



Thursday, June 30, 2016

Karen Waters-Husted
CH2M HILL Plateau Remediation Company
2420 Stevens Center
Richland, WA 99352

Re: ALS Workorder: 1606501
Project Name: AQUIFER TUBES, JUNE 2016
Project Number: X16-033

Dear Ms. Waters-Husted:

Six water samples were received from CH2M HILL Plateau Remediation Company, on 6/25/2016. 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,

 for
ALS Environmental
Julie Ellingson
Project Manager

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1606501

Client Name: CH2M HILL Plateau Remediation Company

Client Project Name: AQUIFER TUBES, JUNE 2016

Client Project Number: X16-033

Client PO Number: BOA 54854

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B358H7	1606501-1		WATER	24-Jun-16	10:26
B358H2	1606501-2		WATER	24-Jun-16	10:26
B358H3	1606501-3		WATER	24-Jun-16	10:26
B358H8	1606501-4		WATER	24-Jun-16	10:26
B358J6	1606501-5		WATER	24-Jun-16	11:03
B358J3	1606501-6		WATER	24-Jun-16	11:03

CH2M Hill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **X16-033-006**

Page 1 of 1

Collector: **Juan Aguilar** *http://*
 Telephone No. **509-376-4650**
 SAF No. **X16-033**
 Purchase Order/Charge Code **303064**
 Project Title **AQUIFER TUBES, JUNE 2016**
 Sampling Origin **Hanford Site**
 Shipped To (Lab) **ALS Environmental Ft. Collins**
 Logbook No. **HNF-N-506 79/28**
 Method of Shipment **Commercial Carrier**
 Protocol **CERCLA**
 Priority: **30 Days**
 Bill of Lading/Air Bill No. **7764 0538 8079**
 Offsite Property No. **60773**

POSSIBLE SAMPLE HAZARDS/REMARKS
 *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1
 SPECIAL INSTRUCTIONS **PRIORITY**
 Hold Time **30 Days**
 Total Activity Exemption: Yes No

Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B358H7	Y	6-24-16	1026	1x500-mL G/P	6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B358H2	N	6-24-16	1026	1x500-mL G/P	6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2

1606501

Relinquished By: Juan Aguilar	Print	Sign	Date/Time	Received By: Troy Bacon	Print	Sign	Date/Time
Relinquished By: Juan Aguilar	<i>[Signature]</i>	<i>[Signature]</i>	JUN 24 2016 1120	Received By: Troy Bacon	<i>[Signature]</i>	<i>[Signature]</i>	JUN 24 2016 1120
Relinquished By: Troy Bacon	<i>[Signature]</i>	<i>[Signature]</i>	JUN 24 2016 1400	Received By: FEDEX	<i>[Signature]</i>	<i>[Signature]</i>	JUN 24 2016 1400
Relinquished By: Fedex	<i>[Signature]</i>	<i>[Signature]</i>	6-25-16 0900	Received By: S&S M.L.V.	<i>[Signature]</i>	<i>[Signature]</i>	6-25-16 0900

C.O.C. #
X16-033-008
Page 1 of 1

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

CH2MHill Plateau Remediation Company

Collector: **Juan Aguilar** *CAPEL* Telephone No. 509-376-4650
 SAF No. X16-033 Purchase Order/Charge Code 303064
 Project Title: **AQUIFER TUBES, JUNE 2016** Ice Chest No. **GWS-545**
 Shipped To (Lab): **ALS Environmental Ft. Collins** Bill of Lading/Air Bill No. **9766005358679**
 Protocol: **CERCLA** Offsite Property No. **6773**

PRIORITY Hold Time: **30 Days** Total Activity Exemption: Yes No
 SPECIAL INSTRUCTIONS: **Commercial Carrier** Hold Time: **6 Months**
 N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B358J6	Y	W	6-24-16	1103	1x500-mL G/P	6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B358J3	N	W	6-24-16	1103	1x500-mL G/P	6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2

