

Friday, June 10, 2016

Laine Sumner
CH2M HILL Plateau Remediation Company
2420 Stevens Center
Richland, WA 99352

Re: ALS Workorder: 1604057
Project Name: 100-DX P&T Resin Reconditioning
Project Number: F16-029

Dear Ms. Sumner:

Ten water samples were received from CH2M HILL Plateau Remediation Company, on 4/5/2016. The samples were scheduled for the following analysis:

Metals

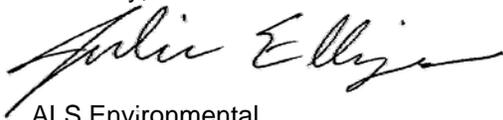
The results for these analyses are contained in the enclosed reports.

This report was originally submitted on 4/11/16. This report is being resubmitted with the correct SAF number.

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

Priority Problem and Discrepancy Report

ALS

SDG ALS1604057

05/05/16

The data package has the following issues:

ALS1604057 has an incorrect SAF number listed on the cover page (first page of the report). It is supposed to be F16-029 but is F12-029 on the cover page.

Resolution: *Provide correction.*

Lab Response: SAF number updated and the report re-submitted.

Please correct the issue and resubmit the hard copy package.

SAMPLE ISSUE RESOLUTION	SIR NUM	SIR16-309
	REV NUM	0
	DATE INITIATED	4/7/2016

SAMPLE EVENT INFORMATION

SAF NUM(S) F16-029
OPERABLE UNIT(S)
PROJECT(S) CPP 100 Area
SAMPLE EVENT TITLE(S) 100-DX Pump & Treat
LABORATORY ALS Environmental Ft. Collins

SAMPLING INFORMATION

NUMBER OF SAMPLES 10
SAMPLE NUMBERS B353V6, B353V8, B353W0, B353W2, B353W4, B353W6, B353W8, B353X0, B353X2, B353X4
SAMPLE MATRIX WATER
COLLECTION DATE 4/4/2016 - 4/4/2016
SDG NUM ALS1604057

ISSUE BACKGROUND

CLASS Field Sampling Issue
TYPE Incorrect Sample Preservation
DESCRIPTION Samples were shipped in a cooler that had two custody seal. Both custody seals were received intact. Sample B353V6, B353V8, B353W0, B353W2, B353W4, B353W6, B353W8, B353X0, B353X2, B353X4 (metals analysis) had a pH of 6 at receipt.

DISPOSITION

DESCRIPTION ALS proposes to continue with analyses since all custody seals were intact. ALS will add additional HNO3 to samples B353V6, B353V8, B353W0, B353W2, B353W4, B353W6, B353W8, B353X0, B353X2, B353X4 and continue with the metals analysis.

JUSTIFICATION Final Disposition: Accept proposed resolution. Document preservation issue in final report.

SUBMITTED BY: Jeff Kujawa DATE: 04/05/2016
ACCEPTED BY: Sarah Nagel DATE: 04/07/2016

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1604057

Client Name: CH2M HILL Plateau Remediation Company

Client Project Name: 100-DX P&T Resin Reconditioning

Client Project Number: F16-029

Client PO Number: BOA 54854

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B353V6	1604057-1		WATER	04-Apr-16	8:39
B353V8	1604057-2		WATER	04-Apr-16	8:46
B353W0	1604057-3		WATER	04-Apr-16	8:46
B353W2	1604057-4		WATER	04-Apr-16	8:48
B353W4	1604057-5		WATER	04-Apr-16	8:51
B353W6	1604057-6		WATER	04-Apr-16	8:55
B353W8	1604057-7		WATER	04-Apr-16	8:56
B353X0	1604057-8		WATER	04-Apr-16	8:58
B353X2	1604057-9		WATER	04-Apr-16	9:00
B353X4	1604057-10		WATER	04-Apr-16	9:00

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F16-029-009	PAGE 1 OF 1
COLLECTOR K.C. Patterson/CHPRC	COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC	PRICE CODE C07	DATA TURNAROUND 3 Days / 7 Days
SAMPLING LOCATION 100-DX, Train D valve V-M128D	PROJECT DESIGNATION 100-DX P&T Resin Reconditioning	ACTUAL SAMPLE DEPTH N/A	SAF NO. F16-029	AIR QUALITY <input type="checkbox"/>	ORIGINAL
ICE CHEST NO. GWS-397	FIELD LOGBOOK NO. HNF-N-49115	OFFSITE PROPERTY NO. 6489	COA 302841	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO ALS Environmental Ft. Collins	BILL OF LADING/AIR BILL NO. 7760 33824715				

