ALS Environmental

Tuesday, February 03, 2015

Bob Evans
CH2M HILL Plateau Remediation Company
2420 Stevens Center
Richland, WA 99352

Re: ALS Workorder: 1501023
Project Name: 200W Pump & Treat - Treatment Plant Water Sampling
Project Number: F15-005

Dear Mr. Evans:

Three water samples were received from CH2M HILL Plateau Remediation Company, on 1/6/2015. The samples were scheduled for the following analysis:

Metals

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

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

Sincerely,

ALS Environmental
Julie Ellingson
Project Manager

JME/jme
Enclosure(s):

ADDRESS 225 Commerce Drive, Fort Collins, Colorado, USA 80524 | PHONE +1 970 490 1511 | FAX +1 970 490 1522
ALS GROUP USA, CORP. Part of the ALS Laboratory Group An ALS Limited Company

Environmental www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

ALS is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

ALS Laboratory Certifications	
Accreditation Body	License or Certification Number
Alaska (AK)	UST-086
Alaska (AK)	CO01099
Arizona (AZ)	AZ0742
California (CA)	06251CA
Colorado (CO)	CO01099
Connecticut (CT)	PH-0232
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
L-A-B (DoD ELAP/ISO 170250)	L2257
Maryland (MD)	285
Missouri	175
Nebraska	NE-OS-24-13
Nevada (NV)	CO000782008A
New Jersey (NJ)	CO003
North Dakota (ND)	R-057
Oklahoma	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	2976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington	C1280

Revised 8/15/2013

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1501023
Client Name: CH2M HILL Plateau Remediation Company
Client Project Name: 200W Pump & Treat - Treatment Plant Water Sampling
Client Project Number: F15-005
Client PO Number: BOA 54854

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B304K6	1501023-1		WATER	05-Jan-15	9:00
B304N2	1501023-2		WATER	05-Jan-15	10:45
B304M2	1501023-3		WATER	05-Jan-15	11:00

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F15-005-030	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE 7C	DATA TURNAROUND
J.R. Aguilar/CHPRC	EVANS, RT	373-7924	EVANS, RT	AIR QUALITY ☐	15 Days / 15 Days
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**		
289-T, Influent Tank, Valve V12-Y30	200W Pump & Treat - Treatment Plant Water Sampling		F15-005		
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH**	**COA**	**METHOD OF SHIPMENT**	
GWS-429	HNF-N-491-9 / Pg 124	N/A	303110	FEDERAL EXPRESS	ORIGINAL
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**		
ALS Environmental	5310		7724 6648 4279		

1501023

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS		
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	*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.	PRESERVATION	HNO3 to pH <2
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	500mL
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.		MATRIX*	SAMPLE DATE	SAMPLE TIME	
B304K6	1	WATER	1-5-15	0900	✓

ALS1501023

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM J.R. Aguilar/CHPRC	DATE/TIME JAN 0 5 2015 1010	RECEIVED BY/STORED IN F.M. Hall/CHPRC	DATE/TIME JAN 0 5 2015 1010
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME JAN 0 5 2015 1420	RECEIVED BY/STORED IN FEDEX	DATE/TIME JAN 0 5 2015 1515 bb
RELINQUISHED BY/REMOVED FROM fed Ex	DATE/TIME	RECEIVED BY/STORED IN Erin Peterson	DATE/TIME 1/6/15 1020
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. TRVL-14-206 Filtering shall be performed by SGRP Field Sampling Organization using a (0.45µm) filter while in the field.

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

TRVL-14-206

LABORATORY SECTION	RECEIVED BY Erin Peterson	TITLE Lab Tech	DATE/TIME 1/6/15 1020
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

February 3, 2015

PRINTED ON 12/15/2014

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-005-056	PAGE 1 OF 1
COLLECTOR J.R. Aguilar/CHPRC	COMPANY CONTACT EVANS, RT	TELEPHONE NO. 373-7924	PROJECT COORDINATOR EVANS, RT	PRICE CODE 7C	DATA TURNAROUND
SAMPLING LOCATION 289-TA, Post-Resin Tanks, Valve V06-Y22	PROJECT DESIGNATION 200W Pump & Treat - Treatment Plant Water Sampling		SAF NO. F15-005	AIR QUALITY ☐	15 Days / 15 Days
ICE CHEST NO. GWS-429	FIELD LOGBOOK NO. HNF-N-491-9 / Pg 124	ACTUAL SAMPLE DEPTH N/A	COA 303110	METHOD OF SHIPMENT FEDERAL EXPRESS	ORIGINAL
SHIPPED TO ALS Environmental	OFFSITE PROPERTY NO. 5310		BILL OF LADING/AIR BILL NO. 7124 6648 4279		