1606501

Relinquished By: Juan Aguilar <i>CAPEL</i> Sign: <i>Juan Aguilar</i> Print: <i>Juan Aguilar</i>	Date/Time: JUN 24 2016 1120	Received By: Troy Bacon <i>CHPRC</i> Sign: <i>Troy Bacon</i> Print: <i>Troy Bacon</i>	Date/Time: JUN 24 2016 1120
Relinquished By: Troy Bacon <i>CHPRC</i> Sign: <i>Troy Bacon</i> Print: <i>Troy Bacon</i>	Date/Time: JUN 24 2016 1400	Received By: FEDEX Sign: <i>SAJ</i> Print: <i>SAJ</i>	Date/Time: 6-25-16 0900
Relinquished By: Fedex Sign: <i>Fedex</i> Print: <i>Fedex</i>	Date/Time: 6-25-16 0900	Received By: SAJ Sign: <i>SAJ</i> Print: <i>SAJ</i>	Date/Time: 6-25-16 0900

Matrix *
 S = Soil DS = Drum Solids
 SE = Sediment DL = Drum Liquids
 SO = Solid T = Tissue
 SL = Sludge W1 = Wipe
 W = Water L = Liquid
 O = Oil V = Vegetation
 A = Air X = Other



ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: CHPRC Workorder No: 1606501
 Project Manager: JME Initials: SDM Date: 6-25-16

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>1.4</u>			
No. of custody seals on cooler: <u>2</u>			
External µR/hr reading: <u>12</u>			
Background µR/hr reading: <u>11</u>			
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> YES / NO / NA (If no, see Form 008.)			

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

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

Project Manager Signature / Date: JME 6/25/16

1606501

ORIGIN ID: PSCA (509) 373-3580
JANELLE ZUNKER
CH-21
6269 LATAH ST.

SHIP DATE: 24 JUN 16
ACTWGT: 68.00 LB
CAD: 10706605/IN/NET3730

RICHLAND, WA 99354
UNITED STATES US

BILL THIRD PARTY

TO **JULIE ELLINGSON**
ALS GLOBAL
225 COMMERCE DRIVE

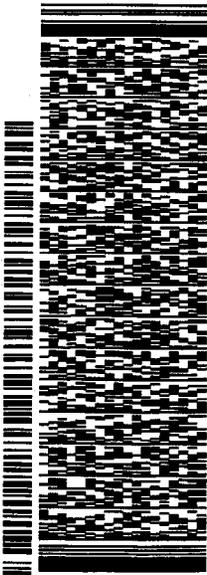
FORT COLLINS CO 80524
REF: 6773

12
-2

540L230BD/727F

(970) 490-1511
INV.
PO.

DEPT.



FedEx
Express



4319192302716

1.402

SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 7766 0535 8679

DSR
80524
CO-US
DEN

XO FTCA



1606501

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 **AQUIFER TUBES, JUNE 2016 – X16-033**

Work Order Number: 1606501

1. This report consists of 6 water samples for total recoverable or dissolved metals.
2. The samples were received intact at ambient temperature by ALS on 06/25/16.
3. The samples for dissolved metals had been filtered prior to receipt. All 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, 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.
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 time.

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

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



- All initial and continuing calibration blanks were below the reporting limit for the requested analytes.
- All initial and continuing calibration verifications were within the acceptance criteria for the requested analytes.
- The interference check samples and high standard readbacks associated with Method 6010B were within acceptance criteria.

9. Matrix specific quality control procedures.

Sample 1606501-1 was designated as the quality control sample for this analysis.

