



Wednesday, July 20, 2016

Heather Medley
CH2M HILL Plateau Remediation Company
2420 Stevens Center
Richland, WA 99352

Re: ALS Workorder: 1606567
Project Name: TEDF Generator Indicator Sampling - W
Project Number: F16-053

Dear Ms. Medley:

Two water samples were received from CH2M HILL Plateau Remediation Company, on 6/30/2016. 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,

A handwritten signature in black ink, appearing to read 'Julie Ellingson', written over a light blue horizontal line.

ALS Environmental
Julie Ellingson
Project Manager

ALS Environmental – Fort Collins 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 Environmental – Fort Collins	
Accreditation Body	License or Certification Number
AIHA	214884
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
Louisiana (LA)	05057
Maryland (MD)	285
Missouri (MO)	175
Nebraska(NE)	NE-OS-24-13
Nevada (NV)	CO000782008A
New York (NY)	12036
North Dakota (ND)	R-057
Oklahoma (OK)	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	2976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington (WA)	C1280

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1606567
Client Name: CH2M HILL Plateau Remediation Company
Client Project Name: TEDF Generator Indicator Sampling - W
Client Project Number: F16-053
Client PO Number: BOA 54854

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B35WR2	1606567-1		WATER	29-Jun-16	10:09
B35WR5	1606567-2		WATER	29-Jun-16	10:25

CH2M Hill Plateau Remediation Company
 CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
 F16-053-005
 PAGE 1 OF 1
 COLLECTOR CHRIS FULTON
 CHPRC
 COMPANY CONTACT MEDLEY, HA
 TELEPHONE NO. 373-6909
 PROJECT COORDINATOR MEDLEY, HA
 PRICE CODE 7H
 DATA TURNAROUND 30 Days / 30 Days
 SAFETY NO. []
 AIR QUALITY []
 METHOD OF SHIPMENT FEDERAL EXPRESS
 ORIGINAL

PROJECT DESIGNATION Treated Effluent Disposal Facility (TEDF) Generator Indicator Sampling - W
 FIELD LOGBOOK NO. HNF-N-507-34
 ACTUAL SAMPLE DEPTH N/A
 COA 300009
 BILL OF LADING/AIR BILL NO. 7764 3997 17254

OFFSITE PROPERTY NO. 6784
 HNO3 to pH <2
 PRESERVATION 6 Months
 HOLDING TIME G/P
 TYPE OF CONTAINER 1
 NO. OF CONTAINER(S) 500ml

VOLUME 500ml
 SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS
 SPECIAL HANDLING AND/OR STORAGE 1606567

SAMPLE NO. (2)
 B35WR5
 MATRIX* WATER
 SAMPLE DATE JUN 29 2016
 SAMPLE TIME 1025

RELINQUISHED BY / REMOVED FROM	DATE/TIME	SIGN / PRINT NAMES	RECEIVED BY / STORED IN	DATE/TIME
CHRIS FULTON	JUN 29 2016 1125	Christina Aguirre-Chickel	CHRIS FULTON	JUN 29 2016 1125
RELINQUISHED BY / REMOVED FROM	JUN 29 2016 1140	SSU-1	RECEIVED BY / STORED IN	JUN 29 2016 1140
RELINQUISHED BY / REMOVED FROM	JUN 29 2016 1400	Janelle Zunker	CHPRC	JUN 29 2016 1300
RELINQUISHED BY / REMOVED FROM	JUN 29 2016 0950	Felex	RECEIVED BY / STORED IN	JUN 29 2016 0950
RELINQUISHED BY / REMOVED FROM			RECEIVED BY / STORED IN	
RELINQUISHED BY / REMOVED FROM			RECEIVED BY / STORED IN	
RELINQUISHED BY / REMOVED FROM			RECEIVED BY / STORED IN	
RELINQUISHED BY / REMOVED FROM			RECEIVED BY / STORED IN	
RELINQUISHED BY / REMOVED FROM			RECEIVED BY / STORED IN	
LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME	DATE/TIME



ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: CHPRC

Workorder No: 1606567

Project Manager: JME

Initials: JDM Date: 6-30-16

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	<input checked="" type="radio"/> N/A	YES	NO
15. Do any water samples contain sediment? Amount Amount of sediment: ___ dusting ___ moderate ___ heavy	N/A	YES	<input checked="" type="radio"/> NO
16. Were the samples shipped on ice?		<input checked="" type="radio"/> YES	NO
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 <input checked="" type="radio"/> #4	RAD ONLY	<input checked="" type="radio"/> YES	NO
Cooler #: <u>1</u>			
Temperature (°C): <u>2.4</u>			
No. of custody seals on cooler: <u>2</u>			
External µR/hr reading: <u>12</u>			
Background µR/hr reading: <u>10</u>			
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> YES NO / NA (If no, see Form 008.)			

