Friday, June 10, 2016

Dave Todak
CH2M HILL Plateau Remediation Company
2420 Stevens Center
Richland, WA 99352

Re: ALS Workorder: 1603381
Project Name: FY15 100-K AB Waste Sites - Soil
Project Number: F16-002

Dear Mr. Todak:

Twenty soil samples were received from CH2M HILL Plateau Remediation Company, on 3/22/2016. The samples were scheduled for the following analyses:

Metals
Inorganics

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

This report was originally submitted on 4/1/16. It is being resubmitted to udate flags for sulfate.

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

The data package has the following issues:

- Non-detect sample results for anions in the electronic data report are reported as <RL, SOW requires that result are reported to the MDL. Please reissue the EDD with anion results reported to the MDL for all samples.
- The method blank is above MDL for Sulfate and this is not commented upon in the case narrative and sample results do not have C flags as appropriate, per SOW.

Resolution: *Provide correction.*

Lab Response: Updated report and EDD and resubmit.

Please correct the issue and resubmit the hard copy and electronic packages.

SAMPLE ISSUE RESOLUTION

SIR NUM	SIR16-299
REV NUM	0
DATE INITIATED	3/31/2016

SAMPLE EVENT INFORMATION

SAF NUM(S)	F16-002
OPERABLE UNIT(S)	100-KR-2
PROJECT(S)	100-KE FSB
SAMPLE EVENT TITLE(S)	Characterization Boreholes in UPR-100-K-1 and 1116-KE-3 Waste Sites
LABORATORY	ALS Environmental Ft. Collins

SAMPLING INFORMATION

NUMBER OF SAMPLES	20
SAMPLE NUMBERS	B33W70, B33W71, B33W72, B33W73, B33W74, B33W75, B33W76, B33W79, B33W80, B33W81, B33W82, B33W83, B33W84, B33W85, B33W86, B33W87, B33W88, B33W89, B33W90, B33W91
SAMPLE MATRIX	SOIL
COLLECTION DATE	3/17/2016 - 3/17/2016
SDG NUM	ALS1603381

ISSUE BACKGROUND

CLASS	General Laboratory Direction
TYPE	Other General Laboratory Direction (Specify)
DESCRIPTION	There is no current MDL for hexavalent chromium. The MDL expired at the beginning of March.

DISPOSITION

DESCRIPTION	PROPOSED DISPOSITION: ALS proposes to report the hexavalent chromium to the RL of 110 ug/kg, which is well below the limits in the SOW. New MDLs are in process.
JUSTIFICATION	Final Disposition: Report to the expired MDL. Any samples that are non detect flag UX any samples falling between the expired MDL and RL flag BX. The X flag should comment that the MDL used had expired in March. SUBMITTED BY Julie Ellington DATE: 03/31/2016 ACCEPTED BY: Scot Fitzgerald DATE 03/31/2016

SAMPLE ISSUE RESOLUTION

SIR NUM	SIR16-523
REV NUM	0
DATE INITIATED	7/28/2016

SAMPLE EVENT INFORMATION

SAF NUM(S)	F16-002
OPERABLE UNIT(S)	100-KR-2
PROJECT(S)	100-KE FSB
SAMPLE EVENT TITLE(S)	Characterization Boreholes in UPR-100-K-1 and 1116-KE-3 Waste Sites
LABORATORY	ALS Environmental Ft. Collins

SAMPLING INFORMATION

NUMBER OF SAMPLES	1
SAMPLE NUMBERS	B33W85
SAMPLE MATRIX	SOIL
COLLECTION DATE	3/17/2016 - 3/17/2016
SDG NUM	ALS1603381

ISSUE BACKGROUND

CLASS	Chain of Custody Issue (Field)
TYPE	No/Illegible Relinquisher/Receiver Listed on COC
DESCRIPTION	COC F16-002-038 SAMPLE B33W85. MISSING SIGNATURE IN SECOND RECEIVED BY BOX.

DISPOSITION

DESCRIPTION	DOCUMENT AND CLOSE
JUSTIFICATION	DOCUMENT AND CLOSE
	SUBMITTED BY: Bruce Hey DATE: 7/25/2016 ACCEPTED BY: Kirsten Killand DATE: 07/26/2016

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1603381
Client Name: CH2M HILL Plateau Remediation Company
Client Project Name: FY15 100-K AB Waste Sites - Soil
Client Project Number: F16-002
Client PO Number: BOA 54854

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B33W82	1603381-1		SOIL	17-Mar-16	11:38
B33W85	1603381-2		SOIL	17-Mar-16	11:53
B33W87	1603381-3		SOIL	17-Mar-16	11:05
B33W89	1603381-4		SOIL	17-Mar-16	9:27
B33W90	1603381-5		SOIL	17-Mar-16	9:33
B33W75	1603381-6		SOIL	17-Mar-16	8:40
B33W91	1603381-7		SOIL	17-Mar-16	10:57
B33W71	1603381-8		SOIL	17-Mar-16	10:00
B33W70	1603381-9		SOIL	17-Mar-16	9:55
B33W88	1603381-10		SOIL	17-Mar-16	11:15
B33W79	1603381-11		SOIL	17-Mar-16	8:45
B33W74	1603381-12		SOIL	17-Mar-16	8:35
B33W81	1603381-13		SOIL	17-Mar-16	11:34
B33W73	1603381-14		SOIL	17-Mar-16	10:10
B33W80	1603381-15		SOIL	17-Mar-16	11:30
B33W83	1603381-16		SOIL	17-Mar-16	11:42
B33W76	1603381-17		SOIL	17-Mar-16	8:50
B33W86	1603381-18		SOIL	17-Mar-16	10:52
B33W72	1603381-19		SOIL	17-Mar-16	10:05
B33W84	1603381-20		SOIL	17-Mar-16	11:47

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 6016bs	F16-002-035	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE C05	DATA TURNAROUND
K.C. Patterson/CHPRC	TODAK, D	376-6427	TODAK, D	AIR QUALITY ☐	7 Days / 7 Days
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**		
100-KE, AB waste sites, Sample 33	FY15 100-K AB Waste Sites - Soil		F16-002		
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH**	**COA**	**METHOD OF SHIPMENT**	
GWS-500	HNF-N-507-30-82	0-6"	303808	FEDERAL EXPRESS	**ORIGINAL**
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**		
ALS Environmental Ft. Collins	64 51		7759 1949 8559		

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	Cool <=6C	Cool <=6C
HOLDING TIME	6 Months	28 Days	30 Days	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	250mL	60mL	60mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	7471_MERCURY_CV: COMMON (SOLIDS) {Mercury};	7196_CR6: COMMON {Hexavalent Chromium};	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B33W82 (1)	SOIL	MAR 17 2016	1138	✓	✓	✓	✓

1603381

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
K.C. Patterson/CHPRC	MAR 17 2016 1350	SSU-1	MAR 17 2016 1350
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
SSU-1	MAR 21 2016 0815	L.D. Wall CHPRC	MAR 21 2016 0815
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
L.D. Wall CHPRC	MAR 21 2016 1400	FEDEX	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Fedex	3-22-16 0920	Scott Malky	3-22-16 0920
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
TRVL-16-026
(1) 6020_METALS_ICPMS: COMMON {Aluminum, Antimony, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Selenium, Silver}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Iron, Manganese, Nickel, Sodium, Strontium, Tin, Uranium, Vanadium, Zinc};
(2) 300.0_ANIONS_IC: COMMON {Chloride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 11/18/2015 FSR ID = FSR10618 TRVL NUM = TRVL-16-026 A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F16-002-038	PAGE 1 OF 1
COLLECTOR K.C. Patterson/CHPRC	**COMPANY CONTACT** TODAK, D	**TELEPHONE NO.** 376-6427	**PROJECT COORDINATOR** TODAK, D	**PRICE CODE** C05 / **DATA TURNAROUND** 7 Days / 7 Days
SAMPLING LOCATION 100-KE, AB waste sites, Sample 36	**PROJECT DESIGNATION** FY15 100-K AB Waste Sites - Soil		**SAF NO.** F16-002	**AIR QUALITY** ☐
ICE CHEST NO. GWS-500	**FIELD LOGBOOK NO.** HNF-N-507-30-82	**ACTUAL SAMPLE DEPTH** 0-6"	**COA** 303808	**METHOD OF SHIPMENT** FEDERAL EXPRESS
SHIPPED TO ALS Environmental Ft. Collins	**OFFSITE PROPERTY NO.** 6451		**BILL OF LADING/AIR BILL NO.** 7759 1949 8559	**ORIGINAL**

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	Cool <=6C	Cool <=6C
HOLDING TIME	6 Months	28 Days	30 Days	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	250mL	60mL	60mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	7471_MERCURY_CV: COMMON (SOLIDS) {Mercury};	7196_CR6: COMMON {Hexavalent Chromium};	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B33W85 (2)	SOIL	MAR 17 2016	1153	✓	✓	✓	✓

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CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
K.C. Patterson/CHPRC	MAR 17 2016 1350	SSU-1	MAR 17 2016 1350
SSU-1	MAR 21 2016 0815	L.D. Wall CHPRC	MAR 21 2016 0815
L.D. Wall CHPRC	MAR 21 2016 1400	FEDEX	
Fedex	3-22-16 0920	Scott Malky	03-22-16 0920

SPECIAL INSTRUCTIONS
TRVL-16-026
(1) 6020_METALS_ICPMS: COMMON {Aluminum, Antimony, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Selenium, Silver}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Iron, Manganese, Nickel, Sodium, Strontium, Tin, Uranium, Vanadium, Zinc};
(2) 300.0_ANIONS_IC: COMMON {Chloride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD**	**DISPOSED BY**	**DATE/TIME**

August 17, 2016
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CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F16-002-040	PAGE 1 OF 1
COLLECTOR K.C. Patterson/CHPRC	**COMPANY CONTACT** TODAK, D	**TELEPHONE NO.** 376-6427	**PROJECT COORDINATOR** TODAK, D	**PRICE CODE** C05	**DATA TURNAROUND**
SAMPLING LOCATION 100-KE, AB waste sites, Sample 38	**PROJECT DESIGNATION** FY15 100-K AB Waste Sites - Soil		**SAF NO.** F16-002	**AIR QUALITY** ☐	**7 Days / 7 Days**
ICE CHEST NO. GWS-500	**FIELD LOGBOOK NO.** HNF-N-507-30-82	**ACTUAL SAMPLE DEPTH** 0-6"	**COA** 303808	**METHOD OF SHIPMENT** FEDERAL EXPRESS	**ORIGINAL**
SHIPPED TO ALS Environmental Ft. Collins	**OFFSITE PROPERTY NO.** 6451		**BILL OF LADING/AIR BILL NO.** 7759 1949 8559		

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	Cool <=6C	Cool <=6C
HOLDING TIME	6 Months	28 Days	30 Days	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	250mL	60mL	60mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	7471_MERCURY_CV: COMMON (SOLIDS) {Mercury};	7196_CR6: COMMON {Hexavalent Chromium};	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B33W87 (3)	SOIL	MAR 17 2016	1105	✓	✓	✓	✓

1603381

August 17, 2016

REV 2

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CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM K.C. Patterson/CHPRC	DATE/TIME MAR 17 2016 1350	RECEIVED BY/STORED IN SSU-1	DATE/TIME MAR 17 2016 1350
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME MAR 21 2016 0815	RECEIVED BY/STORED IN L.D. Wall CHPRC	DATE/TIME MAR 21 2016 0815
RELINQUISHED BY/REMOVED FROM L.D. Wall CHPRC	DATE/TIME MAR 21 2016 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME
RELINQUISHED BY/REMOVED FROM Fedex	DATE/TIME 3-22-16 0920	RECEIVED BY/STORED IN Scott Mally	DATE/TIME 03-22-16 0920
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
TRVL-16-026
(1) 6020_METALS_ICPMS: COMMON {Aluminum, Antimony, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Selenium, Silver}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Iron, Manganese, Nickel, Sodium, Strontium, Tin, Uranium, Vanadium, Zinc};
(2) 300.0_ANIONS_IC: COMMON {Chloride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD**	**DISPOSED BY**	**DATE/TIME**

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F16-002-042	PAGE 1 OF 1
COLLECTOR K.C. Patterson/CHPRC	**COMPANY CONTACT** TODAK, D	**TELEPHONE NO.** 376-6427	**PROJECT COORDINATOR** TODAK, D	**PRICE CODE** C05 / **DATA TURNAROUND**
SAMPLING LOCATION 100-KE, AB waste sites, Sample 40	**PROJECT DESIGNATION** FY15 100-K AB Waste Sites - Soil		**SAF NO.** F16-002	**AIR QUALITY** ☐ / **7 Days / 7 Days**
ICE CHEST NO. GWS-500	**FIELD LOGBOOK NO.** HNF-N-507-30-82	**ACTUAL SAMPLE DEPTH** 0-6"	**COA** 303808	**METHOD OF SHIPMENT** FEDERAL EXPRESS
SHIPPED TO ALS Environmental Ft. Collins	**OFFSITE PROPERTY NO.** 6451		**BILL OF LADING/AIR BILL NO.** 7759 1949 8559	**ORIGINAL**

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	Cool <=6C	Cool <=6C
HOLDING TIME	6 Months	28 Days	30 Days	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	250mL	60mL	60mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	7471_MERCURY_CV: COMMON (SOLIDS) {Mercury};	7196_CR6: COMMON {Hexavalent Chromium};	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B33W89 (4)	SOIL	MAR 17 2016	0927	✓	✓	✓	✓

1603381

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM K.C. Patterson/CHPRC	DATE/TIME MAR 17 2016 1350	RECEIVED BY/STORED IN SSU-1	DATE/TIME MAR 17 2016 1350
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME MAR 21 2016 0815	RECEIVED BY/STORED IN L.D. Wall CHPRC	DATE/TIME MAR 21 2016 0815
RELINQUISHED BY/REMOVED FROM L.D. Wall CHPRC	DATE/TIME MAR 21 2016 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME
RELINQUISHED BY/REMOVED FROM Fedex	DATE/TIME 3-22-16 0920	RECEIVED BY/STORED IN Scott Mathy	DATE/TIME 03-22-16 0920
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
TRVL-16-026
(1) 6020_METALS_ICPMS: COMMON {Aluminum, Antimony, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Selenium, Silver}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Iron, Manganese, Nickel, Sodium, Strontium, Tin, Uranium, Vanadium, Zinc};
(2) 300.0_ANIONS_IC: COMMON {Chloride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD**	**DISPOSED BY**	**DATE/TIME**

PRINTED ON 11/18/2015 **FSR ID =** FSR10606 **TRVL NUM =** TRVL-16-026 A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F16-002-043	PAGE 1 OF 1
COLLECTOR K.C. Patterson/CHPRC	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE C05	DATA TURNAROUND
SAMPLING LOCATION 100-KE, AB waste sites, Sample 41	PROJECT DESIGNATION FY15 100-K AB Waste Sites - Soil		SAF NO. F16-002	AIR QUALITY ☐	7 Days / 7 Days
ICE CHEST NO. GWS-500	FIELD LOGBOOK NO. HNF-N-507-30-82	ACTUAL SAMPLE DEPTH 0-6"	COA 303808	METHOD OF SHIPMENT FEDERAL EXPRESS	ORIGINAL
SHIPPED TO ALS Environmental Ft. Collins	OFFSITE PROPERTY NO. 6451		BILL OF LADING/AIR BILL NO. 7759 1949 8559		

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	Cool <=6C	Cool <=6C
HOLDING TIME	6 Months	28 Days	30 Days	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	250mL	60mL	60mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	7471_MERCURY _CV: COMMON (SOLIDS) {Mercury};	7196_CR6: COMMON {Hexavalent Chromium};	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B33W90 (5)	SOIL	MAR 17 2016	0933	✓	✓	✓	✓

1603381

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM K.C. Patterson/CHPRC	DATE/TIME MAR 17 2016 1350	RECEIVED BY/STORED IN SSU-1	DATE/TIME MAR 17 2016 1350
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME MAR 21 2016 0815	RECEIVED BY/STORED IN L.D. Wall CHPRC	DATE/TIME MAR 21 2016 0815
RELINQUISHED BY/REMOVED FROM L.D. Wall CHPRC	DATE/TIME MAR 21 2016 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME
RELINQUISHED BY/REMOVED FROM Fedex	DATE/TIME 3-22-16 0920	RECEIVED BY/STORED IN Scott Malby	DATE/TIME 03-22-16 0920
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
TRVL-16-026
(1) 6020_METALS_ICPMS: COMMON {Aluminum, Antimony, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Selenium, Silver}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Iron, Manganese, Nickel, Sodium, Strontium, Tin, Uranium, Vanadium, Zinc};
(2) 300.0_ANIONS_IC: COMMON {Chloride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 11/18/2015 FSR ID = FSR10607 TRVL NUM = TRVL-16-026 A-6003-618 (REV 2)

