TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Tel: (314)298-8566

TestAmerica Job ID: 160-16744-1
TestAmerica Sample Delivery Group: SL2158
Client Project/Site: F16-020

For:
CH2M Hill Plateau Remediation Company
PO BOX 1600, MS H8-41
Richland, Washington 99352

Attn: Mr. Scot Fitzgerald

Authorized for release by:
4/25/2016 3:10:29 PM

Jayna Awalt, Project Manager II
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Case Narrative

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-020

TestAmerica Job ID: 160-16744-1
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Job ID: 160-16744-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

CH2MHill Plateau Remediation Company
P.O. Box 1600
Richland, Washington 99352
April 25, 2016
Attention: Scot Fitzgerald

SDG	: SL2158
Number of Samples	: 2 samples
Sample Matrix	: Soil
Data Deliverable	: Summary
Date SDG Closed	: March 31, 2016

II. Introduction

On March 31, 2 samples were received by TestAmerica - St. Louis for chemical analysis. The samples were received within temperature criteria. See the COC and receipt checklists for documentation of any variations on receipt conditions and temperature. Upon receipt, samples were given laboratory Ids to correspond with specific client Ids. Please refer to the Sample Summary sheets attached to this case narrative. This report is incomplete without the narrative.

The following SAFs are associated with this SDG: F16-020

III. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data includes sample identification information, analytical results and the appropriate detection limits. All results are based upon samples as they were received, i.e. wet weight, unless otherwise noted on the data sheets. See the attached Methods Summary Form for the methods used in this SDG.

MS/MSD/Dup analysis was done per the client requirements. Analytical batches that did not contain matrix QC were analyzed with an LCS/LCS duplicate.

Note: For Metals analyses, per standard practice, all 6020 water and soil samples are initially prepared at 2x dilution. This standard dilution does not affect reporting limits as MDL studies are also prepared in the same manner. These dilutions do not necessitate flagging unless otherwise noted in the case narrative.

For solid matrices, all Metals analyses (including Hg) use a Standard Reference Material for the Laboratory Control Sample (LCS). Certificate for this source material may be obtained from TASL.

For Anion analysis, samples have been started at a 2x dilution per CHPRC direction. The samples are flagged accordingly with a “D” flag if sample concentration is above the MDL/RL. Non-conformance will be included in the below section only if dilution is greater than 2x.

For WTPH methods, the lab utilizes method 8015B. Per CHPRC direction, the method name in the electronic data has been modified to read WTPH in the place of 8015B.

Per CHPRC direction (June 2014), Boron will be reported for Metals using method 6010. Boron will no longer be reported by method 6020.

Per CHPRC direction, due to the short hold times for Nitrate, Nitrite and Phosphate by IC (48 hours) as well as pH analysis (24 hours), a SIR request is not needed when samples are run outside 1x hold but within 2x hold. A narrative comment will be included below if a sample is run outside the lab-specified hold time for waters.

Case Narrative

Job ID: 160-16744-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

For extractable and volatile organic analyses, several analytes are considered poor performers and will not meet CHPRC QC limits. Per CHPRC direction, the lab's statistical limits have been reported. Excursions outside these statistical limits will include a non-conformance in the sections below.

IV. Definitions

QCBLK- Quality Control Blank, Method Blank
QCLCS- Quality Control Laboratory Control Sample, Blank Spike
DUP- Laboratory Duplicate
MS- Matrix Spike
MSD- Matrix Spike Duplicate

The term "Detection Limit" used in the analytical data report refers to either the lab's standard reporting limits or contractually required reporting limits, whichever is applicable.

The following data qualifiers may be applicable to the results in this report, as appropriate.

- **B** - For inorganic analyses, the sample result is greater than the MDL but less than the RL.
- **B** - For organic analyses, Method Blank contamination. The Method Blank contains the target analyte at a concentration above the MDL.
- **J** - For organic analyses, the sample is estimated and less than the RL.
- **C** - For inorganic analyses, Method Blank contamination. The Method Blank contains the target analyte at a concentration above the MDL.
- **D** - For all analyses, the sample result was obtained from the analysis of a dilution. For Metals analyses, per standard practice, all solid samples are initially prepared at a 2x dilution. This standard dilution does not affect reporting limits as MDL studies are also prepared in the same manner. These dilutions do not necessitate qualification unless otherwise noted in the case narrative.
- **N** - For inorganics and GC analyses, the spike/spike duplicate recoveries are outside QC limits.
- **T** - For GCMS analyses, the spike/spike duplicate recoveries are outside QC limits.
- **O**- For all analyses, the LCS (LCSD) recoveries are outside QC limits.
- **M**- For inorganic analyses, the precision was outside control limits.
- **P -** For organic analyses (PCB/Pests only), the aroclor target analyte has greater than 25% difference for detected concentrations between the two GC columns.

Anions

Batch: 244998

The following samples in Anion batch 160-244998 were diluted to bring the concentrations of target analytes within the calibration range: B34T35 (160-16744-2). Elevated reporting limits (RLs) are provided. These analytes have been qualified accordingly with a "D" flag in the associated samples.

The following matrix spike (MS) recovered outside control limits for Nitrite (85%) in Anion batch 160-244998: (160-16744-C-1-C MS). Sample matrix interference is suspected, because the associated laboratory control sample (LCS) recovery was within acceptance limits. This analyte has been qualified accordingly with an "N" flag in the associated samples.

The following samples in Anion batch 160-244998 were analyzed with an initial calibration verification (ICV) that recovered above the upper control limit of 110% for Nitrite, at 111% recovery: B34T33 (160-16744-1) and B34T35 (160-16744-2). However, these samples all have Nitrite results below the reporting limit (RL), and thus were not significantly affected by the potential high bias for Nitrite found in the ICV.

