



Wednesday, January 03, 2018

Karen Waters-Husted
CH2M HILL Plateau Remediation Company
825 Jadwin Avenue
Richland, WA 99352

Re: ALS Workorder: 1712422
Project Name: SURV, OCTOBER 2017
Project Number: S18-010

Dear Ms. Waters-Husted:

Two water samples were received from CH2M HILL Plateau Remediation Company, on 10/17/2017. 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
Katie M. OBrien
Project Manager

We certify that this data package is in compliance with the SOW, both technically and for completeness, including a full description of, explanation of, and corrective actions for, and all deviations, from either the analyses requested or the case narrative requested. Release of the data contained in this hard copy data package has been authorized by the Laboratory Analytical Manager (or designee) and the laboratory's client services representative as verified by their signatures on this report.

ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 1712422

Client Name: CH2M HILL Plateau Remediation Company

Client Project Name: SURV, OCTOBER 2017

Client Project Number: S18-010

Client PO Number: BOA 54854

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B3D9L4	1712422-12		WATER	15-Oct-17	12:18
B3D547	1712422-13		WATER	15-Oct-17	10:14

RECHECK, RECOUNT, OR REANALYSIS ORDER

12/18/2017

Order Number: 171206ALS-R9284

ALS Environmental Ft. Collins

225 Commerce Drive

Fort Collins, CO 80524

Sample Delivery Group: ALS1710373

Method Name: 6010_METALS_ICP

Sample#: B3D547

Sample Date: 10/15/2017 10:14:00 AM

SAF #: S18-010

Lab Sample ID	RDR Action Start Date	Constituent	Action	TAT (Hardcopy/EDD)
1710373-13	12/18/2017 3:08:29 PM	Calcium	REANALYZE	15 Days / 15 Days
1710373-13	12/18/2017 3:08:29 PM	Sodium	REANALYZE	15 Days / 15 Days

Sample#: B3D9L4

Sample Date: 10/15/2017 12:18:00 PM

SAF #: S18-010

Lab Sample ID	RDR Action Start Date	Constituent	Action	TAT (Hardcopy/EDD)
1710373-12	12/18/2017 3:08:29 PM	Calcium	REANALYZE	15 Days / 15 Days
1710373-12	12/18/2017 3:08:29 PM	Sodium	REANALYZE	15 Days / 15 Days

Deliver Report Results to: CHPRC

P.O. Box 1600
Richland, WA 99352
C/O Mr.Scot Fitzgerald

1770373
11/17/17

CH2M Hill Plateau Remediation Company Scott King CHPRC		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST C.O.C.# S18-010-743 Page 1 of 1	
Collector: S18-010 SURV, OCTOBER 2017	Contact/Requester: Karen Waters-Husted Sampling Origin: Hanford Site Logbook No.: HNF-N-506 - 95-47 Method of Shipment: Commercial Carrier Priority: 30 Days	Telephone No.: 509-376-4650 Purchase Order/Charge Code: 300071 Ice Chest No.: GWS 2643 - 556 Bill of Lading/Air Bill No.: 705 D540456 Offsite Property No.: 8588	
Protocol: CERCLA POSSIBLE SAMPLE HAZARDS/REMARK ** ** 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 N/A			
Sample No. B3D6P3 B3D9L4	Filter Y N	Date OCT 15 2017 ↓	Time 12:16 ↓
No/Type Container 1x500-mL G/P 1x500-mL G/P		Sample Analysis 6010_METALS_ICP: GW 04 6010_METALS_ICP: GW 04	
Holding Time 6 Months 6 Months		Preservative HNO3 to pH <2 HNO3 to pH <2	

Relinquished By: Scott King Print First and Last Name Signature Date/Time OCT 15 2017 12:30	Received By: SSU-1 Print First and Last Name Signature Date/Time OCT 15 2017 12:30
Relinquished By: SSU-1 Print First and Last Name Signature Date/Time OCT 16 2017 08:00	Received By: Janette Zurker CHPRC Print First and Last Name Signature Date/Time OCT 16 2017 08:00
Relinquished By: SSU-1 Print First and Last Name Signature Date/Time OCT 16 2017 14:00	Received By: FEDEX Print First and Last Name Signature Date/Time OCT 16 2017 14:00
Relinquished By: FEDEX Print First and Last Name Signature Date/Time OCT 16 2017 14:00	Received By: Janette Zurker CHPRC Print First and Last Name Signature Date/Time OCT 16 2017 14:00

