP-1 Remedial Action Wells Sampling and Analysis - Water	FIELD LOGBOOK NO. 306.96	SAF NO. F16-007	AIR QUALITY	METHOD OF SHIPMENT FEDERAL EXPRESS
ICE CHEST NO. 6005-479	OFFSITE PROPERTY NO. ANF-N-6453181	ACTUAL SAMPLE DEPTH 306.96	COA 300192	ORIGINAL	
SHIPPED TO ALS Environmental Ft. Collins	BILL OF LADING/AIR BILL NO. 7764 2142 7581				

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 are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA	PRESERVATION HNO3 to pH <2	HOLDING TIME 6 Months	TYPE OF CONTAINER G/P	NO. OF CONTAINER(S) 1	VOLUME 500ml	SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS
SPECIAL HANDLING AND/OR STORAGE							
SAMPLE NO. B34965	MATRIX* WATER	SAMPLE DATE 6-1-16	SAMPLE TIME 1004				

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM J.R. Aguilar/CHPRC	DATE/TIME JUN 01 2016 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME JUN 01 2016	FILTER (1) 6020_METALS_ICPMS: COMMON (Add-on) {Manganese, Uranium};	
RELINQUISHED BY/REMOVED FROM FED EX	DATE/TIME	RECEIVED BY/STORED IN C Trimbles C	DATE/TIME 6-2-16 0945	FILTER	
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	

CH2M Hill Plateau Remediation Company
COLLECTOR J.R. Aguilar/CHPRC
SAMPLING LOCATION C9414, I-005
ICE CHEST NO. 605-479
SHIPPED TO ALS Environmental Ft. Collins
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
COMPANY CONTACT TODAY, D
TELEPHONE NO. 376-6427
PROJECT DESIGNATION FY2016 200-UP-1 Remedial Action Wells Sampling and Analysis - Water
FIELD LOGBOOK NO. HNF-2-645-3/81
OFFSITE PROPERTY NO. 6682
PROJECT COORDINATOR TODAY, D
SAF NO. F16-007
COA 300192
BILL OF LADING/AIR BILL NO. 7764 2142 7581
PRICE CODE 7H
AIR QUALITY
METHOD OF SHIPMENT FEDERAL EXPRESS
DATA TURNAROUND 30 Days / 30 Days
PAGE 1 OF 1
ORIGINAL

MATRIX*
A=Air
DI=Drum
L=Liquids
DS=Drum
S=Solids
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegetation
W=Water
WI=Wipe
X=Other

PRESERVATION HCl or H2SO4 to pH <2/ Cool 14 Days
HOLDING TIME
TYPE OF CONTAINER aGs*
NO. OF CONTAINER(S) 3
VOLUME 40mL
SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO. B34966
MATRIX* WATER
SAMPLE DATE 6-1-16
SAMPLE TIME 1004

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	RECEIVED BY/ STORED IN	DATE/TIME	SPECIAL INSTRUCTIONS
RELINQUISHED BY/ REMOVED FROM J.R. Aguilar/CHPRC		RECEIVED BY/ STORED IN FEDEX	DATE/TIME 20.6/1/16 JUN 01 2016	(1) 8260_VOA_GCMS: COMMON {Carbon tetrachloride, Trichloroethene};
RELINQUISHED BY/ REMOVED FROM FED EX		RECEIVED BY/ STORED IN C Trimble Cognom 56	DATE/TIME 6-2-16 0945	
RELINQUISHED BY/ REMOVED FROM		RECEIVED BY/ STORED IN	DATE/TIME	
RELINQUISHED BY/ REMOVED FROM		RECEIVED BY/ STORED IN	DATE/TIME	
RELINQUISHED BY/ REMOVED FROM		RECEIVED BY/ STORED IN	DATE/TIME	
RELINQUISHED BY/ REMOVED FROM		RECEIVED BY/ STORED IN	DATE/TIME	
RELINQUISHED BY/ REMOVED FROM		RECEIVED BY/ STORED IN	DATE/TIME	
RELINQUISHED BY/ REMOVED FROM		RECEIVED BY/ STORED IN	DATE/TIME	

