Thursday, June 02, 2016

Laine Sumner
CH2M HILL Plateau Remediation Company
2420 Stevens Center
Richland, WA 99352

Re: ALS Workorder: 1605527
Project Name: 200W Pump & Treat - Extraction Well Water Sampling
Project Number: F13-002

Dear Ms. Sumner:

Four water samples were received from CH2M HILL Plateau Remediation Company, on 5/26/2016. The samples were scheduled for the following analysis:

Metals

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: 1605527
Client Name: CH2M HILL Plateau Remediation Company
Client Project Name: 200W Pump & Treat - Extraction Well Water Sampling
Client Project Number: F13-002
Client PO Number: BOA 54854

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B35JX7	1605527-1		WATER	24-May-16	10:12
B35JY5	1605527-2		WATER	24-May-16	10:12
B35K46	1605527-3		WATER	24-May-16	9:07
B35JP3	1605527-4		WATER	24-May-16	8:36

CH2MHill Plateau Remediation Company

1605527

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F13-002-2099

COLLECTOR K.C. Patterson/CHPRC	**COMPANY CONTACT** SUMNER, LC	**TELEPHONE NO.** 376-3922	**PROJECT COORDINATOR** SUMNER, LC
SAMPLING LOCATION 299-E33-350, YE29 Wk 1	**PROJECT DESIGNATION** 200W Pump & Treat - Extraction Well Water Sampling		**SAF NO.** F13-002
ICE CHEST NO. GWS-292	**FIELD LOGBOOK NO.** HNF-N-491 15	**ACTUAL SAMPLE DEPTH** (N/A)	**COA** 303111
SHIPPED TO ALS Environmental Ft. Collins	**OFFSITE PROPERTY NO.** 66066		**BILL OF LADING/AIR BILL NO.** 7763 7516 2300

PRICE CODE C05

AIR QUALITY ☐

DATA TURNAROUND 7 Days / 7 Days

METHOD OF SHIPMENT FEDERAL EXPRESS

ORIGINAL

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. N/A

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	HNO3 to pH <2
HOLDING TIME	6 Months
TYPE OF CONTAINER	G/P
NO. OF CONTAINER(S)	1
VOLUME	125mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B35JX7	WATER	MAY 24 2016	1012	✓

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
K.C. Patterson/CHPRC	MAY 24 2016 1210	Janelle Zunker CHPRC	MAY 24 2016 1210
Janelle Zunker CHPRC	MAY 24 2016 1330	SSU#1	MAY 24 2016 1330
SSU-1	MAY 25 2016 1000	J.C. Fulton/CHPRC	MAY 25 2016 1010
J.C. Fulton/CHPRC	MAY 25 2016 1400	FEDEX	
Fedex		Rebecca Merola	5/26/16 1000

SPECIAL INSTRUCTIONS
TRVL-16-137
(1) 6010_METALS_ICP: COMMON {Calcium, Iron, Magnesium, Potassium, Sodium}; 6010_METALS_ICP: COMMON (Add-on) {Boron}; 6020_METALS_ICPMS: COMMON {Aluminum, Cadmium, Chromium, Cobalt, Copper, Molybdenum, Selenium}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Manganese, Nickel, Uranium, Zinc};

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

PRINTED ON 5/5/2016 **FSR ID = FSR32144** **TRVL NUM = TRVL-16-137**

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company

1605527

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F13-002-2107

COLLECTOR K.C. Patterson/CHPRC	**COMPANY CONTACT** SUMNER, LC	**TELEPHONE NO.** 376-3922	**PROJECT COORDINATOR** SUMNER, LC
SAMPLING LOCATION 299-E33-350, YE29 Wk 1 - DUP	**PROJECT DESIGNATION** 200W Pump & Treat - Extraction Well Water Sampling		**SAF NO.** F13-002
ICE CHEST NO. GWS-292	**FIELD LOGBOOK NO.** HNF-N-491 15	**ACTUAL SAMPLE DEPTH** (N/A)	**COA** 303111
SHIPPED TO ALS Environmental Ft. Collins	**OFFSITE PROPERTY NO.** 66666		**BILL OF LADING/AIR BILL NO.** 7763 7516 2300