1501023

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS		
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	*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.	PRESERVATION	HNO3 to pH <2
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	500mL
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B304N2 (2)	WATER	1-5-15	1045	✓

ALS1501023

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM J.R. Aguilar/CHPRC	DATE/TIME JAN 0 5 2015 1120	RECEIVED BY/STORED IN F.M. Hall/CHPRC	DATE/TIME JAN 0 5 2015 1120
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME JAN 0 5 2015 1130	RECEIVED BY/STORED IN FEDEX	DATE/TIME 661-5945 JAN 0 5 2015
RELINQUISHED BY/REMOVED FROM fedEx	DATE/TIME	RECEIVED BY/STORED IN Erin Peterson	DATE/TIME 1/6/15 1020
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. TRVL-14-206
(1) 6020_METALS_ICPMS: COMMON {Aluminum, Chromium, Cobalt, Copper, Molybdenum, Selenium}; 6020_METALS_ICPMS: COMMON (Add-on) {Manganese, Nickel, Uranium, Zinc}; 6010_METALS_ICP: COMMON {Calcium, Iron, Magnesium, Potassium, Sodium}; 6010_METALS_ICP: COMMON (Add-on) {Boron};

TRVL-14-206

LABORATORY SECTION	RECEIVED BY Erin Peterson	TITLE Lab Tech	DATE/TIME 1/6/15 1020
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 12/15/2014

A-6003-618 (REV 2)

February 3, 2015

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-005-046	PAGE 1 OF 1
COLLECTOR J.R. Aguilar/CHPRC	COMPANY CONTACT EVANS, RT	TELEPHONE NO. 373-7924	PROJECT COORDINATOR EVANS, RT	PRICE CODE 7C AIR QUALITY ☐	DATA TURNAROUND 15 Days / 15 Days
SAMPLING LOCATION 289-TA, Pre-Resin Tanks, Valve V05-Y20	PROJECT DESIGNATION 200W Pump & Treat - Treatment Plant Water Sampling		SAF NO. F15-005		
ICE CHEST NO. GWS-429	FIELD LOGBOOK NO. HNF-N-491-9/Pg 124	ACTUAL SAMPLE DEPTH N/A	COA 303110	METHOD OF SHIPMENT FEDERAL EXPRESS	ORIGINAL
SHIPPED TO ALS Environmental	OFFSITE PROPERTY NO. 5310		BILL OF LADING/AIR BILL NO. 7724 6648 4279		

1501023

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	HNO3 to pH <2
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	*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.	HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	500mL
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.		MATRIX*	SAMPLE DATE	SAMPLE TIME	
B304M2	(3)	WATER	1-5-15	1100	✓

ALS1501023

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM J.R. Aguilar/CHPRC	DATE/TIME JAN 0 5 2015 1120	RECEIVED BY/STORED IN F.M. Hall/CHPRC	DATE/TIME JAN 0 5 2015 1120
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME JAN 0 5 2015/1130	RECEIVED BY/STORED IN FEDEX	DATE/TIME 1/6/15
RELINQUISHED BY/REMOVED FROM FedEx	DATE/TIME	RECEIVED BY/STORED IN Erin Peters	DATE/TIME 1/6/15 1020
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. TRVL-14-206
(1) 6020_METALS_ICPMS: COMMON {Aluminum, Chromium, Cobalt, Copper, Molybdenum, Selenium}; 6020_METALS_ICPMS: COMMON (Add-on) {Manganese, Nickel, Uranium, Zinc}; 6010_METALS_ICP: COMMON {Calcium, Iron, Magnesium, Potassium, Sodium}; 6010_METALS_ICP: COMMON (Add-on) {Boron};

TRVL-14-206

LABORATORY SECTION	RECEIVED BY Erin Peters	TITLE Lab tech	DATE/TIME 1/6/15 1020
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

February 3, 2015

PRINTED ON 12/15/2014

A-6003-618 (REV 2)

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: CH2M Workorder No: 1501~~022~~ 023 ecr

Project Manager: JME Initials: ECP Date: 1/6/15

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 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):	AMB							
No. of custody seals on cooler:	2 *							
DOT Survey/ Acceptance Information — External µR/hr reading:	11							
Background µR/hr reading:	11							

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.

