Ft. Collins, Colorado LIMS Version: 6.821 Page 1 of 1

Thursday, August 04, 2016

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

Re: ALS Workorder: 1607489
Project Name: SURV, JULY 2016
Project Number: S16-007

Dear Ms. Waters-Husted:

Ten water samples were received from CH2M HILL Plateau Remediation Company, on 7/26/2016. The samples were scheduled for the following analysis:

Metals

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

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

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

Sincerely,

ALS Environmental
Julie Ellingson
Project Manager

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 -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 1607489
Client Name: CH2M HILL Plateau Remediation Company
Client Project Name: SURV, JULY 2016
Client Project Number: S16-007
Client PO Number: BOA 54854

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B35V40	1607489-1		WATER	24-Jul-16	11:13
B35V43	1607489-2		WATER	24-Jul-16	11:13
B35V48	1607489-3		WATER	24-Jul-16	12:11
B35V45	1607489-4		WATER	24-Jul-16	12:11
B35T86	1607489-5		WATER	25-Jul-16	9:32
B35T90	1607489-6		WATER	25-Jul-16	9:32
B35T98	1607489-7		WATER	25-Jul-16	9:49
B35TB2	1607489-8		WATER	25-Jul-16	9:49
B35T92	1607489-9		WATER	25-Jul-16	10:15
B35T96	1607489-10		WATER	25-Jul-16	10:15

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **S16-007-021**

Page 1 of ~~1~~ 2

AW. 7/25/16

Collector	J.R. Aguilar/CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	S16-007	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	SURV, JULY 2016	Logbook No.	HNF-N-506 87/9	Ice Chest No.	GWS-439
Shipped To (Lab)	ALS Environmental Ft. Collins	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.	776833228955
Protocol	SURV	Priority:	30 Days **PRIORITY**	Offsite Property No.	68863

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 Hold Time

N/A

Special Handling:N/A

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B35V40 (1)	N	W	JUL 24 2016	1113	1x500-mL G/P	6020_METALS_ICPMS: COMMON	6 Months	HNO3 to pH <2
B35V43 (2)	Y	W	JUL 24 2016	1113	1x500-mL G/P	6020_METALS_ICPMS: COMMON	6 Months	HNO3 to pH <2

1607489

8/4/2016

ALS1607489

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
J.R. Aguilar/CHPRC			JUL 24 2016 1230	Troy Bacon CHPRC		Troy L. Bacon	JUL 24 2016 1230
Troy Bacon CHPRC		Troy L. Bacon	JUL 24 2016 1325	SSV #1			JUL 24 2016 1325
SSV #1			JUL 25 2016 1025	Troy Bacon CHPRC		Troy L. Bacon	JUL 25 2016 1025
Troy Bacon CHPRC		Troy L. Bacon	JUL 25 2016 1400	FEDEX			

Matrix *

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

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PRINTED ON 5/26/2016

FSR ID = FSR10561

A-6004-842 (REV 2)

1607489

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST (continued)

C.O.C. No. S16-007-021

Page 2 of 2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	Fedex		7-26-16 0945		Scott Marty	[signature]	7-26-16 0945

A-6003-962 (03/05)

8/4/2016

ALS1607489

4 of 29

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **S16-007-022**

Page 1 of 12

Collector	J.R. Aguilar/CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	S16-007	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	SURV, JULY 2016	Logbook No.	HNF-N-506 87 / 9	Ice Chest No.	GWS-439
Shipped To (Lab)	ALS Environmental Ft. Collins	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.	7768 3322 8955
Protocol	SURV	Priority:	30 Days **PRIORITY**	Offsite Property No.	6863

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 Hold Time

N/A

Special Handling:N/A

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B35V48 (3)	Y	W	JUL 24 2016	1211	1x500-mL G/P	6020_METALS_ICPMS: COMMON	6 Months	HNO3 to pH <2
B35V45 (4)	N	W	JUL 24 2016	1211	1x500-mL G/P	6020_METALS_ICPMS: COMMON	6 Months	HNO3 to pH <2

1607489

8/4/2016
ALS1607489

Relinquished By	Date/Time	Received By	Date/Time
Print: J.R. Aguilar/CHPRC; Sign:	JUL 24 2016 1230	Print: Troy Bacon CHPRC; Sign: Troy L. Bacon	JUL 24 2016 1230
Print: Troy Bacon CHPRC; Sign: Troy L. Bacon	JUL 24 2016 1325	SSV #1	JUL 24 2016 1325
SSV #1	JUL 25 2016 1025	Troy Bacon CHPRC; Troy L. Bacon	JUL 25 2016 1025
Troy Bacon CHPRC; Troy L. Bacon	JUL 25 2016 1400	FEDEX	