The following samples in Anion batch 160-244998 are linked to a sample/sample duplicate that have an RPD of 23% for Nitrate: B34T33 (160-16744-1), B34T35 (160-16744-2) and (160-16744-C-1-B DU). 23% is acceptable RPD for soil samples, as the RPD limit is 30% for soils. However, method 300 was incorrectly set up to show a 20% RPD limit for soils in the LIMS. This RPD limit for soils is being corrected by the QA department.

ICPMS Metals

Case Narrative

Job ID: 160-16744-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

Batch: 245043

The following samples were diluted due to the nature of the sample matrix. The samples were high in salts, which cause internal standard and QC failures when the samples are run at a lesser dilution: B34T33 (160-16744-1), B34T35 (160-16744-2), (160-16744-B-1-C MS), (160-16744-B-1-D MSD) and (160-16744-B-1-B SD). Elevated reporting limits (RLs) are provided. These analytes have been qualified accordingly with a "D" flag in the associated samples.

Due to the high concentration of aluminum, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 160-244407 and analytical batch 160-245043 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria. (160-16744-B-1-C MS) and (160-16744-B-1-D MSD)

Batch: 246904

The following samples were diluted due to the nature of the sample matrix. The samples were high in salts, which cause internal standard and QC failures when the samples are run at a lesser dilution: B34T33 (160-16744-1), B34T35 (160-16744-2), (160-16694-A-1-B), (160-16694-A-1-C MS), (160-16694-A-1-D MSD) and (160-16694-A-1-B SD). Elevated reporting limits (RLs) are provided. This analyte has been qualified accordingly with a "D" flag in the associated samples.

There were no observations or non-conformances associated with the following methods:

Cyanide

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

Reviewed and approved:

Jayna Awalt
St. Louis Project Manager

SAMPLE ISSUE RESOLUTION

SIR NUM	SIR16-401
REV NUM	0
DATE INITIATED	6/7/2016

SAMPLE EVENT INFORMATION

SAF NUM(S)	F16-020
OPERABLE UNIT(S)	200-DV-1
PROJECT(S)	200-DV-1
SAMPLE EVENT TITLE(S)	200-DV-1 OU Waste Sites
LABORATORY	TestAmerica St. Louis

SAMPLING INFORMATION

NUMBER OF SAMPLES	1
SAMPLE NUMBERS	B34T33
SAMPLE MATRIX	SOIL
COLLECTION DATE	3/29/2016 - 3/29/2016
SDG NUM	SL2158

ISSUE BACKGROUND

CLASS	Laboratory Issue
TYPE	Chain of Custody Issue
DESCRIPTION	COC F16-020-084, SAMPLE B34T33 COC F16-020-086, SAMPLE B34T35 MISSING INFORMATION IN THE SECOND RECEIVED BY BOX.

DISPOSITION

DESCRIPTION	DOCUMENT AND CLOSE
JUSTIFICATION	DOCUMENT AND CLOSE

SUBMITTED BY: Sarah Nagel DATE: 06/01/2015
ACCEPTED BY: Kirsten Killand DATE: 06/07/2015

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 160-16744-1
SDG Number: SL2158

Login Number: 16744
List Number: 1
Creator: Clarke, Jill C

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.3°
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F16-020-084	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE 8H	DATA TURNAROUND
SM SEXTON SL2158	TODAK, D	376-6427	TODAK, D	AIR QUALITY ☐	30 Days / 30 Days
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**		
C9550, Core 27, B34103	200-DV-1 Operable Unit Characterization of Waste Sites Phase 3 Sampling		F16-020		
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH**	**COA**	**METHOD OF SHIPMENT**	ORIGINAL
	N/A	175.5 - 176.5	302914	FEDERAL EXPRESS	
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**		
TestAmerica St. Louis	N/A				

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		Cool <=6C	None	Cool <=6C		
HOLDING TIME		28 Days/48 Hours	6 Months	14 Days		
TYPE OF CONTAINER		G/P	G/P	G/P		
NO. OF CONTAINER(S)		1	1	1		
VOLUME		60mL	60mL	60mL		
SAMPLE ANALYSIS		SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	9012_CYANIDE: COMMON;		
SAMPLE NO.	**MATRIX***	**SAMPLE DATE**	**SAMPLE TIME**			
B34T33	SOIL	3/29/16	1314	X	X	X

CHAIN OF POSSESSION

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
SM SEXTON	3/29/16 1625	J. Bock, TARL	3-29-16 1625
J. Bock TARL	3-30-16 1442		
FEDEX		JILL CLARKE	3.31.16 0918

SPECIAL INSTRUCTIONS
Sample From HEIS #: B34103 Actual Aliquot Collection Depth: 175.5 - 176.5 ft
(1) 300.0_ANIONS_IC: COMMON; 300.0_ANIONS_IC: COMMON (Add-on) {Phosphate};
(2) 6020_METALS_ICPMS: COMMON {Aluminum, Antimony, Barium, Cadmium, Chromium, Copper, Lead, Selenium, Silver}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Manganese, Nickel, Uranium};

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

PRINTED ON 3/16/2016 FSR ID = FSR26365 TRVL NUM = TRVL-16-100 A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company — **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** — F16-020-086 — PAGE 1 OF 1

COLLECTOR SM SEXTON SL2158	**COMPANY CONTACT** TODAK, D	**TELEPHONE NO.** 376-6427	**PROJECT COORDINATOR** TODAK, D	**PRICE CODE** 8H / **DATA TURNAROUND** 30 Days / 30 Days
SAMPLING LOCATION C9550, Core 31, B34111	**PROJECT DESIGNATION** 200-DV-1 Operable Unit Characterization of Waste Sites Phase 3 Sampling		**SAF NO.** F16-020	**AIR QUALITY** ☐
ICE CHEST NO.	**FIELD LOGBOOK NO.** N/A	**ACTUAL SAMPLE DEPTH** 194.0 -196.0	**COA** 302914	**METHOD OF SHIPMENT** FEDERAL EXPRESS **ORIGINAL**
SHIPPED TO TestAmerica St. Louis	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.**	