PRICE CODE C05

AIR QUALITY ☐

DATA TURNAROUND 7 Days / 7 Days

METHOD OF SHIPMENT FEDERAL EXPRESS

ORIGINAL

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. N/A

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	HNO3 to pH <2
HOLDING TIME	6 Months
TYPE OF CONTAINER	G/P
NO. OF CONTAINER(S)	1
VOLUME	125mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B35JY5 2	WATER	MAY 24 2016	1012	✓

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
K.C. Patterson/CHPRC	MAY 24 2016 1210	Janelle Zunker CHPRC	MAY 24 2016 1210
Janelle Zunker CHPRC	MAY 24 2016 1330	SSU#1	MAY 24 2016 1330
SSU-1	MAY 25 2016 1000	J.C. Fulton/CHPRC	MAY 25 2016 1000
J.C. Fulton/CHPRC	MAY 25 2016 1400	FEDEX	
Fedex		Rebecca Nerde	5/26/16 1000

SPECIAL INSTRUCTIONS
TRVL-16-137
(1) 6010_METALS_ICP: COMMON {Calcium, Iron, Magnesium, Potassium, Sodium}; 6010_METALS_ICP: COMMON (Add-on) {Boron}; 6020_METALS_ICPMS: COMMON {Aluminum, Cadmium, Chromium, Cobalt, Copper, Molybdenum, Selenium}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Manganese, Nickel, Uranium, Zinc};

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

PRINTED ON 5/5/2016 **FSR ID =** FSR32145 **TRVL NUM =** TRVL-16-137

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	1605527 CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F13-002-2161	PAGE 1 OF 1
COLLECTOR K.C. Patterson/CHPRC	COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC	PRICE CODE C05 AIR QUALITY ☐	DATA TURNAROUND 7 Days / 7 Days
SAMPLING LOCATION 299-E33-351, YE30 Wk 1	PROJECT DESIGNATION 200W Pump & Treat - Extraction Well Water Sampling		SAF NO. F13-002		
ICE CHEST NO. GWS-2907	FIELD LOGBOOK NO. HNF-N- 491 15	ACTUAL SAMPLE DEPTH (N/A)	COA 303111	METHOD OF SHIPMENT FEDERAL EXPRESS	ORIGINAL
SHIPPED TO ALS Environmental Ft. Collins	OFFSITE PROPERTY NO. 66666		BILL OF LADING/AIR BILL NO. 7763 7516 2300		

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. N/A

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	HNO3 to pH <2
HOLDING TIME	6 Months
TYPE OF CONTAINER	G/P
NO. OF CONTAINER(S)	1
VOLUME	125mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.		MATRIX*	SAMPLE DATE	SAMPLE TIME	
B35K46	3	WATER	MAY 24 2016	0907	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM K.C. Patterson/CHPRC	DATE/TIME MAY 24 2016 1210	RECEIVED BY/STORED IN Janelle Zunker CHPRC	DATE/TIME MAY 24 2016 1210
RELINQUISHED BY/REMOVED FROM Janelle Zunker CHPRC	DATE/TIME MAY 24 2016 1330	RECEIVED BY/STORED IN SSU#1	DATE/TIME MAY 24 2016 1330
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME MAY 25 2016 1000	RECEIVED BY/STORED IN J.C. Fulton/CHPRC	DATE/TIME MAY 25 2016 1000
RELINQUISHED BY/REMOVED FROM J.C. Fulton/CHPRC	DATE/TIME MAY 25 2016 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME
RELINQUISHED BY/REMOVED FROM Fedex	DATE/TIME	RECEIVED BY/STORED IN Rebecca Nerola	DATE/TIME 5/26/16 1000
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
TRVL-16-137
(1) 6010_METALS_ICP: COMMON {Calcium, Iron, Magnesium, Potassium, Sodium}; 6010_METALS_ICP: COMMON (Add-on) {Boron}; 6020_METALS_ICPMS: COMMON {Aluminum, Cadmium, Chromium, Cobalt, Copper, Molybdenum, Selenium}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Manganese, Nickel, Uranium, Zinc};