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

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

Project Manager Signature / Date: [Signature] 7-1-16

1606567

ORIGIN D: PSCA (509) 373-3580
JANELLE ZUNKER
C/2M
8289 LATAM ST.
RICHLAND WA 99354
UNITED STATES US

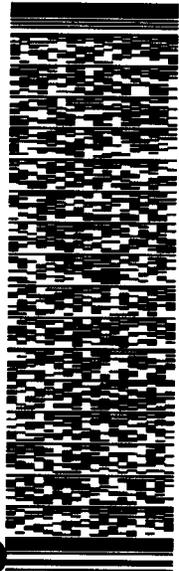
SHIP DATE: 29 JUN 16
ACTWGT: 53.00 LB
CAD: 10706605/INET3730
BILL THIRD PARTY

TO JULIE ELLINGSON
ALS GLOBAL
225 COMMERCE DRIVE

FORT COLLINS CO 80524
(970) 490-1511 REF: 6786
NV DEPT

12
-2

540J15CBD/727F



TRK# 7766 3997 7256
0201

THU - 30 JUN 10:30A
PRIORITY OVERNIGHT
DSR

XH FTCA

CO-US DEN 80524



After printing this label:

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

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

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



Metals Case Narrative

CH2M HILL Plateau Remediation Company TEDF Generator Indicator Sampling – W – F16-053

Work Order Number: 1606567

1. This report consists of 2 water samples.
2. The samples were received cool and intact by ALS on 06/30/16.
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.

For analysis by Cold Vapor AA (CVAA), the samples were digested following method 7470A and the current revision of SOP 812.

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.

Analysis by CVAA followed method 7470A and the current revision of SOP 812.

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. Manganese and zinc have 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.

Sample 1606567-1 was designated as the quality control sample for each 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.
- Matrix spike recoveries could not be evaluated for the following analyte:

<u>Analyte</u>	<u>Sample ID</u>
Silicon	1606567-1

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 each ICP batch. All acceptance criteria were met with the following exception:

<u>Analyte</u>	<u>Sample ID</u>
Barium	1606567-1L

The native sample result is flagged for serial dilution failure.

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



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

Jill Latelle

Jill Latelle
Inorganics Primary Data Reviewer

7/15/16

Date

Arlin Elliza

Arlin Elliza
Inorganics Final Data Reviewer

7/20/16

Date



Inorganic Data Reporting Qualifiers

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

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

Total Recoverable ICP Metals

Method SW6010B

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1606567

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: TEDF Generator Indicator Sampling - W F16-053

Field ID:	B35WR2
Lab ID:	1606567-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 29-Jun-16
Date Extracted: 07-Jul-16
Date Analyzed: 11-Jul-16
Prep Method: SW3005 Rev A

Prep Batch: IP160707-3
QCBatchID: IP160707-3-8
Run ID: IP160711-1A3
Cleanup: NONE
Basis: As Received
File Name:

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

Analysis ReqCode: 6010_METALS_I

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-70-2	CALCIUM	1	22000	1000	51		
7439-89-6	IRON	1	570	50	16		
7439-95-4	MAGNESIUM	1	4400	750	58		
7440-09-7	POTASSIUM	1	1100	1000	86		
7440-21-3	SILICON	1	4200	50	29		
7440-23-5	SODIUM	1	3400	500	61		
7440-62-2	VANADIUM	1	2	10	2	U	

Data Package ID: ip1606567-1

Total Recoverable ICP Metals

Method SW6010B

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1606567

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: TEDF Generator Indicator Sampling - W F16-053

Field ID:	B35WR5
Lab ID:	1606567-2

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 29-Jun-16
Date Extracted: 07-Jul-16
Date Analyzed: 11-Jul-16
Prep Method: SW3005 Rev A