LABORATORY SECTION RECEIVED BY
FINAL SAMPLE DISPOSITION DISPOSAL METHOD

TITLE
DISPOSED BY
DATE/TIME

FRS ID = FSR19883
TRVL NUM = TRVL-16-059
PRINTED ON 1/13/2016
A-6003-618 (REV 2)



ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: CHPRC
Project Manager: JE

Workorder No: 1606042
Initials: COT Date: 6-2-16

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 of sediment: ___ dusting ___ moderate ___ heavy	Amount 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*: #2 <input checked="" type="radio"/> #4	RAD ONLY	<input checked="" type="radio"/> YES	NO
Cooler #: <u>1</u>			
Temperature (°C): <u>2.0</u>			
No. of custody seals on cooler: <u>2</u>			
External µR/hr reading: <u>11</u>			
Background µR/hr reading: <u>11</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: [Signature] 6/2/16

ORIGIN ID: PSCA (509) 528-9426
LESLY WALL
CITY
8297 LATAH ST.
8299 LATAH ST.
RICHLAND, WA 99354
UNITED STATES US

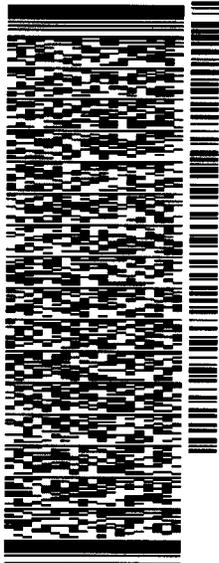
SHIP DATE: 01 JUN 16
ACT WT: 15.00 LB
CAD: 107068051/NET3730
BILL THIRD PARTY

TO JULIE ELLINGSON
ALS GLOBAL
225 COMMERCE DRIVE

FORT COLLINS CO 80524
(970) 490-1511 REF: PTR# 6882
INV. DEPT

11
-2

540.02/30BD/727F



TRK# 7764 2142 7581
0201

THU - 02 JUN 10:30A
PRIORITY OVERNIGHT
DSR

XH FTCA

80524
DEN
CO-US



1606042

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.

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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.



Metals

Case Narrative

CH2M HILL Plateau Remediation Company

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

Work Order Number: 1606042

1. This report consists of 1 water sample.
2. The sample was received cool and intact by ALS on 06/02/16.
3. The sample was to be 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 1606042-1 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.
- Matrix spike recoveries could not be evaluated for the following analyte:

<u>Analyte</u>	<u>Sample ID</u>
Uranium	1606042-1

The concentration of this analyte in the native sample was greater than four times the concentration of matrix spike added during the digestion. When sample concentration is that much greater than the spike added, spike recoveries may not be accurate. The laboratory control sample indicates that the digestion and analysis were in control.

- A serial dilution was analyzed with this ICP batch. Acceptance criteria was not met.

<u>Analyte</u>	<u>Sample ID</u>
Manganese	1606042-1L
Uranium	1606042-1L

The native sample results are 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
Jill Latelle
Inorganics Primary Data Reviewer

6/20/16
Date

Audie Ellinger
Audie Ellinger
Inorganics Final Data Reviewer

6/21/16
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 $\leq 5X$ 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 Environmental -- FC

Work Order Number: 1606042

Client Name: CH2M HILL Plateau Remediation Company

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

Field ID:	B34965
Lab ID:	1606042-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 01-Jun-16
Date Extracted: 15-Jun-16
Date Analyzed: 18-Jun-16
Prep Method: SW3005 Rev A

Prep Batch: IP160615-1
QC Batch ID: IP160615-1-3
Run ID: IM160618-11A6
Cleanup: NONE
Basis: As Received
File Name: 147SMPL_

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	23	5	0.3		E
7440-61-1	URANIUM	10	52	0.1	0.027		E

Data Package ID: *im1606042-1*

6/21/2016
ALS1606042

ICPMS Metals

Method SW6020A

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1606042

Client Name: CH2M HILL Plateau Remediation Company

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

Lab ID: IP160615-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 15-Jun-16

Date Analyzed: 18-Jun-16

Prep Batch: IP160615-1

QCBatchID: IP160615-1-3

Run ID: IM160618-11A6

Cleanup: NONE

Basis: N/A

File Name: 139SMPL_

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	
7440-61-1	URANIUM	10	0.027	0.1	0.027	U	