Matrix *

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

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

5 of 29

PRINTED ON 5/26/2016 FSR ID = FSR25506 A-6004-842 (REV 2)

1607489

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST (continued)

C.O.C. No. S16-007-022

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	Fedex	7-26-16	0945		Scott Mally		7-26-16 0945
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time

A-6003-962 (03/05)

12105

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **S16-007-003**

Collector	Karen Campbell CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	S16-007	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	SURV, JULY 2016	Logbook No.	HNF-N-506 82193	Ice Chest No.	GWS-471
Shipped To (Lab)	ALS Environmental Ft. Collins	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.	7768 3677 1796
Protocol	SURV	Priority:	30 Days **PRIORITY**	Offsite Property No.	68866

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 **Hold Time** Total Activity Exemption: Yes ☑ No ☐

N/A

Special Handling:N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B35T86 (5)	N	W	7-25-16	0932	1x500-mL G/P	6020_METALS_ICPMS: GW 01	6 Months	HNO3 to pH <2
B35T90 (6)	Y	W	7-25-16	0932	1x500-mL G/P	6020_METALS_ICPMS: GW 01	6 Months	HNO3 to pH <2

1607489

8/4/2016

ALS1607489

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	Karen Campbell CHPRC	Karen Campbell	JUL 25 2016 1100		Troy Bacon CHPRC	Troy L. Bacon	JUL 25 2016 1100
Relinquished By	Troy Bacon CHPRC	Troy L. Bacon	JUL 25 2016 1400	Received By	FEDEX		Date/Time
Relinquished By	Fedex		7-26-16 0945	Received By	Sara Molly		7-26-16 0945
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PRINTED ON 5/26/2016 FSR ID = FSR32549 A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S16-007-005

Collector	Karen Campbell CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	S16-007	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	SURV, JULY 2016	Logbook No.	HNF-N-506 82/93	Ice Chest No.	GWS-471
Shipped To (Lab)	ALS Environmental Ft. Collins	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.	7768 3677 1796
Protocol	SURV	Priority:	30 Days **PRIORITY**	Offsite Property No.	6866

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 Hold Time

N/A

Special Handling:N/A

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B35T98 (9)	N	W	7-25-16	0949	1x500-mL G/P	6020_METALS_ICPMS: GW 01	6 Months	HNO3 to pH <2
B35TB2 (B)	Y	W	7-25-16	0949	1x500-mL G/P	6020_METALS_ICPMS: GW 01	6 Months	HNO3 to pH <2

1607489

8/4/2016
ALS1607489

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
Karen Campbell CHPRC Karen Campbell	JUL 25 2016 1100	Troy Bacon CHPRC Troy L. Bacon	JUL 25 2016 1100
Troy Bacon CHPRC Troy L. Bacon	JUL 25 2016 1460	FEDEX	
Fedex	7-26-16 0945	Scott Marley	7-26-16 0945

Matrix *

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

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PRINTED ON 5/26/2016 FSR ID = FSR7831 A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **S16-007-004**

Collector	Karen Campbell CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	S16-007	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	SURV, JULY 2016	Logbook No.	HNF-N-506 82 / 93	Ice Chest No.	GWS -471
Shipped To (Lab)	ALS Environmental Ft. Collins	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.	7768 3677 1796
Protocol	SURV	Priority:	30 Days **PRIORITY**	Offsite Property No.	68866

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 Hold Time Total Activity Exemption: Yes ☑ No ☐

N/A
Special Handling:N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B35T92 (9)	N	W	7-25-16	1015	1x500-mL G/P	6020_METALS_ICPMS: GW 01	6 Months	HNO3 to pH <2
B35T96 (10)	Y	W	7-25-16	1015	1x500-mL G/P	6020_METALS_ICPMS: GW 01	6 Months	HNO3 to pH <2

1607489

8/4/2016
ALS1607489

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Karen Campbell CHPRC	Karen Campbell		JUL 25 2016 1100	Troy Bacon CHPRC	Troy L. Bacon		JUL 25 2016 1100
Troy Bacon CHPRC	Troy L. Bacon		JUL 25 2016 1400	FEDEX			
Fedex			7-26-16 0945				7-26-16 0945

Matrix *

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

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PRINTED ON 5/26/2016 FSR ID = FSR8043 A-6004-842 (REV 2)

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: CHPRC Workorder No: 1607489

Project Manager: JME Initials: SDM Date: 7-26-16

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	2						
Temperature (°C):	Amb	Amb						
No. of custody seals on cooler:	2	2						
DOT Survey/ Acceptance Information — External µR/hr reading:	11	12						
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.