* 2 custody seals on cooler but only 1 was intact. No sign of cooler being opened.

- COC for Sample B304K6 notes that the sample was field filtered but discussion with Bob Evans on 1/7/15 indicates that it was not.

If applicable, was the client contacted? (YES) NO / NA Contact: Bob Evans Date/Time: 1/7/15

Project Manager Signature / Date: 1/7/15

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

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

1501023

From: (509) 373-7409
Barbara Briggs
CH2M
6267 Latah St

Richland, WA 99354

Origin ID: PSCA

FedEx. Express

J14221402303uv

Ship Date: 05JAN15
ActWgt: 31.0 LB
CAD: 107066051/NET3550

Delivery Address Bar Code

Ref # GWS-429 (5310)
Invoice #
PO #
Dept #

SHIP TO: (970) 490-1511
Julie Ellingson
ALS Global
225 Commerce Drive

FORT COLLINS, CO 80524

BILL THIRD PARTY

TRK# 0201 7724 6648 4279

TUE - 06 JAN 10:30A
PRIORITY OVERNIGHT
DSR
80524
CO-US
DEN

XH FTCA

522G1/8F15/8AC9

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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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 additiona 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 res excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pa 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 los of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or specia $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1,000, e.g. jewelry 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 – Treatment Plant Water Sampling – F15-005

Work Order Number: 1501023

1. This report consists of 3 water samples.

2. The samples were received intact at ambient temperature by ALS on 01/06/15.

3. The samples were to be analyzed for dissolved metals. The samples had been filtered prior to receipt, and 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 and laboratory control sample were digested and analyzed with the samples in each digestion batch.
   - The preparation (method) blank associated with each digestion batch was below the reporting limit for the requested analytes.

- 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.

   Sample 1501023-1 was designated as the quality control sample for the Trace ICP analysis. Sample 1501023-2 was designated as the quality control sample for the ICP-MS 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 each batch. All acceptance criteria for accuracy were met.
   - A sample duplicate and matrix spike duplicate were digested and analyzed with each batch. All acceptance criteria for precision were met.
   - A serial dilution was analyzed with each ICP batch. All acceptance criteria were met.

10. It is a standard practice that samples for ICP-MS are analyzed at 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 — 1/31/15
Jill Latelle — Date
Inorganics Primary Data Reviewer

Julie Ellis — 2/3/15
Inorganics Final Data Reviewer — Date

10 of 24

Inorganic Data Reporting Qualifiers

The following qualifiers are used 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.

Total Recoverable ICP Metals

Method SW6010B

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1501023
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-005

Field ID: B304K6
Lab ID: 1501023-1

Analysis ReqCode: **B**

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 05-Jan-15
Date Extracted: 12-Jan-15
Date Analyzed: 13-Jan-15
Prep Method: SW3005 Rev A

Prep Batch: IP150112-3
QCBatchID: IP150112-3-1
Run ID: IP150113-2A5
Cleanup: NONE
Basis: As Received
File Name:

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
7440-42-8	BORON	1	38	30	4.8		
7440-70-2	CALCIUM	1	54000	1000	88		
7439-89-6	IRON	1	18	50	18	U	
7439-95-4	MAGNESIUM	1	19000	750	91		
7440-09-7	POTASSIUM	1	4900	1000	150		
7440-23-5	SODIUM	1	18000	500	130		

Data Package ID: *ip1501023-1*

Total Recoverable ICP Metals

Method SW6010B

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1501023
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-005

Field ID: B304N2
Lab ID: 1501023-2

Analysis ReqCode: **B**

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 05-Jan-15
Date Extracted: 12-Jan-15
Date Analyzed: 13-Jan-15
Prep Method: SW3005 Rev A

Prep Batch: IP150112-3
QCBatchID: IP150112-3-1
Run ID: IP150113-2A5
Cleanup: NONE
Basis: As Received
File Name:

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
7440-42-8	BORON	1	11	30	4.8	B	
7440-70-2	CALCIUM	1	55000	1000	88		
7439-89-6	IRON	1	18	50	18	U	
7439-95-4	MAGNESIUM	1	19000	750	91		
7440-09-7	POTASSIUM	1	5200	1000	150		
7440-23-5	SODIUM	1	28000	500	130		