Data Package ID: *im1606042-1*

Date Printed: Monday, June 20, 2016

ALS Environmental -- FC

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6/21/2016
ALS1606042

ICPMS Metals

Method SW6020A

Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1606042

Client Name: CH2M HILL Plateau Remediation Company

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

Lab ID: IM160615-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 06/15/2016

Date Analyzed: 06/18/2016

Prep Method: SW3005A

Prep Batch: IP160615-1

QCBatchID: IP160615-1-3

Run ID: IM160618-11A6

Cleanup: NONE

Basis: N/A

File Name: 140SMPL_

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	108	5		108	80 - 120%
7440-61-1	URANIUM	10	10.6	0.1		106	80 - 120%

Data Package ID: *im1606042-1*

Date Printed: Monday, June 20, 2016

ALS Environmental -- FC

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LIMS Version: 6.816

ICPMS Metals

Method SW6020A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1606042

Client Name: CH2M HILL Plateau Remediation Company

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

Field ID: B34965	Sample Matrix: WATER	Prep Batch: IP160615-1	Sample Aliquot: 50 ml
LabID: 1606042-1MS	% Moisture: N/A	QCBatchID: IP160615-1-3	Final Volume: 50 ml
	Date Collected: 01-Jun-16	Run ID: IM160618-11A6	Result Units: UG/L
	Date Extracted: 15-Jun-16	Cleanup: NONE	File Name: 152SMPL_
	Date Analyzed: 18-Jun-16	Basis: As Received	
	Prep Method: SW3005 Rev A		

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7439-96-5	MANGANESE	23		127		5	100	103	75 - 125%
7440-61-1	URANIUM	52		56.8		0.1	10	49	75 - 125%

Field ID: B34965	Sample Matrix: WATER	Prep Batch: IP160615-1	Sample Aliquot: 50 ml
LabID: 1606042-1MSD	% Moisture: N/A	QCBatchID: IP160615-1-3	Final Volume: 50 ml
	Date Collected: 01-Jun-16	Run ID: IM160618-11A6	Result Units: UG/L
	Date Extracted: 15-Jun-16	Cleanup: NONE	File Name: 153SMPL_
	Date Analyzed: 18-Jun-16	Basis: As Received	
	Prep Method: SW3005 Rev A		

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7439-96-5	MANGANESE	126		100	103	5	20	0
7440-61-1	URANIUM	55.9		10	40	0.1	20	2

Data Package ID: im1606042-1



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: 1606042

1. This report consists of 1 water sample. The sample was received cool and intact by ALS on 06/02/16.

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

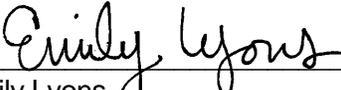
2. The sample was prepared according to SW-846, 3rd Edition procedures. Specifically, the water sample was prepared using purge and trap procedures based on Method 5030C.
3. The sample was analyzed using GC/MS with an RTX-624, RTX-VMS, or equivalent capillary column according to the current revision 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 verifications 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 because of insufficient sample. 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. Due to the concentration of a target analyte, the sample was analyzed at a dilution. The reporting limit has been adjusted accordingly.
14. 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 Lyons
Organics Primary Data Reviewer

6/16/16
Date



Julie Elliza
Organics Final Data Reviewer

6/17/16
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.

6/21/2016
ALS1606042

GC/MS Volatiles

Method SW8260_25C

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1606042

Client Name: CH2M HILL Plateau Remediation Company

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

Lab ID: VL160610-3MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 10-Jun-16

Date Analyzed: 10-Jun-16

Prep Batch: VL160610-3

QCBatchID: VL160610-3-1

Run ID: VL160610-3A

Cleanup: NONE

Basis: N/A

File Name: C69133

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	25.4		25	102	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	24		25	96	84 - 118
2037-26-5	TOLUENE-D8	23.8		25	95	85 - 115