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

Project Manager Signature / Date: 7/27/16

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

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

11 of 29

ORIGIN ID:PSCA (509) 528-9426
LESLY WALL
CHPM
6267 LATAH ST.
6269 LATAH ST.
RICHLAND, WA 99354
UNITED STATES US

SHIP DATE: 25JUL16
ACTWGT: 12.00 LB
CAD: 107060051/NET3790

BILL THIRD PARTY

TO JULIE ELLINGSON
ALS GLOBAL
225 COMMERCE DRIVE

FORT COLLINS CO 80524
(970) 490-1511
INV:
PO: DEPT
REF: PTR# 6666

544J1/5CBD/14EB

FedEx Express

J1820101070001sec

TUE - 26 JUL 10:30A
PRIORITY OVERNIGHT
DSR
80524
CO-US DEN

TRK# 0201 7768 3677 1796

XH FTCA

Ang

-2

11

1607489

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

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

8/4/2016 ALS1607489

12 of 29

ORIGIN ID:PSCA (509) 528-9426
LESLY WALL
CH2M
6267 LATAH ST.
6269 LATAH ST.
RICHLAND, WA 99354
UNITED STATES US

SHIP DATE: 25JUL16
ACTWGT: 1.00 LB
CAD: 10706605/INET3790

BILL THIRD PARTY

TO JULIE ELLINGSON
ALS GLOBAL
225 COMMERCE DRIVE
FORT COLLINS CO 80524
(970) 490-1511
INV:
PO:
REF: PTR#6863
DEPT:

544J1/5CBD/14EB

12
-2

Amb

FedEx Express

J162210470001ner

TUE - 28 JUL 10:30A
PRIORITY OVERNIGHT
DSR
80524
DEN
CO-US

TRK# 0201 7768 3322 8955

XH FTCA

160 7489

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

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

ALS160 7489
8/4/2016

Metals

Case Narrative

CH2M HILL Plateau Remediation Company

SURV, JULY 2016 – S16-007

Work Order Number: 1607489

1. This report consists of 10 water samples for total recoverable or dissolved metals.

2. The samples were received intact at ambient temperature by ALS on 07/26/16.

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

5. 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 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. Aluminum and lead were detected 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 associated with Method 6020A were analyzed.

9. Matrix specific quality control procedures.

   Sample 1607379-1 was designated as the quality control sample for this 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 this batch. All acceptance criteria for accuracy were met.
   - Matrix spike recoveries could not be evaluated for the following analytes:

Analyte	Sample ID
Strontium	1607379-1
Uranium	1607379-1

     The concentrations of these analytes in the native sample were 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 this 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.

Jill Latelle — 7/29/16
Jill Latelle — Date
Inorganics Primary Data Reviewer

Julie Ellis — 7/31/16
Inorganics Final Data Reviewer — 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 <=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 ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS -- Fort Collins
Work Order Number: 1607489
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: SURV, JULY 2016 S16-007

Field ID: B35V40
Lab ID: 1607489-1

Analysis ReqCode: 6020_METALS_I

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 24-Jul-16
Date Extracted: 27-Jul-16
Date Analyzed: 28-Jul-16
Prep Method: SW3005 Rev A

Prep Batch: IP160727-5
QCBatchID: IP160727-5-2
Run ID: IM160728-12A5
Cleanup: NONE
Basis: As Received
File Name: 145SMPL_

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	18	100	14	BC	
7440-36-0	ANTIMONY	10	0.14	1	0.084	B	
7440-38-2	ARSENIC	10	5.7	2	0.18		
7440-39-3	BARIUM	10	38	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	16	10	1.1		
7440-48-4	COBALT	10	0.07	5	0.07	U	
7440-50-8	COPPER	10	1.1	8	1.1	U	
7439-92-1	LEAD	10	0.62	2	0.16	BC	
7439-98-7	MOLYBDENUM	10	9.5	2	0.41		
7782-49-2	SELENIUM	10	1.7	10	0.66	B	
7440-22-4	SILVER	10	0.039	0.5	0.039	U	

Data Package ID: *im1607489-1*

Dissolved ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS -- Fort Collins
Work Order Number: 1607489
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: SURV, JULY 2016 S16-007

Field ID: B35V43
Lab ID: 1607489-2

Analysis ReqCode: 6020_METALS_I

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 24-Jul-16
Date Extracted: 27-Jul-16
Date Analyzed: 28-Jul-16
Prep Method: SW3005 Rev A

Prep Batch: IP160727-5
QCBatchID: IP160727-5-2
Run ID: IM160728-12A5
Cleanup: NONE
Basis: As Received
File Name: 146SMPL_