August 17, 2016
REV 2

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F16-002-028

COLLECTOR K.C. Patterson/CHPRC	**COMPANY CONTACT** TODAK, D	**TELEPHONE NO.** 376-6427	**PROJECT COORDINATOR** TODAK, D
SAMPLING LOCATION 100-KE, AB waste sites, Sample 28	**PROJECT DESIGNATION** FY15 100-K AB Waste Sites - Soil		**SAF NO.** F16-002
ICE CHEST NO. GWS-500	**FIELD LOGBOOK NO.** HNF -N-507-30.82	**ACTUAL SAMPLE DEPTH** 0-6"	**COA** 303808
SHIPPED TO ALS Environmental Ft. Collins	**OFFSITE PROPERTY NO.** 6451		**BILL OF LADING/AIR BILL NO.** 7759 1949 8559

PRICE CODE C05

AIR QUALITY ☐

DATA TURNAROUND 7 Days / 7 Days

METHOD OF SHIPMENT FEDERAL EXPRESS

ORIGINAL

1603381

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	Cool <=6C	Cool <=6C			
HOLDING TIME	6 Months	28 Days	30 Days	28 Days/48 Hours			
TYPE OF CONTAINER	G/P	G	G/P	G/P			
NO. OF CONTAINER(S)	1	1	1	1			
VOLUME	250mL	60mL	60mL	60mL			
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	7471_MERCURY _CV: COMMON (SOLIDS) {Mercury};	7196_CR6: COMMON {Hexavalent Chromium};	SEE ITEM (2) IN SPECIAL INSTRUCTIONS			
SAMPLE NO.	**MATRIX***	**SAMPLE DATE**	**SAMPLE TIME**				
B33W75 (6)	SOIL	MAR 17 2016	0840	✓	✓	✓	✓

CHAIN OF POSSESSION

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
K.C. Patterson/CHPRC	MAR 17 2016 1350	SSU-1	MAR 17 2016 1350
SSU-1	MAR 21 2016 0815	L.D. Wall CHPRC	MAR 21 2016 0815
L.D. Wall CHPRC	MAR 21 2016 1400	FEDEX	
Fedex	3-22-16 0920	Scott Malloy	03-22-16 0920

SIGN/ PRINT NAMES

SPECIAL INSTRUCTIONS
TRVL-16-026
(1) 6020_METALS_ICPMS: COMMON {Aluminum, Antimony, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Selenium, Silver}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Iron, Manganese, Nickel, Sodium, Strontium, Tin, Uranium, Vanadium, Zinc};
(2) 300.0_ANIONS_IC: COMMON {Chloride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD**	**DISPOSED BY**	**DATE/TIME**

PRINTED ON 11/18/2015 **FSR ID = FSR10602** **TRVL NUM = TRVL-16-026** A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F16-002-044 PAGE 1 OF 1

COLLECTOR K.C. Patterson/CHPRC	**COMPANY CONTACT** TODAK, D	**TELEPHONE NO.** 376-6427	**PROJECT COORDINATOR** TODAK, D
SAMPLING LOCATION 100-KE, AB waste sites, Sample 42	**PROJECT DESIGNATION** FY15 100-K AB Waste Sites - Soil		**SAF NO.** F16-002
ICE CHEST NO. GWS 500	**FIELD LOGBOOK NO.** HNF -N-507- 30-82	**ACTUAL SAMPLE DEPTH** 0-6"	**COA** 303808
SHIPPED TO ALS Environmental Ft. Collins	**OFFSITE PROPERTY NO.** 6451		**BILL OF LADING/AIR BILL NO.** 7759 1949 8559

PRICE CODE C05 **DATA TURNAROUND** 7 Days / 7 Days

AIR QUALITY ☐

METHOD OF SHIPMENT FEDERAL EXPRESS

ORIGINAL

1603381

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	Cool <=6C	Cool <=6C
HOLDING TIME	6 Months	28 Days	30 Days	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	250mL	60mL	60mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	7471_MERCURY _CV: COMMON (SOLIDS) {Mercury};	7196_CR6: COMMON {Hexavalent Chromium};	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B33W91 (7)	SOIL	MAR 17 2016	1057	✓	✓	✓	✓

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
K.C. Patterson/CHPRC	MAR 17 2016 1350	SSU-1	MAR 17 2016 1350
SSU-1	MAR 21 2016 0815	L.D. Wall CHPRC	MAR 21 2016 0815
L.D. Wall CHPRC	MAR 21 2016 1400	FEDEX	
Fedex	3-22-16 0920	Scott Malby	3-22-16 0920

SPECIAL INSTRUCTIONS

TRVL-16-026
(1) 6020_METALS_ICPMS: COMMON {Aluminum, Antimony, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Selenium, Silver}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Iron, Manganese, Nickel, Sodium, Strontium, Tin, Uranium, Vanadium, Zinc};
(2) 300.0_ANIONS_IC: COMMON {Chloride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD**	**DISPOSED BY**	**DATE/TIME**

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F16-002-024	PAGE 1 OF 1
COLLECTOR K.C. Patterson/CHPRC	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE C05	DATA TURNAROUND
SAMPLING LOCATION 100-KE, AB waste sites, Sample 24	PROJECT DESIGNATION FY15 100-K AB Waste Sites - Soil		SAF NO. F16-002	AIR QUALITY ☐	7 Days / 7 Days
ICE CHEST NO. GWS-500	FIELD LOGBOOK NO. HNF -N-507-30-82	ACTUAL SAMPLE DEPTH 0-6"	COA 303808	METHOD OF SHIPMENT FEDERAL EXPRESS	ORIGINAL
SHIPPED TO ALS Environmental Ft. Collins	OFFSITE PROPERTY NO. 6451		BILL OF LADING/AIR BILL NO. 7759 1949 8559		

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION				None	None	Cool <=6C	Cool <=6C
HOLDING TIME				6 Months	28 Days	30 Days	28 Days/48 Hours
TYPE OF CONTAINER				G/P	G	G/P	G/P
NO. OF CONTAINER(S)				1	1	1	1
VOLUME				250mL	60mL	60mL	60mL
SAMPLE ANALYSIS				SEE ITEM (1) IN SPECIAL INSTRUCTIONS	7471_MERCURY _CV: COMMON (SOLIDS) {Mercury};	7196_CR6: COMMON {Hexavalent Chromium};	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B33W71 (B)	SOIL	MAR 17 2016	1000	✓	✓	✓	✓

1603381

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM K.C. Patterson/CHPRC	DATE/TIME MAR 17 2016 1350	RECEIVED BY/STORED IN SSU-1	DATE/TIME MAR 17 2016 1350
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME MAR 21 2016 0815	RECEIVED BY/STORED IN L.D. Wall CHPRC	DATE/TIME MAR 21 2016 0815
RELINQUISHED BY/REMOVED FROM L.D. Wall CHPRC	DATE/TIME MAR 21 2016 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME
RELINQUISHED BY/REMOVED FROM Fedex	DATE/TIME 3-22-16 0920	RECEIVED BY/STORED IN Scott Mally	DATE/TIME 03-22-16 0920
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
TRVL-16-026
(1) 6020_METALS_ICPMS: COMMON {Aluminum, Antimony, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Selenium, Silver}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Iron, Manganese, Nickel, Sodium, Strontium, Tin, Uranium, Vanadium, Zinc};
(2) 300.0_ANIONS_IC: COMMON {Chloride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 11/18/2015 FSR ID = FSR10598 TRVL NUM = TRVL-16-026 A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company | **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** | **F16-002-023** | **PAGE 1 OF 1**

COLLECTOR K.C. Patterson/CHPRC	**COMPANY CONTACT** TODAK, D	**TELEPHONE NO.** 376-6427	**PROJECT COORDINATOR** TODAK, D
SAMPLING LOCATION 100-KE, AB waste sites, Sample 23	**PROJECT DESIGNATION** FY15 100-K AB Waste Sites - Soil		**SAF NO.** F16-002
ICE CHEST NO. GWS-500	**FIELD LOGBOOK NO.** HNF -N-507-30-82	**ACTUAL SAMPLE DEPTH** 0-6"	**COA** 303808
SHIPPED TO ALS Environmental Ft. Collins	**OFFSITE PROPERTY NO.** 6451		**BILL OF LADING/AIR BILL NO.** 7759 1949 8559

PRICE CODE C05 | **AIR QUALITY** ☐ | **DATA TURNAROUND** 7 Days / 7 Days | **METHOD OF SHIPMENT** FEDERAL EXPRESS | **ORIGINAL**

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	Cool <=6C	Cool <=6C
HOLDING TIME	6 Months	28 Days	30 Days	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	250mL	60mL	60mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	7471_MERCURY_CV: COMMON (SOLIDS) {Mercury};	7196_CR6: COMMON {Hexavalent Chromium};	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B33W70 (9)	SOIL	MAR 17 2016	0955	✓	✓	✓	✓

1603381

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
K.C. Patterson/CHPRC	MAR 17 2016 1350	SSU-1	MAR 17 2016 1350
SSU-1	MAR 21 2016 0815	L.D. Wall CHPRC	MAR 21 2016 0815
L.D. Wall CHPRC	MAR 21 2016 1400		
Fedex	3-22-16 0920	FEDEX Scott Mallory	03-22-16 0920

SPECIAL INSTRUCTIONS
TRVL-16-026
(1) 6020_METALS_ICPMS: COMMON {Aluminum, Antimony, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Selenium, Silver}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Iron, Manganese, Nickel, Sodium, Strontium, Tin, Uranium, Vanadium, Zinc};
(2) 300.0_ANIONS_IC: COMMON {Chloride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD**	**DISPOSED BY**	**DATE/TIME**

PRINTED ON 11/18/2015 | **FSR ID = FSR10597** | **TRVL NUM = TRVL-16-026** | A-6003-618 (REV 2)

August 17, 2016

REV 2

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F16-002-041	PAGE 1 OF 1
COLLECTOR K.C. Patterson/CHPRC	**COMPANY CONTACT** TODAK, D	**TELEPHONE NO.** 376-6427	**PROJECT COORDINATOR** TODAK, D	**PRICE CODE** C05	**DATA TURNAROUND**
SAMPLING LOCATION 100-KE, AB waste sites, Sample 39	**PROJECT DESIGNATION** FY15 100-K AB Waste Sites - Soil		**SAF NO.** F16-002	**AIR QUALITY** ☐	7 Days / 7 Days
ICE CHEST NO. GWS-500	**FIELD LOGBOOK NO.** HNF-N-507-30-82	**ACTUAL SAMPLE DEPTH** 0-6"	**COA** 303808	**METHOD OF SHIPMENT** FEDERAL EXPRESS	**ORIGINAL**
SHIPPED TO ALS Environmental Ft. Collins	**OFFSITE PROPERTY NO.** 6451		**BILL OF LADING/AIR BILL NO.** 7759 1949 8559		

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	Cool <=6C	Cool <=6C
HOLDING TIME	6 Months	28 Days	30 Days	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	250mL	60mL	60mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	7471_MERCURY_CV: COMMON (SOLIDS) {Mercury};	7196_CR6: COMMON {Hexavalent Chromium};	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.		MATRIX*	SAMPLE DATE	SAMPLE TIME				
B33W88	16	SOIL	MAR 17 2016	1115	✓	✓	✓	✓

1603381

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM K.C. Patterson/CHPRC	DATE/TIME MAR 17 2016 1350	RECEIVED BY/STORED IN SSU-1	DATE/TIME MAR 17 2016 1350
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME MAR 21 2016 0815	RECEIVED BY/STORED IN L.D. Wall CHPRC	DATE/TIME MAR 21 2016 0815
RELINQUISHED BY/REMOVED FROM L.D. Wall CHPRC	DATE/TIME MAR 21 2016 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME
RELINQUISHED BY/REMOVED FROM Fedex	DATE/TIME 3-22-16 0920	RECEIVED BY/STORED IN Scott Mallory	DATE/TIME 3-22-16 0920
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
TRVL-16-026
(1) 6020_METALS_ICPMS: COMMON {Aluminum, Antimony, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Selenium, Silver}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Iron, Manganese, Nickel, Sodium, Strontium, Tin, Uranium, Vanadium, Zinc};
(2) 300.0_ANIONS_IC: COMMON {Chloride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 11/18/2015 FSR ID = FSR10624 TRVL NUM = TRVL-16-026 A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F16-002-032	PAGE 1 OF 1
COLLECTOR K.C. Patterson/CHPRC	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE C05	DATA TURNAROUND
SAMPLING LOCATION 100-KE, AB waste sites, Sample 30	PROJECT DESIGNATION FY15 100-K AB Waste Sites - Soil		SAF NO. F16-002	AIR QUALITY ☐	7 Days / 7 Days
ICE CHEST NO. GWS-500	FIELD LOGBOOK NO. HNF -~~N-507~~- 30-82	ACTUAL SAMPLE DEPTH 0-6"	COA 303808	METHOD OF SHIPMENT FEDERAL EXPRESS	ORIGINAL
SHIPPED TO ALS Environmental Ft. Collins	OFFSITE PROPERTY NO. 6451		BILL OF LADING/AIR BILL NO. 7759 1949 8559		

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	Cool <=6C	Cool <=6C
HOLDING TIME	6 Months	28 Days	30 Days	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	250mL	60mL	60mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	7471_MERCURY _CV: COMMON (SOLIDS) {Mercury};	7196_CR6: COMMON {Hexavalent Chromium};	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B33W79 (11)	SOIL	MAR 17 2016	0845	✓	✓	✓	✓

1603381

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
K.C. Patterson/CHPRC	MAR 17 2016 1350	SSU-1	MAR 17 2016 1350
SSU-1	MAR 21 2016 0815	L.D. Wall CHPRC	MAR 21 2016 0815
L.D. Wall CHPRC	MAR 21 2016 1400	FEDEX	
Fedex	3-22-16 0920	Scott Mally	03-22-16 0920

SPECIAL INSTRUCTIONS
TRVL-16-026
(1) 6020_METALS_ICPMS: COMMON {Aluminum, Antimony, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Selenium, Silver}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Iron, Manganese, Nickel, Sodium, Strontium, Tin, Uranium, Vanadium, Zinc};
(2) 300.0_ANIONS_IC: COMMON {Chloride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 11/18/2015 FSR ID = FSR10604 TRVL NUM = TRVL-16-026 A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F16-002-027 | PAGE 1 OF 1

COLLECTOR K.C. Patterson/CHPRC	**COMPANY CONTACT** TODAK, D	**TELEPHONE NO.** 376-6427	**PROJECT COORDINATOR** TODAK, D
SAMPLING LOCATION 100-KE, AB waste sites, Sample 27	**PROJECT DESIGNATION** FY15 100-K AB Waste Sites - Soil		**SAF NO.** F16-002
ICE CHEST NO. GWS-500	**FIELD LOGBOOK NO.** HNF-N-507-30-82	**ACTUAL SAMPLE DEPTH** 0-6"	**COA** 303808
SHIPPED TO ALS Environmental Ft. Collins	**OFFSITE PROPERTY NO.** 6451		**BILL OF LADING/AIR BILL NO.** 7759 1949 8559

PRICE CODE C05 | **AIR QUALITY** ☐ | **DATA TURNAROUND** 7 Days / 7 Days

METHOD OF SHIPMENT FEDERAL EXPRESS

ORIGINAL

1603381

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	Cool <=6C	Cool <=6C
HOLDING TIME	6 Months	28 Days	30 Days	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	250mL	60mL	60mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	7471_MERCURY _CV: COMMON (SOLIDS) {Mercury};	7196_CR6: COMMON {Hexavalent Chromium};	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.		MATRIX*	SAMPLE DATE	SAMPLE TIME				
B33W74	12	SOIL	MAR 17 2016	0835	✓	✓	✓	✓

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
K.C. Patterson/CHPRC	MAR 17 2016 1350	SSU-1	MAR 17 2016 1350
SSU-1	MAR 21 2016 0815	L.D. Wall CHPRC	MAR 21 2016 0815
L.D. Wall CHPRC	MAR 21 2016 1400	FEDEX	
Fedex	3-22-16 0920	Scott Matly	03-22-16 0920

SPECIAL INSTRUCTIONS
TRVL-16-026
(1) 6020_METALS_ICPMS: COMMON {Aluminum, Antimony, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Selenium, Silver}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Iron, Manganese, Nickel, Sodium, Strontium, Tin, Uranium, Vanadium, Zinc};
(2) 300.0_ANIONS_IC: COMMON {Chloride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD**	**DISPOSED BY**	**DATE/TIME**