Disposal Method (e.g., Return to customer, per lab procedure, used in process):

Disposed By: [Signature] Date/Time: 10-17-17

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

710375
172422
12/9/17

C.O.C.#
S18-010-036
Page 1 of 1

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Collector: Scott King CHPRC		Contact/Requester: Karen Waters-Husted		Telephone No.: 509-376-4650	
SAF No.: S18-010		Sampling Origin: Hanford Site		Purchase Order/Charge Code: 300071	
Project Title: SURV, OCTOBER 2017		Logbook No.: HNF-N-506-95/47		Ice Chest No.: GWS-643-556	
Shipped To (Lab): ALS Environmental Ft. Collins		Method of Shipment: Commercial Carrier		Bill of Lading/Air Bill No.: 72050540-4515	
Protocol: CERCLA		Priority: 30 Days		Offsite Property No.: 8588	

POSSIBLE SAMPLE HAZARDS/REMARK
 ** ** 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

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3D547	Y		OCT 15 2017	1014	1x500-mL G/P	6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B3D523	N				1x500-mL G/P	6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2

Relinquished By: Scott King CHPRC Signature: <i>[Signature]</i> Date/Time: OCT 15 2017 1230	Received By: SSU-1 Signature: <i>[Signature]</i> Date/Time: OCT 15 2017 1230	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wipe WW = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By: SSU-1 Signature: <i>[Signature]</i> Date/Time: OCT 16 2017 800	Received By: Janelle Zunker CHPRC Signature: <i>[Signature]</i> Date/Time: OCT 16 2017 800	
Relinquished By: Janelle Zunker CHPRC Signature: <i>[Signature]</i> Date/Time: OCT 16 2017 1100	Received By: FEDEX Signature: <i>[Signature]</i> Date/Time: OCT 16 2017 0900	
Relinquished By: FEP Signature: <i>[Signature]</i> Date/Time: OCT 16 2017 1100	Received By: Janelle Zunker CHPRC Signature: <i>[Signature]</i> Date/Time: OCT 16 2017 0900	

FINAL SAMPLE DISPOSITION
 Disposal Method (e.g., Return to customer, per lab procedure, used in process):
 Disposed By: *[Signature]*
 Date/Time: 10-17-17 0900

Printed On 9/5/2017 FSR ID = FSR50409 A-6004-642 (REV 3)



ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

1712422 relog

Client: CHPRC

Workorder No: 1710373 ^{10/17}

Project Manager: _____

Initials: CXT Date: 10-18-17

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	<input type="radio"/> NO
3. Are Custody seals on sample containers intact?	NONE	<input checked="" type="radio"/> YES	<input type="radio"/> NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		<input checked="" type="radio"/> YES	<input type="radio"/> NO
5. Are the COC and bottle labels complete and legible?		<input checked="" type="radio"/> YES	<input type="radio"/> 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	<input type="radio"/> NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES	<input type="radio"/> NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	<input checked="" type="radio"/> YES	<input type="radio"/> NO
9. Are all aqueous non-preserved samples pH 4-9?	<input checked="" type="radio"/> N/A	YES	<input type="radio"/> NO
10. Is there sufficient sample for the requested analyses?		<input checked="" type="radio"/> YES	<input type="radio"/> NO
11. Were all samples placed in the proper containers for the requested analyses?		<input checked="" type="radio"/> YES	<input type="radio"/> NO
12. Are all samples within holding times for the requested analyses?		<input checked="" type="radio"/> YES	<input type="radio"/> NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		<input checked="" type="radio"/> YES	<input type="radio"/> 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	<input type="radio"/> 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?		YES	<input checked="" type="radio"/> NO
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 #4	RAD ONLY	YES	<input checked="" type="radio"/> NO
Cooler #: <u>1</u> <u>2</u>			
Temperature (°C): <u>Amb</u> <u>Amb</u>			
No. of custody seals on cooler: <u>2</u> <u>2</u>			
External µR/hr reading: <u>10</u> <u>11</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: Philah Jummy 10/18/17