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

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

10. Sample dilutions were not required for the requested analysis.

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



Jill Latelle
Inorganics Primary Data Reviewer

6/30/16
Date



Arlicia E. Elly
Inorganics Final Data Reviewer

6/30/16
Date



Inorganic Data Reporting Qualifiers

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

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

Dissolved ICP Metals

Method SW6010B

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1606501

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: AQUIFER TUBES, JUNE 2016 X16-033

Field ID:	B358H7
Lab ID:	1606501-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 24-Jun-16
Date Extracted: 30-Jun-16
Date Analyzed: 30-Jun-16
Prep Method: SW3005 Rev A

Prep Batch: IP160630-1
QCBatchID: IP160630-1-1
Run ID: IP160630-1A3
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

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-42-8	BORON	1	50	30	11		
7440-70-2	CALCIUM	1	54000	1000	51		
7439-89-6	IRON	1	52	50	16		
7439-95-4	MAGNESIUM	1	11000	750	58		
7440-09-7	POTASSIUM	1	4400	1000	86		
7440-23-5	SODIUM	1	47000	500	61		
7440-62-2	VANADIUM	1	4.7	10	2	B	

Data Package ID: *ip1606501-1*

Total Recoverable ICP Metals

Method SW6010B

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1606501

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: AQUIFER TUBES, JUNE 2016 X16-033

Field ID:	B358H2
Lab ID:	1606501-2

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 24-Jun-16
Date Extracted: 30-Jun-16
Date Analyzed: 30-Jun-16
Prep Method: SW3005 Rev A

Prep Batch: IP160630-1
QCBatchID: IP160630-1-1
Run ID: IP160630-1A3
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

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-42-8	BORON	1	59	30	11		
7440-70-2	CALCIUM	1	56000	1000	51		
7439-89-6	IRON	1	240	50	16		
7439-95-4	MAGNESIUM	1	12000	750	58		
7440-09-7	POTASSIUM	1	4400	1000	86		
7440-23-5	SODIUM	1	46000	500	61		
7440-62-2	VANADIUM	1	4.9	10	2	B	

Data Package ID: *ip1606501-1*

Total Recoverable ICP Metals

Method SW6010B

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1606501

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: AQUIFER TUBES, JUNE 2016 X16-033

Field ID:	B358H3
Lab ID:	1606501-3

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 24-Jun-16
Date Extracted: 30-Jun-16
Date Analyzed: 30-Jun-16
Prep Method: SW3005 Rev A

Prep Batch: IP160630-1
QCBatchID: IP160630-1-1
Run ID: IP160630-1A3
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

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-42-8	BORON	1	56	30	11		
7440-70-2	CALCIUM	1	56000	1000	51		
7439-89-6	IRON	1	270	50	16		
7439-95-4	MAGNESIUM	1	12000	750	58		
7440-09-7	POTASSIUM	1	4500	1000	86		
7440-23-5	SODIUM	1	47000	500	61		
7440-62-2	VANADIUM	1	5.2	10	2	B	

Data Package ID: *ip1606501-1*

Dissolved ICP Metals

Method SW6010B

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1606501

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: AQUIFER TUBES, JUNE 2016 X16-033

Field ID:	B358H8
Lab ID:	1606501-4

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 24-Jun-16
Date Extracted: 30-Jun-16
Date Analyzed: 30-Jun-16
Prep Method: SW3005 Rev A

Prep Batch: IP160630-1
QCBatchID: IP160630-1-1
Run ID: IP160630-1A3
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

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-42-8	BORON	1	52	30	11		
7440-70-2	CALCIUM	1	55000	1000	51		
7439-89-6	IRON	1	16	50	16	U	
7439-95-4	MAGNESIUM	1	12000	750	58		
7440-09-7	POTASSIUM	1	4400	1000	86		
7440-23-5	SODIUM	1	46000	500	61		
7440-62-2	VANADIUM	1	4.4	10	2	B	

Data Package ID: *ip1606501-1*

Dissolved ICP Metals

Method SW6010B

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1606501

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: AQUIFER TUBES, JUNE 2016 X16-033

Field ID:	B358J6
Lab ID:	1606501-5

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 24-Jun-16
Date Extracted: 30-Jun-16
Date Analyzed: 30-Jun-16
Prep Method: SW3005 Rev A

Prep Batch: IP160630-1
QCBatchID: IP160630-1-1
Run ID: IP160630-1A3
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