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS				
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	*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	Cool <=6C	None	Cool <=6C
		HOLDING TIME	28 Days/48 Hours	6 Months	14 Days
		TYPE OF CONTAINER	G/P	G/P	G/P
		NO. OF CONTAINER(S)	1	1	1
		VOLUME	60mL	60mL	60mL
		SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	9012_CYANIDE: COMMON;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B34T35	SOIL	3/29/16	1449	X	X	X

CHAIN OF POSSESSION	DATE/TIME	SIGN/ PRINT NAMES	DATE/TIME
RELINQUISHED BY/REMOVED FROM: SM SEXTON [signature]	3/29/16 1625	RECEIVED BY/STORED IN: [signature] J. Bock, TARL	3-29-16 / 1625
RELINQUISHED BY/REMOVED FROM: [signature] J. Bock TARL	3-30-16 / 1442	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM: FEDEX	DATE/TIME	RECEIVED BY/STORED IN: JILL CLARKE [signature]	3.31.16 0910
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

SPECIAL INSTRUCTIONS

Sample From HEIS #: B34111 Actual Aliquot Collection Depth: 194.0 ~ 196.0

(1) 300.0_ANIONS_IC: COMMON; 300.0_ANIONS_IC: COMMON (Add-on) {Phosphate};

(2) 6020_METALS_ICPMS: COMMON {Aluminum, Antimony, Barium, Cadmium, Chromium, Copper, Lead, Selenium, Silver}; 6020_METALS_ICPMS: COMMON (Add-on) {Arsenic, Manganese, Nickel, Uranium};

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

PRINTED ON 2/29/2016 — **FSR ID = FSR25908** — **TRVL NUM = TRVL-16-100** — A-6003-618 (REV 2)

Track your package or shipment with FedEx Tracking

FedEx ® Tracking

775999164663

Ship date:		Actual delivery:
Wed 3/30/2016		**Thu 3/31/2016 8:45 am**
RICHLAND, WA US	**Delivered** *Signed for by: J.CLARK*	EARTH CITY, MO US

Travel History

Date/Time	Activity	Location
- 3/31/2016 - Thursday		
8:45 am	Delivered	EARTH CITY, MO
8:01 am	On FedEx vehicle for delivery	EARTH CITY, MO
7:55 am	At local FedEx facility	EARTH CITY, MO
6:36 am	At destination sort facility	BERKELEY, MO
5:51 am	Departed FedEx location	MEMPHIS, TN
1:07 am	Arrived at FedEx location	MEMPHIS, TN
- 3/30/2016 - Wednesday		
5:04 pm	Left FedEx origin facility	PASCO, WA
3:42 pm	Shipment information sent to FedEx	
3:20 pm	Picked up	PASCO, WA

Shipment Facts

Tracking number	775999164663	**Service**	FedEx Priority Overnight
Weight	73 lbs / 33.11 kgs	**Delivered To**	Shipping/Receiving
Total pieces	1	**Total shipment weight**	73 lbs / 33.11 kgs
Terms	Recipient	**Shipper reference**	GWS-481
Packaging	Your Packaging	**Special handling section**	Deliver Weekday, Additional Handling Surcharge

Track your package or shipment with FedEx Tracking

FedEx ® Tracking

775999072419

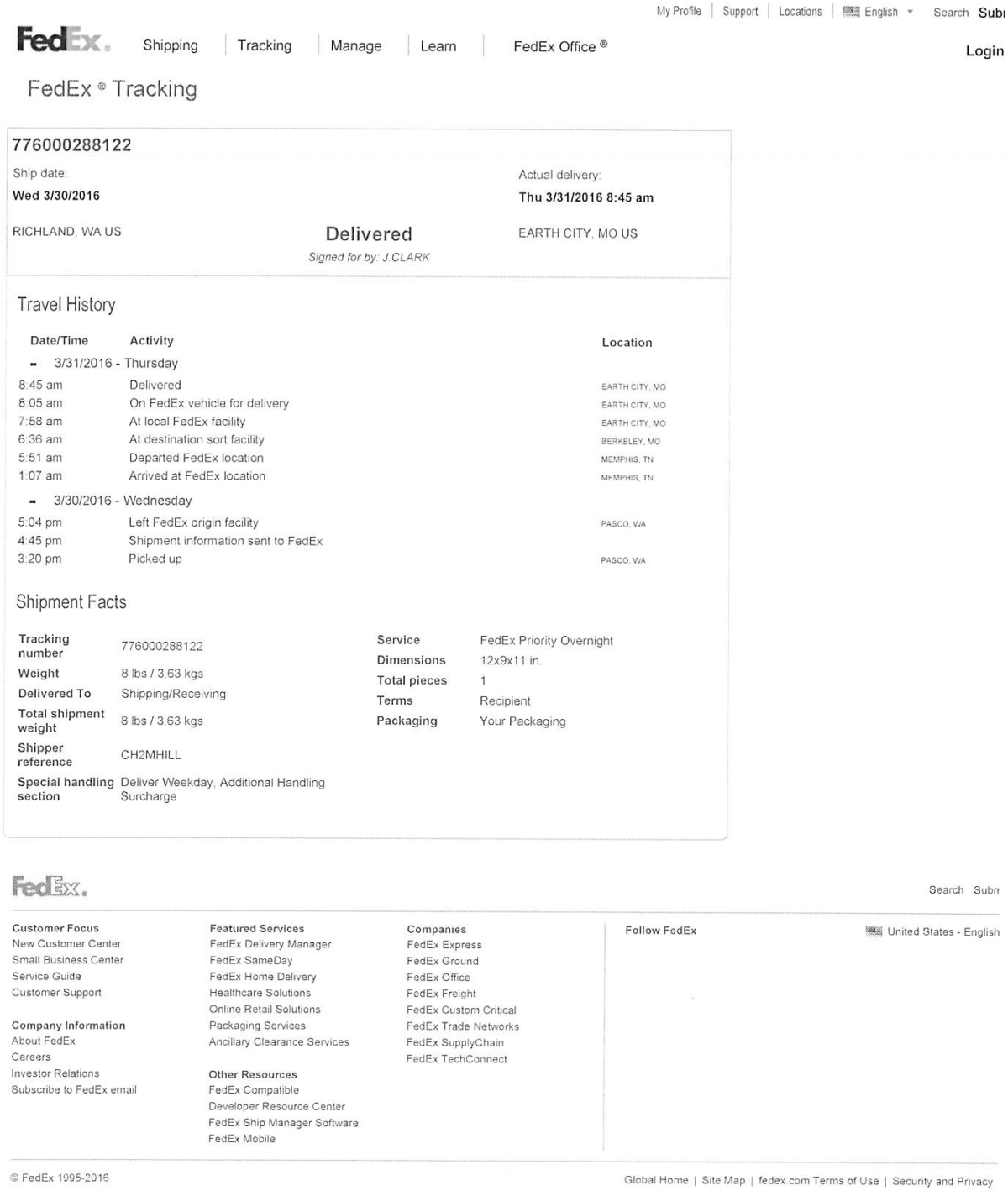
Ship date:		Actual delivery:
Wed 3/30/2016		**Thu 3/31/2016 8:45 am**
RICHLAND, WA US	**Delivered** *Signed for by: J.CLARK*	EARTH CITY, MO US