PRINTED ON 11/18/2015 **FSR ID = FSR10601** **TRVL NUM = TRVL-16-026** A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F16-002-034	PAGE 1 OF 1
COLLECTOR K.C. Patterson/CHPRC	**COMPANY CONTACT** TODAK, D	**TELEPHONE NO.** 376-6427	**PROJECT COORDINATOR** TODAK, D	**PRICE CODE** C05	**DATA TURNAROUND**
SAMPLING LOCATION 100-KE, AB waste sites, Sample 32	**PROJECT DESIGNATION** FY15 100-K AB Waste Sites - Soil		**SAF NO.** F16-002	**AIR QUALITY** ☐	**7 Days / 7 Days**
ICE CHEST NO. GW5-007	**FIELD LOGBOOK NO.** HNF-N-507-30-82	**ACTUAL SAMPLE DEPTH** 0-6"	**COA** 303808	**METHOD OF SHIPMENT** FEDERAL EXPRESS	**ORIGINAL**
SHIPPED TO ALS Environmental Ft. Collins	**OFFSITE PROPERTY NO.** 6451		**BILL OF LADING/AIR BILL NO.** 7759 1949 8309		

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	Cool <=6C	Cool <=6C
HOLDING TIME	6 Months	28 Days	30 Days	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	250mL	60mL	60mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	7471_MERCURY _CV: COMMON (SOLIDS) {Mercury};	7196_CR6: COMMON {Hexavalent Chromium};	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

1603381

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B33W81 (13)	SOIL	MAR 17 2016	1134	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM K.C. Patterson/CHPRC	DATE/TIME MAR 17 2016 1350	RECEIVED BY/STORED IN SSU-1	DATE/TIME MAR 17 2016 1350
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME MAR 21 2016 0800	RECEIVED BY/STORED IN CHRIS FULTON CHPRC	DATE/TIME MAR 21 2016 0800
RELINQUISHED BY/REMOVED FROM CHRIS FULTON CHPRC	DATE/TIME MAR 21 2016 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME
RELINQUISHED BY/REMOVED FROM Fedex	DATE/TIME 3-22-16 0920	RECEIVED BY/STORED IN Scott Mally	DATE/TIME 03-22-16 0920
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
TRVL-16-026
(1) 6020_METALS_ICPMS: COMMON {Aluminum, Antimony, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Selenium, Silver}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Iron, Manganese, Nickel, Sodium, Strontium, Tin, Uranium, Vanadium, Zinc};
(2) 300.0_ANIONS_IC: COMMON {Chloride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD**	**DISPOSED BY**	**DATE/TIME**

PRINTED ON 11/18/2015 **FSR ID = FSR10617** **TRVL NUM = TRVL-16-026** A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F16-002-026	PAGE 1 OF 1
COLLECTOR K.C. Patterson/CHPRC	**COMPANY CONTACT** TODAK, D	**TELEPHONE NO.** 376-6427	**PROJECT COORDINATOR** TODAK, D	**PRICE CODE** C05	**DATA TURNAROUND**
SAMPLING LOCATION 100-KE, AB waste sites, Sample 26	**PROJECT DESIGNATION** FY15 100-K AB Waste Sites - Soil		**SAF NO.** F16-002	**AIR QUALITY** ☐	7 Days / 7 Days
ICE CHEST NO. GWS-007	**FIELD LOGBOOK NO.** HNF -N-507-30-82	**ACTUAL SAMPLE DEPTH** 0-6"	**COA** 303808	**METHOD OF SHIPMENT** FEDERAL EXPRESS	**ORIGINAL**
SHIPPED TO ALS Environmental Ft. Collins	**OFFSITE PROPERTY NO.** 6451		**BILL OF LADING/AIR BILL NO.** 7759 1949 8309		

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	Cool <=6C	Cool <=6C
HOLDING TIME	6 Months	28 Days	30 Days	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	250mL	60mL	60mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	7471_MERCURY _CV: COMMON (SOLIDS) {Mercury};	7196_CR6: COMMON {Hexavalent Chromium};	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

1603381

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B33W73 (14)	SOIL	MAR 17 2016	1010	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM K.C. Patterson/CHPRC	DATE/TIME MAR 17 2016 1350	RECEIVED BY/STORED IN SSU-1	DATE/TIME MAR 17 2016 1350
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME MAR 21 2016 0900	RECEIVED BY/STORED IN CHRIS FULTON CHPRC	DATE/TIME MAR 21 2016 0900
RELINQUISHED BY/REMOVED FROM CHRIS FULTON CHPRC	DATE/TIME MAR 21 2016 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME
RELINQUISHED BY/REMOVED FROM FeDex 3-22-16	DATE/TIME 0920	RECEIVED BY/STORED IN Scott Malloy	DATE/TIME 03-22-16 0920
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
TRVL-16-026
(1) 6020_METALS_ICPMS: COMMON {Aluminum, Antimony, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Selenium, Silver}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Iron, Manganese, Nickel, Sodium, Strontium, Tin, Uranium, Vanadium, Zinc};
(2) 300.0_ANIONS_IC: COMMON {Chloride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD**	**DISPOSED BY**	**DATE/TIME**

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F16-002-033	PAGE 1 OF 1
COLLECTOR K.C. Patterson/CHPRC	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE C05	DATA TURNAROUND
SAMPLING LOCATION 100-KE, AB waste sites, Sample 31	PROJECT DESIGNATION FY15 100-K AB Waste Sites - Soil		SAF NO. F16-002	AIR QUALITY ☐	7 Days / 7 Days
ICE CHEST NO. GWS-007	FIELD LOGBOOK NO. HNF-N-507-30-82	ACTUAL SAMPLE DEPTH 0-6"	COA 303808	METHOD OF SHIPMENT FEDERAL EXPRESS	ORIGINAL
SHIPPED TO ALS Environmental Ft. Collins	OFFSITE PROPERTY NO. 6451		BILL OF LADING/AIR BILL NO. 7759 1949 8309		

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION				None	None	Cool <=6C	Cool <=6C
HOLDING TIME				6 Months	28 Days	30 Days	28 Days/48 Hours
TYPE OF CONTAINER				G/P	G	G/P	G/P
NO. OF CONTAINER(S)				1	1	1	1
VOLUME				250mL	60mL	60mL	60mL
SAMPLE ANALYSIS				SEE ITEM (1) IN SPECIAL INSTRUCTIONS	7471_MERCURY_CV: COMMON (SOLIDS) {Mercury};	7196_CR6: COMMON {Hexavalent Chromium};	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B33W80 (15)	SOIL	MAR 17 2016	1130	✓	✓	✓	✓

1603381

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM K.C. Patterson/CHPRC	DATE/TIME MAR 17 2016 1350	RECEIVED BY/STORED IN SSU-1	DATE/TIME MAR 17 2016 1350
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME MAR 21 2016 0800	RECEIVED BY/STORED IN CHRIS FULTON CHPRC	DATE/TIME MAR 21 2016 0800
RELINQUISHED BY/REMOVED FROM CHRIS FULTON CHPRC	DATE/TIME MAR 21 2016 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME
RELINQUISHED BY/REMOVED FROM Fedex 3-22-16	DATE/TIME 0920	RECEIVED BY/STORED IN Scott Melby	DATE/TIME 03-22-16 0920
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
TRVL-16-026
(1) 6020_METALS_ICPMS: COMMON {Aluminum, Antimony, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Selenium, Silver}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Iron, Manganese, Nickel, Sodium, Strontium, Tin, Uranium, Vanadium, Zinc};
(2) 300.0_ANIONS_IC: COMMON {Chloride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 11/18/2015 FSR ID = FSR10605 TRVL NUM = TRVL-16-026 A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F16-002-036

COLLECTOR
K.C. Patterson/CHPRC

COMPANY CONTACT
TODAK, D

TELEPHONE NO.
376-6427

PROJECT COORDINATOR
TODAK, D

PRICE CODE C05

DATA TURNAROUND
7 Days / 7 Days

AIR QUALITY ☐

SAMPLING LOCATION
100-KE, AB waste sites, Sample 34

PROJECT DESIGNATION
FY15 100-K AB Waste Sites - Soil

SAF NO.
F16-002

ICE CHEST NO.
GW-00T

FIELD LOGBOOK NO.
HNF-N-507-30-82

ACTUAL SAMPLE DEPTH
0-6"

COA
303808

METHOD OF SHIPMENT
FEDERAL EXPRESS

ORIGINAL

SHIPPED TO
ALS Environmental Ft. Collins

OFFSITE PROPERTY NO.
64551

BILL OF LADING/AIR BILL NO.
7759 1949 8309

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	Cool <=6C	Cool <=6C
HOLDING TIME	6 Months	28 Days	30 Days	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	250mL	60mL	60mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	7471_MERCURY_CV: COMMON (SOLIDS) {Mercury};	7196_CR6: COMMON {Hexavalent Chromium};	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B33W83 (16)	SOIL	MAR 17 2016	1142	✓	✓	✓	✓

1603381

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
K.C. Patterson/CHPRC	MAR 17 2016 1350	SSU-1	MAR 17 2016 1350
SSU-1	MAR 21 2016 0900	CHRIS FULTON CHPRC	MAR 21 2016 0900
CHRIS FULTON CHPRC	MAR 21 2016 1400	FEDEX	
Fedex	3-22-16 0920	Scott Malby	3-22-16 0920

SPECIAL INSTRUCTIONS
TRVL-16-026
(1) 6020_METALS_ICPMS: COMMON {Aluminum, Antimony, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Selenium, Silver}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Iron, Manganese, Nickel, Sodium, Strontium, Tin, Uranium, Vanadium, Zinc};
(2) 300.0_ANIONS_IC: COMMON {Chloride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD**	**DISPOSED BY**	**DATE/TIME**

CH2MHill Plateau Remediation Company | **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** | **F16-002-029** | **PAGE 1 OF 1**

COLLECTOR K.C. Patterson/CHPRC	**COMPANY CONTACT** TODAK, D	**TELEPHONE NO.** 376-6427	**PROJECT COORDINATOR** TODAK, D
SAMPLING LOCATION 100-KE, AB waste sites, Sample 29	**PROJECT DESIGNATION** FY15 100-K AB Waste Sites - Soil		**SAF NO.** F16-002
ICE CHEST NO. GW5-007X	**FIELD LOGBOOK NO.** HNF -N-507- 30-82	**ACTUAL SAMPLE DEPTH** 0-6"	**COA** 303808
SHIPPED TO ALS Environmental Ft. Collins	**OFFSITE PROPERTY NO.** 6451		**BILL OF LADING/AIR BILL NO.** 7759 1949 8309

PRICE CODE C05 | **AIR QUALITY** ☐ | **DATA TURNAROUND** 7 Days / 7 Days | **METHOD OF SHIPMENT** FEDERAL EXPRESS | **ORIGINAL**

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION			None	None	Cool <=6C	Cool <=6C
HOLDING TIME			6 Months	28 Days	30 Days	28 Days/48 Hours
TYPE OF CONTAINER			G/P	G	G/P	G/P
NO. OF CONTAINER(S)			1	1	1	1
VOLUME			250mL	60mL	60mL	60mL
SAMPLE ANALYSIS			SEE ITEM (1) IN SPECIAL INSTRUCTIONS	7471_MERCURY _CV: COMMON (SOLIDS) {Mercury};	7196_CR6: COMMON {Hexavalent Chromium};	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
SAMPLE NO.	**MATRIX***	**SAMPLE DATE**	**SAMPLE TIME**			
B33W76 (17)	SOIL	MAR 17 2016	0850	✓	✓	✓	✓

1603381

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
K.C. Patterson/CHPRC	MAR 17 2016 1350	SSU-1	MAR 17 2016 1350
SSU-1	MAR 21 2016 0800	CHRIS FULTON CHPRC	MAR 21 2016 0800
CHRIS FULTON CHPRC	MAR 21 2016 1400	FEDEX	
FeDex	3-22-16 0920	Scott Malby	03-22-16 0920

SPECIAL INSTRUCTIONS
TRVL-16-026
(1) 6020_METALS_ICPMS: COMMON {Aluminum, Antimony, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Selenium, Silver}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Iron, Manganese, Nickel, Sodium, Strontium, Tin, Uranium, Vanadium, Zinc};
(2) 300.0_ANIONS_IC: COMMON {Chloride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD**	**DISPOSED BY**	**DATE/TIME**

PRINTED ON 11/18/2015 | **FSR ID = FSR10603** | **TRVL NUM = TRVL16-026** | A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company | **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** | **F16-002-039** | **PAGE 1 OF 1**

COLLECTOR K.C. Patterson/CHPRC	**COMPANY CONTACT** TODAK, D	**TELEPHONE NO.** 376-6427	**PROJECT COORDINATOR** TODAK, D
PRICE CODE C05	**DATA TURNAROUND** 7 Days / 7 Days	**AIR QUALITY** ☐	
SAMPLING LOCATION 100-KE, AB waste sites, Sample 37	**PROJECT DESIGNATION** FY15 100-K AB Waste Sites - Soil	**SAF NO.** F16-002	
ICE CHEST NO. GWS-007	**FIELD LOGBOOK NO.** HNF-N-507-30.82	**ACTUAL SAMPLE DEPTH** 0-6"	**COA** 303808
METHOD OF SHIPMENT FEDERAL EXPRESS	**ORIGINAL**		
SHIPPED TO ALS Environmental Ft. Collins	**OFFSITE PROPERTY NO.** 6451	**BILL OF LADING/AIR BILL NO.** 7759 1949 8309	

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	Cool <=6C	Cool <=6C
HOLDING TIME	6 Months	28 Days	30 Days	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	250mL	60mL	60mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	7471_MERCURY_CV: COMMON (SOLIDS) {Mercury};	7196_CR6: COMMON {Hexavalent Chromium};	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	**MATRIX***	**SAMPLE DATE**	**SAMPLE TIME**				
B33W86 (18)	SOIL	MAR 17 2016	1052	✓	✓	✓	✓

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August 17, 2016

REV 2

CHAIN OF POSSESSION		**SIGN/ PRINT NAMES**	
RELINQUISHED BY/REMOVED FROM K.C. Patterson/CHPRC	**DATE/TIME** MAR 17 2016 1350	**RECEIVED BY/STORED IN** SSU-1	**DATE/TIME** MAR 17 2016 1350
RELINQUISHED BY/REMOVED FROM SSU-1	**DATE/TIME** MAR 21 2016 0800	**RECEIVED BY/STORED IN** CHRIS FULTON CHPRC	**DATE/TIME** MAR 21 2016 0800
RELINQUISHED BY/REMOVED FROM CHRIS FULTON CHPRC	**DATE/TIME** MAR 21 2016 1400	**RECEIVED BY/STORED IN** FEDEX	**DATE/TIME**
RELINQUISHED BY/REMOVED FROM Fedex	**DATE/TIME** 3-22-16 0920	**RECEIVED BY/STORED IN** Scott Mally	**DATE/TIME** 03-22-16 0920
RELINQUISHED BY/REMOVED FROM	**DATE/TIME**	**RECEIVED BY/STORED IN**	**DATE/TIME**
RELINQUISHED BY/REMOVED FROM	**DATE/TIME**	**RECEIVED BY/STORED IN**	**DATE/TIME**
RELINQUISHED BY/REMOVED FROM	**DATE/TIME**	**RECEIVED BY/STORED IN**	**DATE/TIME**

SPECIAL INSTRUCTIONS
TRVL-16-026
(1) 6020_METALS_ICPMS: COMMON {Aluminum, Antimony, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Selenium, Silver}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Iron, Manganese, Nickel, Sodium, Strontium, Tin, Uranium, Vanadium, Zinc};
(2) 300.0_ANIONS_IC: COMMON {Chloride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD**	**DISPOSED BY**	**DATE/TIME**

PRINTED ON 11/18/2015 **FSR ID = FSR10622** **TRVL NUM = TRVL-16-026** A-6003-618 (REV 2)

67 lbs

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F16-002-025 **PAGE 1 OF 1**

COLLECTOR K.C. Patterson/CHPRC	**COMPANY CONTACT** TODAK, D	**TELEPHONE NO.** 376-6427	**PROJECT COORDINATOR** TODAK, D
SAMPLING LOCATION 100-KE, AB waste sites, Sample 25	**PROJECT DESIGNATION** FY15 100-K AB Waste Sites - Soil		**SAF NO.** F16-002
ICE CHEST NO. GWS-007	**FIELD LOGBOOK NO.** HNF-N-507-30-82	**ACTUAL SAMPLE DEPTH** 0-6"	**COA** 303808
SHIPPED TO ALS Environmental Ft. Collins	**OFFSITE PROPERTY NO.** 6451		**BILL OF LADING/AIR BILL NO.** 7759 1949 8309