Data Package ID: *ip1501023-1*

Total Recoverable ICP Metals

Method SW6010B

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1501023
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-005

Field ID: B304M2
Lab ID: 1501023-3

Analysis ReqCode: **B**

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 05-Jan-15
Date Extracted: 12-Jan-15
Date Analyzed: 13-Jan-15
Prep Method: SW3005 Rev A

Prep Batch: IP150112-3
QCBatchID: IP150112-3-1
Run ID: IP150113-2A5
Cleanup: NONE
Basis: As Received
File Name:

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
7440-42-8	BORON	1	12	30	4.8	B	
7440-70-2	CALCIUM	1	56000	1000	88		
7439-89-6	IRON	1	18	50	18	U	
7439-95-4	MAGNESIUM	1	19000	750	91		
7440-09-7	POTASSIUM	1	5300	1000	150		
7440-23-5	SODIUM	1	29000	500	130		

Data Package ID: *ip1501023-1*

Total Recoverable ICPMS Metals

Method SW6020A

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1501023
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-005

Field ID: B304K6
Lab ID: 1501023-1

Analysis ReqCode: **AI**

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 05-Jan-15
Date Extracted: 20-Jan-15
Date Analyzed: 21-Jan-15
Prep Method: SW3005 Rev A

Prep Batch: IP150120-1
QCBatchID: IP150120-1-1
Run ID: IM150121-12A5
Cleanup: NONE
Basis: As Received
File Name: 081SMPL_

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	61	50	17		
7440-47-3	CHROMIUM	10	22	10	1.3		
7440-48-4	COBALT	10	0.17	1	0.17	U	
7440-50-8	COPPER	10	2.8	8	2.8	U	
7439-96-5	MANGANESE	10	3.3	5	0.52	B	
7439-98-7	MOLYBDENUM	10	3.3	1	0.43		
7440-02-0	NICKEL	10	1.4	5	1.4	U	
7782-49-2	SELENIUM	10	3.4	1	0.54		
7440-61-1	URANIUM	10	1.3	0.1	0.088		
7440-66-6	ZINC	10	6.8	20	6.8	U	

Data Package ID: *im1501023-1*

Total Recoverable ICPMS Metals

Method SW6020A

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1501023
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-005

Field ID: B304N2
Lab ID: 1501023-2

Analysis ReqCode: **AI**

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 05-Jan-15
Date Extracted: 20-Jan-15
Date Analyzed: 25-Jan-15
Prep Method: SW3005 Rev A

Prep Batch: IP150120-1
QCBatchID: IP150120-1-1
Run ID: IM150125-11A3
Cleanup: NONE
Basis: As Received
File Name: 012SMPL_

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	17	50	17	U	
7440-47-3	CHROMIUM	10	37	10	1.3		
7440-48-4	COBALT	10	0.17	1	0.17	U	
7440-50-8	COPPER	10	2.8	8	2.8	U	
7439-96-5	MANGANESE	10	0.52	5	0.52	U	
7439-98-7	MOLYBDENUM	10	3.4	1	0.43		
7440-02-0	NICKEL	10	1.4	5	1.4	U	
7782-49-2	SELENIUM	10	2.3	1	0.54		
7440-61-1	URANIUM	10	1.7	0.1	0.088		
7440-66-6	ZINC	10	6.8	20	6.8	U	

Data Package ID: *im1501023-1*

Total Recoverable ICPMS Metals

Method SW6020A

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1501023
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-005

Field ID: B304M2
Lab ID: 1501023-3

Analysis ReqCode: **AI**

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 05-Jan-15
Date Extracted: 20-Jan-15
Date Analyzed: 25-Jan-15
Prep Method: SW3005 Rev A

Prep Batch: IP150120-1
QCBatchID: IP150120-1-1
Run ID: IM150125-11A3
Cleanup: NONE
Basis: As Received
File Name: 017SMPL_

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	17	50	17	U	
7440-47-3	CHROMIUM	10	43	10	1.3		
7440-48-4	COBALT	10	0.17	1	0.17	U	
7440-50-8	COPPER	10	2.8	8	2.8	U	
7439-96-5	MANGANESE	10	0.52	5	0.52	U	
7439-98-7	MOLYBDENUM	10	3.7	1	0.43		
7440-02-0	NICKEL	10	1.4	5	1.4	U	
7782-49-2	SELENIUM	10	2.6	1	0.54		
7440-61-1	URANIUM	10	1.6	0.1	0.088		
7440-66-6	ZINC	10	6.8	20	6.8	U	