Prep Batch: IP160707-3
QCBatchID: IP160707-3-8
Run ID: IP160711-1A3
Cleanup: NONE
Basis: As Received
File Name:

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

Analysis ReqCode: 6010_METALS_I

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-70-2	CALCIUM	1	40000	1000	51		
7439-89-6	IRON	1	180	50	16		
7439-95-4	MAGNESIUM	1	7700	750	58		
7440-09-7	POTASSIUM	1	14000	1000	86		
7440-21-3	SILICON	1	5300	50	29		
7440-23-5	SODIUM	1	7700	500	61		
7440-62-2	VANADIUM	1	2	10	2	U	

Data Package ID: ip1606567-1

Total Recoverable ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1606567

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: TEDF Generator Indicator Sampling - W F16-053

Field ID:	B35WR2
Lab ID:	1606567-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 29-Jun-16

Date Extracted: 07-Jul-16

Date Analyzed: 14-Jul-16

Prep Method: SW3005 Rev A

Prep Batch: IP160707-3

QCBatchID: IP160707-3-4

Run ID: IM160714-10A3

Cleanup: NONE

Basis: As Received

File Name: 018SMPL_

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
7429-90-5	ALUMINUM	10	95	100	14	B	
7440-38-2	ARSENIC	10	0.96	2	0.18	B	
7440-39-3	BARIUM	10	31	5	0.23		E
7440-41-7	BERYLLIUM	10	0.27	0.5	0.27	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	0.17	5	0.07	B	
7439-92-1	LEAD	10	0.89	2	0.16	B	
7439-96-5	MANGANESE	10	38	5	0.3		
7440-02-0	NICKEL	10	4.2	20	4.2	U	
7440-22-4	SILVER	10	0.039	0.5	0.039	U	
7440-28-0	THALLIUM	10	0.05	0.1	0.014	B	
7440-66-6	ZINC	10	390	100	9.1		

Data Package ID: im1606567-1

Total Recoverable ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1606567

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: TEDF Generator Indicator Sampling - W F16-053

Field ID:	B35WR5
Lab ID:	1606567-2

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 29-Jun-16

Date Extracted: 07-Jul-16

Date Analyzed: 14-Jul-16

Prep Method: SW3005 Rev A

Prep Batch: IP160707-3

QCBatchID: IP160707-3-4

Run ID: IM160714-10A3

Cleanup: NONE

Basis: As Received

File Name: 025SMPL_

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
7429-90-5	ALUMINUM	10	90	100	14	B	
7440-38-2	ARSENIC	10	0.35	2	0.18	B	
7440-39-3	BARIUM	10	54	5	0.23		
7440-41-7	BERYLLIUM	10	0.27	0.5	0.27	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	
7439-92-1	LEAD	10	0.85	2	0.16	B	
7439-96-5	MANGANESE	10	7.8	5	0.3	C	
7440-02-0	NICKEL	10	4.2	20	4.2	U	
7440-22-4	SILVER	10	0.039	0.5	0.039	U	
7440-28-0	THALLIUM	10	0.03	0.1	0.014	B	
7440-66-6	ZINC	10	330	100	9.1		

Data Package ID: im1606567-1

Total MERCURY

Method SW7470A

Sample Results

Lab Name: ALS Environmental -- FC
Client Name: CH2M HILL Plateau Remediation Company
Client Project ID: TEDF Generator Indicator Sampling - W F16-053
Work Order Number: 1606567 **Final Volume:** 10 ml
Reporting Basis: As Received **Matrix:** WATER
Analyst: Nathan A. Quatier **Result Units:** UG/L

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Flag	Sample Aliquot
B35WR2	1606567-1	6/29/2016	7/8/2016	07/08/2016	N/A	1	0.06	0.2	0.06	U	10 ml
B35WR5	1606567-2	6/29/2016	7/8/2016	07/08/2016	N/A	1	0.06	0.2	0.06	U	10 ml

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *HG1606567-1*

July 20, 2016

ALS1606567

ICP Metals

Method SW6010B

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1606567

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: TEDF Generator Indicator Sampling - W F16-053

Lab ID: IP160707-3MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 07-Jul-16