MATRIX*	PRESERVATION	HOLDING TIME	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS
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	HNO3 to pH <2	6 Months	G/P	1	500mL	6020, METALS, TOXICS, COMMON (Chromium);
POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA						
SPECIAL HANDLING AND/OR STORAGE						

SAMPLE NO. 1	MATRIX* WATER	SAMPLE DATE APR 04 2016	SAMPLE TIME 0839
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CHAIN OF POSSESSION	SIGN/ PRINT NAMES	DATE/TIME	DATE/TIME	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM K.C. Patterson/CHPRC	RECEIVED BY/STORED IN Frank Hall CHPRC	APR 04 2016 1010	APR 04 2016 1010	TEST 2
RELINQUISHED BY/REMOVED FROM Frank Hall	RECEIVED BY/STORED IN FEDEX	APR 04 2016 0930	APR 04 2016 0930	
RELINQUISHED BY/REMOVED FROM Frank Hall	RECEIVED BY/STORED IN Swoth Mathy SAJ	4-5-16 0930	4-5-16 0930	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN			
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN			
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN			
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN			
LABORATORY SECTION	RECEIVED BY			TITLE
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD			DISPOSED BY

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CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F16-029-013	PAGE 1 OF 1
COLLECTOR K.C. Patterson/CHPRC	COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC	PRICE CODE C07	DATA TURNAROUND 3 Days / 7 Days
SAMPLING LOCATION 100-DX, Train D valve V-M228D -- DUP	PROJECT DESIGNATION 100-DX P&T Resin Reconditioning	ACTUAL SAMPLE DEPTH N/A	SAF NO. F16-029	AIR QUALITY <input type="checkbox"/>	ORIGINAL
ICE CHEST NO. GWS-397	FIELD LOGBOOK NO. HNF-N-491 15	COA 302841	METHOD OF SHIPMENT FEDERAL EXPRESS		
SHIPPED TO ALS Environmental Ft. Collins	OFFSITE PROPERTY NO. 6487	BILL OF LADING/AIR BILL NO. 7760-33824715			

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	PRESERVATION HNO3 to pH <2	HOLDING TIME 6 Months	TYPE OF CONTAINER G/P	NO. OF CONTAINER(S) 1	VOLUME 500mL	SAMPLE ANALYSIS 6020.METALS ICPMS: CONDITION (Chromium);
SPECIAL HANDLING AND/OR STORAGE							
SAMPLE NO. B353W0	MATRIX* WATER	SAMPLE DATE APR 04 2016	SAMPLE TIME 0846				

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CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS TEST 2
RELINQUISHED BY/REMOVED FROM K.C. Patterson/CHPRC	RECEIVED BY/STORED IN Frank Hill CHPRC	DATE/TIME APR 04 2016 1010
RELINQUISHED BY/REMOVED FROM Frank Hill CHPRC	RECEIVED BY/STORED IN FEDEX	DATE/TIME APR 04 2016 1010
RELINQUISHED BY/REMOVED FROM Fedex	RECEIVED BY/STORED IN Scott Malby	DATE/TIME 4-5-16 0930
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME
LABORATORY SECTION 2	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSED BY	DATE/TIME

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F16-029-015	PAGE 1 OF 1
COLLECTOR K.C. Patterson/CHPRC	COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC	PRICE CODE C07	DATA TURNAROUND 3 Days / 7 Days
SAMPLING LOCATION 100-DX, Train D valve V-M328D	PROJECT DESIGNATION 100-DX P&T Resin Reconditioning	ACTUAL SAMPLE DEPTH N/A	SAF NO. F16-029	AIR QUALITY <input type="checkbox"/>	ORIGINAL
ICE CHEST NO. GWS-397	FIELD LOGBOOK NO. HNF-N-491 15	OFFSITE PROPERTY NO. 0487	COA 302841	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO ALS Environmental Ft. Collins		BILL OF LADING/AIR BILL NO. 7760 33024715			