Travel History

Date/Time	Activity	Location
- 3/31/2016 - Thursday		
8:45 am	Delivered	EARTH CITY, MO
7:36 am	On FedEx vehicle for delivery	EARTH CITY, MO
7:30 am	At local FedEx facility	EARTH CITY, MO
6:36 am	At destination sort facility	BERKELEY, MO
5:51 am	Departed FedEx location	MEMPHIS, TN
1:07 am	Arrived at FedEx location	MEMPHIS, TN
- 3/30/2016 - Wednesday		
5:04 pm	Left FedEx origin facility	PASCO, WA
3:39 pm	Shipment information sent to FedEx	
3:20 pm	Picked up	PASCO, WA

Shipment Facts

Tracking number	775999072419	**Service**	FedEx Priority Overnight
Weight	75 lbs / 34.02 kgs	**Delivered To**	Shipping/Receiving
Total pieces	1	**Total shipment weight**	75 lbs / 34.02 kgs
Terms	Recipient	**Shipper reference**	GWS-504
Packaging	Your Packaging	**Special handling section**	Deliver Weekday, Additional Handling Surcharge



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776000288122

Ship date: Wed 3/30/2016

RICHLAND, WA US

Delivered

Signed for by: J.CLARK

Actual delivery: Thu 3/31/2016 8:45 am

EARTH CITY, MO US

Travel History

Date/Time	Activity	Location
- 3/31/2016 - Thursday		
8:45 am	Delivered	EARTH CITY, MO
8:05 am	On FedEx vehicle for delivery	EARTH CITY, MO
7:58 am	At local FedEx facility	EARTH CITY, MO
6:36 am	At destination sort facility	BERKELEY, MO
5:51 am	Departed FedEx location	MEMPHIS, TN
1:07 am	Arrived at FedEx location	MEMPHIS, TN
- 3/30/2016 - Wednesday		
5:04 pm	Left FedEx origin facility	PASCO, WA
4:45 pm	Shipment information sent to FedEx	
3:20 pm	Picked up	PASCO, WA

Shipment Facts

Tracking number	776000288122	Service	FedEx Priority Overnight
Weight	8 lbs / 3.63 kgs	Dimensions	12x9x11 in.
Delivered To	Shipping/Receiving	Total pieces	1
Total shipment weight	8 lbs / 3.63 kgs	Terms	Recipient
Shipper reference	CH2MHILL	Packaging	Your Packaging
Special handling section	Deliver Weekday, Additional Handling Surcharge		

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Customer Focus
New Customer Center
Small Business Center
Service Guide
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Ancillary Clearance Services

Other Resources
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Developer Resource Center
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Definitions/Glossary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-020

TestAmerica Job ID: 160-16744-1
SDG: SL2158

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
B	Estimated result. Result is less than the RL, but greater than MDL
N	MS, MSD: Spike recovery is outside acceptance limits.
U	Analyzed for but not detected.
D	The reported value is from a dilution.

Metals

Qualifier	Qualifier Description
D	The reported value is from a dilution.
B	Estimated result. Result is less than the RL, but greater than MDL
U	Analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
U	Analyzed for but not detected.
B	Estimated result. Result is less than the RL, but greater than MDL

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-020

TestAmerica Job ID: 160-16744-1
SDG: SL2158

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL SL
6020A	Metals (ICP/MS)	SW846	TAL SL
9012B	Cyanide, Total andor Amenable	SW846	TAL SL
Moisture	Percent Moisture	EPA	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-020

TestAmerica Job ID: 160-16744-1
SDG: SL2158

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-16744-1	B34T33	Soil	03/29/16 13:14	03/31/16 09:10
160-16744-2	B34T35	Soil	03/29/16 14:49	03/31/16 09:10

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-020

TestAmerica Job ID: 160-16744-1
SDG: SL2158

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: B34T33
Date Collected: 03/29/16 13:14
Date Received: 03/31/16 09:10