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

PRINTED ON 5/5/2016 FSR ID = FSR32152 TRVL NUM = TRVL-16-137 A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	1605527 CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F13-002-2044	PAGE 1 OF 1
COLLECTOR K.C. Patterson/CHPRC	COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC	PRICE CODE C05	DATA TURNAROUND
SAMPLING LOCATION 299-E33-344, YE28 Wk 1	PROJECT DESIGNATION 200W Pump & Treat - Extraction Well Water Sampling		SAF NO. F13-002	AIR QUALITY ☐	7 Days / 7 Days
ICE CHEST NO. GWS-292	FIELD LOGBOOK NO. HNF-N-491 15	ACTUAL SAMPLE DEPTH (N/A)	COA 303111	METHOD OF SHIPMENT FEDERAL EXPRESS	ORIGINAL
SHIPPED TO ALS Environmental Ft. Collins	OFFSITE PROPERTY NO. 66666		BILL OF LADING/AIR BILL NO. 776637 5162300		

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. N/A

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	HNO3 to pH <2
HOLDING TIME	6 Months
TYPE OF CONTAINER	G/P
NO. OF CONTAINER(S)	1
VOLUME	125mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B35JP3 4	WATER	MAY 24 2016	0836	✓

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
K.C. Patterson/CHPRC	MAY 24 2016 1210	Janelle Zunker CHPRC	MAY 24 2016 1210
Janelle Zunker CHPRC	MAY 24 2016 1330	SSU#1	MAY 24 2016 1330
SSU-1	MAY 25 2016 1000	J.C. Fulton/CHPRC	MAY 25 2016 1000
J.C. Fulton/CHPRC	MAY 25 2016 1400	FEDEX	
Fedex		Rebecca Merola	5/26/16 1000

SPECIAL INSTRUCTIONS
TRVL-16-137
(1) 6010_METALS_ICP: COMMON {Calcium, Iron, Magnesium, Potassium, Sodium}; 6010_METALS_ICP: COMMON (Add-on) {Boron}; 6020_METALS_ICPMS: COMMON {Aluminum, Cadmium, Chromium, Cobalt, Copper, Molybdenum, Selenium}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Manganese, Nickel, Uranium, Zinc};

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

PRINTED ON 5/5/2016 FSR ID = FSR32167 TRVL NUM = TRVL-16-137 A-6003-618 (REV 2)

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: CHPRC Workorder No: 1605527

Project Manager: JE Initials: RVR Date: 5/27/16 26m

1.	Does this project require any special handling in addition to standard ALS procedures?		YES	NO
2.	Are custody seals on shipping containers intact?	NONE	YES	NO
3.	Are Custody seals on sample containers intact?	NONE	YES	NO
4.	Is there a COC (Chain-of-Custody) present or other representative documents?		YES	NO
5.	Are the COC and bottle labels complete and legible?		YES	NO
6.	Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		YES	NO
7.	Were airbills / shipping documents present and/or removable?	DROP OFF	YES	NO
8.	Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	YES	NO
9.	Are all aqueous non-preserved samples pH 4-9?	N/A	YES	NO
10.	Is there sufficient sample for the requested analyses?		YES	NO
11.	Were all samples placed in the proper containers for the requested analyses?		YES	NO
12.	Are all samples within holding times for the requested analyses?		YES	NO
13.	Were all sample containers received intact? (not broken or leaking, etc.)		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	YES	NO
15.	Do any water samples contain sediment? Amount of sediment: ____ dusting ____ moderate ____heavy	N/A	YES	NO
16.	Were the samples shipped on ice?		YES	NO
17.	Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 #4	RAD ONLY	YES	NO