Data Package ID: VL1606042-1

Date Printed: Wednesday, June 15, 2016

ALS Environmental -- FC

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LIMS Version: 6.815

6/21/2016
ALS1606042

GC/MS Volatiles

Method SW8260_25C

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1606042

Client Name: CH2M HILL Plateau Remediation Company

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

Field ID:	B34966
Lab ID:	1606042-2

Sample Matrix: WATER

Prep Batch: VL160610-3

Analyst: Joe Kostelnik

% Moisture: N/A

QCBatchID: VL160610-3-1

Sample Aliquot: 10 ml

Date Collected: 01-Jun-16

Run ID: VL160610-3A

Final Volume: 10 ml

Date Extracted: 10-Jun-16

Cleanup: NONE

Result Units: UG/L

Date Analyzed: 10-Jun-16

Basis: As Received

Clean DF: 1

Analysis ReqCode: 8260_VOA_GCM

Prep Method: SW5030 Rev C

File Name: C69136

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
56-23-5	CARBON TETRACHLORIDE	1	220	1	0.3	E	
79-01-6	TRICHLOROETHENE	1	0.69	1	0.3	J	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	25		25	100	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	24.5		25	98	84 - 118
2037-26-5	TOLUENE-D8	23.6		25	94	85 - 115

Data Package ID: VL1606042-1

6/21/2016
ALS1606042

GC/MS Volatiles

Method SW8260_25C

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1606042

Client Name: CH2M HILL Plateau Remediation Company

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

Field ID:	B34966
Lab ID:	1606042-2RR1

Sample Matrix: WATER

Prep Batch: VL160610-3

Analyst: Joe Kostelnik

% Moisture: N/A

QCBatchID: VL160610-3-1

Sample Aliquot: 10 ml

Date Collected: 01-Jun-16

Run ID: VL160610-3A

Final Volume: 10 ml

Date Extracted: 10-Jun-16

Cleanup: NONE

Result Units: UG/L

Date Analyzed: 10-Jun-16

Basis: As Received

Clean DF: 1

Analysis ReqCode: 8260_VOA_GCM

Prep Method: SW5030 Rev C

File Name: C69138

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
56-23-5	CARBON TETRACHLORIDE	10	200	10	3		
79-01-6	TRICHLOROETHENE	10	3	10	3	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	252		250	101	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	243		250	97	84 - 118
2037-26-5	TOLUENE-D8	239		250	95	85 - 115

Data Package ID: VL1606042-1

GC/MS Volatiles

Method SW8260_25C

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1606042

Client Name: CH2M HILL Plateau Remediation Company

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

Lab ID: VL160610-3LCS	Sample Matrix: WATER	Prep Batch: VL160610-3	Sample Aliquot: 10 ml
	% Moisture: N/A	QCBatchID: VL160610-3-1	Final Volume: 10 ml
	Date Collected: N/A	Run ID: VL160610-3A	Result Units: UG/L
	Date Extracted: 06/10/2016	Cleanup: NONE	Clean DF: 1
	Date Analyzed: 06/10/2016	Basis: N/A	
	Prep Method: SW5030C	File Name: C69130	

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
56-23-5	CARBON TETRACHLORIDE	10	10.8	1		108	77 - 122%
79-01-6	TRICHLOROETHENE	10	10.6	1		106	83 - 117%

Lab ID: VL160610-3LCSD	Sample Matrix: WATER	Prep Batch: VL160610-3	Sample Aliquot: 10 ml
	% Moisture: N/A	QCBatchID: VL160610-3-1	Final Volume: 10 ml
	Date Collected: N/A	Run ID: VL160610-3A	Result Units: UG/L
	Date Extracted: 06/10/2016	Cleanup: NONE	Clean DF: 1
	Date Analyzed: 06/10/2016	Basis: N/A	
	Prep Method: SW5030C	File Name: C69131	

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
56-23-5	CARBON TETRACHLORIDE	10	10.4	1		104	20	3
79-01-6	TRICHLOROETHENE	10	10.4	1		104	20	2

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	100		100		85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	25	100		101		84 - 118
2037-26-5	TOLUENE-D8	25	98		99		85 - 115

Data Package ID: VL1606042-1