Date Analyzed: 11-Jul-16

Prep Batch: IP160707-3

QCBatchID: IP160707-3-8

Run ID: IP160711-1A3

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
7440-70-2	CALCIUM	1	51	1000	51	U	
7439-89-6	IRON	1	16	50	16	U	
7439-95-4	MAGNESIUM	1	58	750	58	U	
7440-09-7	POTASSIUM	1	86	1000	86	U	
7440-21-3	SILICON	1	29	50	29	U	
7440-23-5	SODIUM	1	61	500	61	U	
7440-62-2	VANADIUM	1	2	10	2	U	

Data Package ID: ip1606567-1

July 20, 2016

ALS1606567

ICP Metals

Method SW6010B

Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1606567

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: TEDF Generator Indicator Sampling - W F16-053

Lab ID: IP160707-3LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 07/07/2016

Date Analyzed: 07/11/2016

Prep Method: SW3005A

Prep Batch: IP160707-3

QC Batch ID: IP160707-3-8

Run ID: IP160711-1A3

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
7440-70-2	CALCIUM	40000	39400	1000		99	80 - 120%
7439-89-6	IRON	1000	1020	50		102	80 - 120%
7439-95-4	MAGNESIUM	40000	40600	750		101	80 - 120%
7440-09-7	POTASSIUM	40000	41400	1000		104	80 - 120%
7440-21-3	SILICON	1000	1020	50		102	80 - 120%
7440-23-5	SODIUM	40000	41500	500		104	80 - 120%
7440-62-2	VANADIUM	500	525	10		105	80 - 120%

Data Package ID: ip1606567-1

Date Printed: Friday, July 15, 2016

ALS Environmental -- FC

Page 1 of 1

LIMS Version: 6.820

July 20, 2016

ALS1606567

ICP Metals

Method SW6010B

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1606567

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: TEDF Generator Indicator Sampling - W F16-053

Field ID: B35WR2

LabID: 1606567-1MS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 29-Jun-16

Date Extracted: 07-Jul-16

Date Analyzed: 11-Jul-16

Prep Method: SW3005 Rev A

Prep Batch: IP160707-3

QCBatchID: IP160707-3-8

Run ID: IP160711-1A3

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
7440-70-2	CALCIUM	22000		62300		1000	40000	100	80 - 120%
7439-89-6	IRON	570		1400		50	1000	83	80 - 120%
7439-95-4	MAGNESIUM	4400		45300		750	40000	102	80 - 120%
7440-09-7	POTASSIUM	1100		43600		1000	40000	106	80 - 120%
7440-21-3	SILICON	4200		5270		50	1000	109	80 - 120%
7440-23-5	SODIUM	3400		45600		500	40000	106	80 - 120%
7440-62-2	VANADIUM	2	U	530		10	500	106	80 - 120%

Field ID: B35WR2

LabID: 1606567-1MSD

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 29-Jun-16

Date Extracted: 07-Jul-16

Date Analyzed: 11-Jul-16

Prep Method: SW3005 Rev A

Prep Batch: IP160707-3

QCBatchID: IP160707-3-8

Run ID: IP160711-1A3

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
7440-70-2	CALCIUM	60700		40000	96	1000	20	3
7439-89-6	IRON	1390		1000	83	50	20	0
7439-95-4	MAGNESIUM	44400		40000	100	750	20	2
7440-09-7	POTASSIUM	43200		40000	105	1000	20	1
7440-21-3	SILICON	5270		1000	110	50	20	0
7440-23-5	SODIUM	45200		40000	105	500	20	1
7440-62-2	VANADIUM	521		500	104	10	20	2

Data Package ID: ip1606567-1

July 20, 2016

ALS1606567

ICPMS Metals

Method SW6020A

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1606567

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: TEDF Generator Indicator Sampling - W F16-053

Lab ID: IP160707-3MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 07-Jul-16

Date Analyzed: 13-Jul-16

Prep Batch: IP160707-3

QCBatchID: IP160707-3-4

Run ID: IM160713-11A5

Cleanup: NONE

Basis: N/A

File Name: 141SMPL_

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
7440-38-2	ARSENIC	10	0.18	2	0.18	U	
7440-39-3	BARIUM	10	0.23	5	0.23	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	
7439-92-1	LEAD	10	0.16	2	0.16	U	
7439-96-5	MANGANESE	10	0.56	5	0.3	B	
7440-02-0	NICKEL	10	4.2	20	4.2	U	
7440-22-4	SILVER	10	0.039	0.5	0.039	U	
7440-28-0	THALLIUM	10	0.014	0.1	0.014	U	
7440-66-6	ZINC	10	11	100	9.1	B	