PRICE CODE C05 **DATA TURNAROUND** 7 Days / 7 Days

AIR QUALITY ☐

METHOD OF SHIPMENT FEDERAL EXPRESS

ORIGINAL

1603381

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	Cool <=6C	Cool <=6C
HOLDING TIME	6 Months	28 Days	30 Days	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	250mL	60mL	60mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	7471_MERCURY_CV: COMMON (SOLIDS) {Mercury};	7196_CR6: COMMON {Hexavalent Chromium};	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B33W72 (19)	SOIL	MAR 17 2016	1005	✓	✓	✓	✓

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
K.C. Patterson/CHPRC	MAR 17 2016 1350	SSU-1	MAR 17 2016 1350
SSU-1	MAR 21 2016 0800	CHRIS FULTON CHPRC	MAR 21 2016 0800
CHRIS FULTON CHPRC	MAR 21 2016 1400	FEDEX	
Fedex	3-22-16 0920	Scott Mally	03-22-16 0920

SPECIAL INSTRUCTIONS
TRVL-16-026
(1) 6020_METALS_ICPMS: COMMON {Aluminum, Antimony, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Selenium, Silver}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Iron, Manganese, Nickel, Sodium, Strontium, Tin, Uranium, Vanadium, Zinc};
(2) 300.0_ANIONS_IC: COMMON {Chloride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD**	**DISPOSED BY**	**DATE/TIME**

PRINTED ON 11/18/2015 **FSR ID = FSR10599** **TRVL NUM = TRVL-16-026** A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 67 lbs

F16-002-037 | PAGE 1 OF 1

COLLECTOR K.C. Patterson/CHPRC	**COMPANY CONTACT** TODAK, D	**TELEPHONE NO.** 376-6427	**PROJECT COORDINATOR** TODAK, D
SAMPLING LOCATION 100-KE, AB waste sites, Sample 35	**PROJECT DESIGNATION** FY15 100-K AB Waste Sites - Soil		**SAF NO.** F16-002
ICE CHEST NO. GWS-007	**FIELD LOGBOOK NO.** HNF-N-507-30-02	**ACTUAL SAMPLE DEPTH** 0-6"	**COA** 303808
SHIPPED TO ALS Environmental Ft. Collins	**OFFSITE PROPERTY NO.** 10451		**BILL OF LADING/AIR BILL NO.** 7759 1949 8309

PRICE CODE C05 | **AIR QUALITY** ☐ | **DATA TURNAROUND** 7 Days / 7 Days

METHOD OF SHIPMENT FEDERAL EXPRESS

ORIGINAL

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	Cool <=6C	Cool <=6C
HOLDING TIME	6 Months	28 Days	30 Days	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	250mL	60mL	60mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	7471_MERCURY _CV: COMMON (SOLIDS) {Mercury};	7196_CR6: COMMON {Hexavalent Chromium};	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B33W84 (20)	SOIL	MAR 17 2016	1147	✓	✓	✓	✓

1603381

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
K.C. Patterson/CHPRC	MAR 17 2016 1350	SSU-1	MAR 17 2016 1350
SSU-1	MAR 21 2016 0815	L.D. Wall CHPRC	MAR 21 2016 0815
L.D. Wall CHPRC	MAR 21 2016 1400	FEDEX	
Fedex	3-22-16 0920	Scott Mahy	03-22-16 0920

SPECIAL INSTRUCTIONS
TRVL-16-026
(1) 6020_METALS_ICPMS: COMMON {Aluminum, Antimony, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Selenium, Silver}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Iron, Manganese, Nickel, Sodium, Strontium, Tin, Uranium, Vanadium, Zinc};
(2) 300.0_ANIONS_IC: COMMON {Chloride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD**	**DISPOSED BY**	**DATE/TIME**

PRINTED ON 11/18/2015 **FSR ID = FSR10620** **TRVL NUM = TRVL-16-026** A-6003-618 (REV 2)

25 of 95
August 17, 2016
REV 2

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: CHPRC Workorder No: 1603381

Project Manager: JME Initials: SDM Date: 3-22-16

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):	1.2	4.1						
No. of custody seals on cooler:	2	2						
DOT Survey/ Acceptance Information — External µR/hr reading:	9	10						
Background µR/hr reading:	8							

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: [signature] 3/22/16

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

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

160338

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

SHIP DATE: 21MAR16
ACTWGT: 67.00 LB
CAD: 107066051/INET3730

BILL THIRD PARTY

TO JULIE ELLINGSON
ALS GLOBAL
225 COMMERCE DRIVE
FORT COLLINS CO 80524
(970) 490-1511
INV:
PO:
REF: PTR# 6451
DEPT:

9

- 2

540J1/CF34/727F

FedEx Express

J1816180281uw

1.28

TUE - 22 MAR 10:30A
PRIORITY OVERNIGHT
DSR
80524
CO-US DEN

2 of 2
MPS# 0263 7759 1949 8309
Mstr# 7759 1949 8559 0201

XH FTCA

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.

1603381

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

SHIP DATE: 21MAR16
ACTWGT: 66.00 LB
CAD: 107066051/INET3730

BILL THIRD PARTY

TO JULIE ELLINGSON
ALS GLOBAL
225 COMMERCE DRIVE

FORT COLLINS CO 80524
(970) 490-1511 REF: PTR# 6451
INV:
PO: DEPT:

10
-2

540J1/CF34/727F

FedEx Express

4.10

1 of 2

TUE - 22 MAR 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7759 1949 8559
MASTER

DSR
80524
CO-US DEN

XH FTCA

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.

Metals
Case Narrative

CH2M HILL Plateau Remediation Company

FY15 100-K AB Waste Sites – Soil – F16-002

Work Order Number: 1603381

1. This report consists of 20 soil samples.

2. The samples were received cool and intact by ALS on 03/22/16.

3. The samples were prepared and analyzed based on SW-846, 3rd Edition procedures.

   For analysis by ICP-MS, the samples were digested following method 3050B and the current revision of SOP 806.

   For analysis by Cold Vapor AA (CVAA), the samples were digested following method 7471A and the current revision of SOP 812.

4. Analysis by ICP-MS followed method 6020A and the current revision of SOP 827.

   Analysis by CVAA followed method 7471A and the current revision of SOP 812.

5. All standards and solutions are NIST traceable and were used within their recommended shelf life.

6. The samples were prepared and analyzed within the established hold times.

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

7. General quality control procedures.
   - A preparation (method) blank and laboratory control sample were digested and analyzed with the samples in each digestion batch.
   - The preparation (method) blank associated with each digestion batch was below the reporting limit for the requested analytes Aluminum, iron, manganese, nickel, and zinc have results above the MDL. Sample results have been compared to the blank results.
   - All laboratory control sample criteria were met.

- All initial and continuing calibration blanks were below the reporting limit for the requested analyte.
- All initial and continuing calibration verifications were within the acceptance criteria for the requested analyte.
- The interference check samples associated with Method 6020A were analyzed.

8. Matrix specific quality control procedures.

Sample 1603381-1 was designated as the quality control sample for each analysis.

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

- A matrix spike and matrix spike duplicate were digested and analyzed with each batch. All acceptance criteria for accuracy were met with the following exceptions:

Analyte	Sample ID
Antimony	1603381-1MS/MSD
Mercury	1603381-1MS/MSD
Strontium	1603381-1MS

The native sample results are flagged for matrix spike failure and an analytical post spike was performed for antimony and strontium. The results of the spike for antimony and strontium were acceptable indicating that the matrix was not significantly affecting quantitation of these analytes.

The mercury laboratory control sample indicates that the digestion and analysis were in control.

- Matrix spike recoveries could not be evaluated for the following analytes:

Analyte	Sample ID
Aluminum	1603381-1
Barium	1603381-1
Iron	1603381-1
Manganese	1603381-1
Vanadium	1603381-1

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 sample duplicate and matrix spike duplicate were digested and analyzed with each batch. All acceptance criteria for precision were met with the following exceptions:

Analyte	Sample ID
Chromium	1603381-1D

Mercury 1603381-1D

The native sample results are flagged for duplicate failure.

- A serial dilution was analyzed with the ICP batch. All acceptance criteria were met.

9. 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.

   Samples 1603381-3, -13, -15, and -20 required dilutions to bring mercury into the analytical range of the instrument.

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 3/31/16
Jill Latelle Date
Inorganics Primary Data Reviewer

4/1/16
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 <=5X 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 ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W82
Lab ID: 1603381-1

Sample Matrix: SOIL
% Moisture: 6.7
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 27-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160326-10A5
Cleanup: NONE
Basis: Dry Weight
File Name: 216SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.045 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	3800000	5100	1100		
7440-36-0	ANTIMONY	10	84	31	12		N
7440-38-2	ARSENIC	10	2600	210	22		
7440-39-3	BARIUM	10	82000	100	20		
7440-41-7	BERYLLIUM	10	160	51	26		
7440-43-9	CADMIUM	10	50	31	8.8		
7440-47-3	CHROMIUM	10	6500	1000	84		*
7440-48-4	COBALT	10	4800	100	7.5		
7440-50-8	COPPER	10	14000	1000	110		
7439-89-6	IRON	10	30000000	10000	650		
7439-92-1	LEAD	10	5100	51	21		
7439-96-5	MANGANESE	10	160000	210	26		
7439-98-7	MOLYBDENUM	10	490	100	42		
7440-02-0	NICKEL	10	4600	510	420		
7782-49-2	SELENIUM	10	380	100	68		
7440-22-4	SILVER	10	29	10	4.5		
7440-23-5	SODIUM	10	860000	100000	28000		
7440-24-6	STRONTIUM	10	40000	100	46		N
7440-31-5	TIN	10	670	510	120		
7440-61-1	URANIUM	10	260	10	1.8		
7440-62-2	VANADIUM	10	79000	100	59		
7440-66-6	ZINC	10	46000	2100	710		

Data Package ID: *IM1603381-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W85
Lab ID: 1603381-2

Sample Matrix: SOIL
% Moisture: 8.5
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 27-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160326-10A5
Cleanup: NONE
Basis: Dry Weight
File Name: 222SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.024 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	2900000	5300	1200		
7440-36-0	ANTIMONY	10	130	32	12		
7440-38-2	ARSENIC	10	2700	210	23		
7440-39-3	BARIUM	10	160000	110	21		
7440-41-7	BERYLLIUM	10	100	53	27		
7440-43-9	CADMIUM	10	27	32	9.2	B	
7440-47-3	CHROMIUM	10	4900	1100	87		
7440-48-4	COBALT	10	5400	110	7.9		
7440-50-8	COPPER	10	11000	1100	120		
7439-89-6	IRON	10	28000000	11000	670		
7439-92-1	LEAD	10	7400	53	22		
7439-96-5	MANGANESE	10	190000	210	28		
7439-98-7	MOLYBDENUM	10	1000	110	44		
7440-02-0	NICKEL	10	4200	530	430		
7782-49-2	SELENIUM	10	350	110	71		
7440-22-4	SILVER	10	43	11	4.7		
7440-23-5	SODIUM	10	700000	110000	30000		
7440-24-6	STRONTIUM	10	44000	110	48		
7440-31-5	TIN	10	1400	530	130		
7440-61-1	URANIUM	10	200	11	1.9		
7440-62-2	VANADIUM	10	81000	110	62		
7440-66-6	ZINC	10	45000	2100	740		

Data Package ID: *IM1603381-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W87
Lab ID: 1603381-3

Sample Matrix: SOIL
% Moisture: 4.8
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 27-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160326-10A5
Cleanup: NONE
Basis: Dry Weight
File Name: 223SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.052 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	4400000	5000	1100		
7440-36-0	ANTIMONY	10	270	30	12		
7440-38-2	ARSENIC	10	3200	200	21		
7440-39-3	BARIUM	10	72000	100	20		
7440-41-7	BERYLLIUM	10	170	50	25		
7440-43-9	CADMIUM	10	34	30	8.6		
7440-47-3	CHROMIUM	10	6900	1000	82		
7440-48-4	COBALT	10	4500	100	7.4		
7440-50-8	COPPER	10	15000	1000	110		
7439-89-6	IRON	10	32000000	10000	630		
7439-92-1	LEAD	10	9000	50	21		
7439-96-5	MANGANESE	10	130000	200	26		
7439-98-7	MOLYBDENUM	10	410	100	41		
7440-02-0	NICKEL	10	4200	500	410		
7782-49-2	SELENIUM	10	790	100	66		
7440-22-4	SILVER	10	30	10	4.4		
7440-23-5	SODIUM	10	1200000	100000	28000		
7440-24-6	STRONTIUM	10	51000	100	45		
7440-31-5	TIN	10	600	500	120		
7440-61-1	URANIUM	10	400	10	1.8		
7440-62-2	VANADIUM	10	84000	100	58		
7440-66-6	ZINC	10	33000	2000	700		

Data Package ID: *IM1603381-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W89
Lab ID: 1603381-4

Sample Matrix: SOIL
% Moisture: 5.8
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 27-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160326-10A5
Cleanup: NONE
Basis: Dry Weight
File Name: 226SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.056 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	4700000	5000	1100		
7440-36-0	ANTIMONY	10	74	30	12		
7440-38-2	ARSENIC	10	2200	200	22		
7440-39-3	BARIUM	10	60000	100	20		
7440-41-7	BERYLLIUM	10	250	50	25		
7440-43-9	CADMIUM	10	76	30	8.6		
7440-47-3	CHROMIUM	10	5500	1000	82		
7440-48-4	COBALT	10	9700	100	7.4		
7440-50-8	COPPER	10	16000	1000	110		
7439-89-6	IRON	10	26000000	10000	630		
7439-92-1	LEAD	10	3800	50	21		
7439-96-5	MANGANESE	10	350000	200	26		
7439-98-7	MOLYBDENUM	10	380	100	42		
7440-02-0	NICKEL	10	7800	500	410		
7782-49-2	SELENIUM	10	770	100	67		
7440-22-4	SILVER	10	24	10	4.4		
7440-23-5	SODIUM	10	150000	100000	28000		
7440-24-6	STRONTIUM	10	22000	100	45		
7440-31-5	TIN	10	360	500	120	B	
7440-61-1	URANIUM	10	330	10	1.8		
7440-62-2	VANADIUM	10	69000	100	58		
7440-66-6	ZINC	10	51000	2000	700		

Data Package ID: *IM1603381-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W90
Lab ID: 1603381-5

Sample Matrix: SOIL
% Moisture: 7.7
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 27-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160326-10A5
Cleanup: NONE
Basis: Dry Weight
File Name: 227SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.045 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	5400000	5200	1200		
7440-36-0	ANTIMONY	10	110	31	12		
7440-38-2	ARSENIC	10	3100	210	22		
7440-39-3	BARIUM	10	57000	100	20		
7440-41-7	BERYLLIUM	10	260	52	26		
7440-43-9	CADMIUM	10	61	31	8.9		
7440-47-3	CHROMIUM	10	6800	1000	85		
7440-48-4	COBALT	10	9400	100	7.6		
7440-50-8	COPPER	10	18000	1000	110		
7439-89-6	IRON	10	24000000	10000	650		
7439-92-1	LEAD	10	4600	52	21		
7439-96-5	MANGANESE	10	330000	210	27		
7439-98-7	MOLYBDENUM	10	380	100	43		
7440-02-0	NICKEL	10	9200	520	420		
7782-49-2	SELENIUM	10	790	100	69		
7440-22-4	SILVER	10	33	10	4.5		
7440-23-5	SODIUM	10	180000	100000	29000		
7440-24-6	STRONTIUM	10	28000	100	46		
7440-31-5	TIN	10	410	520	120	B	
7440-61-1	URANIUM	10	410	10	1.8		
7440-62-2	VANADIUM	10	61000	100	60		
7440-66-6	ZINC	10	47000	2100	720		

Data Package ID: *IM1603381-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W75
Lab ID: 1603381-6

Sample Matrix: SOIL
% Moisture: 6.4
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 27-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160326-10A5
Cleanup: NONE
Basis: Dry Weight
File Name: 228SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.034 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	5700000	5200	1100		
7440-36-0	ANTIMONY	10	77	31	12		
7440-38-2	ARSENIC	10	2700	210	22		
7440-39-3	BARIUM	10	89000	100	20		
7440-41-7	BERYLLIUM	10	280	52	26		
7440-43-9	CADMIUM	10	61	31	8.9		
7440-47-3	CHROMIUM	10	7800	1000	85		
7440-48-4	COBALT	10	8900	100	7.6		
7440-50-8	COPPER	10	16000	1000	110		
7439-89-6	IRON	10	23000000	10000	650		
7439-92-1	LEAD	10	4900	52	21		
7439-96-5	MANGANESE	10	340000	210	27		
7439-98-7	MOLYBDENUM	10	330	100	43		
7440-02-0	NICKEL	10	9700	520	420		
7782-49-2	SELENIUM	10	690	100	69		
7440-22-4	SILVER	10	32	10	4.5		
7440-23-5	SODIUM	10	200000	100000	29000		
7440-24-6	STRONTIUM	10	23000	100	46		
7440-31-5	TIN	10	580	520	120		
7440-61-1	URANIUM	10	610	10	1.8		
7440-62-2	VANADIUM	10	58000	100	60		
7440-66-6	ZINC	10	48000	2100	720		