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	HN03 to pH <2	6 Months	G/P	1	500mL	6070 METALS ICPMS Cadmium (Chromium);
SPECIAL HANDLING AND/OR STORAGE		PRESERVATION	HOLDING TIME	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS
SAMPLE NO. B353W2 (4)	MATRIX* WATER	APR 04 2016 0848	APR 04 2016 0848	APR 04 2016 0848	APR 04 2016 0848	APR 04 2016 0848	APR 04 2016 0848

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CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TEST 2	
RELINQUISHED BY/REMOVED FROM K.C. Patterson/CHPRC	DATE/TIME APR 04 2016 1010	RECEIVED BY/STORED IN Frank Hall	DATE/TIME APR 04 2016 1010		
RELINQUISHED BY/REMOVED FROM Frank Hall	DATE/TIME APR 04 2016	RECEIVED BY/STORED IN Scott Mathy SAJ	DATE/TIME 4-5-16 0930		
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		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION RECEIVED BY	TITLE	DISPOSED BY		DATE/TIME	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	TRVL NUM = TRVL-16-116		A-6003-618 (REV 2)	
PRINTED ON 3/22/2016	FSR ID = FSR29105				

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		PAGE 1 OF 1	
COLLECTOR K.C. Patterson/CHPRC	COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC	PRICE CODE C07	DATA TURNAROUND 3 Days / 7 Days
SAMPLING LOCATION 100-DX, Train D valve V-M428D	PROJECT DESIGNATION 100-DX P&T Resin Reconditioning	FIELD LOGBOOK NO. HNF-N-49115	SAF NO. F16-029	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT FEDERAL EXPRESS
ICE CHEST NO. GWS-397	FIELD LOGBOOK NO. HNF-N-49115	ACTUAL SAMPLE DEPTH N/A	COA 302841	BILL OF LADING/AIR BILL NO. 776033024715	
SHIPPED TO ALS Environmental Ft. Collins	OFFSITE PROPERTY NO. 6487	ORIGINAL			

MATRIX* A=Air DL=Drum L=Liquid DS=Drum S=Soil T=Tissue V=Vegetation W=Water X=Other	POSSIBLE SAMPLE HAZARDS/REMARKS *Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA	PRESERVATION HNO3 to pH <2	HOLDING TIME 6 Months	TYPE OF CONTAINER G/P	NO. OF CONTAINER(S) 1	VOLUME 500ml	SAMPLE ANALYSIS 6020_METALS_ICPMS: COMMON (Chromium);
SPECIAL HANDLING AND/OR STORAGE							
SAMPLE NO. B353W4 (5)	MATRIX* WATER	SAMPLE DATE APR 04 2016	SAMPLE TIME 0851				

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CHAIN OF POSSESSION		SIGN/PRINT NAMES		SPECIAL INSTRUCTIONS TEST 2	
RELINQUISHED BY/REMOVED FROM K.C. Patterson/CHPRC	DATE/TIME APR 04 2016 1010	RECEIVED BY/STORED IN Frank Hall CHPRC	DATE/TIME APR 04 2016 1010		
RELINQUISHED BY/REMOVED FROM Frank Hall Feden	DATE/TIME APR 04 2016 1100	RECEIVED BY/STORED IN Scott Malby FEDEX	DATE/TIME 4-5-16 0930		
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		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME		
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME		
PRINTED ON 3/22/2016	FSR ID = FSR29106	TRVL NUM = TRVL-16-116	REV 2		

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F16-029-019	PAGE 1 OF 1
COLLECTOR K.C. Patterson/CHPRC	COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC	PRICE CODE C07	DATA TURNAROUND 3 Days / 7 Days
SAMPLING LOCATION 100-DX, Train F valve V-M128F	PROJECT DESIGNATION 100-DX P&T Resin Reconditioning	FIELD LOGBOOK NO. HNF-N-491 15	SAF NO. F16-029	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT FEDERAL EXPRESS
ICE CHEST NO. G-005-397	OFFSITE PROPERTY NO. HNF-N-44.16	ACTUAL SAMPLE DEPTH 2 1/2	COA 302841	BILL OF LADING/AIR BILL NO. 176033824715	
SHIPPED TO ALS Environmental Ft. Collins	PRESERVATION HNO3 to pH <2	HOLDING TIME 6 Months	NO. OF CONTAINER(S) 1	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 regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA	VOLUME 500ml	SAMPLE ANALYSIS 6020. METALS ICPMS: COMMON (Chromium);	SAMPLE DATE APR 04 2016	SAMPLE TIME 0855
SPECIAL HANDLING AND/OR STORAGE		WATER			
B353WG	(6)	✓			