Data Package ID: *im1501023-1*

ICP Metals

Method SW6010B

Method Blank

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1501023
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-005

Lab ID: IP150112-3MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 12-Jan-15
Date Analyzed: 13-Jan-15

Prep Batch: IP150112-3
QCBatchID: IP150112-3-1
Run ID: IP150113-2A5
Cleanup: NONE
Basis: N/A
File Name:

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	4.8	30	4.8	U	
7440-70-2	CALCIUM	1	850	1000	88	B	
7439-89-6	IRON	1	25	50	18	B	
7439-95-4	MAGNESIUM	1	95	750	91	B	
7440-09-7	POTASSIUM	1	150	1000	150	U	
7440-23-5	SODIUM	1	130	500	130	U	

Data Package ID: *ip1501023-1*

ICP Metals

Method SW6010B

Laboratory Control Sample

Lab Name: ALS Environmental -- FC
Work Order Number: 1501023
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-005

Lab ID: IP150112-3LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 01/12/2015
Date Analyzed: 01/13/2015
Prep Method: SW3005A

Prep Batch: IP150112-3
QCBatchID: IP150112-3-1
Run ID: IP150113-2A5
Cleanup: NONE
Basis: N/A
File Name:

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	993	30		99	80 - 120%
7440-70-2	CALCIUM	40000	39000	1000		98	80 - 120%
7439-89-6	IRON	1000	1030	50		103	80 - 120%
7439-95-4	MAGNESIUM	40000	38700	750		97	80 - 120%
7440-09-7	POTASSIUM	40000	39800	1000		99	80 - 120%
7440-23-5	SODIUM	40000	39400	500		99	80 - 120%

Data Package ID: *ip1501023-1*

ICP Metals

Method SW6010B

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1501023
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-

Field ID: B304K6
LabID: 1501023-1MS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 05-Jan-15
Date Extracted: 12-Jan-15
Date Analyzed: 13-Jan-15
Prep Method: SW3005 Rev A

Prep Batch: IP150112-3
QCBatchID: IP150112-3-1
Run ID: IP150113-2A5
Cleanup: NONE
Basis: As Received

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

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7440-42-8	BORON	38		1080		30	1000	105	80 - 120%
7440-70-2	CALCIUM	54000		91300		1000	40000	92	80 - 120%
7439-89-6	IRON	18	U	1060		50	1000	106	80 - 120%
7439-95-4	MAGNESIUM	19000		57500		750	40000	96	80 - 120%
7440-09-7	POTASSIUM	4900		45500		1000	40000	101	80 - 120%
7440-23-5	SODIUM	18000		60600		500	40000	106	80 - 120%

Field ID: B304K6
LabID: 1501023-1MSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 05-Jan-15
Date Extracted: 12-Jan-15
Date Analyzed: 13-Jan-15
Prep Method: SW3005 Rev A

Prep Batch: IP150112-3
QCBatchID: IP150112-3-1
Run ID: IP150113-2A5
Cleanup: NONE
Basis: As Received

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

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7440-42-8	BORON	1090		1000	105	30	20	1
7440-70-2	CALCIUM	90700		40000	91	1000	20	1
7439-89-6	IRON	1070		1000	107	50	20	1
7439-95-4	MAGNESIUM	57700		40000	96	750	20	0
7440-09-7	POTASSIUM	45100		40000	100	1000	20	1
7440-23-5	SODIUM	60500		40000	105	500	20	0

Data Package ID: *ip1501023-1*

ICPMS Metals

Method SW6020A

Method Blank

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1501023
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-005

Lab ID: IP150120-1MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 20-Jan-15
Date Analyzed: 21-Jan-15

Prep Batch: IP150120-1
QCBatchID: IP150120-1-1
Run ID: IM150121-12A5
Cleanup: NONE
Basis: N/A
File Name: 060SMPL_