Data Package ID: *IM1603381-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W91
Lab ID: 1603381-7

Sample Matrix: SOIL
% Moisture: 3.7
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 27-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160326-10A5
Cleanup: NONE
Basis: Dry Weight
File Name: 229SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.015 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	7600000	5100	1100		
7440-36-0	ANTIMONY	10	100	31	12		
7440-38-2	ARSENIC	10	3200	200	22		
7440-39-3	BARIUM	10	77000	100	20		
7440-41-7	BERYLLIUM	10	260	51	26		
7440-43-9	CADMIUM	10	37	31	8.8		
7440-47-3	CHROMIUM	10	12000	1000	84		
7440-48-4	COBALT	10	6400	100	7.5		
7440-50-8	COPPER	10	24000	1000	110		
7439-89-6	IRON	10	30000000	10000	650		
7439-92-1	LEAD	10	4700	51	21		
7439-96-5	MANGANESE	10	220000	200	26		
7439-98-7	MOLYBDENUM	10	360	100	42		
7440-02-0	NICKEL	10	7600	510	420		
7782-49-2	SELENIUM	10	510	100	68		
7440-22-4	SILVER	10	34	10	4.5		
7440-23-5	SODIUM	10	310000	100000	28000		
7440-24-6	STRONTIUM	10	29000	100	46		
7440-31-5	TIN	10	450	510	120	B	
7440-61-1	URANIUM	10	480	10	1.8		
7440-62-2	VANADIUM	10	74000	100	59		
7440-66-6	ZINC	10	50000	2000	710		

Data Package ID: *IM1603381-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W71
Lab ID: 1603381-8

Sample Matrix: SOIL
% Moisture: 6.4
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 27-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160326-10A5
Cleanup: NONE
Basis: Dry Weight
File Name: 230SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.048 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	5800000	5100	1100		
7440-36-0	ANTIMONY	10	100	31	12		
7440-38-2	ARSENIC	10	2700	200	22		
7440-39-3	BARIUM	10	64000	100	20		
7440-41-7	BERYLLIUM	10	260	51	26		
7440-43-9	CADMIUM	10	69	31	8.8		
7440-47-3	CHROMIUM	10	8000	1000	83		
7440-48-4	COBALT	10	9500	100	7.5		
7440-50-8	COPPER	10	19000	1000	110		
7439-89-6	IRON	10	24000000	10000	640		
7439-92-1	LEAD	10	4900	51	21		
7439-96-5	MANGANESE	10	340000	200	26		
7439-98-7	MOLYBDENUM	10	370	100	42		
7440-02-0	NICKEL	10	11000	510	410		
7782-49-2	SELENIUM	10	780	100	68		
7440-22-4	SILVER	10	29	10	4.5		
7440-23-5	SODIUM	10	270000	100000	28000		
7440-24-6	STRONTIUM	10	24000	100	45		
7440-31-5	TIN	10	450	510	120	B	
7440-61-1	URANIUM	10	440	10	1.8		
7440-62-2	VANADIUM	10	58000	100	59		
7440-66-6	ZINC	10	53000	2000	710		

Data Package ID: *IM1603381-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W70
Lab ID: 1603381-9

Sample Matrix: SOIL
% Moisture: 6.0
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 27-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160326-10A5
Cleanup: NONE
Basis: Dry Weight
File Name: 231SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.019 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	6100000	5200	1200		
7440-36-0	ANTIMONY	10	110	31	12		
7440-38-2	ARSENIC	10	3400	210	22		
7440-39-3	BARIUM	10	77000	100	21		
7440-41-7	BERYLLIUM	10	290	52	26		
7440-43-9	CADMIUM	10	66	31	9		
7440-47-3	CHROMIUM	10	9300	1000	85		
7440-48-4	COBALT	10	9400	100	7.7		
7440-50-8	COPPER	10	17000	1000	110		
7439-89-6	IRON	10	23000000	10000	660		
7439-92-1	LEAD	10	5000	52	22		
7439-96-5	MANGANESE	10	350000	210	27		
7439-98-7	MOLYBDENUM	10	320	100	43		
7440-02-0	NICKEL	10	11000	520	420		
7782-49-2	SELENIUM	10	600	100	69		
7440-22-4	SILVER	10	35	10	4.6		
7440-23-5	SODIUM	10	170000	100000	29000		
7440-24-6	STRONTIUM	10	26000	100	47		
7440-31-5	TIN	10	470	520	120	B	
7440-61-1	URANIUM	10	520	10	1.9		
7440-62-2	VANADIUM	10	55000	100	60		
7440-66-6	ZINC	10	51000	2100	730		

Data Package ID: *IM1603381-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W88
Lab ID: 1603381-10

Sample Matrix: SOIL
% Moisture: 10.5
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 27-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160326-10A5
Cleanup: NONE
Basis: Dry Weight
File Name: 232SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.038 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	4500000	5400	1200		
7440-36-0	ANTIMONY	10	140	32	12		
7440-38-2	ARSENIC	10	1800	220	23		
7440-39-3	BARIUM	10	95000	110	21		
7440-41-7	BERYLLIUM	10	120	54	27		
7440-43-9	CADMIUM	10	19	32	9.3	B	
7440-47-3	CHROMIUM	10	6400	1100	88		
7440-48-4	COBALT	10	3600	110	7.9		
7440-50-8	COPPER	10	8400	1100	120		
7439-89-6	IRON	10	34000000	11000	680		
7439-92-1	LEAD	10	4200	54	22		
7439-96-5	MANGANESE	10	130000	220	28		
7439-98-7	MOLYBDENUM	10	580	110	44		
7440-02-0	NICKEL	10	2900	540	440		
7782-49-2	SELENIUM	10	560	110	71		
7440-22-4	SILVER	10	30	11	4.7		
7440-23-5	SODIUM	10	2600000	110000	30000		
7440-24-6	STRONTIUM	10	78000	110	48		
7440-31-5	TIN	10	780	540	130		
7440-61-1	URANIUM	10	520	11	1.9		
7440-62-2	VANADIUM	10	99000	110	62		
7440-66-6	ZINC	10	25000	2200	750		

Data Package ID: *IM1603381-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W79
Lab ID: 1603381-11

Sample Matrix: SOIL
% Moisture: 7.3
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 27-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160326-10A5
Cleanup: NONE
Basis: Dry Weight
File Name: 233SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.069 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	4500000	5000	1100		
7440-36-0	ANTIMONY	10	81	30	12		
7440-38-2	ARSENIC	10	2400	200	22		
7440-39-3	BARIUM	10	57000	100	20		
7440-41-7	BERYLLIUM	10	230	50	25		
7440-43-9	CADMIUM	10	61	30	8.7		
7440-47-3	CHROMIUM	10	4800	1000	83		
7440-48-4	COBALT	10	8900	100	7.4		
7440-50-8	COPPER	10	17000	1000	110		
7439-89-6	IRON	10	23000000	10000	640		
7439-92-1	LEAD	10	3400	50	21		
7439-96-5	MANGANESE	10	300000	200	26		
7439-98-7	MOLYBDENUM	10	360	100	42		
7440-02-0	NICKEL	10	8000	500	410		
7782-49-2	SELENIUM	10	650	100	67		
7440-22-4	SILVER	10	76	10	4.4		
7440-23-5	SODIUM	10	170000	100000	28000		
7440-24-6	STRONTIUM	10	23000	100	45		
7440-31-5	TIN	10	410	500	120	B	
7440-61-1	URANIUM	10	420	10	1.8		
7440-62-2	VANADIUM	10	57000	100	58		
7440-66-6	ZINC	10	47000	2000	700		

Data Package ID: *IM1603381-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W74
Lab ID: 1603381-12

Sample Matrix: SOIL
% Moisture: 7.7
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 27-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160326-10A5
Cleanup: NONE
Basis: Dry Weight
File Name: 234SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.043 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	5800000	5200	1200		
7440-36-0	ANTIMONY	10	92	31	12		
7440-38-2	ARSENIC	10	2600	210	22		
7440-39-3	BARIUM	10	77000	100	20		
7440-41-7	BERYLLIUM	10	290	52	26		
7440-43-9	CADMIUM	10	91	31	8.9		
7440-47-3	CHROMIUM	10	6900	1000	85		
7440-48-4	COBALT	10	9700	100	7.6		
7440-50-8	COPPER	10	18000	1000	110		
7439-89-6	IRON	10	26000000	10000	660		
7439-92-1	LEAD	10	4500	52	21		
7439-96-5	MANGANESE	10	350000	210	27		
7439-98-7	MOLYBDENUM	10	360	100	43		
7440-02-0	NICKEL	10	9200	520	420		
7782-49-2	SELENIUM	10	800	100	69		
7440-22-4	SILVER	10	24	10	4.5		
7440-23-5	SODIUM	10	190000	100000	29000		
7440-24-6	STRONTIUM	10	25000	100	46		
7440-31-5	TIN	10	500	520	120	B	
7440-61-1	URANIUM	10	530	10	1.8		
7440-62-2	VANADIUM	10	62000	100	60		
7440-66-6	ZINC	10	52000	2100	720		

Data Package ID: *IM1603381-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W81
Lab ID: 1603381-13

Sample Matrix: SOIL
% Moisture: 12.3
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 27-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160326-10A5
Cleanup: NONE
Basis: Dry Weight
File Name: 235SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.08 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	1200000	5300	1200		
7440-36-0	ANTIMONY	10	46	32	12		
7440-38-2	ARSENIC	10	1900	210	23		
7440-39-3	BARIUM	10	26000	110	21		
7440-41-7	BERYLLIUM	10	27	53	27	U	
7440-43-9	CADMIUM	10	9.1	32	9.1	U	
7440-47-3	CHROMIUM	10	3800	1100	86		
7440-48-4	COBALT	10	720	110	7.8		
7440-50-8	COPPER	10	3300	1100	110		
7439-89-6	IRON	10	4300000	11000	670		
7439-92-1	LEAD	10	1400	53	22		
7439-96-5	MANGANESE	10	17000	210	27		
7439-98-7	MOLYBDENUM	10	130	110	44		
7440-02-0	NICKEL	10	670	530	430	C	
7782-49-2	SELENIUM	10	400	110	70		
7440-22-4	SILVER	10	18	11	4.6		
7440-23-5	SODIUM	10	2400000	110000	29000		
7440-24-6	STRONTIUM	10	7000	110	47		
7440-31-5	TIN	10	290	530	130	B	
7440-61-1	URANIUM	10	160	11	1.9		
7440-62-2	VANADIUM	10	22000	110	61		
7440-66-6	ZINC	10	6300	2100	740	C	

Data Package ID: *IM1603381-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W73
Lab ID: 1603381-14

Sample Matrix: SOIL
% Moisture: 7.5
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 27-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160326-10A5
Cleanup: NONE
Basis: Dry Weight
File Name: 238SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.018 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	5800000	5300	1200		
7440-36-0	ANTIMONY	10	100	32	12		
7440-38-2	ARSENIC	10	2700	210	23		
7440-39-3	BARIUM	10	76000	110	21		
7440-41-7	BERYLLIUM	10	280	53	27		
7440-43-9	CADMIUM	10	63	32	9.1		
7440-47-3	CHROMIUM	10	7500	1100	87		
7440-48-4	COBALT	10	9700	110	7.8		
7440-50-8	COPPER	10	18000	1100	110		
7439-89-6	IRON	10	25000000	11000	670		
7439-92-1	LEAD	10	4800	53	22		
7439-96-5	MANGANESE	10	340000	210	27		
7439-98-7	MOLYBDENUM	10	370	110	44		
7440-02-0	NICKEL	10	10000	530	430		
7782-49-2	SELENIUM	10	760	110	70		
7440-22-4	SILVER	10	35	11	4.6		
7440-23-5	SODIUM	10	290000	110000	29000		
7440-24-6	STRONTIUM	10	29000	110	47		
7440-31-5	TIN	10	560	530	130		
7440-61-1	URANIUM	10	500	11	1.9		
7440-62-2	VANADIUM	10	58000	110	62		
7440-66-6	ZINC	10	54000	2100	740		

Data Package ID: *IM1603381-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W80
Lab ID: 1603381-15

Sample Matrix: SOIL
% Moisture: 14.9
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 27-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160326-10A5
Cleanup: NONE
Basis: Dry Weight
File Name: 239SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.064 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	2400000	5500	1200		
7440-36-0	ANTIMONY	10	54	33	13		
7440-38-2	ARSENIC	10	2100	220	24		
7440-39-3	BARIUM	10	110000	110	22		
7440-41-7	BERYLLIUM	10	75	55	28		
7440-43-9	CADMIUM	10	9.5	33	9.5	U	
7440-47-3	CHROMIUM	10	4500	1100	90		
7440-48-4	COBALT	10	2200	110	8.1		
7440-50-8	COPPER	10	7500	1100	120		
7439-89-6	IRON	10	29000000	11000	700		
7439-92-1	LEAD	10	6100	55	23		
7439-96-5	MANGANESE	10	68000	220	28		
7439-98-7	MOLYBDENUM	10	400	110	46		
7440-02-0	NICKEL	10	2400	550	450		
7782-49-2	SELENIUM	10	500	110	73		
7440-22-4	SILVER	10	44	11	4.8		
7440-23-5	SODIUM	10	1400000	110000	31000		
7440-24-6	STRONTIUM	10	85000	110	49		
7440-31-5	TIN	10	420	550	130	B	
7440-61-1	URANIUM	10	240	11	2		
7440-62-2	VANADIUM	10	65000	110	64		
7440-66-6	ZINC	10	18000	2200	770		

Data Package ID: *IM1603381-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W83
Lab ID: 1603381-16

Sample Matrix: SOIL
% Moisture: 7.3
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 27-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160326-10A5
Cleanup: NONE
Basis: Dry Weight
File Name: 240SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.031 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	9200000	5200	1200		
7440-36-0	ANTIMONY	10	96	31	12		
7440-38-2	ARSENIC	10	4200	210	22		
7440-39-3	BARIUM	10	82000	100	21		
7440-41-7	BERYLLIUM	10	420	52	26		
7440-43-9	CADMIUM	10	54	31	9		
7440-47-3	CHROMIUM	10	8000	1000	86		
7440-48-4	COBALT	10	18000	100	7.7		
7440-50-8	COPPER	10	28000	1000	110		
7439-89-6	IRON	10	28000000	10000	660		
7439-92-1	LEAD	10	4900	52	22		
7439-96-5	MANGANESE	10	550000	210	27		
7439-98-7	MOLYBDENUM	10	420	100	43		
7440-02-0	NICKEL	10	18000	520	430		
7782-49-2	SELENIUM	10	1100	100	69		
7440-22-4	SILVER	10	29	10	4.6		
7440-23-5	SODIUM	10	360000	100000	29000		
7440-24-6	STRONTIUM	10	41000	100	47		
7440-31-5	TIN	10	450	520	120	B	
7440-61-1	URANIUM	10	770	10	1.9		
7440-62-2	VANADIUM	10	68000	100	61		
7440-66-6	ZINC	10	68000	2100	730		

Data Package ID: *IM1603381-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W76
Lab ID: 1603381-17

Sample Matrix: SOIL
% Moisture: 7.2
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 27-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160326-10A5
Cleanup: NONE
Basis: Dry Weight
File Name: 241SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.028 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	4100000	5200	1200		
7440-36-0	ANTIMONY	10	59	31	12		
7440-38-2	ARSENIC	10	2000	210	23		
7440-39-3	BARIUM	10	72000	100	21		
7440-41-7	BERYLLIUM	10	230	52	26		
7440-43-9	CADMIUM	10	28	31	9	B	
7440-47-3	CHROMIUM	10	4400	1000	86		
7440-48-4	COBALT	10	7800	100	7.7		
7440-50-8	COPPER	10	15000	1000	110		
7439-89-6	IRON	10	21000000	10000	660		
7439-92-1	LEAD	10	3000	52	22		
7439-96-5	MANGANESE	10	260000	210	27		
7439-98-7	MOLYBDENUM	10	310	100	43		
7440-02-0	NICKEL	10	6700	520	430		
7782-49-2	SELENIUM	10	640	100	69		
7440-22-4	SILVER	10	22	10	4.6		
7440-23-5	SODIUM	10	140000	100000	29000		
7440-24-6	STRONTIUM	10	18000	100	47		
7440-31-5	TIN	10	560	520	120		
7440-61-1	URANIUM	10	540	10	1.9		
7440-62-2	VANADIUM	10	53000	100	61		
7440-66-6	ZINC	10	40000	2100	730		