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CHAIN OF POSSESSION		SIGN/PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM K.C. Patterson/CHPRC	DATE/TIME APR 04 2016 1010	RECEIVED BY/STORED IN Frank Hall CHPRC	DATE/TIME APR 04 2016 1010	TEST 2	
RELINQUISHED BY/REMOVED FROM Frank Hall	DATE/TIME APR 04 2016 0930	RECEIVED BY/STORED IN FEDEX Scott McIlroy	DATE/TIME APR 04 2016 0930		
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		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME		
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME		

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F16-029-021	PAGE 1 OF 1
COLLECTOR	K.C. Patterson/CHPRC	COMPANY CONTACT	SUMNER, LC	TELEPHONE NO.	376-3922
SAMPLING LOCATION	100-DX, Train F valve V-M228F	PROJECT DESIGNATION	100-DX P&T Resin Reconditioning	PROJECT COORDINATOR	SUMNER, LC
ICE CHEST NO.	GWS-397	FIELD LOGBOOK NO.	HNF-N-49115	SAF NO.	F16-029
SHIPPED TO	ALS Environmental Ft. Collins	OFFSITE PROPERTY NO.	6487	COA	302841
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	PRESERVATION	HNO3 to pH <2	METHOD OF SHIPMENT	FEDERAL EXPRESS
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	HOLDING TIME	6 Months	BILL OF LADING/AIR BILL NO.	7760 33824715
SPECIAL HANDLING AND/OR STORAGE		TYPE OF CONTAINER	G/P		
		NO. OF CONTAINER(S)	1		
		VOLUME	500mL		
		SAMPLE ANALYSIS	6020 METALS, ICPMS, CHROMIUM (Chromium);		
SAMPLE NO.	7	MATRIX*	WATER		
B353W8		SAMPLE DATE	APR 04 2016		
		SAMPLE TIME	0856		

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CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TEST 2	DATE/TIME
K.C. Patterson/CHPRC	APR 04 2016 1010	Frank Hall	APR 04 2016 1010		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
Frank Hall	APR 04 2016 1400	FEDEX			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
FEDEX	4-5-16 0930	Scott Melby	4-5-16 0930		
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		
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		F16-029-023	PAGE 1 OF 1
COLLECTOR	K.C. Patterson/CHPRC	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE
SAMPLING LOCATION	100-DX, Train F valve V-M328F	SUMNER, LC	376-3922	SUMNER, LC	C07
ICE CHEST NO.	Gws-397	PROJECT DESIGNATION	ACTUAL SAMPLE DEPTH	SAF NO.	AIR QUALITY
SHIPPED TO	ALS Environmental Ft. Collins	100-DX, P&T Resin Reconditioning	N/A	F16-029	<input type="checkbox"/>
MATRIX*	A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SF=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	FIELD LOGBOOK NO.	COA	METHOD OF SHIPMENT	DATA TURNAROUND 3 Days / 7 Days
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	HNF-N-49115	302841	FEDERAL EXPRESS	ORIGINAL
SPECIAL HANDLING AND/OR STORAGE		OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.		
		6487	7760 33824715		

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PRESERVATION	HOLDING TIME	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS	SAMPLE DATE	SAMPLE TIME
HNO3 to pH <2	6 Months	G/P	1	500mL	6020, METALS, ICPMS, COMMON (Chromium);	APR 04 2016	0858

SPECIAL INSTRUCTIONS

TEST 2

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM K.C. Patterson/CHPRC	<i>[Signature]</i>	Frank Hall	APR 04 2016 1010
RELINQUISHED BY/REMOVED FROM Frank Hall	<i>[Signature]</i>	FEDEX	APR 04 2016 1400
RELINQUISHED BY/REMOVED FROM Frank Hall	<i>[Signature]</i>	Scott Malby	4-5-16 0930
RELINQUISHED BY/REMOVED FROM FEDEX	<i>[Signature]</i>	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM		RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM		RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM		RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM		RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM		RECEIVED BY/STORED IN	DATE/TIME