Cooler #:	1							
Temperature (°C):	~~AM~~ 1.2°C							
No. of custody seals on cooler:	2							
DOT Survey/ Acceptance Information — External µR/hr reading:	11							
Background µR/hr reading:	12							

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? **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: 5/29/16

*IR Gun #2: Oakton, SN 29922500201-0066
*IR Gun #4: Oakton, SN 2372220101-0002

Form 201r24.xls (06/04/2012)

ORIGIN ID:PSCA (509) 373-3580
JANELLE ZUNKER
CH2M
6269 LATAH ST.
RICHLAND, WA 99354
UNITED STATES US

SHIP DATE: 25MAY16
ACTWGT: 50.00 LB
CAD: 10706605/INET3730

BILL THIRD PARTY

TO JULIE ELLINGSON
ALS GLOBAL
225 COMMERCE DRIVE
FORT COLLINS CO 80524
(970) 490-1511
REF: 6666
INV:
PO:
DEPT:

1.2°C 11
-2

160552867

540J1/6323/727F

FedEx Express

J1010160260601uw

THU - 26 MAY 10:30A
PRIORITY OVERNIGHT
DSR
80524
CO-US DEN

TRK# 0201 7763 7516 2300

XH FTCA

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 ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Metals

Case Narrative

CH2M HILL Plateau Remediation Company

200W Pump & Treat – Extraction Well Water Sampling – F13-002

Work Order Number: 1605527

1. This report consists of 4 water samples.

2. The samples were received cool and intact by ALS on 05/26/16.

3. The samples had a pH less than 2 upon receipt.

4. The samples were prepared and analyzed based on SW-846, 3rd Edition procedures.

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

5. Analysis by Trace ICP followed method 6010B and the current revision of SOP 834.

   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 samples were prepared and analyzed within the established hold times.

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

8. General quality control procedures.

   - A preparation (method) blank, laboratory control sample, and laboratory control sample duplicate were digested and analyzed with the samples in this digestion batch.
   - The preparation (method) blank associated with this digestion batch was below the reporting limit for the requested analytes. Sodium has results above the MDL. 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 and high standard readbacks associated with Method 6010B were within acceptance criteria.
- The interference check samples associated with Method 6020A were analyzed.

9. Matrix specific quality control procedures.

   Due to limited sample volume, a laboratory control sample duplicate (LCSD) was performed in place of matrix QC for each analysis.

10. All samples required a dilution to bring sodium into the analytical range of the Trace ICP.

    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. All samples required a further dilution to bring uranium into the analytical range of the ICP-MS.

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 — 6/1/16
Jill Latelle — Date
Inorganics Primary Data Reviewer

Julie Ellyson — 6/1/16
Inorganics Final Data Reviewer — Date

SAMPLE ISSUE RESOLUTION

SIR NUM	SIR16-524
REV NUM	0
DATE INITIATED	7/28/2016

SAMPLE EVENT INFORMATION

SAF NUM(S)	F13-002
OPERABLE UNIT(S)	200-ZP-1
PROJECT(S)	200W P&T EXTRAC
SAMPLE EVENT TITLE(S)	200W Pump & Treat Extraction Wells
LABORATORY	ALS Environmental Ft. Collins

SAMPLING INFORMATION

NUMBER OF SAMPLES	1
SAMPLE NUMBERS	B35JX7
SAMPLE MATRIX	WATER
COLLECTION DATE	5/24/2016 - 5/24/2016
SDG NUM	ALS1605527

ISSUE BACKGROUND

CLASS	Chain of Custody Issue (Field)
TYPE	Relinquished/Received Time Do Not Match
DESCRIPTION	COC F13-002-2099, SAMPLE B35JX7. THRID RELINQUISHED BY AND RECEIVED BY TIME DO NOT MATCH.

DISPOSITION

DESCRIPTION	DOCUMENT AND CLOSE
JUSTIFICATION	DOCUMENT AND CLOSE

SUBMITTED BY: Piper Benjamin DATE: 7/25/2016
ACCEPTED BY: Kirsten Killand DATE: 07/26/2016

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 <=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.