RE-ANALYSIS

ALS1712422

1/3/2018

11-2

1712422
1710373

REV.0

Page 1 of 1

ORIGIN ID:PSCA (509) 373-3580
JANELLE ZUNKER
CH2M
6289 LATAH ST.
RICHLAND, WA 99354
UNITED STATES US

SHIP DATE: 18OCT17
ACTWGT: 17.00 LB
CAD: 107066051/INET3920
BILL THIRD PARTY

TO JULIE ELLINGSON
ALS GLOBAL
225 COMMERCE DRIVE

FORT COLLINS CO 80524

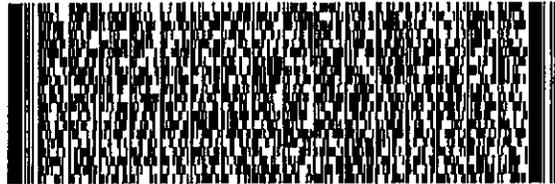
(970) 490-1511

REF: 8692

INV:

PO:

DEPT:



FedEx
Express



549J494FC104C

TUE - 17 OCT 10:30A

PRIORITY OVERNIGHT

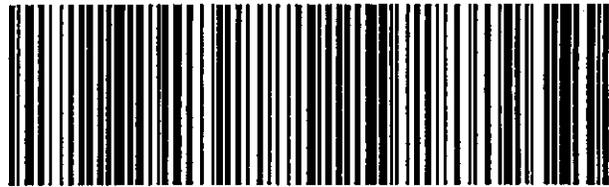
TRK# 7705 0940 5076
0201

DSR

80524

XH FTCA

CO-US DEN



1710373

10-2

Page 1 of 1

ORIGIN ID:PSCA (509) 373-3580
JANELLE ZUNKER
CH2M
6289 LATAH ST.
RICHLAND, WA 99354
UNITED STATES US

SHIP DATE: 16OCT17
ACTWGT: 26.00 LB
CAD: 107066051/NET3920

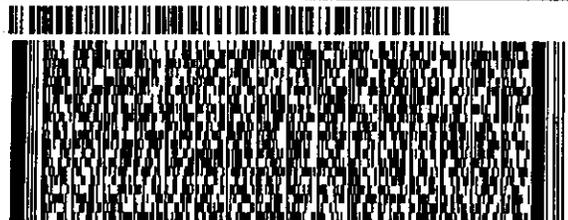
BILL THIRD PARTY

TO JULIE ELLINGSON
ALS GLOBAL
225 COMMERCE DRIVE

FORT COLLINS CO 80524
(970) 490-1511 REF: 6588

INV: PO: DEPT:

546J64FC104C



TRK# 7705 0540 4545
0201

TUE - 17 OCT 10:30A
PRIORITY OVERNIGHT

XH FTCA

DSR
80524
CO-US DEN





Metals

Case Narrative

CH2M HILL Plateau Remediation Company

SURV, OCTOBER 2017 – S18-010

Work Order Number: 1712422

1. This section consists of 2 water samples for total recoverable and dissolved metals.
2. The samples were received intact at ambient temperature by ALS on 10/17/17.
3. The sample 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 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 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 read-backs associated with Method 6010B were within acceptance criteria.

9. Matrix specific quality control procedures.

Sample 1712278-1 was designated as the quality control sample for each analysis. Results for the shared quality control samples are included at the client's request.

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 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 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.



Emily Lyons
Inorganics Primary Data Reviewer

1/2/18
Date



Kath M. O.
Inorganics Final Data Reviewer

1/3/18
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 -- Fort Collins

Work Order Number: 1712422

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: SURV, OCTOBER 2017 S18-010

Field ID:	B3D9L4
Lab ID:	1712422-12

Sample Matrix: WATER
 % Moisture: N/A
 Date Collected: 15-Oct-17
 Date Extracted: 20-Dec-17
 Date Analyzed: 21-Dec-17
 Prep Method: SW3005 Rev A

Prep Batch: IP171220-2
 QCBatchID: IP171220-2-1
 Run ID: IP171221-1A2
 Cleanup: NONE
 Basis: As Received
 File Name:

Analyst: Amanda J. Lynn
 Sample Aliquot: 50 ml
 Final Volume: 50 ml
 Result Units: UG/L
 Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Result Qualifier	Reporting Limit	MDL
7440-42-8	BORON	1	6.6	U	30	6.6
7440-70-2	CALCIUM	1	67000		1000	120
7439-89-6	IRON	1	720		50	17
7439-95-4	MAGNESIUM	1	13000		750	97
7440-09-7	POTASSIUM	1	6100		1000	150
7440-23-5	SODIUM	1	49000		500	110
7440-62-2	VANADIUM	1	4.8	B	10	0.98

Data Package ID: IP1712422-1

Dissolved ICP Metals

Method SW6010B

Sample Results

Lab Name: ALS -- Fort Collins

Work Order Number: 1712422

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: SURV, OCTOBER 2017 S18-010

Field ID:	B3D547
Lab ID:	1712422-13

Sample Matrix: WATER
 % Moisture: N/A
 Date Collected: 15-Oct-17
 Date Extracted: 20-Dec-17
 Date Analyzed: 21-Dec-17
 Prep Method: SW3005 Rev A

Prep Batch: IP171220-2
 QCBatchID: IP171220-2-1
 Run ID: IP171221-1A2
 Cleanup: NONE
 Basis: As Received
 File Name:

Analyst: Amanda J. Lynn
 Sample Aliquot: 50 ml
 Final Volume: 50 ml
 Result Units: UG/L
 Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Result Qualifier	Reporting Limit	MDL
7440-42-8	BORON	1	6.6	U	30	6.6
7440-70-2	CALCIUM	1	57000		1000	120
7439-89-6	IRON	1	26	B	50	17
7439-95-4	MAGNESIUM	1	13000		750	97
7440-09-7	POTASSIUM	1	5600		1000	150
7440-23-5	SODIUM	1	38000		500	110
7440-62-2	VANADIUM	1	11		10	0.98

Data Package ID: IP1712422-1

ICP Metals

Method SW6010B

Method Blank

Lab Name: ALS -- Fort Collins

Work Order Number: 1712422

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: SURV, OCTOBER 2017 S18-010

Lab ID: IP171220-2MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 20-Dec-17

Date Analyzed: 21-Dec-17

Prep Batch: IP171220-2

QCBatchID: IP171220-2-1

Run ID: IP171221-1A2

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	Result Qualifier	Reporting Limit	MDL
7440-42-8	BORON	1	6.6	U	30	6.6
7440-70-2	CALCIUM	1	120	U	1000	120
7439-89-6	IRON	1	17	U	50	17
7439-95-4	MAGNESIUM	1	97	U	750	97
7440-09-7	POTASSIUM	1	150	U	1000	150
7440-23-5	SODIUM	1	110	U	500	110
7440-62-2	VANADIUM	1	0.98	U	10	0.98

Data Package ID: IP1712422-1

ICP Metals

Method SW6010B

Laboratory Control Sample

Lab Name: ALS -- Fort Collins

Work Order Number: 1712422

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: SURV, OCTOBER 2017 S18-010

Lab ID: IP171220-2LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 12/20/2017

Date Analyzed: 12/21/2017

Prep Method: SW3005A

Prep Batch: IP171220-2

QCBatchID: IP171220-2-1

Run ID: IP171221-1A2

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	923	30		92	80 - 120%
7440-70-2	CALCIUM	40000	38100	1000		95	80 - 120%
7439-89-6	IRON	1000	963	50		96	80 - 120%
7439-95-4	MAGNESIUM	40000	37200	750		93	80 - 120%
7440-09-7	POTASSIUM	40000	39200	1000		98	80 - 120%
7440-23-5	SODIUM	40000	40400	500		101	80 - 120%
7440-62-2	VANADIUM	500	486	10		97	80 - 120%

Data Package ID: IP1712422-1

ICP Metals

Method SW6010B

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS -- Fort Collins

Work Order Number: 1712422

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: SURV, OCTOBER 2017 S18-010

Field ID: SHARED QC

LabID: 1712278-1MS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 11-Dec-17