TITLE

DATE/TIME

DISPOSED BY

DATE/TIME

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CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F16-029-025	PAGE 1 OF 1
COLLECTOR K.C. Patterson/CHPRC	COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC	PRICE CODE C07	DATA TURNAROUND 3 Days / 7 Days
SAMPLING LOCATION 100-DX, Train F valve V-M428F	PROJECT DESIGNATION 100-DX P&T Resin Reconditioning	FIELD LOGBOOK NO. HNF-N-49115	SAF NO. F16-029	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT FEDERAL EXPRESS
ICE CHEST NO. Gws-397	ACTUAL SAMPLE DEPTH N/A	COA 302841	BILL OF LADING/AIR BILL NO. 776033824715	ORIGINAL	

MATRIX* A=Air DL=Drum L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	OFFSITE PROPERTY NO. 6407	PRESCRIPTION HNO3 to pH <2	HOLDING TIME 6 Months	TYPE OF CONTAINER G/P	NO. OF CONTAINER(S) 1	VOLUME 500ml	SAMPLE ANALYSIS 6020. METALS: ICPMS: COMMON (Chromium);
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	SAMPLE DATE APR 04 2016	SAMPLE TIME 0900				
SAMPLE NO. B353X2	MATRIX* WATER						

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CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TEST 2	
RELINQUISHED BY/REMOVED FROM K.C. Patterson/CHPRC	DATE/TIME APR 04 2016 1010	RECEIVED BY/STORED IN Frank Hall CHPRC	DATE/TIME APR 04 2016 100		
RELINQUISHED BY/REMOVED FROM Frank Hall CHPRC	DATE/TIME APR 04 2016 0930	RECEIVED BY/STORED IN FEDEX	DATE/TIME 4-5-16 0930		
RELINQUISHED BY/REMOVED FROM Felex	DATE/TIME 4-5-16 0930	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		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY RECEIVED BY	TITLE				
SECTION	DISPOSED BY				
FINAL SAMPLE DISPOSITION	DATE/TIME				

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CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	
COLLECTOR K.C. Patterson/CHPRC	COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC
SAMPLING LOCATION 100-DX, Train F valve V-M428F -- DUP	PROJECT DESIGNATION 100-DX P&T Resin Reconditioning	SAF NO. F16-029	PRICE CODE C07
ICE CHEST NO. GWS-397	FIELD LOGBOOK NO. HNF-N-491 15	ACTUAL SAMPLE DEPTH N/A	AIR QUALITY <input type="checkbox"/>
SHIPPED TO ALS Environmental Ft. Collins	OFFSITE PROPERTY NO. 6489	COA 302841	METHOD OF SHIPMENT FEDERAL EXPRESS
		BILL OF LADING/AIR BILL NO. 776033824715	PAGE 1 OF 1

MATRIX* A=Air DL=Drum 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	PRESERVATION HNO3 to pH <2	HOLDING TIME 6 Months	TYPE OF CONTAINER G/P	NO. OF CONTAINER(S) 1	VOLUME 500ml	SAMPLE ANALYSIS 6020, METALS-ICPMS: COMMON (Chromium);
SPECIAL HANDLING AND/OR STORAGE							
SAMPLE NO. B353X4 (10)	MATRIX* WATER	SAMPLE DATE APR 04 2016	SAMPLE TIME 0900				<input checked="" type="checkbox"/>

1604057

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM K.C. Patterson/CHPRC	DATE/TIME APR 04 2016 1010	RECEIVED BY/STORED IN CHPRC	DATE/TIME APR 04 2016 1010	TEST 2	
RELINQUISHED BY/REMOVED FROM K.C. Patterson/CHPRC	DATE/TIME APR 04 2016 1100	RECEIVED BY/STORED IN FEDEX	DATE/TIME APR 04 2016 1100		
RELINQUISHED BY/REMOVED FROM Felix	DATE/TIME 4-5-16 0930	RECEIVED BY/STORED IN Stacy Mally	DATE/TIME 4-5-16 0930		
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		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME		
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME		



ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: CHPRC

Workorder No: 1604057

Project Manager: JME

Initials: SDM Date: 4-5-16

1. Does this project require any special handling in addition to standard ALS procedures?		YES	<input checked="" type="radio"/> NO
2. Are custody seals on shipping containers intact?	NONE	<input checked="" type="radio"/> YES	NO
3. Are Custody seals on sample containers intact?	NONE	<input checked="" type="radio"/> YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		<input checked="" type="radio"/> YES	NO
5. Are the COC and bottle labels complete and legible?		<input checked="" type="radio"/> YES	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		<input checked="" type="radio"/> YES	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	YES	<input checked="" type="radio"/> NO
9. Are all aqueous non-preserved samples pH 4-9?	N/A	<input checked="" type="radio"/> YES	NO
10. Is there sufficient sample for the requested analyses?		<input checked="" type="radio"/> YES	NO
11. Were all samples placed in the proper containers for the requested analyses?		<input checked="" type="radio"/> YES	NO
12. Are all samples within holding times for the requested analyses?		<input checked="" type="radio"/> YES	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		<input checked="" type="radio"/> YES	NO
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: _____ < green pea _____ > green pea	<input checked="" type="radio"/> N/A	YES	NO
15. Do any water samples contain sediment? Amount of sediment: _____ dusting _____ moderate _____ heavy	Amount N/A	YES	<input checked="" type="radio"/> NO
16. Were the samples shipped on ice?		YES	<input checked="" type="radio"/> NO
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: <input checked="" type="radio"/> #2 #4	RAD ONLY	YES	<input checked="" type="radio"/> NO
Cooler #: <u>1</u>			
Temperature (°C): <u>Amb → 16.4°</u>			
No. of custody seals on cooler: <u>2</u>			
External µR/hr reading: <u>11</u>			
Background µR/hr reading: <u>11</u>			
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> YES / NO / NA (If no, see Form 008.)			

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

0) see attached pH excursion sheet.

If applicable, was the client contacted? YES / NO / NA Contact: S. Fitzgerald Date/Time: 4-5-16

Project Manager Signature / Date: [Signature] 4-5-16

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

1604057

Page 1 of 2

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

SHIP DATE: 04APR16
ACTWGT: 25.00 LB
CAD: 107066051/INET3730

BILL THIRD PARTY

TO JULIE ELLINGSON
ALS GLOBAL
225 COMMERCE DRIVE

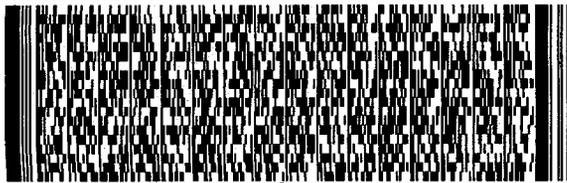
11
-2

540111042727F

FORT COLLINS CO 80524

(970) 490-1511 REF: PTR# 6487

INV. PO. DEPT.



Amb -> 16.4c

TUE - 05 APR 10:30A

PRIORITY OVERNIGHT

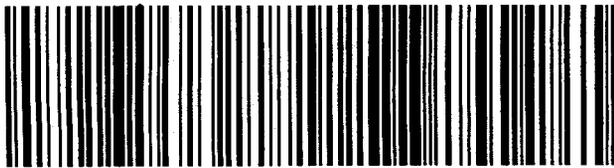
TRK# 7760 3382 4715
0201

DSR

80524

XH FTCA

CO-US DEN





Metals Case Narrative

CH2M HILL Plateau Remediation Company

100-DX P&T Resin Reconditioning -- F16-029

Work Order Number: 1604057

1. This report consists of 10 water samples.
2. The samples were received intact at ambient temperature by ALS on 04/05/16.
3. The samples did not have a pH less than 2 upon receipt. All samples were preserved with nitric acid to a pH less than 2 upon receipt.
4. The samples were prepared and analyzed based on SW-846, 3rd Edition procedures.

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

5. Analysis by ICP-MS followed method 6020A and the current revision of SOP 827.
6. All standards and solutions are NIST traceable and were used within their recommended shelf life.
7. The samples were prepared and analyzed within the established hold times.

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

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



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

9. Matrix specific quality control procedures.

Sample 1604057-1 was designated as the quality control sample for this analysis.