Total Recoverable ICP Metals

Method SW6010B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1605527
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Extraction Well Water Sampling F13-002

Field ID: B35JX7
Lab ID: 1605527-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 24-May-16
Date Extracted: 28-May-16
Date Analyzed: 31-May-16
Prep Method: SW3005 Rev A

Prep Batch: IP160528-2
QCBatchID: IP160528-2-1
Run ID: IT160531-1A3
Cleanup: NONE
Basis: As Received
File Name: 160531A.

Analyst: Steve Workman
Sample Aliquot: 50 ml
Final Volume: 50 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-42-8	BORON	1	76	30	6.4		
7440-70-2	CALCIUM	1	210000	1000	23		
7439-89-6	IRON	1	290	50	16		
7439-95-4	MAGNESIUM	1	85000	750	21		
7440-09-7	POTASSIUM	1	22000	1000	170		
7440-23-5	SODIUM	10	350000	5000	260	D	

Data Package ID: *it1605527-1*

Total Recoverable ICP Metals

Method SW6010B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1605527
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Extraction Well Water Sampling F13-002

Field ID: B35JY5
Lab ID: 1605527-2

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 24-May-16
Date Extracted: 28-May-16
Date Analyzed: 31-May-16
Prep Method: SW3005 Rev A

Prep Batch: IP160528-2
QCBatchID: IP160528-2-1
Run ID: IT160531-1A3
Cleanup: NONE
Basis: As Received
File Name: 160531A.

Analyst: Steve Workman
Sample Aliquot: 50 ml
Final Volume: 50 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-42-8	BORON	1	77	30	6.4		
7440-70-2	CALCIUM	1	210000	1000	23		
7439-89-6	IRON	1	230	50	16		
7439-95-4	MAGNESIUM	1	85000	750	21		
7440-09-7	POTASSIUM	1	22000	1000	170		
7440-23-5	SODIUM	10	350000	5000	260	D	

Data Package ID: *it1605527-1*

Total Recoverable ICP Metals

Method SW6010B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1605527
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Extraction Well Water Sampling F13-002

Field ID: B35K46
Lab ID: 1605527-3

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 24-May-16
Date Extracted: 28-May-16
Date Analyzed: 31-May-16
Prep Method: SW3005 Rev A

Prep Batch: IP160528-2
QCBatchID: IP160528-2-1
Run ID: IT160531-1A3
Cleanup: NONE
Basis: As Received
File Name: 160531A.

Analyst: Steve Workman
Sample Aliquot: 50 ml
Final Volume: 50 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-42-8	BORON	1	64	30	6.4		
7440-70-2	CALCIUM	1	310000	1000	23		
7439-89-6	IRON	1	16	50	16	U	
7439-95-4	MAGNESIUM	1	86000	750	21		
7440-09-7	POTASSIUM	1	29000	1000	170		
7440-23-5	SODIUM	10	450000	5000	260	D	

Data Package ID: *it1605527-1*

Total Recoverable ICP Metals

Method SW6010B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1605527
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Extraction Well Water Sampling F13-002

Field ID: B35JP3
Lab ID: 1605527-4

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 24-May-16
Date Extracted: 28-May-16
Date Analyzed: 31-May-16
Prep Method: SW3005 Rev A

Prep Batch: IP160528-2
QCBatchID: IP160528-2-1
Run ID: IT160531-1A3
Cleanup: NONE
Basis: As Received
File Name: 160531A.