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	100	14	BC	
7440-36-0	ANTIMONY	10	0.23	1	0.084	B	
7440-38-2	ARSENIC	10	5.7	2	0.18		
7440-39-3	BARIUM	10	37	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	16	10	1.1		
7440-48-4	COBALT	10	0.09	5	0.07	B	
7440-50-8	COPPER	10	1.1	8	1.1	U	
7439-92-1	LEAD	10	0.6	2	0.16	BC	
7439-98-7	MOLYBDENUM	10	9.1	2	0.41		
7782-49-2	SELENIUM	10	2	10	0.66	B	
7440-22-4	SILVER	10	0.039	0.5	0.039	U	

Data Package ID: *im1607489-1*

Dissolved ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS -- Fort Collins
Work Order Number: 1607489
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: SURV, JULY 2016 S16-007

Field ID: B35V48
Lab ID: 1607489-3

Analysis ReqCode: 6020_METALS_I

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 24-Jul-16
Date Extracted: 27-Jul-16
Date Analyzed: 28-Jul-16
Prep Method: SW3005 Rev A

Prep Batch: IP160727-5
QCBatchID: IP160727-5-2
Run ID: IM160728-12A5
Cleanup: NONE
Basis: As Received
File Name: 149SMPL_

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	18	100	14	BC	
7440-36-0	ANTIMONY	10	0.2	1	0.084	B	
7440-38-2	ARSENIC	10	8.4	2	0.18		
7440-39-3	BARIUM	10	34	5	0.23		
7440-41-7	BERYLLIUM	10	0.27	0.5	0.27	U	
7440-43-9	CADMIUM	10	0.14	2	0.099	B	
7440-47-3	CHROMIUM	10	11	10	1.1		
7440-48-4	COBALT	10	0.07	5	0.07	U	
7440-50-8	COPPER	10	1.1	8	1.1	U	
7439-92-1	LEAD	10	0.54	2	0.16	BC	
7439-98-7	MOLYBDENUM	10	13	2	0.41		
7782-49-2	SELENIUM	10	1.9	10	0.66	B	
7440-22-4	SILVER	10	0.039	0.5	0.039	U	

Data Package ID: *im1607489-1*

Total Recoverable ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS -- Fort Collins
Work Order Number: 1607489
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: SURV, JULY 2016 S16-007

Field ID: B35V45
Lab ID: 1607489-4

Analysis ReqCode: 6020_METALS_I

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 24-Jul-16
Date Extracted: 27-Jul-16
Date Analyzed: 28-Jul-16
Prep Method: SW3005 Rev A

Prep Batch: IP160727-5
QCBatchID: IP160727-5-2
Run ID: IM160728-12A5
Cleanup: NONE
Basis: As Received
File Name: 150SMPL_

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	25	100	14	BC	
7440-36-0	ANTIMONY	10	0.12	1	0.084	B	
7440-38-2	ARSENIC	10	8.5	2	0.18		
7440-39-3	BARIUM	10	34	5	0.23		
7440-41-7	BERYLLIUM	10	0.27	0.5	0.27	U	
7440-43-9	CADMIUM	10	0.13	2	0.099	B	
7440-47-3	CHROMIUM	10	13	10	1.1		
7440-48-4	COBALT	10	0.07	5	0.07	U	
7440-50-8	COPPER	10	1.1	8	1.1	U	
7439-92-1	LEAD	10	0.72	2	0.16	BC	
7439-98-7	MOLYBDENUM	10	13	2	0.41		
7782-49-2	SELENIUM	10	2.3	10	0.66	B	
7440-22-4	SILVER	10	0.05	0.5	0.039	B	

Data Package ID: *im1607489-1*

Total Recoverable ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS -- Fort Collins
Work Order Number: 1607489
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: SURV, JULY 2016 S16-007

Field ID: B35T86
Lab ID: 1607489-5

Analysis ReqCode: 6020_METALS_I

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 25-Jul-16
Date Extracted: 27-Jul-16
Date Analyzed: 28-Jul-16
Prep Method: SW3005 Rev A

Prep Batch: IP160727-5
QCBatchID: IP160727-5-3
Run ID: IM160728-12A5
Cleanup: NONE
Basis: As Received
File Name: 151SMPL_