Data Package ID: im1606567-1

July 20, 2016

ALS1606567

ICPMS Metals

Method SW6020A

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1606567

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: TEDF Generator Indicator Sampling - W F16-053

Lab ID: IP160707-3MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 07-Jul-16

Date Analyzed: 14-Jul-16

Prep Batch: IP160707-3

QCBatchID: IP160707-3-4

Run ID: IM160714-10A3

Cleanup: NONE

Basis: N/A

File Name: 009SMPL_

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	14	100	14	U	
7440-41-7	BERYLLIUM	10	0.27	0.5	0.27	U	

Data Package ID: *im1606567-1*

Date Printed: Friday, July 15, 2016

ALS Environmental -- FC

Page 2 of 2

LIMS Version: 6.820

July 20, 2016

ALS1606567

ICPMS Metals

Method SW6020A

Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1606567

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: TEDF Generator Indicator Sampling - W F16-053

Lab ID: IM160707-3LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 07/07/2016

Date Analyzed: 07/14/2016

Prep Method: SW3005A

Prep Batch: IP160707-3

QCBatchID: IP160707-3-4

Run ID: IM160714-10A3

Cleanup: NONE

Basis: N/A

File Name: 011SMPL_

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	ALUMINIUM	5000	4960	100		99	80 - 120%
7440-38-2	ARSENIC	100	98.1	2		98	80 - 120%
7440-39-3	BARIUM	100	98	5		98	80 - 120%
7440-41-7	BERYLLIUM	50	47.1	0.5		94	80 - 120%
7440-43-9	CADMIUM	30	29.5	2		98	80 - 120%
7440-47-3	CHROMIUM	500	484	10		97	80 - 120%
7440-48-4	COBALT	100	99.6	5		100	80 - 120%
7439-92-1	LEAD	50	50	2		100	80 - 120%
7439-96-5	MANGANESE	100	99.8	5		100	80 - 120%
7440-02-0	NICKEL	500	486	20		97	80 - 120%
7440-22-4	SILVER	10	10.2	0.5		102	80 - 120%
7440-28-0	THALLIUM	2	1.93	0.1		96	80 - 120%
7440-66-6	ZINC	2000	2000	100		100	80 - 120%

Data Package ID: im1606567-1

July 20, 2016

ALS1606567

ICPMS Metals

Method SW6020A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1606567

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: TEDF Generator Indicator Sampling - W F16-053

Field ID: B35WR2

LabID: 1606567-1MS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 29-Jun-16

Date Extracted: 07-Jul-16

Date Analyzed: 14-Jul-16

Prep Method: SW3005 Rev A

Prep Batch: IP160707-3

QCBatchID: IP160707-3-4

Run ID: IM160714-10A3

Cleanup: NONE

Basis: As Received

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: UG/L

File Name: 023SMPL_

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7429-90-5	ALUMINUM	95	B	5220		100	5000	103	75 - 125%
7440-38-2	ARSENIC	0.96	B	97.2		2	100	96	75 - 125%
7440-39-3	BARIUM	31		128		5	100	97	75 - 125%
7440-41-7	BERYLLIUM	0.27	U	48.8		0.5	50	98	75 - 125%
7440-43-9	CADMIUM	0.099	U	28.6		2	30	95	75 - 125%
7440-47-3	CHROMIUM	1.1	U	477		10	500	95	75 - 125%
7440-48-4	COBALT	0.17	B	96.4		5	100	96	75 - 125%
7439-92-1	LEAD	0.89	B	49.8		2	50	98	75 - 125%
7439-96-5	MANGANESE	38		137		5	100	99	75 - 125%
7440-02-0	NICKEL	4.2	U	473		20	500	95	75 - 125%
7440-22-4	SILVER	0.039	U	10.1		0.5	10	101	75 - 125%
7440-28-0	THALLIUM	0.05	B	2.03		0.1	2	99	75 - 125%
7440-66-6	ZINC	390		1940		100	2000	77	75 - 125%