Analyst: Steve Workman
Sample Aliquot: 50 ml
Final Volume: 50 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-42-8	BORON	1	62	30	6.4		
7440-70-2	CALCIUM	1	110000	1000	23		
7439-89-6	IRON	1	19	50	16	B	
7439-95-4	MAGNESIUM	1	43000	750	21		
7440-09-7	POTASSIUM	1	14000	1000	170		
7440-23-5	SODIUM	10	270000	5000	260	D	

Data Package ID: *it1605527-1*

Total Recoverable ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1605527
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Extraction Well Water Sampling F13-002

Field ID: B35JX7
Lab ID: 1605527-1

Analysis ReqCode: 6020_METALS_I

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 24-May-16
Date Extracted: 28-May-16
Date Analyzed: 31-May-16
Prep Method: SW3005 Rev A

Prep Batch: IP160528-2
QCBatchID: IP160528-2-2
Run ID: IM160531-10A5
Cleanup: NONE
Basis: As Received
File Name: 064SMPL_

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

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	160	100	14		
7440-38-2	ARSENIC	10	12	2	0.18		
7440-43-9	CADMIUM	10	0.099	2	0.099	U	
7440-47-3	CHROMIUM	10	92	10	1.1		
7440-48-4	COBALT	10	0.42	5	0.07	B	
7440-50-8	COPPER	10	1.6	8	1.1	B	
7439-96-5	MANGANESE	10	19	5	0.3		
7439-98-7	MOLYBDENUM	10	26	2	0.41		
7440-02-0	NICKEL	10	4.2	20	4.2	B	
7782-49-2	SELENIUM	10	12	10	0.66		
7440-61-1	URANIUM	1000	76000	10	2.7	D	
7440-66-6	ZINC	10	170	100	9.1		

Data Package ID: *im1605527-1*

Total Recoverable ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1605527
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Extraction Well Water Sampling F13-002

Field ID: B35JY5
Lab ID: 1605527-2

Analysis ReqCode: 6020_METALS_I

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 24-May-16
Date Extracted: 28-May-16
Date Analyzed: 31-May-16
Prep Method: SW3005 Rev A

Prep Batch: IP160528-2
QCBatchID: IP160528-2-2
Run ID: IM160531-10A5
Cleanup: NONE
Basis: As Received
File Name: 065SMPL_

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

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	140	100	14		
7440-38-2	ARSENIC	10	12	2	0.18		
7440-43-9	CADMIUM	10	0.099	2	0.099	U	
7440-47-3	CHROMIUM	10	90	10	1.1		
7440-48-4	COBALT	10	0.31	5	0.07	B	
7440-50-8	COPPER	10	1.1	8	1.1	U	
7439-96-5	MANGANESE	10	18	5	0.3		
7439-98-7	MOLYBDENUM	10	25	2	0.41		
7440-02-0	NICKEL	10	4.2	20	4.2	U	
7782-49-2	SELENIUM	10	11	10	0.66		
7440-61-1	URANIUM	1000	73000	10	2.7	D	
7440-66-6	ZINC	10	190	100	9.1		

Data Package ID: *im1605527-1*

Total Recoverable ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1605527
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Extraction Well Water Sampling F13-002

Field ID: B35K46
Lab ID: 1605527-3

Analysis ReqCode: 6020_METALS_I

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 24-May-16
Date Extracted: 28-May-16
Date Analyzed: 31-May-16
Prep Method: SW3005 Rev A

Prep Batch: IP160528-2
QCBatchID: IP160528-2-2
Run ID: IM160531-10A5
Cleanup: NONE
Basis: As Received
File Name: 066SMPL_

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

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	14	100	14	U	
7440-38-2	ARSENIC	10	2.8	2	0.18		
7440-43-9	CADMIUM	10	0.099	2	0.099	U	
7440-47-3	CHROMIUM	10	71	10	1.1		
7440-48-4	COBALT	10	0.13	5	0.07	B	
7440-50-8	COPPER	10	1.1	8	1.1	U	
7439-96-5	MANGANESE	10	1.7	5	0.3	B	
7439-98-7	MOLYBDENUM	10	20	2	0.41		
7440-02-0	NICKEL	10	4.2	20	4.2	U	
7782-49-2	SELENIUM	10	11	10	0.66		
7440-61-1	URANIUM	1000	39000	10	2.7	D	
7440-66-6	ZINC	10	67	100	9.1	B	