Lab Sample ID: 160-16744-1
Matrix: Soil
Percent Solids: 95.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.16	B	1.0	0.15	mg/Kg	☼	04/08/16 16:30	04/08/16 19:48	1
Nitrate as N	1.8		0.21	0.057	mg/Kg	☼	04/08/16 16:30	04/08/16 19:48	1
Nitrite as N	0.057	U N	0.21	0.057	mg/Kg	☼	04/08/16 16:30	04/08/16 19:48	1
Sulfate	57		5.2	0.52	mg/Kg	☼	04/08/16 16:30	04/08/16 19:48	1
Chloride	1.9	B	2.1	0.21	mg/Kg	☼	04/08/16 16:30	04/08/16 19:48	1
Phosphate	0.59	U	5.2	0.59	mg/Kg	☼	04/08/16 16:30	04/08/16 19:48	1

Client Sample ID: B34T35
Date Collected: 03/29/16 14:49
Date Received: 03/31/16 09:10

Lab Sample ID: 160-16744-2
Matrix: Soil
Percent Solids: 92.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.47	B	1.1	0.16	mg/Kg	☼	04/08/16 16:30	04/08/16 21:09	1
Nitrite as N	0.092	B N	0.22	0.059	mg/Kg	☼	04/08/16 16:30	04/08/16 21:09	1
Chloride	8.2		2.2	0.22	mg/Kg	☼	04/08/16 16:30	04/08/16 21:09	1
Phosphate	0.61	U	5.4	0.61	mg/Kg	☼	04/08/16 16:30	04/08/16 21:09	1

Method: 300.0 - Anions, Ion Chromatography - DL

Client Sample ID: B34T35
Date Collected: 03/29/16 14:49
Date Received: 03/31/16 09:10

Lab Sample ID: 160-16744-2
Matrix: Soil
Percent Solids: 92.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	140	D	4.3	1.2	mg/Kg	☼	04/08/16 16:30	04/08/16 21:22	20
Sulfate	450	D	110	11	mg/Kg	☼	04/08/16 16:30	04/08/16 21:22	20

Method: 6020A - Metals (ICP/MS)

Client Sample ID: B34T33
Date Collected: 03/29/16 13:14
Date Received: 03/31/16 09:10

Lab Sample ID: 160-16744-1
Matrix: Soil
Percent Solids: 95.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	8080	D	25.8	8.6	mg/Kg	☼	04/06/16 08:49	04/08/16 16:56	10
Antimony	0.30	U	2.3	0.30	mg/Kg	☼	04/12/16 09:00	04/19/16 18:51	10
Arsenic	5.6	D	5.2	1.3	mg/Kg	☼	04/06/16 08:49	04/08/16 16:56	10
Barium	76.8	D	10.3	0.48	mg/Kg	☼	04/06/16 08:49	04/08/16 16:56	10
Cadmium	0.17	B D	0.26	0.082	mg/Kg	☼	04/06/16 08:49	04/08/16 16:56	10
Chromium	11.6	D	5.2	2.3	mg/Kg	☼	04/06/16 08:49	04/08/16 16:56	10
Copper	10.6	D	5.2	0.52	mg/Kg	☼	04/06/16 08:49	04/08/16 16:56	10
Lead	4.2	D	1.5	0.52	mg/Kg	☼	04/06/16 08:49	04/08/16 16:56	10
Manganese	358	D	2.6	0.40	mg/Kg	☼	04/06/16 08:49	04/08/16 16:56	10
Nickel	12.3	D	2.6	0.55	mg/Kg	☼	04/06/16 08:49	04/08/16 16:56	10
Selenium	0.88	B D	2.6	0.81	mg/Kg	☼	04/06/16 08:49	04/08/16 16:56	10
Silver	0.19	B D	1.0	0.12	mg/Kg	☼	04/06/16 08:49	04/08/16 16:56	10
Uranium	0.50	B D	0.52	0.10	mg/Kg	☼	04/06/16 08:49	04/08/16 16:56	10

Client Sample ID: B34T35
Date Collected: 03/29/16 14:49
Date Received: 03/31/16 09:10

Lab Sample ID: 160-16744-2
Matrix: Soil
Percent Solids: 92.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	10300	D	24.2	8.1	mg/Kg	☼	04/06/16 08:49	04/08/16 17:22	10

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-020

TestAmerica Job ID: 160-16744-1
SDG: SL2158

Method: 6020A - Metals (ICP/MS) (Continued)

Client Sample ID: B34T35
Date Collected: 03/29/16 14:49
Date Received: 03/31/16 09:10

Lab Sample ID: 160-16744-2
Matrix: Soil
Percent Solids: 92.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.31	B D	2.3	0.30	mg/Kg	☼	04/12/16 09:00	04/19/16 18:56	10
Arsenic	6.0	D	4.8	1.3	mg/Kg	☼	04/06/16 08:49	04/08/16 17:22	10
Barium	72.4	D	9.7	0.46	mg/Kg	☼	04/06/16 08:49	04/08/16 17:22	10
Cadmium	0.14	B D	0.24	0.077	mg/Kg	☼	04/06/16 08:49	04/08/16 17:22	10
Chromium	16.7	D	4.8	2.2	mg/Kg	☼	04/06/16 08:49	04/08/16 17:22	10
Copper	22.7	D	4.8	0.49	mg/Kg	☼	04/06/16 08:49	04/08/16 17:22	10
Lead	6.1	D	1.5	0.48	mg/Kg	☼	04/06/16 08:49	04/08/16 17:22	10
Manganese	497	D	2.4	0.37	mg/Kg	☼	04/06/16 08:49	04/08/16 17:22	10
Nickel	19.5	D	2.4	0.52	mg/Kg	☼	04/06/16 08:49	04/08/16 17:22	10
Selenium	1.3	B D	2.4	0.77	mg/Kg	☼	04/06/16 08:49	04/08/16 17:22	10
Silver	0.17	B D	0.97	0.12	mg/Kg	☼	04/06/16 08:49	04/08/16 17:22	10
Uranium	0.68	D	0.48	0.096	mg/Kg	☼	04/06/16 08:49	04/08/16 17:22	10