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

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

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

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



Jill Latelle
Inorganics Primary Data Reviewer

4/11/16
Date



Jeff Kja
Inorganics Final Data Reviewer

4/11/16
Date



Inorganic Data Reporting Qualifiers

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

- Result qualifier -- A "B" is entered if the reported value was obtained from a reading that was less than the Reporting Limit but greater than or equal to the Method Detection Limit (MDL). If the analyte was analyzed for but not detected a "U" is entered. For samples, negative values are reported as non-detects ("U" flagged). For blanks, if the absolute value of the negative value is above the MDL and below the reporting limit, then the result is "B" flagged.
- QC qualifier -- Specified entries and their meanings are as follows:
 - E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.
 - M - Duplicate injection precision was not met.
 - N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.
 - Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.
 - * - Duplicate analysis (relative percent difference) not within control limits.
 - S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.
 - C - The analyte was detected in both the sample and the associated QC blank, and the sample concentration was $\leq 5X$ 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 Recoverable CHROMIUM

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Client Name: CH2M HILL Plateau Remediation Company
Client Project ID: 100-DX P&T Resin Reconditioning F16-029
Work Order Number: 1604057 **Final Volume:** 50 ml
Reporting Basis: As Received **Matrix:** WATER
Analyst: Brent A. Stanfield **Result Units:** UG/L

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Flag	Sample Aliquot
B353V6	1604057-1	4/4/2016	4/6/2016	04/07/2016	N/A	10	18	10	1.1		50 ml
B353V8	1604057-2	4/4/2016	4/6/2016	04/07/2016	N/A	10	98	10	1.1		50 ml
B353W0	1604057-3	4/4/2016	4/6/2016	04/07/2016	N/A	10	1.1	10	1.1	U	50 ml
B353W2	1604057-4	4/4/2016	4/6/2016	04/07/2016	N/A	10	22	10	1.1		50 ml
B353W4	1604057-5	4/4/2016	4/6/2016	04/07/2016	N/A	10	11	10	1.1		50 ml
B353W6	1604057-6	4/4/2016	4/6/2016	04/07/2016	N/A	10	24	10	1.1		50 ml
B353W8	1604057-7	4/4/2016	4/6/2016	04/07/2016	N/A	10	150	10	1.1		50 ml
B353X0	1604057-8	4/4/2016	4/6/2016	04/07/2016	N/A	10	24	10	1.1		50 ml
B353X2	1604057-9	4/4/2016	4/6/2016	04/07/2016	N/A	10	10	10	1.1		50 ml
B353X4	1604057-10	4/4/2016	4/6/2016	04/07/2016	N/A	10	9.2	10	1.1	B	50 ml

Comments:

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

Data Package ID: *im1604057-1*

ALS1604057_R1

ICPMS Metals

Method SW6020A

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1604057

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 100-DX P&T Resin Reconditioning F16-029

Lab ID: IP160406-3MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 06-Apr-16

Date Analyzed: 07-Apr-16

Prep Batch: IP160406-3

QCBatchID: IP160406-3-3

Run ID: IM160407-11A4

Cleanup: NONE

Basis: N/A

File Name: 030SMPL_

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-47-3	CHROMIUM	10	1.1	10	1.1	U	

Data Package ID: im1604057-1

ALS1604057_R1

ICPMS Metals

Method SW6020A

Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1604057

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 100-DX P&T Resin Reconditioning F16-029

Lab ID: IM160406-3LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 04/06/2016

Date Analyzed: 04/07/2016

Prep Method: SW3005A

Prep Batch: IP160406-3

QCBatchID: IP160406-3-3

Run ID: IM160407-11A4

Cleanup: NONE

Basis: N/A

File Name: 031SMPL_

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7440-47-3	CHROMIUM	500	491	10		98	80 - 120%

Data Package ID: *im1604057-1*

ALS1604057_R1

ICPMS Metals

Method SW6020A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1604057

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 100-DX P&T Resin Reconditioning F16-029

Field ID: B353V6

LabID: 1604057-1MS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 04-Apr-16

Date Extracted: 06-Apr-16

Date Analyzed: 07-Apr-16

Prep Method: SW3005 Rev A

Prep Batch: IP160406-3

QCBatchID: IP160406-3-3

Run ID: IM160407-11A4

Cleanup: NONE

Basis: As Received

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: UG/L

File Name: 050SMPL_

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7440-47-3	CHROMIUM	18		542		10	500	105	75 - 125%

Field ID: B353V6

LabID: 1604057-1MSD

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 04-Apr-16

Date Extracted: 06-Apr-16

Date Analyzed: 07-Apr-16

Prep Method: SW3005 Rev A

Prep Batch: IP160406-3

QCBatchID: IP160406-3-3

Run ID: IM160407-11A4

Cleanup: NONE

Basis: As Received

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: UG/L

File Name: 051SMPL_

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7440-47-3	CHROMIUM	489		500	94	10	20	10

Data Package ID: *im1604057-1*