Data Package ID: *im1605527-1*

Total Recoverable ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1605527
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Extraction Well Water Sampling F13-002

Field ID: B35JP3
Lab ID: 1605527-4

Analysis ReqCode: 6020_METALS_I

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 24-May-16
Date Extracted: 28-May-16
Date Analyzed: 31-May-16
Prep Method: SW3005 Rev A

Prep Batch: IP160528-2
QCBatchID: IP160528-2-2
Run ID: IM160531-10A5
Cleanup: NONE
Basis: As Received
File Name: 067SMPL_

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

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	37	100	14	B	
7440-38-2	ARSENIC	10	8.2	2	0.18		
7440-43-9	CADMIUM	10	0.099	2	0.099	U	
7440-47-3	CHROMIUM	10	140	10	1.1		
7440-48-4	COBALT	10	0.82	5	0.07	B	
7440-50-8	COPPER	10	2.6	8	1.1	B	
7439-96-5	MANGANESE	10	9.8	5	0.3		
7439-98-7	MOLYBDENUM	10	36	2	0.41		
7440-02-0	NICKEL	10	4.2	20	4.2	U	
7782-49-2	SELENIUM	10	12	10	0.66		
7440-61-1	URANIUM	1000	23000	10	2.7	D	
7440-66-6	ZINC	10	330	100	9.1		

Data Package ID: *im1605527-1*

ICP Metals

Method SW6010B

Method Blank

Lab Name: ALS Environmental -- FC
Work Order Number: 1605527
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Extraction Well Water Sampling F13-002

Lab ID: IP160528-2MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 28-May-16
Date Analyzed: 31-May-16

Prep Batch: IP160528-2
QCBatchID: IP160528-2-1
Run ID: IT160531-1A3
Cleanup: NONE
Basis: N/A
File Name: 160531A.

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
7440-42-8	BORON	1	6.4	30	6.4	U	
7440-70-2	CALCIUM	1	23	1000	23	U	
7439-89-6	IRON	1	16	50	16	U	
7439-95-4	MAGNESIUM	1	21	750	21	U	
7440-09-7	POTASSIUM	1	170	1000	170	U	
7440-23-5	SODIUM	1	73	500	26	B	

Data Package ID: *it1605527-1*

ICP Metals

Method SW6010B

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1605527
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Extraction Well Water Sampling F13-002

Lab ID: IP160528-2LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 05/28/2016
Date Analyzed: 05/31/2016
Prep Method: SW3005A

Prep Batch: IP160528-2
QCBatchID: IP160528-2-1
Run ID: IT160531-1A3
Cleanup: NONE
Basis: N/A
File Name: 160531A.

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
7440-42-8	BORON	1000	1060	30		106	80 - 120%
7440-70-2	CALCIUM	40000	40000	1000		100	80 - 120%
7439-89-6	IRON	1000	953	50		95	80 - 120%
7439-95-4	MAGNESIUM	40000	39200	750		98	80 - 120%
7440-09-7	POTASSIUM	40000	39800	1000		100	80 - 120%
7440-23-5	SODIUM	40000	40300	500		101	80 - 120%

Lab ID: IP160528-2LCSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 05/28/2016
Date Analyzed: 05/31/2016
Prep Method: SW3005A

Prep Batch: IP160528-2
QCBatchID: IP160528-2-1
Run ID: IT160531-1A3
Cleanup: NONE
Basis: N/A
File Name: 160531A.

Sample Aliquot: 50 ml
Final Volume: 50 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
7440-42-8	BORON	1000	1070	30		107	20	2
7440-70-2	CALCIUM	40000	40300	1000		101	20	1
7439-89-6	IRON	1000	959	50		96	20	1
7439-95-4	MAGNESIUM	40000	39500	750		99	20	1
7440-09-7	POTASSIUM	40000	40400	1000		101	20	1
7440-23-5	SODIUM	40000	40900	500		102	20	1

Data Package ID: *it1605527-1*

ICPMS Metals

Method SW6020A

Method Blank

Lab Name: ALS Environmental -- FC
Work Order Number: 1605527
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Extraction Well Water Sampling F13-002