General Chemistry

Client Sample ID: B34T33
Date Collected: 03/29/16 13:14
Date Received: 03/31/16 09:10

Lab Sample ID: 160-16744-1
Matrix: Soil
Percent Solids: 95.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.12	U	0.52	0.12	mg/Kg	☼	04/04/16 15:10	04/04/16 21:52	1

Client Sample ID: B34T35
Date Collected: 03/29/16 14:49
Date Received: 03/31/16 09:10

Lab Sample ID: 160-16744-2
Matrix: Soil
Percent Solids: 92.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.26	B	0.54	0.12	mg/Kg	☼	04/04/16 15:10	04/04/16 21:55	1

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-020

TestAmerica Job ID: 160-16744-1
SDG: SL2158

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 160-244997/1-A
Matrix: Solid
Analysis Batch: 244998

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 244997

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.14	U	1.0	0.14	mg/Kg		04/08/16 16:30	04/08/16 19:22	1
Nitrate as N	0.055	U	0.20	0.055	mg/Kg		04/08/16 16:30	04/08/16 19:22	1
Nitrite as N	0.055	U	0.20	0.055	mg/Kg		04/08/16 16:30	04/08/16 19:22	1
Sulfate	0.50	U	5.0	0.50	mg/Kg		04/08/16 16:30	04/08/16 19:22	1
Chloride	0.20	U	2.0	0.20	mg/Kg		04/08/16 16:30	04/08/16 19:22	1
Phosphate	0.56	U	5.0	0.56	mg/Kg		04/08/16 16:30	04/08/16 19:22	1

Lab Sample ID: LCS 160-244997/2-A
Matrix: Solid
Analysis Batch: 244998

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 244997

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	9.97	9.97		mg/Kg		100	90 - 110
Nitrate as N	3.99	4.05		mg/Kg		102	90 - 110
Nitrite as N	1.60	1.47		mg/Kg		92	90 - 110
Sulfate	79.8	78.9		mg/Kg		99	90 - 110
Chloride	19.9	19.9		mg/Kg		100	90 - 110
Phosphate	79.8	77.7		mg/Kg		97	90 - 110

Lab Sample ID: 160-16744-1 MS
Matrix: Soil
Analysis Batch: 244998

Client Sample ID: B34T33
Prep Type: Total/NA
Prep Batch: 244997

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.16	B	20.8	20.9		mg/Kg	☼	100	90 - 110
Nitrate as N	1.8		4.16	6.00		mg/Kg	☼	101	90 - 110
Nitrite as N	0.057	U N	1.04	0.883	N	mg/Kg	☼	85	90 - 110
Sulfate	57		41.6	97.8		mg/Kg	☼	99	90 - 110
Chloride	1.9	B	20.8	21.9		mg/Kg	☼	96	90 - 110
Phosphate	0.59	U	41.6	40.1		mg/Kg	☼	96	90 - 110

Lab Sample ID: 160-16744-1 DU
Matrix: Soil
Analysis Batch: 244998

Client Sample ID: B34T33
Prep Type: Total/NA
Prep Batch: 244997

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	0.16	B	0.15	U	mg/Kg	☼	NC	20
Nitrate as N	1.8		2.28		mg/Kg	☼	23	20
Nitrite as N	0.057	U N	0.057	U	mg/Kg	☼	NC	20
Sulfate	57		65.3		mg/Kg	☼	14	20
Chloride	1.9	B	2.02	B	mg/Kg	☼	6	20
Phosphate	0.59	U	0.59	U	mg/Kg	☼	NC	20

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-020

TestAmerica Job ID: 160-16744-1
SDG: SL2158

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 160-242926/1-A
Matrix: Solid
Analysis Batch: 246904

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 242926

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.055	U	0.42	0.055	mg/Kg		04/12/16 09:00	04/19/16 17:54	2

Lab Sample ID: LCSSRM 160-242926/2-A
Matrix: Solid
Analysis Batch: 246904

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 242926

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	88.8	152.7		mg/Kg		171.9	22.0 - 259.0

Lab Sample ID: 160-16694-A-1-C MS
Matrix: Solid
Analysis Batch: 246904

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 242926

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.28	U	44.2	42.81	D	mg/Kg	☼	97	75 - 125

Lab Sample ID: 160-16694-A-1-D MSD
Matrix: Solid
Analysis Batch: 246904

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 242926

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.28	U	44.6	43.35	D	mg/Kg	☼	97	75 - 125	1	30

Lab Sample ID: MB 160-244407/1-A
Matrix: Solid
Analysis Batch: 245043

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 244407

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1.5	U	4.4	1.5	mg/Kg		04/06/16 08:49	04/08/16 16:36	2
Arsenic	0.23	U	0.88	0.23	mg/Kg		04/06/16 08:49	04/08/16 16:36	2
Barium	0.083	U	1.8	0.083	mg/Kg		04/06/16 08:49	04/08/16 16:36	2
Cadmium	0.014	U	0.044	0.014	mg/Kg		04/06/16 08:49	04/08/16 16:36	2
Chromium	0.40	U	0.88	0.40	mg/Kg		04/06/16 08:49	04/08/16 16:36	2
Copper	0.089	U	0.88	0.089	mg/Kg		04/06/16 08:49	04/08/16 16:36	2
Lead	0.088	U	0.26	0.088	mg/Kg		04/06/16 08:49	04/08/16 16:36	2
Manganese	0.068	U	0.44	0.068	mg/Kg		04/06/16 08:49	04/08/16 16:36	2
Nickel	0.094	U	0.44	0.094	mg/Kg		04/06/16 08:49	04/08/16 16:36	2
Selenium	0.14	U	0.44	0.14	mg/Kg		04/06/16 08:49	04/08/16 16:36	2
Silver	0.021	U	0.18	0.021	mg/Kg		04/06/16 08:49	04/08/16 16:36	2
Uranium	0.018	U	0.088	0.018	mg/Kg		04/06/16 08:49	04/08/16 16:36	2