Date Extracted: 20-Dec-17

Date Analyzed: 21-Dec-17

Prep Method: SW3005 Rev A

Prep Batch: IP171220-2

QCBatchID: IP171220-2-1

Run ID: IP171221-1A2

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	6.6	U	924		30	1000	92	80 - 120%
7440-70-2	CALCIUM	120	U	37300		1000	40000	93	80 - 120%
7439-89-6	IRON	32	B	999		50	1000	97	80 - 120%
7439-95-4	MAGNESIUM	97	U	36700		750	40000	92	80 - 120%
7440-09-7	POTASSIUM	150	U	38900		1000	40000	97	80 - 120%
7440-23-5	SODIUM	110	U	40200		500	40000	100	80 - 120%
7440-62-2	VANADIUM	0.98	U	466		10	500	93	80 - 120%

Field ID: SHARED QC

LabID: 1712278-1MSD

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 11-Dec-17

Date Extracted: 20-Dec-17

Date Analyzed: 21-Dec-17

Prep Method: SW3005 Rev A

Prep Batch: IP171220-2

QCBatchID: IP171220-2-1

Run ID: IP171221-1A2

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	945		1000	95	30	20	2
7440-70-2	CALCIUM	38100		40000	95	1000	20	2
7439-89-6	IRON	1000		1000	97	50	20	0
7439-95-4	MAGNESIUM	37600		40000	94	750	20	3
7440-09-7	POTASSIUM	40100		40000	100	1000	20	3
7440-23-5	SODIUM	41300		40000	103	500	20	3
7440-62-2	VANADIUM	491		500	98	10	20	5

Data Package ID: IP1712422-1

Prep Batch ID: IP171220-2

Start Date: 12/20/17	End Date: 12/20/17	Concentration Method: NONE	Batch Created By: jml
Start Time: 10:38	End Time: 18:00	Extract Method: SW3005A	Date Created: 12/20/17
Prep Analyst: Jill M. Latelle		Initial Volume Units: ml	Time Created: 11:19
Comments:		Final Volume Units: ml	Validated By: jml
<div style="border: 1px solid black; height: 30px; width: 100%;"></div>			Date Validated: 12/20/17
			Time Validated: 13:32

QC Batch ID: IP171220-2-1

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
IP171220-2	MB	XXXXXX	WATER	XXXXXX	50	50	NONE	1	1712278
IP171220-2	LCS	XXXXXX	WATER	XXXXXX	50	50	NONE	1	1712278
1712278-1	MS	XXXXXX	WATER	XXXXXX	50	50	NONE	1	1712278
1712278-1	MSD	XXXXXX	WATER	XXXXXX	50	50	NONE	1	1712278
1712278-1	DUP	XXXXXX	WATER	XXXXXX	50	50	NONE	1	1712278
1712278-1	SMP	XXXXXX	WATER	XXXXXX	50	50	NONE	1	1712278
1712278-2	SMP	XXXXXX	WATER	XXXXXX	50	50	NONE	1	1712278
1712278-3	SMP	XXXXXX	WATER	XXXXXX	50	50	NONE	1	1712278
1712278-4	SMP	XXXXXX	WATER	XXXXXX	50	50	NONE	1	1712278
1712278-5	SMP	XXXXXX	WATER	XXXXXX	50	50	NONE	1	1712278
1712278-6	SMP	XXXXXX	WATER	XXXXXX	50	50	NONE	1	1712278
1712415-1	SMP	XXXXXX	WATER	XXXXXX	50	50	NONE	1	1712415
1712415-2	SMP	XXXXXX	WATER	XXXXXX	50	50	NONE	1	1712415
1712421-3	SMP	XXXXXX	WATER	XXXXXX	50	50	NONE	1	1712421
1712421-4	SMP	XXXXXX	WATER	XXXXXX	50	50	NONE	1	1712421
1712422-12	SMP	B3D9L4	WATER	10/15/2017	50	50	NONE	1	1712422
1712422-13	SMP	B3D547	WATER	10/15/2017	50	50	NONE	1	1712422

QC Types

CAR	Carrier reference sample	DUP	Laboratory Duplicate
LCS	Laboratory Control Sample	LCSD	Laboratory Control Sample Duplicat
MB	Method Blank	MS	Laboratory Matrix Spike
MSD	Laboratory Matrix Spike Duplicate	REP	Sample replicate
RVS	Reporting Level Verification Standar	SMP	Field Sample
SYS	Sample Yield Spike		