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-42-8	BORON	1	32	30	11		
7440-70-2	CALCIUM	1	51000	1000	51		
7439-89-6	IRON	1	17	50	16	B	
7439-95-4	MAGNESIUM	1	11000	750	58		
7440-09-7	POTASSIUM	1	4500	1000	86		
7440-23-5	SODIUM	1	59000	500	61		
7440-62-2	VANADIUM	1	4.3	10	2	B	

Data Package ID: *ip1606501-1*

July 1, 2016

ALS1606501

ICP Metals

Method SW6010B

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1606501

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: AQUIFER TUBES, JUNE 2016 X16-033

Lab ID: IP160630-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 30-Jun-16

Date Analyzed: 30-Jun-16

Prep Batch: IP160630-1

QCBatchID: IP160630-1-1

Run ID: IP160630-1A3

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
7440-42-8	BORON	1	11	30	11	U	
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	
7440-23-5	SODIUM	1	61	500	61	U	
7440-62-2	VANADIUM	1	2	10	2	U	

Data Package ID: ip1606501-1

Date Printed: Thursday, June 30, 2016

ALS Environmental -- FC

Page 1 of 1

LIMS Version: 6.817

July 1, 2016

ALS1606501

ICP Metals

Method SW6010B

Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1606501

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: AQUIFER TUBES, JUNE 2016 X16-033

Lab ID: IP160630-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 06/30/2016

Date Analyzed: 06/30/2016

Prep Method: SW3005A

Prep Batch: IP160630-1

QC Batch ID: IP160630-1-1

Run ID: IP160630-1A3

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
7440-42-8	BORON	1000	996	30		100	80 - 120%
7440-70-2	CALCIUM	40000	38800	1000		97	80 - 120%
7439-89-6	IRON	1000	992	50		99	80 - 120%
7439-95-4	MAGNESIUM	40000	39600	750		99	80 - 120%
7440-09-7	POTASSIUM	40000	41800	1000		104	80 - 120%
7440-23-5	SODIUM	40000	41700	500		104	80 - 120%
7440-62-2	VANADIUM	500	516	10		103	80 - 120%

Data Package ID: ip1606501-1

Date Printed: Thursday, June 30, 2016

ALS Environmental -- FC

Page 1 of 1

LIMS Version: 6.817

July 1, 2016

ALS1606501

ICP Metals

Method SW6010B

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1606501

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: AQUIFER TUBES, JUNE 2016 X16-033

Field ID: B358H7

LabID: 1606501-1MS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 24-Jun-16

Date Extracted: 30-Jun-16

Date Analyzed: 30-Jun-16

Prep Method: SW3005 Rev A

Prep Batch: IP160630-1

QCBatchID: IP160630-1-1

Run ID: IP160630-1A3

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
7440-42-8	BORON	50		1070		30	1000	102	80 - 120%
7440-70-2	CALCIUM	54000		95000		1000	40000	102	80 - 120%
7439-89-6	IRON	52		1040		50	1000	99	80 - 120%
7439-95-4	MAGNESIUM	11000		51100		750	40000	99	80 - 120%
7440-09-7	POTASSIUM	4400		44300		1000	40000	100	80 - 120%
7440-23-5	SODIUM	47000		85000		500	40000	95	80 - 120%
7440-62-2	VANADIUM	4.7	B	527		10	500	105	80 - 120%

Field ID: B358H7

LabID: 1606501-1MSD

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 24-Jun-16

Date Extracted: 30-Jun-16

Date Analyzed: 30-Jun-16

Prep Method: SW3005 Rev A

Prep Batch: IP160630-1

QCBatchID: IP160630-1-1

Run ID: IP160630-1A3

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
7440-42-8	BORON	1070		1000	102	30	20	0
7440-70-2	CALCIUM	93800		40000	99	1000	20	1
7439-89-6	IRON	1010		1000	96	50	20	3
7439-95-4	MAGNESIUM	50600		40000	98	750	20	1
7440-09-7	POTASSIUM	44300		40000	100	1000	20	0
7440-23-5	SODIUM	84900		40000	95	500	20	0
7440-62-2	VANADIUM	525		500	104	10	20	1

Data Package ID: ip1606501-1