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	20	100	14	BC	
7440-36-0	ANTIMONY	10	0.084	1	0.084	U	
7440-38-2	ARSENIC	10	3.8	2	0.18		
7440-39-3	BARIUM	10	88	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	54	10	1.1		
7440-48-4	COBALT	10	0.07	5	0.07	U	
7440-50-8	COPPER	10	3.9	8	1.1	B	
7439-92-1	LEAD	10	0.73	2	0.16	BC	
7439-96-5	MANGANESE	10	0.33	5	0.3	B	
7439-98-7	MOLYBDENUM	10	3.3	2	0.41		
7440-02-0	NICKEL	10	4.2	20	4.2	U	
7782-49-2	SELENIUM	10	0.66	10	0.66	U	
7440-22-4	SILVER	10	0.039	0.5	0.039	U	
7440-24-6	STRONTIUM	10	240	5	0.31		
7440-28-0	THALLIUM	10	0.014	0.1	0.014	U	
7440-29-1	THORIUM	10	0.032	0.2	0.032	U	
7440-31-5	TIN	10	1.3	10	1.3	U	
7440-61-1	URANIUM	10	1.8	0.1	0.027		
7440-66-6	ZINC	10	9.6	100	9.1	B	

Data Package ID: *im1607489-1*

Dissolved ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS -- Fort Collins
Work Order Number: 1607489
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: SURV, JULY 2016 S16-007

Field ID: B35T90
Lab ID: 1607489-6

Analysis ReqCode: 6020_METALS_I

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 25-Jul-16
Date Extracted: 27-Jul-16
Date Analyzed: 28-Jul-16
Prep Method: SW3005 Rev A

Prep Batch: IP160727-5
QCBatchID: IP160727-5-3
Run ID: IM160728-12A5
Cleanup: NONE
Basis: As Received
File Name: 152SMPL_

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	24	100	14	BC	
7440-36-0	ANTIMONY	10	0.11	1	0.084	B	
7440-38-2	ARSENIC	10	4.3	2	0.18		
7440-39-3	BARIUM	10	89	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	56	10	1.1		
7440-48-4	COBALT	10	0.18	5	0.07	B	
7440-50-8	COPPER	10	2.2	8	1.1	B	
7439-92-1	LEAD	10	0.66	2	0.16	BC	
7439-96-5	MANGANESE	10	0.51	5	0.3	B	
7439-98-7	MOLYBDENUM	10	3.2	2	0.41		
7440-02-0	NICKEL	10	4.2	20	4.2	U	
7782-49-2	SELENIUM	10	0.66	10	0.66	U	
7440-22-4	SILVER	10	0.039	0.5	0.039	U	
7440-24-6	STRONTIUM	10	250	5	0.31		
7440-28-0	THALLIUM	10	0.014	0.1	0.014	U	
7440-29-1	THORIUM	10	0.032	0.2	0.032	U	
7440-31-5	TIN	10	1.3	10	1.3	U	
7440-61-1	URANIUM	10	1.7	0.1	0.027		
7440-66-6	ZINC	10	9.1	100	9.1	U	

Data Package ID: *im1607489-1*

Total Recoverable ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS -- Fort Collins
Work Order Number: 1607489
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: SURV, JULY 2016 S16-007

Field ID: B35T98
Lab ID: 1607489-7

Analysis ReqCode: 6020_METALS_I

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 25-Jul-16
Date Extracted: 27-Jul-16
Date Analyzed: 28-Jul-16
Prep Method: SW3005 Rev A

Prep Batch: IP160727-5
QCBatchID: IP160727-5-3
Run ID: IM160728-12A5
Cleanup: NONE
Basis: As Received
File Name: 153SMPL_

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

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	14	100	14	U	
7440-36-0	ANTIMONY	10	0.084	1	0.084	U	
7440-38-2	ARSENIC	10	4.6	2	0.18		
7440-39-3	BARIUM	10	69	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	120	10	1.1		
7440-48-4	COBALT	10	0.07	5	0.07	U	
7440-50-8	COPPER	10	2.6	8	1.1	B	
7439-92-1	LEAD	10	0.7	2	0.16	BC	
7439-96-5	MANGANESE	10	0.3	5	0.3	U	
7439-98-7	MOLYBDENUM	10	0.73	2	0.41	B	
7440-02-0	NICKEL	10	4.2	20	4.2	U	
7782-49-2	SELENIUM	10	0.66	10	0.66	U	
7440-22-4	SILVER	10	0.039	0.5	0.039	U	
7440-24-6	STRONTIUM	10	210	5	0.31		
7440-28-0	THALLIUM	10	0.014	0.1	0.014	U	
7440-29-1	THORIUM	10	0.032	0.2	0.032	U	
7440-31-5	TIN	10	1.3	10	1.3	U	
7440-61-1	URANIUM	10	1.2	0.1	0.027		
7440-66-6	ZINC	10	13	100	9.1	B	