Data Package ID: *IM1603381-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W86
Lab ID: 1603381-18

Sample Matrix: SOIL
% Moisture: 8.4
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 27-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160326-10A5
Cleanup: NONE
Basis: Dry Weight
File Name: 242SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.047 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	5500000	5200	1200		
7440-36-0	ANTIMONY	10	81	31	12		
7440-38-2	ARSENIC	10	2800	210	22		
7440-39-3	BARIUM	10	81000	100	21		
7440-41-7	BERYLLIUM	10	180	52	26		
7440-43-9	CADMIUM	10	31	31	9		
7440-47-3	CHROMIUM	10	12000	1000	85		
7440-48-4	COBALT	10	5800	100	7.7		
7440-50-8	COPPER	10	23000	1000	110		
7439-89-6	IRON	10	37000000	10000	660		
7439-92-1	LEAD	10	3900	52	22		
7439-96-5	MANGANESE	10	190000	210	27		
7439-98-7	MOLYBDENUM	10	400	100	43		
7440-02-0	NICKEL	10	7000	520	420		
7782-49-2	SELENIUM	10	520	100	69		
7440-22-4	SILVER	10	34	10	4.6		
7440-23-5	SODIUM	10	430000	100000	29000		
7440-24-6	STRONTIUM	10	29000	100	47		
7440-31-5	TIN	10	540	520	120		
7440-61-1	URANIUM	10	480	10	1.9		
7440-62-2	VANADIUM	10	100000	100	60		
7440-66-6	ZINC	10	45000	2100	730		

Data Package ID: *IM1603381-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W72
Lab ID: 1603381-19

Sample Matrix: SOIL
% Moisture: 5.6
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 27-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160326-10A5
Cleanup: NONE
Basis: Dry Weight
File Name: 243SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.03 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	6000000	5100	1100		
7440-36-0	ANTIMONY	10	110	31	12		
7440-38-2	ARSENIC	10	3100	210	22		
7440-39-3	BARIUM	10	71000	100	20		
7440-41-7	BERYLLIUM	10	270	51	26		
7440-43-9	CADMIUM	10	85	31	8.8		
7440-47-3	CHROMIUM	10	8700	1000	84		
7440-48-4	COBALT	10	8900	100	7.6		
7440-50-8	COPPER	10	16000	1000	110		
7439-89-6	IRON	10	23000000	10000	650		
7439-92-1	LEAD	10	5300	51	21		
7439-96-5	MANGANESE	10	340000	210	27		
7439-98-7	MOLYBDENUM	10	350	100	42		
7440-02-0	NICKEL	10	10000	510	420		
7782-49-2	SELENIUM	10	660	100	68		
7440-22-4	SILVER	10	33	10	4.5		
7440-23-5	SODIUM	10	220000	100000	29000		
7440-24-6	STRONTIUM	10	24000	100	46		
7440-31-5	TIN	10	420	510	120	B	
7440-61-1	URANIUM	10	480	10	1.8		
7440-62-2	VANADIUM	10	56000	100	60		
7440-66-6	ZINC	10	51000	2100	720		

Data Package ID: *IM1603381-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W84
Lab ID: 1603381-20

Sample Matrix: SOIL
% Moisture: 21.4
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 27-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160326-10A5
Cleanup: NONE
Basis: Dry Weight
File Name: 244SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.027 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	7700000	6200	1400		
7440-36-0	ANTIMONY	10	1000	37	14		
7440-38-2	ARSENIC	10	8700	250	27		
7440-39-3	BARIUM	10	130000	120	24		
7440-41-7	BERYLLIUM	10	340	62	31		
7440-43-9	CADMIUM	10	130	37	11		
7440-47-3	CHROMIUM	10	33000	1200	100		
7440-48-4	COBALT	10	8600	120	9.1		
7440-50-8	COPPER	10	26000	1200	130		
7439-89-6	IRON	10	23000000	12000	780		
7439-92-1	LEAD	10	44000	62	26		
7439-96-5	MANGANESE	10	370000	250	32		
7439-98-7	MOLYBDENUM	10	600	120	51		
7440-02-0	NICKEL	10	12000	620	500		
7782-49-2	SELENIUM	10	460	120	82		
7440-22-4	SILVER	10	47	12	5.4		
7440-23-5	SODIUM	10	490000	120000	34000		
7440-24-6	STRONTIUM	10	63000	120	55		
7440-31-5	TIN	10	1300	620	150		
7440-61-1	URANIUM	10	760	12	2.2		
7440-62-2	VANADIUM	10	50000	120	72		
7440-66-6	ZINC	10	64000	2500	860		

Data Package ID: *IM1603381-1*

Total MERCURY

Method SW7471A

Sample Results

Lab Name: **ALS Environmental -- FC**
Client Name: CH2M HILL Plateau Remediation Company
Client Project ID: FY15 100-K AB Waste Sites - Soil F16-002
Work Order Number: 1603381 **Final Volume:** 100 ml
Reporting Basis: Dry Weight **Matrix:** SOIL
Analyst: Nathan A. Quatier **Result Units:** MG/KG

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Flag	Sample Aliquot
B33W82	1603381-1	3/17/2016	3/26/2016	03/26/2016	6.673	1	0.72	0.033	0.0036	N*	0.651 g
B33W85	1603381-2	3/17/2016	3/26/2016	03/26/2016	8.47	1	1.7	0.035	0.0038		0.62 g
B33W87	1603381-3	3/17/2016	3/26/2016	03/26/2016	4.833	10	8.2	0.33	0.036	D	0.639 g
B33W89	1603381-4	3/17/2016	3/26/2016	03/26/2016	5.843	1	0.0069	0.033	0.0036	B	0.641 g
B33W90	1603381-5	3/17/2016	3/26/2016	03/26/2016	7.694	1	0.012	0.033	0.0036	B	0.653 g
B33W75	1603381-6	3/17/2016	3/26/2016	03/26/2016	6.397	1	0.02	0.033	0.0036	B	0.65 g
B33W91	1603381-7	3/17/2016	3/26/2016	03/26/2016	3.657	5	1.9	0.17	0.018	D	0.625 g
B33W71	1603381-8	3/17/2016	3/26/2016	03/26/2016	6.381	1	0.096	0.035	0.0038		0.614 g
B33W70	1603381-9	3/17/2016	3/26/2016	03/26/2016	5.965	1	0.019	0.034	0.0037	B	0.621 g
B33W88	1603381-10	3/17/2016	3/26/2016	03/26/2016	10.53	1	0.18	0.033	0.0036		0.672 g
B33W79	1603381-11	3/17/2016	3/26/2016	03/26/2016	7.343	1	0.0096	0.034	0.0036	B	0.64 g
B33W74	1603381-12	3/17/2016	3/26/2016	03/26/2016	7.669	1	0.013	0.034	0.0037	B	0.637 g
B33W81	1603381-13	3/17/2016	3/26/2016	03/26/2016	12.30	1000	750	36	3.8	D	0.64 g
B33W73	1603381-14	3/17/2016	3/26/2016	03/26/2016	7.535	1	0.0092	0.034	0.0037	B	0.632 g
B33W80	1603381-15	3/17/2016	3/26/2016	03/26/2016	14.91	10	4.5	0.37	0.04	D	0.634 g
B33W83	1603381-16	3/17/2016	3/26/2016	03/26/2016	7.258	1	0.067	0.032	0.0035		0.675 g
B33W76	1603381-17	3/17/2016	3/26/2016	03/26/2016	7.186	1	0.0089	0.036	0.0038	B	0.605 g
B33W86	1603381-18	3/17/2016	3/26/2016	03/26/2016	8.432	1	0.036	0.034	0.0037		0.642 g

Comments:

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

Data Package ID: *HG1603381-1*

Total MERCURY

Method SW7471A

Sample Results

Lab Name: **ALS Environmental -- FC**
Client Name: CH2M HILL Plateau Remediation Company
Client Project ID: FY15 100-K AB Waste Sites - Soil F16-002
Work Order Number: 1603381 **Final Volume:** 100 ml
Reporting Basis: Dry Weight **Matrix:** SOIL
Analyst: Nathan A. Quatier **Result Units:** MG/KG

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Flag	Sample Aliquot
B33W72	1603381-19	3/17/2016	3/26/2016	03/26/2016	5.585	1	0.035	0.034	0.0036		0.631 g
B33W84	1603381-20	3/17/2016	3/26/2016	03/26/2016	21.45	10	4.6	0.42	0.046	D	0.6 g

Comments:

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

Data Package ID: *HG1603381-1*

ICPMS Metals

Method SW6020A

Method Blank

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Lab ID: IP160325-1MB

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 25-Mar-16
Date Analyzed: 27-Mar-16

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160326-10A5
Cleanup: NONE
Basis: N/A
File Name: 214SMPL_

Sample Aliquot: 1 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	2300	5000	1100	B	
7440-36-0	ANTIMONY	10	12	30	12	U	
7440-38-2	ARSENIC	10	22	200	22	U	
7440-41-7	BERYLLIUM	10	25	50	25	U	
7440-43-9	CADMIUM	10	8.6	30	8.6	U	
7440-47-3	CHROMIUM	10	82	1000	82	U	
7440-48-4	COBALT	10	7.4	100	7.4	U	
7440-50-8	COPPER	10	110	1000	110	U	
7439-89-6	IRON	10	1300	10000	630	B	
7439-92-1	LEAD	10	21	50	21	U	
7439-96-5	MANGANESE	10	34	200	26	B	
7439-98-7	MOLYBDENUM	10	41	100	41	U	
7440-02-0	NICKEL	10	480	500	410	B	
7782-49-2	SELENIUM	10	66	100	66	U	
7440-22-4	SILVER	10	4.4	10	4.4	U	
7440-23-5	SODIUM	10	28000	100000	28000	U	
7440-24-6	STRONTIUM	10	45	100	45	U	
7440-62-2	VANADIUM	10	58	100	58	U	
7440-66-6	ZINC	10	1500	2000	700	B	

Data Package ID: *IM1603381-1*

ICPMS Metals

Method SW6020A

Method Blank

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Lab ID: IP160325-1MB

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 25-Mar-16
Date Analyzed: 28-Mar-16

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160328-10A5
Cleanup: NONE
Basis: N/A
File Name: 049SMPL_

Sample Aliquot: 1 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-39-3	BARIUM	10	13	100	20	U	
7440-31-5	TIN	10	120	500	120	U	
7440-61-1	URANIUM	10	1.8	10	1.8	U	

Data Package ID: *IM1603381-1*

ICPMS Metals

Method SW6020A

Laboratory Control Sample

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Lab ID: IP160325-1LCS

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 03/25/2016
Date Analyzed: 03/27/2016
Prep Method: SW3050B

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160326-10A5
Cleanup: NONE
Basis: N/A
File Name: 215SMPL_

Sample Aliquot: 1 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7429-90-5	ALUMINUM	500000	468000	5000		94	80 - 120%
7440-36-0	ANTIMONY	3000	2860	30		95	80 - 120%
7440-38-2	ARSENIC	10000	9920	200		99	80 - 120%
7440-39-3	BARIUM	10000	10200	100		102	80 - 120%
7440-41-7	BERYLLIUM	5000	5320	50		106	80 - 120%
7440-43-9	CADMIUM	3000	2860	30		95	80 - 120%
7440-47-3	CHROMIUM	50000	46800	1000		94	80 - 120%
7440-48-4	COBALT	10000	9320	100		93	80 - 120%
7440-50-8	COPPER	100000	97000	1000		97	80 - 120%
7439-89-6	IRON	500000	467000	10000		93	80 - 120%
7439-92-1	LEAD	5000	4820	50		96	80 - 120%
7439-96-5	MANGANESE	10000	9390	200		94	80 - 120%
7439-98-7	MOLYBDENUM	10000	8930	100		89	80 - 120%
7440-02-0	NICKEL	50000	46700	500		93	80 - 120%
7782-49-2	SELENIUM	10000	9600	100		96	80 - 120%
7440-22-4	SILVER	1000	1020	10		102	80 - 120%
7440-23-5	SODIUM	1E+06	945000	100000		94	80 - 120%
7440-24-6	STRONTIUM	10000	9620	100		96	80 - 120%
7440-31-5	TIN	50000	51400	500		103	80 - 120%
7440-61-1	URANIUM	1000	977	10		98	80 - 120%
7440-62-2	VANADIUM	10000	9700	100		97	80 - 120%
7440-66-6	ZINC	200000	194000	2000		97	80 - 120%

Data Package ID: *IM1603381-1*

ICPMS Metals

Method SW6020A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W82
LabID: 1603381-1MS

Sample Matrix: SOIL
% Moisture: 6.7
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 27-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160326-10A5
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 1.052 g
Final Volume: 100 ml
Result Units: UG/KG
File Name: 219SMPL_

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7429-90-5	ALUMINUM	3800000		4510000		5090	509000	150	75 - 125%
7440-36-0	ANTIMONY	84		1890	N	30.6	3060	59	75 - 125%
7440-38-2	ARSENIC	2600		12300		204	10200	96	75 - 125%
7440-39-3	BARIUM	82000		87200		102	10200	54	75 - 125%
7440-41-7	BERYLLIUM	160		5310		50.9	5090	101	75 - 125%
7440-43-9	CADMIUM	50		2830		30.6	3060	91	75 - 125%
7440-47-3	CHROMIUM	6500		54500		1020	50900	94	75 - 125%
7440-48-4	COBALT	4800		14500		102	10200	95	75 - 125%
7440-50-8	COPPER	14000		112000		1020	102000	97	75 - 125%
7439-89-6	IRON	3E+07		28600000		10200	509000	-232	75 - 125%
7439-92-1	LEAD	5100		9530		50.9	5090	87	75 - 125%
7439-96-5	MANGANESE	160000		173000		204	10200	132	75 - 125%
7439-98-7	MOLYBDENUM	490		9450		102	10200	88	75 - 125%
7440-02-0	NICKEL	4600		52400		509	50900	94	75 - 125%
7782-49-2	SELENIUM	380		9780		102	10200	92	75 - 125%
7440-22-4	SILVER	29		1010		10.2	1020	96	75 - 125%
7440-23-5	SODIUM	860000		1740000		102000	1020000	87	75 - 125%
7440-24-6	STRONTIUM	40000		46900	N	102	10200	67	75 - 125%
7440-31-5	TIN	670		51800		509	50900	100	75 - 125%
7440-61-1	URANIUM	260		1260		10.2	1020	98	75 - 125%
7440-62-2	VANADIUM	79000		89400		102	10200	101	75 - 125%
7440-66-6	ZINC	46000		244000		2040	204000	98	75 - 125%

Data Package ID: *IM1603381-1*

ICPMS Metals

Method SW6020A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W82
LabID: 1603381-1MSD

Sample Matrix: SOIL
% Moisture: 6.7
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 27-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160325-1
QCBatchID: IP160325-1-1
Run ID: IM160326-10A5
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 1.048 g
Final Volume: 100 ml
Result Units: UG/KG
File Name: 220SMPL_

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7429-90-5	ALUMINUM	4640000		511000	173	5110	20	3
7440-36-0	ANTIMONY	2020	N	3070	63	30.7	20	7
7440-38-2	ARSENIC	12700		10200	98	204	20	3
7440-39-3	BARIUM	106000		10200	237	102	20	19
7440-41-7	BERYLLIUM	5400		5110	102	51.1	20	2
7440-43-9	CADMIUM	3020		3070	97	30.7	20	7
7440-47-3	CHROMIUM	55400		51100	96	1020	20	2
7440-48-4	COBALT	14400		10200	93	102	20	1
7440-50-8	COPPER	114000		102000	98	1020	20	2
7439-89-6	IRON	29800000		511000	-10	10200	20	4
7439-92-1	LEAD	9840		5110	92	51.1	20	3
7439-96-5	MANGANESE	170000		10200	108	204	20	1
7439-98-7	MOLYBDENUM	9730		10200	90	102	20	3
7440-02-0	NICKEL	53200		51100	95	511	20	2
7782-49-2	SELENIUM	10000		10200	94	102	20	2
7440-22-4	SILVER	1060		1020	101	10.2	20	6
7440-23-5	SODIUM	1860000		1020000	98	102000	20	6
7440-24-6	STRONTIUM	50300		10200	101	102	20	7
7440-31-5	TIN	59700		51100	115	511	20	14
7440-61-1	URANIUM	1410		1020	113	10.2	20	12
7440-62-2	VANADIUM	90600		10200	112	102	20	1
7440-66-6	ZINC	246000		204000	98	2040	20	1