Lab Sample ID: LCS 160-244407/2-A
Matrix: Solid
Analysis Batch: 245043

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 244407

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Uranium	96.8	101.1		mg/Kg		104	80 - 120

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-020

TestAmerica Job ID: 160-16744-1
SDG: SL2158

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSSRM 160-244407/3-A
Matrix: Solid
Analysis Batch: 245043

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 244407

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	7460	7215		mg/Kg		96.7	37.3 - 162.2
Arsenic	139	152.9		mg/Kg		110.0	70.4 - 140.3
Barium	203	221.3		mg/Kg		109.0	73.4 - 127.1
Cadmium	96.0	98.13		mg/Kg		102.2	73.2 - 127.1
Chromium	136	144.9		mg/Kg		106.5	69.9 - 129.4
Copper	168	188.6		mg/Kg		112.3	75.6 - 125.0
Lead	133	142.5		mg/Kg		107.1	72.9 - 127.8
Manganese	297	329.6		mg/Kg		111.0	74.4 - 125.6
Nickel	123	135.8		mg/Kg		110.4	73.1 - 128.5
Selenium	177	200.7		mg/Kg		113.4	67.8 - 131.6
Silver	40.2	42.72		mg/Kg		106.3	66.2 - 134.1

Lab Sample ID: 160-16744-1 MS
Matrix: Soil
Analysis Batch: 245043

Client Sample ID: B34T33
Prep Type: Total/NA
Prep Batch: 244407

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	8080	D	923	11260	D	mg/Kg	☼	345	75 - 125
Arsenic	5.6	D	92.3	104.7	D	mg/Kg	☼	107	75 - 125
Barium	76.8	D	92.3	157.8	D	mg/Kg	☼	88	75 - 125
Cadmium	0.17	B D	92.2	94.75	D	mg/Kg	☼	103	75 - 125
Chromium	11.6	D	92.3	114.4	D	mg/Kg	☼	111	75 - 125
Copper	10.6	D	92.3	113.2	D	mg/Kg	☼	111	75 - 125
Lead	4.2	D	92.3	99.72	D	mg/Kg	☼	104	75 - 125
Manganese	358	D	92.3	471.6	D	mg/Kg	☼	123	75 - 125
Nickel	12.3	D	92.3	116.7	D	mg/Kg	☼	113	75 - 125
Selenium	0.88	B D	46.1	48.49	D	mg/Kg	☼	103	75 - 125
Silver	0.19	B D	18.4	19.02	D	mg/Kg	☼	102	75 - 125
Uranium	0.50	B D	92.3	98.92	D	mg/Kg	☼	107	75 - 125

Lab Sample ID: 160-16744-1 MSD
Matrix: Soil
Analysis Batch: 245043

Client Sample ID: B34T33
Prep Type: Total/NA
Prep Batch: 244407

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	8080	D	1020	11070	D	mg/Kg	☼	294	75 - 125	2	30
Arsenic	5.6	D	102	113.5	D	mg/Kg	☼	106	75 - 125	8	30
Barium	76.8	D	102	170.2	D	mg/Kg	☼	92	75 - 125	8	30
Cadmium	0.17	B D	102	105.7	D	mg/Kg	☼	104	75 - 125	11	30
Chromium	11.6	D	102	120.3	D	mg/Kg	☼	107	75 - 125	5	30

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-020

TestAmerica Job ID: 160-16744-1
SDG: SL2158

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 160-16744-1 MSD — **Client Sample ID: B34T33**
Matrix: Soil — **Prep Type: Total/NA**
Analysis Batch: 245043 — **Prep Batch: 244407**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Copper	10.6	D	102	123.9	D	mg/Kg	☼	111	75 - 125	9	30
Lead	4.2	D	102	110.2	D	mg/Kg	☼	104	75 - 125	10	30
Manganese	358	D	102	465.0	D	mg/Kg	☼	105	75 - 125	1	30
Nickel	12.3	D	102	126.2	D	mg/Kg	☼	112	75 - 125	8	30
Selenium	0.88	B D	50.8	54.12	D	mg/Kg	☼	105	75 - 125	11	30
Silver	0.19	B D	20.3	21.04	D	mg/Kg	☼	103	75 - 125	10	30
Uranium	0.50	B D	102	110.6	D	mg/Kg	☼	108	75 - 125	11	30

Method: 9012B - Cyanide, Total andor Amenable

Lab Sample ID: MB 160-244068/14-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 244140 — **Prep Batch: 244068**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.11	U	0.50	0.11	mg/Kg		04/04/16 15:10	04/04/16 21:08	1

Lab Sample ID: HLCS 160-244068/16-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 244140 — **Prep Batch: 244068**

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	4.80	4.65		mg/Kg		97	85 - 115

Lab Sample ID: LCS 160-244068/15-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 244140 — **Prep Batch: 244068**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	2.40	2.21		mg/Kg		92	85 - 115

Lab Sample ID: 160-16655-A-2-I MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 244140 — **Prep Batch: 244068**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.12	U	2.47	2.30		mg/Kg	☼	93	60 - 130

Lab Sample ID: 160-16655-A-2-H DU — **Client Sample ID: Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 244140 — **Prep Batch: 244068**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cyanide, Total	0.12	U	0.12	U	mg/Kg	☼	NC	30

QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-020

TestAmerica Job ID: 160-16744-1
SDG: SL2158

HPLC/IC

Prep Batch: 244997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-16744-1	B34T33	Total/NA	Soil	DILeach_Prep	
160-16744-1 DU	B34T33	Total/NA	Soil	DILeach_Prep	
160-16744-1 MS	B34T33	Total/NA	Soil	DILeach_Prep	
160-16744-2	B34T35	Total/NA	Soil	DILeach_Prep	
160-16744-2 - DL	B34T35	Total/NA	Soil	DILeach_Prep	
LCS 160-244997/2-A	Lab Control Sample	Total/NA	Solid	DILeach_Prep	
MB 160-244997/1-A	Method Blank	Total/NA	Solid	DILeach_Prep	

Analysis Batch: 244998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-16744-1	B34T33	Total/NA	Soil	300.0	244997
160-16744-1 DU	B34T33	Total/NA	Soil	300.0	244997
160-16744-1 MS	B34T33	Total/NA	Soil	300.0	244997
160-16744-2	B34T35	Total/NA	Soil	300.0	244997
160-16744-2 - DL	B34T35	Total/NA	Soil	300.0	244997
LCS 160-244997/2-A	Lab Control Sample	Total/NA	Solid	300.0	244997
MB 160-244997/1-A	Method Blank	Total/NA	Solid	300.0	244997

Analysis Batch: 244999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-16744-1	B34T33	Total/NA	Soil	300.0	244997
160-16744-1 DU	B34T33	Total/NA	Soil	300.0	244997
160-16744-1 MS	B34T33	Total/NA	Soil	300.0	244997
160-16744-2	B34T35	Total/NA	Soil	300.0	244997
160-16744-2 - DL	B34T35	Total/NA	Soil	300.0	244997
LCS 160-244997/2-A	Lab Control Sample	Total/NA	Solid	300.0	244997
MB 160-244997/1-A	Method Blank	Total/NA	Solid	300.0	244997

Metals

Prep Batch: 242926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-16694-A-1-C MS	Matrix Spike	Total/NA	Solid	3050B	
160-16694-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	3050B	
160-16744-1	B34T33	Total/NA	Soil	3050B	
160-16744-2	B34T35	Total/NA	Soil	3050B	
LCSSRM 160-242926/2-A	Lab Control Sample	Total/NA	Solid	3050B	
MB 160-242926/1-A	Method Blank	Total/NA	Solid	3050B	

Prep Batch: 244407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-16744-1	B34T33	Total/NA	Soil	3050B	
160-16744-1 MS	B34T33	Total/NA	Soil	3050B	
160-16744-1 MSD	B34T33	Total/NA	Soil	3050B	
160-16744-2	B34T35	Total/NA	Soil	3050B	
LCS 160-244407/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSSRM 160-244407/3-A	Lab Control Sample	Total/NA	Solid	3050B	
MB 160-244407/1-A	Method Blank	Total/NA	Solid	3050B	

QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-020

TestAmerica Job ID: 160-16744-1
SDG: SL2158

Metals (Continued)

Analysis Batch: 245043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-16744-1	B34T33	Total/NA	Soil	6020A	244407
160-16744-1 MS	B34T33	Total/NA	Soil	6020A	244407
160-16744-1 MSD	B34T33	Total/NA	Soil	6020A	244407
160-16744-2	B34T35	Total/NA	Soil	6020A	244407
LCS 160-244407/2-A	Lab Control Sample	Total/NA	Solid	6020A	244407
LCSSRM 160-244407/3-A	Lab Control Sample	Total/NA	Solid	6020A	244407
MB 160-244407/1-A	Method Blank	Total/NA	Solid	6020A	244407

Analysis Batch: 246904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-16694-A-1-C MS	Matrix Spike	Total/NA	Solid	6020A	242926
160-16694-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	6020A	242926
160-16744-1	B34T33	Total/NA	Soil	6020A	242926
160-16744-2	B34T35	Total/NA	Soil	6020A	242926
LCSSRM 160-242926/2-A	Lab Control Sample	Total/NA	Solid	6020A	242926
MB 160-242926/1-A	Method Blank	Total/NA	Solid	6020A	242926

General Chemistry

Analysis Batch: 243095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-16744-1	B34T33	Total/NA	Soil	Moisture	
160-16744-2	B34T35	Total/NA	Soil	Moisture	
160-16744-2 DU	B34T35	Total/NA	Soil	Moisture	

Prep Batch: 244068

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-16655-A-2-H DU	Duplicate	Total/NA	Solid	9010C	
160-16655-A-2-I MS	Matrix Spike	Total/NA	Solid	9010C	
160-16744-1	B34T33	Total/NA	Soil	9010C	
160-16744-2	B34T35	Total/NA	Soil	9010C	
HLCS 160-244068/16-A	Lab Control Sample	Total/NA	Solid	9010C	
LCS 160-244068/15-A	Lab Control Sample	Total/NA	Solid	9010C	
MB 160-244068/14-A	Method Blank	Total/NA	Solid	9010C	

Analysis Batch: 244140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-16655-A-2-H DU	Duplicate	Total/NA	Solid	9012B	244068
160-16655-A-2-I MS	Matrix Spike	Total/NA	Solid	9012B	244068
160-16744-1	B34T33	Total/NA	Soil	9012B	244068
160-16744-2	B34T35	Total/NA	Soil	9012B	244068
HLCS 160-244068/16-A	Lab Control Sample	Total/NA	Solid	9012B	244068
LCS 160-244068/15-A	Lab Control Sample	Total/NA	Solid	9012B	244068
MB 160-244068/14-A	Method Blank	Total/NA	Solid	9012B	244068