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	50	50	17	B	
7440-47-3	CHROMIUM	10	1.3	10	1.3	U	
7440-48-4	COBALT	10	0.17	1	0.17	U	
7440-50-8	COPPER	10	2.8	8	2.8	U	
7439-96-5	MANGANESE	10	3.1	5	0.52	B	
7439-98-7	MOLYBDENUM	10	0.43	1	0.43	U	
7440-02-0	NICKEL	10	3.3	5	1.4	B	
7782-49-2	SELENIUM	10	0.54	1	0.54	U	
7440-61-1	URANIUM	10	0.09	0.1	0.088	B	
7440-66-6	ZINC	10	6.8	20	6.8	U	

Data Package ID: *im1501023-1*

ICPMS Metals

Method SW6020A

Laboratory Control Sample

Lab Name: ALS Environmental -- FC
Work Order Number: 1501023
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-005

Lab ID: IP150120-1LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 01/20/2015
Date Analyzed: 01/21/2015
Prep Method: SW3005A

Prep Batch: IP150120-1
QCBatchID: IP150120-1-1
Run ID: IM150121-12A5
Cleanup: NONE
Basis: N/A
File Name: 062SMPL_

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	4880	50		98	80 - 120%
7440-47-3	CHROMIUM	500	468	10		94	80 - 120%
7440-48-4	COBALT	100	97.6	1		98	80 - 120%
7440-50-8	COPPER	1000	1010	8		101	80 - 120%
7439-96-5	MANGANESE	100	98.4	5		98	80 - 120%
7439-98-7	MOLYBDENUM	100	97.3	1		97	80 - 120%
7440-02-0	NICKEL	500	493	5		99	80 - 120%
7782-49-2	SELENIUM	100	97.1	1		97	80 - 120%
7440-61-1	URANIUM	10	9.92	0.1		99	80 - 120%
7440-66-6	ZINC	2000	2020	20		101	80 - 120%

Data Package ID: *im1501023-1*

ICPMS Metals

Method SW6020A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1501023
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-

Field ID: B304N2
LabID: 1501023-2MS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 05-Jan-15
Date Extracted: 20-Jan-15
Date Analyzed: 25-Jan-15
Prep Method: SW3005 Rev A

Prep Batch: IP150120-1
QCBatchID: IP150120-1-1
Run ID: IM150125-11A3
Cleanup: NONE
Basis: As Received

Sample Aliquot: 50 ml
Final Volume: 50 ml
Result Units: UG/L
File Name: 015SMPL_

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7429-90-5	ALUMINUM	17	U	5030		50	5000	101	75 - 125%
7440-47-3	CHROMIUM	37		522		10	500	97	75 - 125%
7440-48-4	COBALT	0.17	U	101		1	100	101	75 - 125%
7440-50-8	COPPER	2.8	U	1040		8	1000	104	75 - 125%
7439-96-5	MANGANESE	0.52	U	101		5	100	101	75 - 125%
7439-98-7	MOLYBDENUM	3.4		104		1	100	101	75 - 125%
7440-02-0	NICKEL	1.4	U	472		5	500	94	75 - 125%
7782-49-2	SELENIUM	2.3		104		1	100	102	75 - 125%
7440-61-1	URANIUM	1.7		12.2		0.1	10	105	75 - 125%
7440-66-6	ZINC	6.8	U	2020		20	2000	101	75 - 125%

Data Package ID: *im1501023-1*

ICPMS Metals

Method SW6020A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1501023
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-

Field ID: B304N2
LabID: 1501023-2MSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 05-Jan-15
Date Extracted: 20-Jan-15
Date Analyzed: 25-Jan-15
Prep Method: SW3005 Rev A

Prep Batch: IP150120-1
QCBatchID: IP150120-1-1
Run ID: IM150125-11A3
Cleanup: NONE
Basis: As Received

Sample Aliquot: 50 ml
Final Volume: 50 ml
Result Units: UG/L
File Name: 016SMPL_

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7429-90-5	ALUMINUM	5050		5000	101	50	20	0
7440-47-3	CHROMIUM	521		500	97	10	20	0
7440-48-4	COBALT	100		100	100	1	20	1
7440-50-8	COPPER	1030		1000	103	8	20	1
7439-96-5	MANGANESE	98.9		100	99	5	20	2
7439-98-7	MOLYBDENUM	104		100	100	1	20	0
7440-02-0	NICKEL	486		500	97	5	20	3
7782-49-2	SELENIUM	101		100	98	1	20	4
7440-61-1	URANIUM	11.9		10	102	0.1	20	3
7440-66-6	ZINC	2000		2000	100	20	20	1

Data Package ID: *im1501023-1*