Data Package ID: im1606567-1

July 20, 2016

ALS1606567

ICPMS Metals

Method SW6020A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1606567

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: TEDF Generator Indicator Sampling - W F16-053

Field ID: B35WR2

LabID: 1606567-1MSD

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 29-Jun-16

Date Extracted: 07-Jul-16

Date Analyzed: 14-Jul-16

Prep Method: SW3005 Rev A

Prep Batch: IP160707-3

QCBatchID: IP160707-3-4

Run ID: IM160714-10A3

Cleanup: NONE

Basis: As Received

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: UG/L

File Name: 024SMPL_

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7429-90-5	ALUMINUM	5100		5000	100	100	20	2
7440-38-2	ARSENIC	97.7		100	97	2	20	1
7440-39-3	BARIUM	132		100	101	5	20	3
7440-41-7	BERYLLIUM	48.8		50	98	0.5	20	0
7440-43-9	CADMIUM	29.2		30	97	2	20	2
7440-47-3	CHROMIUM	479		500	96	10	20	0
7440-48-4	COBALT	97.4		100	97	5	20	1
7439-92-1	LEAD	50.6		50	100	2	20	2
7439-96-5	MANGANESE	135		100	98	5	20	1
7440-02-0	NICKEL	479		500	96	20	20	1
7440-22-4	SILVER	10.1		10	101	0.5	20	0
7440-28-0	THALLIUM	2.01		2	98	0.1	20	1
7440-66-6	ZINC	1940		2000	77	100	20	0

Data Package ID: im1606567-1

July 20, 2016

ALS1606567

Mercury

Method SW7470A

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1606567

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: TEDF Generator Indicator Sampling - W F16-053

Lab ID: HG160708-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 08-Jul-16

Date Analyzed: 08-Jul-16

Prep Batch: HG160708-1

QCBatchID: HG160708-1-1

Run ID: HG160708-1A2

Cleanup: NONE

Basis: N/A

File Name: HG160708-1

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
7439-97-6	MERCURY	1	0.06	0.2	0.06	U	

Data Package ID: HG1606567-1

July 20, 2016

ALS1606567

Mercury

Method SW7470A

Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1606567

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: TEDF Generator Indicator Sampling - W F16-053

Lab ID: HG160708-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 07/08/2016

Date Analyzed: 07/08/2016

Prep Method: METHOD

Prep Batch: HG160708-1

QCBatchID: HG160708-1-1

Run ID: HG160708-1A2

Cleanup: NONE

Basis: N/A

File Name: HG160708-1

Sample Aliquot: 10 ml

Final Volume: 10 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7439-97-6	MERCURY	1	0.973	0.2		97	80 - 120%

Data Package ID: HG1606567-1

July 20, 2016

ALS1606567

Mercury

Method SW7470A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1606567

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: TEDF Generator Indicator Sampling - W F16-053

Field ID: B35WR2
LabID: 1606567-1MS

Sample Matrix: WATER
 % Moisture: N/A
 Date Collected: 29-Jun-16
 Date Extracted: 08-Jul-16
 Date Analyzed: 08-Jul-16
 Prep Method: METHOD

Prep Batch: HG160708-1
 QCBatchID: HG160708-1-1
 Run ID: HG160708-1A2
 Cleanup: NONE
 Basis: As Received

Sample Aliquot: 10 ml
 Final Volume: 10 ml
 Result Units: UG/L
 File Name: HG160708-1

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7439-97-6	MERCURY	0.06	U	1.96		0.2	2	98	80 - 120%

Field ID: B35WR2
LabID: 1606567-1MSD

Sample Matrix: WATER
 % Moisture: N/A
 Date Collected: 29-Jun-16
 Date Extracted: 08-Jul-16
 Date Analyzed: 08-Jul-16
 Prep Method: METHOD

Prep Batch: HG160708-1
 QCBatchID: HG160708-1-1
 Run ID: HG160708-1A2
 Cleanup: NONE
 Basis: As Received

Sample Aliquot: 10 ml
 Final Volume: 10 ml
 Result Units: UG/L
 File Name: HG160708-1

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7439-97-6	MERCURY	1.97		2	98	0.2	20	0

Data Package ID: HG1606567-1