Data Package ID: *im1607489-1*

Dissolved ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS -- Fort Collins
Work Order Number: 1607489
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: SURV, JULY 2016 S16-007

Field ID: B35TB2
Lab ID: 1607489-8

Analysis ReqCode: 6020_METALS_I

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 25-Jul-16
Date Extracted: 27-Jul-16
Date Analyzed: 28-Jul-16
Prep Method: SW3005 Rev A

Prep Batch: IP160727-5
QCBatchID: IP160727-5-3
Run ID: IM160728-12A5
Cleanup: NONE
Basis: As Received
File Name: 154SMPL_

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

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	14	100	14	U	
7440-36-0	ANTIMONY	10	0.084	1	0.084	U	
7440-38-2	ARSENIC	10	4.5	2	0.18		
7440-39-3	BARIUM	10	72	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	120	10	1.1		
7440-48-4	COBALT	10	0.07	5	0.07	U	
7440-50-8	COPPER	10	1.1	8	1.1	B	
7439-92-1	LEAD	10	0.63	2	0.16	BC	
7439-96-5	MANGANESE	10	0.38	5	0.3	B	
7439-98-7	MOLYBDENUM	10	0.65	2	0.41	B	
7440-02-0	NICKEL	10	4.2	20	4.2	U	
7782-49-2	SELENIUM	10	0.66	10	0.66	U	
7440-22-4	SILVER	10	0.039	0.5	0.039	U	
7440-24-6	STRONTIUM	10	220	5	0.31		
7440-28-0	THALLIUM	10	0.014	0.1	0.014	U	
7440-29-1	THORIUM	10	0.032	0.2	0.032	U	
7440-31-5	TIN	10	1.3	10	1.3	U	
7440-61-1	URANIUM	10	1.3	0.1	0.027		
7440-66-6	ZINC	10	9.1	100	9.1	U	

Data Package ID: *im1607489-1*

Total Recoverable ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS -- Fort Collins
Work Order Number: 1607489
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: SURV, JULY 2016 S16-007

Field ID: B35T92
Lab ID: 1607489-9

Analysis ReqCode: 6020_METALS_I

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 25-Jul-16
Date Extracted: 27-Jul-16
Date Analyzed: 28-Jul-16
Prep Method: SW3005 Rev A

Prep Batch: IP160727-5
QCBatchID: IP160727-5-3
Run ID: IM160728-12A5
Cleanup: NONE
Basis: As Received
File Name: 155SMPL_

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	100	14	BC	
7440-36-0	ANTIMONY	10	0.084	1	0.084	U	
7440-38-2	ARSENIC	10	4.8	2	0.18		
7440-39-3	BARIUM	10	55	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	62	10	1.1		
7440-48-4	COBALT	10	0.07	5	0.07	U	
7440-50-8	COPPER	10	5.2	8	1.1	B	
7439-92-1	LEAD	10	0.85	2	0.16	BC	
7439-96-5	MANGANESE	10	0.3	5	0.3	U	
7439-98-7	MOLYBDENUM	10	1	2	0.41	B	
7440-02-0	NICKEL	10	4.2	20	4.2	U	
7782-49-2	SELENIUM	10	0.66	10	0.66	U	
7440-22-4	SILVER	10	0.039	0.5	0.039	U	
7440-24-6	STRONTIUM	10	190	5	0.31		
7440-28-0	THALLIUM	10	0.014	0.1	0.014	U	
7440-29-1	THORIUM	10	0.032	0.2	0.032	U	
7440-31-5	TIN	10	1.3	10	1.3	U	
7440-61-1	URANIUM	10	0.97	0.1	0.027		
7440-66-6	ZINC	10	14	100	9.1	B	

Data Package ID: *im1607489-1*

Dissolved ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS -- Fort Collins
Work Order Number: 1607489
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: SURV, JULY 2016 S16-007

Field ID: B35T96
Lab ID: 1607489-10

Analysis ReqCode: 6020_METALS_I

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 25-Jul-16
Date Extracted: 27-Jul-16
Date Analyzed: 28-Jul-16
Prep Method: SW3005 Rev A

Prep Batch: IP160727-5
QCBatchID: IP160727-5-3
Run ID: IM160728-12A5
Cleanup: NONE
Basis: As Received
File Name: 156SMPL_