Lab ID: IP160528-2MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 28-May-16
Date Analyzed: 31-May-16

Prep Batch: IP160528-2
QCBatchID: IP160528-2-2
Run ID: IM160531-10A5
Cleanup: NONE
Basis: N/A
File Name: 041SMPL_

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
7429-90-5	ALUMINUM	10	14	100	14	U	
7440-38-2	ARSENIC	10	0.18	2	0.18	U	
7440-43-9	CADMIUM	10	0.099	2	0.099	U	
7440-47-3	CHROMIUM	10	1.1	10	1.1	U	
7440-48-4	COBALT	10	0.07	5	0.07	U	
7440-50-8	COPPER	10	1.1	8	1.1	U	
7439-96-5	MANGANESE	10	0.3	5	0.3	U	
7439-98-7	MOLYBDENUM	10	0.41	2	0.41	U	
7440-02-0	NICKEL	10	4.2	20	4.2	U	
7782-49-2	SELENIUM	10	0.66	10	0.66	U	
7440-61-1	URANIUM	10	0.027	0.1	0.027	U	
7440-66-6	ZINC	10	9.1	100	9.1	U	

Data Package ID: *im1605527-1*

ICPMS Metals

Method SW6020A

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1605527
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Extraction Well Water Sampling F13-002

Lab ID: IM160528-2LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 05/28/2016
Date Analyzed: 05/31/2016
Prep Method: SW3005A

Prep Batch: IP160528-2
QCBatchID: IP160528-2-2
Run ID: IM160531-10A5
Cleanup: NONE
Basis: N/A
File Name: 042SMPL_

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
7429-90-5	ALUMINUM	5000	4980	100		100	80 - 120%
7440-38-2	ARSENIC	100	97.4	2		97	80 - 120%
7440-43-9	CADMIUM	30	30.1	2		100	80 - 120%
7440-47-3	CHROMIUM	500	508	10		102	80 - 120%
7440-48-4	COBALT	100	100	5		100	80 - 120%
7440-50-8	COPPER	1000	1060	8		106	80 - 120%
7439-96-5	MANGANESE	100	98.8	5		99	80 - 120%
7439-98-7	MOLYBDENUM	100	101	2		101	80 - 120%
7440-02-0	NICKEL	500	506	20		101	80 - 120%
7782-49-2	SELENIUM	100	109	10		109	80 - 120%
7440-61-1	URANIUM	10	10.2	0.1		102	80 - 120%
7440-66-6	ZINC	2000	2060	100		103	80 - 120%

Data Package ID: *im1605527-1*

ICPMS Metals

Method SW6020A

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1605527
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Extraction Well Water Sampling F13-002

Lab ID: IM160528-2LCSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 05/28/2016
Date Analyzed: 05/31/2016
Prep Method: SW3005A

Prep Batch: IP160528-2
QCBatchID: IP160528-2-2
Run ID: IM160531-10A5
Cleanup: NONE
Basis: N/A
File Name: 043SMPL_

Sample Aliquot: 50 ml
Final Volume: 50 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
7429-90-5	ALUMINUM	5000	4970	100		99	20	0
7440-38-2	ARSENIC	100	98.6	2		99	20	1
7440-43-9	CADMIUM	30	30.3	2		101	20	1
7440-47-3	CHROMIUM	500	510	10		102	20	0
7440-48-4	COBALT	100	101	5		101	20	1
7440-50-8	COPPER	1000	1070	8		107	20	1
7439-96-5	MANGANESE	100	102	5		102	20	4
7439-98-7	MOLYBDENUM	100	102	2		103	20	1
7440-02-0	NICKEL	500	510	20		102	20	1
7782-49-2	SELENIUM	100	110	10		110	20	1
7440-61-1	URANIUM	10	10	0.1		100	20	2
7440-66-6	ZINC	2000	2090	100		105	20	1

Data Package ID: *im1605527-1*