Data Package ID: *IM1603381-1*

ICPMS Metals

Method SW6020

Analytical Spike Sample Recovery

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W82
LabID: 1603381-1A

Run ID: IM160326-10A5
Date Analyzed: 3/27/2016
Result Units: ug/l

Target Analyte	Sample Result	Samp Qual	PS Result	PS Qual	Spike Added	PS % Rec.	Control Limits
ANTIMONY	0.0820		3.13		3	102	75 - 125%
STRONTIUM	39.0		51.2		10	122	75 - 125%

Data Package ID: *IM1603381-1*

Mercury

Method SW7471A

Method Blank

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Lab ID: HG160326-1MB

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 26-Mar-16
Date Analyzed: 26-Mar-16

Prep Batch: HG160326-1
QCBatchID: HG160326-1-1
Run ID: HG160326-1A3
Cleanup: NONE
Basis: N/A
File Name: HG160326-1

Sample Aliquot: 0.6 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7439-97-6	MERCURY	1	0.0036	0.033	0.0036	U	

Data Package ID: *HG1603381-1*

Mercury

Method SW7471A

Laboratory Control Sample

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Lab ID: HG160326-1LCS

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 03/26/2016
Date Analyzed: 03/26/2016
Prep Method: METHOD

Prep Batch: HG160326-1
QCBatchID: HG160326-1-1
Run ID: HG160326-1A3
Cleanup: NONE
Basis: N/A
File Name: HG160326-1

Sample Aliquot: 0.6 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7439-97-6	MERCURY	0.167	0.162	0.0333		97	80 - 120%

Data Package ID: *HG1603381-1*

Mercury

Method SW7471A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W82
LabID: 1603381-1MS

Sample Matrix: SOIL
% Moisture: 6.7
Date Collected: 17-Mar-16
Date Extracted: 26-Mar-16
Date Analyzed: 26-Mar-16
Prep Method: METHOD

Prep Batch: HG160326-1
QCBatchID: HG160326-1-1
Run ID: HG160326-1A3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 0.654 g
Final Volume: 100 ml
Result Units: MG/KG
File Name: HG160326-1

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7439-97-6	MERCURY	0.72		0.869	N	0.0328	0.328	46	80 - 120%

Field ID: B33W82
LabID: 1603381-1MSD

Sample Matrix: SOIL
% Moisture: 6.7
Date Collected: 17-Mar-16
Date Extracted: 26-Mar-16
Date Analyzed: 26-Mar-16
Prep Method: METHOD

Prep Batch: HG160326-1
QCBatchID: HG160326-1-1
Run ID: HG160326-1A3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 0.655 g
Final Volume: 100 ml
Result Units: MG/KG
File Name: HG160326-1

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7439-97-6	MERCURY	0.816	N	0.327	30	0.0327	20	6

Data Package ID: *HG1603381-1*

Inorganics

Case Narrative

CH2M HILL Plateau Remediation Company

FY15 100-K AB Waste Sites - Soil -- F16-002

Work Order Number: 1603381

1. This report consists of 20 soil samples.

2. The samples were received cool and intact by ALS on 03/22/16.

3. The samples were prepared for analysis based on SW-846, 3rd Edition procedures and Environmental Monitoring Systems Laboratory (EMSL) Rev 2.1 procedures.

4. The samples were analyzed following SW-846 and EMSL procedures for the current revisions of the following SOPs and methods:

Analyte	Method	SOP #
Hexavalent chromium	7196A	1122
Chloride	300.0 Revision 2.1	1113
Nitrate as N	300.0 Revision 2.1	1113
Nitrite as N	300.0 Revision 2.1	1113
Sulfate	300.0 Revision 2.1	1113

5. All standards and solutions were used within their recommended shelf life.

6. The samples were prepared and analyzed within the established hold time for each analysis.

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

7. General quality control procedures.

   - A preparation (method) blank, laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) were prepared and analyzed with the samples in each applicable preparation batch.

- The method blank associated with each batch was below the reporting limit for the requested analytes. Sulfate has results above the MDL. Sample results have been compared to the blank results.

- All laboratory control sample criteria were met.

- All initial and continuing calibration blanks were below the reporting limit for the requested analytes.

- All initial and continuing calibration verifications were within the acceptance criteria for the requested analytes.

8. Matrix specific quality control procedures.

   Sample 1603381-1 was designated as the quality control sample for the hexavalent chromium analysis. Sample 1603381-20 was designated as the quality control sample for the anion 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 (MS) and matrix spike duplicate (MSD) were prepared and analyzed with each batch. All guidance criteria for precision and accuracy were met with the following exception:

Analyte	Sample ID
Hexavalent chromium	1603381-1MS & MSD

     The native sample result is flagged for hexavalent chromium. The laboratory control sample indicate that the procedure was in control.

   - Matrix spike recoveries could not be evaluated for the following analyte:

Analyte	Sample ID
Sulfate	1603381-20MS & MSD

     The sulfate concentration in the native sample was above the analytical range; therefore accurate quantitation of MS/MSD recoveries were not possible. The LCS, ICV, and CCV results indicate the procedure was in control for this analyte.

9. It was necessary to dilute samples 1603381-1, -3, -7, -9, -10, -13, -15, -16, -18 and -20 in order to bring the chloride or sulfate concentrations into the analytical range of the ion chromatograph (IC).

10. Manual integrations are performed when needed to provide consistent and defensible data following the guidelines in the current revision of SOP 939.

11. The X flag indicates that the MDLs for hexavalent chromium are expired.

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.

Megan Johnstone — 6/10/16
Inorganics Primary Data Reviewer — Date

Julie Ellis — 6/10/16
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.

- Concentration 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 ALS’s Method Detection Limit. If the analyte was analyzed for but not detected a “U” is entered.

- 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 <=5X 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.

CHROMIUM VI

Method SW7196A

Sample Results

Lab Name: ALS Environmental -- FC
Client Name: CH2M HILL Plateau Remediation Company
Client Project ID: FY15 100-K AB Waste Sites - Soil F16-002
Work Order Number: 1603381 **Final Volume:** 40 ml
Reporting Basis: Dry Weight **Matrix:** SOIL
Analyst: Charles B. Allen **Result Units:** MG/KG

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Flag	Sample Aliquot
B33W82	1603381-1	3/17/2016	3/30/2016	03/30/2016	6.673	1	0.032	0.11	0.032	UXN	4 g
B33W85	1603381-2	3/17/2016	3/30/2016	03/30/2016	8.47	1	0.033	0.11	0.033	UX	4 g
B33W87	1603381-3	3/17/2016	3/30/2016	03/30/2016	4.833	1	0.032	0.11	0.032	UX	4 g
B33W89	1603381-4	3/17/2016	3/30/2016	03/30/2016	5.843	1	0.032	0.11	0.032	UX	4 g
B33W90	1603381-5	3/17/2016	3/30/2016	03/30/2016	7.694	1	0.033	0.11	0.033	UX	4 g
B33W75	1603381-6	3/17/2016	3/30/2016	03/30/2016	6.397	1	0.032	0.11	0.032	UX	4 g
B33W91	1603381-7	3/17/2016	3/30/2016	03/30/2016	3.657	1	0.031	0.1	0.031	UX	4 g
B33W71	1603381-8	3/17/2016	3/30/2016	03/30/2016	6.381	1	0.032	0.11	0.032	UX	4 g
B33W70	1603381-9	3/17/2016	3/30/2016	03/30/2016	5.965	1	0.032	0.11	0.032	UX	4 g
B33W88	1603381-10	3/17/2016	3/30/2016	03/30/2016	10.53	1	0.034	0.11	0.034	UX	4 g
B33W79	1603381-11	3/17/2016	3/30/2016	03/30/2016	7.343	1	0.032	0.11	0.032	UX	4 g
B33W74	1603381-12	3/17/2016	3/30/2016	03/30/2016	7.669	1	0.032	0.11	0.032	UX	4 g
B33W81	1603381-13	3/17/2016	3/30/2016	03/30/2016	12.30	1	0.034	0.11	0.034	UX	4 g
B33W73	1603381-14	3/17/2016	3/30/2016	03/30/2016	7.535	1	0.032	0.11	0.032	UX	4 g
B33W80	1603381-15	3/17/2016	3/30/2016	03/30/2016	14.91	1	0.035	0.12	0.035	UX	4 g
B33W83	1603381-16	3/17/2016	3/30/2016	03/30/2016	7.258	1	0.032	0.11	0.032	UX	4 g
B33W76	1603381-17	3/17/2016	3/30/2016	03/30/2016	7.186	1	0.032	0.11	0.032	UX	4 g
B33W86	1603381-18	3/17/2016	3/30/2016	03/30/2016	8.432	1	0.033	0.11	0.033	UX	4 g

Comments:

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

Data Package ID: *cr1603381-1*

CHROMIUM VI

Method SW7196A

Sample Results

Lab Name: **ALS Environmental -- FC**
Client Name: CH2M HILL Plateau Remediation Company
Client Project ID: FY15 100-K AB Waste Sites - Soil F16-002
Work Order Number: 1603381 **Final Volume:** 40 ml
Reporting Basis: Dry Weight **Matrix:** SOIL
Analyst: Charles B. Allen **Result Units:** MG/KG

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Flag	Sample Aliquot
B33W72	1603381-19	3/17/2016	3/30/2016	03/30/2016	5.585	1	0.032	0.11	0.032	UX	4 g
B33W84	1603381-20	3/17/2016	3/30/2016	03/30/2016	21.45	1	1.6	0.13	0.038		4 g

Comments:

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

Data Package ID: *cr1603381-1*

Ion Chromatography

Method EPA300.0 Revision 2.1

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W82
Lab ID: 1603381-1

Analysis ReqCode: **300.0_ANIONS_I**

Sample Matrix: SOIL
% Moisture: 6.7
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 26-Mar-16
Prep Method: METHOD

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160325-1A5
Cleanup: NONE
Basis: Dry Weight
File Name: 60325_081.dxd

Analyst: Steven D. White
Sample Aliquot: 4.11 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16887-00-6	CHLORIDE AnalysisTime: 01:44	1	12	2.1	0.63		
14797-65-0	NITRITE AS N AnalysisTime: 01:44	1	0.31	1	0.31	U	
14797-55-8	NITRATE AS N AnalysisTime: 01:44	1	1.2	2.1	0.63	B	
14808-79-8	SULFATE AnalysisTime: 17:30	50	10000	520	160	D	

Data Package ID: *ic1603381-1*

Ion Chromatography

Method EPA300.0 Revision 2.1

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W85
Lab ID: 1603381-2

Analysis ReqCode: **300.0_ANIONS_I**

Sample Matrix: SOIL
% Moisture: 8.5
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 26-Mar-16
Prep Method: METHOD

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160325-1A5
Cleanup: NONE
Basis: Dry Weight
File Name: 60325_082.dxd

Analyst: Steven D. White
Sample Aliquot: 4.38 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16887-00-6	CHLORIDE AnalysisTime: 01:59	1	2.5	2	0.6		
14797-65-0	NITRITE AS N AnalysisTime: 01:59	1	0.3	1	0.3	U	
14797-55-8	NITRATE AS N AnalysisTime: 01:59	1	0.73	2	0.6	B	
14808-79-8	SULFATE AnalysisTime: 01:59	1	11	10	3	C	

Data Package ID: *ic1603381-1*

Ion Chromatography

Method EPA300.0 Revision 2.1

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W87
Lab ID: 1603381-3

Analysis ReqCode: **300.0_ANIONS_I**

Sample Matrix: SOIL
% Moisture: 4.8
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 26-Mar-16
Prep Method: METHOD

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160325-1A5
Cleanup: NONE
Basis: Dry Weight
File Name: 60325_083.dxd

Analyst: Steven D. White
Sample Aliquot: 4.4 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16887-00-6	CHLORIDE AnalysisTime: 02:14	1	2.1	1.9	0.57		
14797-65-0	NITRITE AS N AnalysisTime: 02:14	1	0.29	0.96	0.29	U	
14797-55-8	NITRATE AS N AnalysisTime: 02:14	1	4.7	1.9	0.57		
14808-79-8	SULFATE AnalysisTime: 17:46	50	14000	480	140	D	

Data Package ID: *ic1603381-1*

Ion Chromatography

Method EPA300.0 Revision 2.1

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W89
Lab ID: 1603381-4

Analysis ReqCode: **300.0_ANIONS_I**

Sample Matrix: SOIL
% Moisture: 5.8
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 26-Mar-16
Prep Method: METHOD

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160325-1A5
Cleanup: NONE
Basis: Dry Weight
File Name: 60325_086.dxd

Analyst: Steven D. White
Sample Aliquot: 4.39 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16887-00-6	CHLORIDE AnalysisTime: 02:59	1	42	1.9	0.58		
14797-65-0	NITRITE AS N AnalysisTime: 02:59	1	0.29	0.97	0.29	U	
14797-55-8	NITRATE AS N AnalysisTime: 02:59	1	1.8	1.9	0.58	B	
14808-79-8	SULFATE AnalysisTime: 02:59	1	6.9	9.7	2.9	C	

Data Package ID: *ic1603381-1*

Ion Chromatography

Method EPA300.0 Revision 2.1

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W90
Lab ID: 1603381-5

Analysis ReqCode: **300.0_ANIONS_I**

Sample Matrix: SOIL
% Moisture: 7.7
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 26-Mar-16
Prep Method: METHOD

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160325-1A5
Cleanup: NONE
Basis: Dry Weight
File Name: 60325_087.dxd

Analyst: Steven D. White
Sample Aliquot: 4.74 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16887-00-6	CHLORIDE AnalysisTime: 03:14	1	11	1.8	0.55		
14797-65-0	NITRITE AS N AnalysisTime: 03:14	1	0.27	0.91	0.27	U	
14797-55-8	NITRATE AS N AnalysisTime: 03:14	1	1.5	1.8	0.55	B	
14808-79-8	SULFATE AnalysisTime: 03:14	1	7	9.1	2.7	BC	

Data Package ID: *ic1603381-1*

Ion Chromatography

Method EPA300.0 Revision 2.1

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W75
Lab ID: 1603381-6

Analysis ReqCode: **300.0_ANIONS_I**

Sample Matrix: SOIL
% Moisture: 6.4
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 26-Mar-16
Prep Method: METHOD

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160325-1A5
Cleanup: NONE
Basis: Dry Weight
File Name: 60325_088.dxd

Analyst: Steven D. White
Sample Aliquot: 4.22 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16887-00-6	CHLORIDE AnalysisTime: 03:29	1	46	2	0.61		
14797-65-0	NITRITE AS N AnalysisTime: 03:29	1	0.3	1	0.3	U	
14797-55-8	NITRATE AS N AnalysisTime: 03:29	1	4.7	2	0.61		
14808-79-8	SULFATE AnalysisTime: 03:29	1	18	10	3		

Data Package ID: *ic1603381-1*

Ion Chromatography

Method EPA300.0 Revision 2.1

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W91
Lab ID: 1603381-7

Analysis ReqCode: **300.0_ANIONS_I**

Sample Matrix: SOIL
% Moisture: 3.7
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 26-Mar-16
Prep Method: METHOD

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160325-1A5
Cleanup: NONE
Basis: Dry Weight
File Name: 60325_089.dxd

Analyst: Steven D. White
Sample Aliquot: 4.14 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16887-00-6	CHLORIDE AnalysisTime: 03:44	1	0.6	2	0.6	U	
14797-65-0	NITRITE AS N AnalysisTime: 03:44	1	0.3	1	0.3	U	
14797-55-8	NITRATE AS N AnalysisTime: 03:44	1	1.8	2	0.6	B	
14808-79-8	SULFATE AnalysisTime: 18:01	50	14000	500	150	D	

Data Package ID: *ic1603381-1*

Ion Chromatography

Method EPA300.0 Revision 2.1

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W71
Lab ID: 1603381-8

Analysis ReqCode: **300.0_ANIONS_I**

Sample Matrix: SOIL
% Moisture: 6.4
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 26-Mar-16
Prep Method: METHOD

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160325-1A5
Cleanup: NONE
Basis: Dry Weight
File Name: 60325_090.dxd

Analyst: Steven D. White
Sample Aliquot: 4.77 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16887-00-6	CHLORIDE AnalysisTime: 03:59	1	110	1.8	0.54		
14797-65-0	NITRITE AS N AnalysisTime: 03:59	1	0.27	0.9	0.27	U	
14797-55-8	NITRATE AS N AnalysisTime: 03:59	1	2.5	1.8	0.54		
14808-79-8	SULFATE AnalysisTime: 03:59	1	46	9	2.7		