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

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	14	100	14	U	
7440-36-0	ANTIMONY	10	0.084	1	0.084	U	
7440-38-2	ARSENIC	10	4.8	2	0.18		
7440-39-3	BARIUM	10	55	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	62	10	1.1		
7440-48-4	COBALT	10	0.07	5	0.07	U	
7440-50-8	COPPER	10	1.1	8	1.1	B	
7439-92-1	LEAD	10	0.64	2	0.16	BC	
7439-96-5	MANGANESE	10	0.3	5	0.3	B	
7439-98-7	MOLYBDENUM	10	0.91	2	0.41	B	
7440-02-0	NICKEL	10	4.2	20	4.2	U	
7782-49-2	SELENIUM	10	0.66	10	0.66	U	
7440-22-4	SILVER	10	0.039	0.5	0.039	U	
7440-24-6	STRONTIUM	10	180	5	0.31		
7440-28-0	THALLIUM	10	0.014	0.1	0.014	U	
7440-29-1	THORIUM	10	0.032	0.2	0.032	U	
7440-31-5	TIN	10	1.3	10	1.3	U	
7440-61-1	URANIUM	10	1.1	0.1	0.027		
7440-66-6	ZINC	10	9.1	100	9.1	U	

Data Package ID: *im1607489-1*

ICPMS Metals

Method SW6020A

Method Blank

Lab Name: ALS -- Fort Collins
Work Order Number: 1607489
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: SURV, JULY 2016 S16-007

Lab ID: IP160727-5MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 27-Jul-16
Date Analyzed: 28-Jul-16

Prep Batch: IP160727-5
QCBatchID: IP160727-5-3
Run ID: IM160728-12A5
Cleanup: NONE
Basis: N/A
File Name: 137SMPL_

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	18	100	14	B	
7440-36-0	ANTIMONY	10	0.084	1	0.084	U	
7440-38-2	ARSENIC	10	0.18	2	0.18	U	
7440-39-3	BARIUM	10	0.23	5	0.23	U	
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	
7440-50-8	COPPER	10	1.1	8	1.1	U	
7439-92-1	LEAD	10	0.54	2	0.16	B	
7439-96-5	MANGANESE	10	0.3	5	0.3	U	
7439-98-7	MOLYBDENUM	10	0.41	2	0.41	U	
7440-02-0	NICKEL	10	4.2	20	4.2	U	
7782-49-2	SELENIUM	10	0.66	10	0.66	U	
7440-22-4	SILVER	10	0.039	0.5	0.039	U	
7440-24-6	STRONTIUM	10	0.31	5	0.31	U	
7440-28-0	THALLIUM	10	0.014	0.1	0.014	U	
7440-29-1	THORIUM	10	0.032	0.2	0.032	U	
7440-31-5	TIN	10	1.3	10	1.3	U	
7440-61-1	URANIUM	10	0.027	0.1	0.027	U	
7440-66-6	ZINC	10	9.1	100	9.1	U	

Data Package ID: *im1607489-1*

ICPMS Metals

Method SW6020A

Laboratory Control Sample

Lab Name: ALS -- Fort Collins
Work Order Number: 1607489
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: SURV, JULY 2016 S16-007

Lab ID: IM160727-5LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 07/27/2016
Date Analyzed: 07/28/2016
Prep Method: SW3005A

Prep Batch: IP160727-5
QCBatchID: IP160727-5-3
Run ID: IM160728-12A5
Cleanup: NONE
Basis: N/A
File Name: 138SMPL_

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	4990	100		100	80 - 120%
7440-36-0	ANTIMONY	30	30.3	1		101	80 - 120%
7440-38-2	ARSENIC	100	105	2		105	80 - 120%
7440-39-3	BARIUM	100	106	5		106	80 - 120%
7440-41-7	BERYLLIUM	50	49.7	0.5		99	80 - 120%
7440-43-9	CADMIUM	30	30.9	2		103	80 - 120%
7440-47-3	CHROMIUM	500	516	10		103	80 - 120%
7440-48-4	COBALT	100	106	5		106	80 - 120%
7440-50-8	COPPER	1000	1030	8		103	80 - 120%
7439-92-1	LEAD	50	50.1	2		100	80 - 120%
7439-96-5	MANGANESE	100	104	5		104	80 - 120%
7439-98-7	MOLYBDENUM	100	102	2		102	80 - 120%
7440-02-0	NICKEL	500	521	20		104	80 - 120%
7782-49-2	SELENIUM	100	101	10		101	80 - 120%
7440-22-4	SILVER	10	10	0.5		100	80 - 120%
7440-24-6	STRONTIUM	100	102	5		102	80 - 120%
7440-28-0	THALLIUM	2	2	0.1		100	80 - 120%
7440-29-1	THORIUM	10	9.93	0.2		99	80 - 120%
7440-31-5	TIN	500	483	10		97	80 - 120%
7440-61-1	URANIUM	10	10.1	0.1		101	80 - 120%
7440-66-6	ZINC	2000	1990	100		100	80 - 120%