Data Package ID: *ic1603381-1*

Ion Chromatography

Method EPA300.0 Revision 2.1

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W70
Lab ID: 1603381-9

Analysis ReqCode: **300.0_ANIONS_I**

Sample Matrix: SOIL
% Moisture: 6.0
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 28-Mar-16
Prep Method: METHOD

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160328-1A2
Cleanup: NONE
Basis: Dry Weight
File Name: 60328_042.dxd

Analyst: Steven D. White
Sample Aliquot: 5.73 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16887-00-6	CHLORIDE AnalysisTime: 18:16	5	260	7.4	2.2	D	
14797-65-0	NITRITE AS N AnalysisTime: 04:15	1	0.22	0.74	0.22	U	
14797-55-8	NITRATE AS N AnalysisTime: 04:15	1	2.1	1.5	0.45		
14808-79-8	SULFATE AnalysisTime: 04:15	1	11	7.4	2.2	C	

Data Package ID: *ic1603381-1*

Ion Chromatography

Method EPA300.0 Revision 2.1

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W88
Lab ID: 1603381-10

Analysis ReqCode: **300.0_ANIONS_I**

Sample Matrix: SOIL
% Moisture: 10.5
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 26-Mar-16
Prep Method: METHOD

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160325-1A5
Cleanup: NONE
Basis: Dry Weight
File Name: 60325_092.dxd

Analyst: Steven D. White
Sample Aliquot: 4.18 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16887-00-6	CHLORIDE AnalysisTime: 04:30	1	0.64	2.1	0.64	U	
14797-65-0	NITRITE AS N AnalysisTime: 04:30	1	0.32	1.1	0.32	U	
14797-55-8	NITRATE AS N AnalysisTime: 04:30	1	3.2	2.1	0.64		
14808-79-8	SULFATE AnalysisTime: 18:31	100	22000	1100	320	D	

Data Package ID: *ic1603381-1*

Ion Chromatography

Method EPA300.0 Revision 2.1

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W79
Lab ID: 1603381-11

Analysis ReqCode: **300.0_ANIONS_I**

Sample Matrix: SOIL
% Moisture: 7.3
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 26-Mar-16
Prep Method: METHOD

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160325-1A5
Cleanup: NONE
Basis: Dry Weight
File Name: 60325_093.dxd

Analyst: Steven D. White
Sample Aliquot: 4.53 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16887-00-6	CHLORIDE AnalysisTime: 04:45	1	11	1.9	0.57		
14797-65-0	NITRITE AS N AnalysisTime: 04:45	1	0.29	0.95	0.29	U	
14797-55-8	NITRATE AS N AnalysisTime: 04:45	1	1.2	1.9	0.57	B	
14808-79-8	SULFATE AnalysisTime: 04:45	1	57	9.5	2.9		

Data Package ID: *ic1603381-1*

Ion Chromatography

Method EPA300.0 Revision 2.1

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W74
Lab ID: 1603381-12

Analysis ReqCode: **300.0_ANIONS_I**

Sample Matrix: SOIL
% Moisture: 7.7
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 26-Mar-16
Prep Method: METHOD

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160325-1A5
Cleanup: NONE
Basis: Dry Weight
File Name: 60325_094.dxd

Analyst: Steven D. White
Sample Aliquot: 4.43 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16887-00-6	CHLORIDE AnalysisTime: 05:00	1	3.4	2	0.59		
14797-65-0	NITRITE AS N AnalysisTime: 05:00	1	0.29	0.98	0.29	U	
14797-55-8	NITRATE AS N AnalysisTime: 05:00	1	1.2	2	0.59	B	
14808-79-8	SULFATE AnalysisTime: 05:00	1	10	9.8	2.9	C	

Data Package ID: *ic1603381-1*

Ion Chromatography

Method EPA300.0 Revision 2.1

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W81
Lab ID: 1603381-13

Analysis ReqCode: **300.0_ANIONS_I**

Sample Matrix: SOIL
% Moisture: 12.3
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 26-Mar-16
Prep Method: METHOD

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160325-1A5
Cleanup: NONE
Basis: Dry Weight
File Name: 60325_095.dxd

Analyst: Steven D. White
Sample Aliquot: 4.22 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16887-00-6	CHLORIDE AnalysisTime: 05:15	1	17	2.2	0.65		
14797-65-0	NITRITE AS N AnalysisTime: 05:15	1	0.32	1.1	0.32	U	
14797-55-8	NITRATE AS N AnalysisTime: 05:15	1	1.5	2.2	0.65	B	
14808-79-8	SULFATE AnalysisTime: 18:46	10	1600	110	32	D	

Data Package ID: *ic1603381-1*

Ion Chromatography

Method EPA300.0 Revision 2.1

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W73
Lab ID: 1603381-14

Analysis ReqCode: **300.0_ANIONS_I**

Sample Matrix: SOIL
% Moisture: 7.5
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 26-Mar-16
Prep Method: METHOD

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160325-1A5
Cleanup: NONE
Basis: Dry Weight
File Name: 60325_098.dxd

Analyst: Steven D. White
Sample Aliquot: 4.22 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16887-00-6	CHLORIDE AnalysisTime: 06:00	1	18	2.1	0.62		
14797-65-0	NITRITE AS N AnalysisTime: 06:00	1	0.31	1	0.31	U	
14797-55-8	NITRATE AS N AnalysisTime: 06:00	1	1.7	2.1	0.62	B	
14808-79-8	SULFATE AnalysisTime: 06:00	1	7.2	10	3.1	BC	

Data Package ID: *ic1603381-1*

Ion Chromatography

Method EPA300.0 Revision 2.1

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W80
Lab ID: 1603381-15

Analysis ReqCode: **300.0_ANIONS_I**

Sample Matrix: SOIL
% Moisture: 14.9
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 26-Mar-16
Prep Method: METHOD

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160325-1A5
Cleanup: NONE
Basis: Dry Weight
File Name: 60325_099.dxd

Analyst: Steven D. White
Sample Aliquot: 4.21 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16887-00-6	CHLORIDE AnalysisTime: 06:15	1	16	2.2	0.67		
14797-65-0	NITRITE AS N AnalysisTime: 06:15	1	0.33	1.1	0.33	U	
14797-55-8	NITRATE AS N AnalysisTime: 06:15	1	1.2	2.2	0.67	B	
14808-79-8	SULFATE AnalysisTime: 19:01	100	8400	1100	330	D	

Data Package ID: *ic1603381-1*

Ion Chromatography

Method EPA300.0 Revision 2.1

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W83
Lab ID: 1603381-16

Analysis ReqCode: **300.0_ANIONS_I**

Sample Matrix: SOIL
% Moisture: 7.3
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 26-Mar-16
Prep Method: METHOD

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160325-1A5
Cleanup: NONE
Basis: Dry Weight
File Name: 60325_100.dxd

Analyst: Steven D. White
Sample Aliquot: 4.8 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16887-00-6	CHLORIDE AnalysisTime: 06:30	1	20	1.8	0.54		
14797-65-0	NITRITE AS N AnalysisTime: 06:30	1	0.27	0.9	0.27	U	
14797-55-8	NITRATE AS N AnalysisTime: 06:30	1	0.67	1.8	0.54	B	
14808-79-8	SULFATE AnalysisTime: 19:16	100	12000	900	270	D	

Data Package ID: *ic1603381-1*

Ion Chromatography

Method EPA300.0 Revision 2.1

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W76
Lab ID: 1603381-17

Analysis ReqCode: **300.0_ANIONS_I**

Sample Matrix: SOIL
% Moisture: 7.2
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 26-Mar-16
Prep Method: METHOD

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160325-1A5
Cleanup: NONE
Basis: Dry Weight
File Name: 60325_101.dxd

Analyst: Steven D. White
Sample Aliquot: 4.05 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16887-00-6	CHLORIDE AnalysisTime: 06:46	1	14	2.1	0.64		
14797-65-0	NITRITE AS N AnalysisTime: 06:46	1	0.32	1.1	0.32	U	
14797-55-8	NITRATE AS N AnalysisTime: 06:46	1	0.94	2.1	0.64	B	
14808-79-8	SULFATE AnalysisTime: 06:46	1	8.8	11	3.2	BC	

Data Package ID: *ic1603381-1*

Ion Chromatography

Method EPA300.0 Revision 2.1

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W86
Lab ID: 1603381-18

Analysis ReqCode: **300.0_ANIONS_I**

Sample Matrix: SOIL
% Moisture: 8.4
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 26-Mar-16
Prep Method: METHOD

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160325-1A5
Cleanup: NONE
Basis: Dry Weight
File Name: 60325_102.dxd

Analyst: Steven D. White
Sample Aliquot: 4.45 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16887-00-6	CHLORIDE AnalysisTime: 07:01	1	4.8	2	0.59		
14797-65-0	NITRITE AS N AnalysisTime: 07:01	1	0.29	0.98	0.29	U	
14797-55-8	NITRATE AS N AnalysisTime: 07:01	1	2.6	2	0.59		
14808-79-8	SULFATE AnalysisTime: 19:31	100	8700	980	290	D	

Data Package ID: *ic1603381-1*

Ion Chromatography

Method EPA300.0 Revision 2.1

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W72
Lab ID: 1603381-19

Analysis ReqCode: **300.0_ANIONS_I**

Sample Matrix: SOIL
% Moisture: 5.6
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 26-Mar-16
Prep Method: METHOD

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160325-1A5
Cleanup: NONE
Basis: Dry Weight
File Name: 60325_103.dxd

Analyst: Steven D. White
Sample Aliquot: 4.02 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16887-00-6	CHLORIDE AnalysisTime: 07:16	1	190	2.1	0.63		
14797-65-0	NITRITE AS N AnalysisTime: 07:16	1	0.32	1.1	0.32	U	
14797-55-8	NITRATE AS N AnalysisTime: 07:16	1	2.4	2.1	0.63		
14808-79-8	SULFATE AnalysisTime: 07:16	1	9	11	3.2	B	

Data Package ID: *ic1603381-1*

Ion Chromatography

Method EPA300.0 Revision 2.1

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W84
Lab ID: 1603381-20

Analysis ReqCode: **300.0_ANIONS_I**

Sample Matrix: SOIL
% Moisture: 21.4
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 26-Mar-16
Prep Method: METHOD

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160325-1A5
Cleanup: NONE
Basis: Dry Weight
File Name: 60325_104.dxd

Analyst: Steven D. White
Sample Aliquot: 4.72 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16887-00-6	CHLORIDE AnalysisTime: 07:31	1	9.1	2.2	0.65		
14797-65-0	NITRITE AS N AnalysisTime: 07:31	1	0.32	1.1	0.32	U	
14797-55-8	NITRATE AS N AnalysisTime: 07:31	1	1.2	2.2	0.65	B	
14808-79-8	SULFATE AnalysisTime: 20:16	10	2700	110	32	D	

Data Package ID: *ic1603381-1*

Hexavalent Chromium

Method SW7196A

Method Blank

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Lab ID: WC160330-1MB

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 30-Mar-16
Date Analyzed: 30-Mar-16

Prep Batch: WC160330-1
QCBatchID: WC160330-1-1
Run ID: WC160330-1A1
Cleanup: NONE
Basis: N/A
File Name: Manual Entry

Sample Aliquot: 4 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
18540-29-9	CHROMIUM VI	1	0.03	0.1	0.03	UX	

Data Package ID: *cr1603381-1*

Hexavalent Chromium

Method SW7196A

Laboratory Control Sample

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Lab ID: WC160330-1LCS

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 03/30/2016
Date Analyzed: 03/30/2016
Prep Method: METHOD

Prep Batch: WC160330-1
QCBatchID: WC160330-1-1
Run ID: WC160330-1A1
Cleanup: NONE
Basis: N/A
File Name: Manual Entry

Sample Aliquot: 4 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
18540-29-9	CHROMIUM VI	3	2.83	0.1		94	80 - 120%

Data Package ID: *cr1603381-1*

Hexavalent Chromium

Method SW7196A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W82
LabID: 1603381-1MS

Sample Matrix: SOIL
% Moisture: 6.7
Date Collected: 17-Mar-16
Date Extracted: 30-Mar-16
Date Analyzed: 30-Mar-16
Prep Method: METHOD

Prep Batch: WC160330-1
QCBatchID: WC160330-1-1
Run ID: WC160330-1A1
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 4 g
Final Volume: 40 ml
Result Units: MG/KG
File Name: Manual Entry

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
18540-29-9	CHROMIUM VI	0.0321	UX	0.737	N	0.107	1.07	69	75 - 125%

Field ID: B33W82
LabID: 1603381-1MSD

Sample Matrix: SOIL
% Moisture: 6.7
Date Collected: 17-Mar-16
Date Extracted: 30-Mar-16
Date Analyzed: 30-Mar-16
Prep Method: METHOD

Prep Batch: WC160330-1
QCBatchID: WC160330-1-1
Run ID: WC160330-1A1
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 4 g
Final Volume: 40 ml
Result Units: MG/KG
File Name: Manual Entry

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
18540-29-9	CHROMIUM VI	0.826		1.07	77	0.107	20	11

Data Package ID: *cr1603381-1*

Ion Chromatography

Method EPA300.0 Revision 2.1

Method Blank

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Lab ID: IC160325-2MB

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 25-Mar-16
Date Analyzed: 26-Mar-16

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160325-1A5
Cleanup: NONE
Basis: N/A
File Name: 60325_080.dxd

Sample Aliquot: 4 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16887-00-6	CHLORIDE	1	0.6	2	0.6	U	
14797-65-0	NITRITE AS N	1	0.3	1	0.3	U	
14797-55-8	NITRATE AS N	1	0.6	2	0.6	U	
14808-79-8	SULFATE	1	3.3	10	3	B	

Data Package ID: *ic1603381-1*

Ion Chromatography

Method EPA300.0 Revision 2.1

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Lab ID: IC160325-2LCS

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 03/25/2016
Date Analyzed: 03/26/2016
Prep Method: METHOD

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160325-1A5
Cleanup: NONE
Basis: N/A
File Name: 60325_077.dxd

Sample Aliquot: 4 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
16887-00-6	CHLORIDE	50	52.1	2		104	85 - 115%
14797-65-0	NITRITE AS N	20	20.6	1		103	85 - 115%
14797-55-8	NITRATE AS N	50	49.5	2		99	85 - 115%
14808-79-8	SULFATE	200	206	10		103	85 - 115%

Lab ID: IC160325-2LCSD

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 03/25/2016
Date Analyzed: 03/26/2016
Prep Method: METHOD

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160325-1A5
Cleanup: NONE
Basis: N/A
File Name: 60325_078.dxd

Sample Aliquot: 4 g
Final Volume: 40 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
16887-00-6	CHLORIDE	50	50.9	2		102	30	2
14797-65-0	NITRITE AS N	20	19.9	1		99	30	3
14797-55-8	NITRATE AS N	50	48.3	2		97	30	2
14808-79-8	SULFATE	200	201	10		101	30	2

Data Package ID: *ic1603381-1*

Ion Chromatography

Method EPA300.0 Revision 2.1
Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1603381
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: FY15 100-K AB Waste Sites - Soil F16-002

Field ID: B33W84
LabID: 1603381-20MS

Sample Matrix: SOIL
% Moisture: 21.4
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 26-Mar-16
Prep Method: METHOD

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160325-1A5
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 4.28 g
Final Volume: 40 ml
Result Units: MG/KG
File Name: 60325_105.dxd

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
16887-00-6	CHLORIDE	9.1		67.2		2.38	59.5	98	85 - 115%
14797-65-0	NITRITE AS N	0.357	U	22.3		1.19	23.8	94	85 - 115%
14797-55-8	NITRATE AS N	1.2	B	57.4		2.38	59.5	95	85 - 115%

Field ID: B33W84
LabID: 1603381-20MSD

Sample Matrix: SOIL
% Moisture: 21.4
Date Collected: 17-Mar-16
Date Extracted: 25-Mar-16
Date Analyzed: 26-Mar-16
Prep Method: METHOD

Prep Batch: IC160325-2
QCBatchID: IC160325-2-1
Run ID: IC160325-1A5
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 4.59 g
Final Volume: 40 ml
Result Units: MG/KG
File Name: 60325_106.dxd

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
16887-00-6	CHLORIDE	62.8		55.5	97	2.22	30	7
14797-65-0	NITRITE AS N	21		22.2	94	1.11	30	6
14797-55-8	NITRATE AS N	53.8		55.4	95	2.22	30	7

Data Package ID: *ic1603381-1*