Data Package ID: *im1607489-1*

ICPMS Metals

Method SW6020A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS -- Fort Collins
Work Order Number: 1607489
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: SURV, JULY 2016 S16-007

Field ID: SHARED QC
LabID: 1607379-1MS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 20-Jul-16
Date Extracted: 27-Jul-16
Date Analyzed: 28-Jul-16
Prep Method: SW3005 Rev A

Prep Batch: IP160727-5
QCBatchID: IP160727-5-3
Run ID: IM160728-12A5
Cleanup: NONE
Basis: As Received

Sample Aliquot: 50 ml
Final Volume: 50 ml
Result Units: UG/L
File Name: 142SMPL_

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7429-90-5	ALUMINUM	22	BC	4860		100	5000	97	75 - 125%
7440-36-0	ANTIMONY	0.15	B	30.9		1	30	103	75 - 125%
7440-38-2	ARSENIC	3.1		109		2	100	106	75 - 125%
7440-39-3	BARIUM	68		162		5	100	94	75 - 125%
7440-41-7	BERYLLIUM	0.27	U	50.8		0.5	50	102	75 - 125%
7440-43-9	CADMIUM	0.099	U	30		2	30	100	75 - 125%
7440-47-3	CHROMIUM	2.4	B	513		10	500	102	75 - 125%
7440-48-4	COBALT	0.07	U	102		5	100	102	75 - 125%
7440-50-8	COPPER	1.1	U	1010		8	1000	101	75 - 125%
7439-92-1	LEAD	0.62	BC	49.8		2	50	98	75 - 125%
7439-96-5	MANGANESE	0.51	B	104		5	100	103	75 - 125%
7439-98-7	MOLYBDENUM	6.2		108		2	100	102	75 - 125%
7440-02-0	NICKEL	4.2	U	503		20	500	101	75 - 125%
7782-49-2	SELENIUM	6.8	B	107		10	100	100	75 - 125%
7440-22-4	SILVER	0.039	U	9.96		0.5	10	100	75 - 125%
7440-24-6	STRONTIUM	400		501		5	100	105	75 - 125%
7440-28-0	THALLIUM	0.014	U	2.08		0.1	2	104	75 - 125%
7440-29-1	THORIUM	0.032	U	9.91		0.2	10	99	75 - 125%
7440-31-5	TIN	2.6	B	511		10	500	102	75 - 125%
7440-61-1	URANIUM	44		52.1		0.1	10	82	75 - 125%
7440-66-6	ZINC	9.1	U	1970		100	2000	99	75 - 125%

Data Package ID: *im1607489-1*

ICPMS Metals

Method SW6020A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS -- Fort Collins
Work Order Number: 1607489
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: SURV, JULY 2016 S16-007

Field ID: SHARED QC
LabID: 1607379-1MSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 20-Jul-16
Date Extracted: 27-Jul-16
Date Analyzed: 28-Jul-16
Prep Method: SW3005 Rev A

Prep Batch: IP160727-5
QCBatchID: IP160727-5-3
Run ID: IM160728-12A5
Cleanup: NONE
Basis: As Received

Sample Aliquot: 50 ml
Final Volume: 50 ml
Result Units: UG/L
File Name: 143SMPL_

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7429-90-5	ALUMINUM	4940		5000	98	100	20	2
7440-36-0	ANTIMONY	30.6		30	102	1	20	1
7440-38-2	ARSENIC	106		100	103	2	20	3
7440-39-3	BARIUM	166		100	98	5	20	2
7440-41-7	BERYLLIUM	50.4		50	101	0.5	20	1
7440-43-9	CADMIUM	29.8		30	99	2	20	1
7440-47-3	CHROMIUM	509		500	101	10	20	1
7440-48-4	COBALT	102		100	102	5	20	0
7440-50-8	COPPER	1010		1000	101	8	20	0
7439-92-1	LEAD	50.1		50	99	2	20	1
7439-96-5	MANGANESE	102		100	102	5	20	1
7439-98-7	MOLYBDENUM	107		100	101	2	20	1
7440-02-0	NICKEL	502		500	100	20	20	0
7782-49-2	SELENIUM	109		100	102	10	20	2
7440-22-4	SILVER	10.3		10	103	0.5	20	3
7440-24-6	STRONTIUM	492		100	96	5	20	2
7440-28-0	THALLIUM	2		2	100	0.1	20	4
7440-29-1	THORIUM	10		10	100	0.2	20	1
7440-31-5	TIN	500		500	100	10	20	2
7440-61-1	URANIUM	51.5		10	77	0.1	20	1
7440-66-6	ZINC	1970		2000	99	100	20	0

Data Package ID: *im1607489-1*