SAF-RC-155
618-10 & 618-11 Field Remediation – Other
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

No Distribution Required KW 1/20/16
INITIAL/DATE

COMMENTS:

SDG JP1021 SAF-RC-155

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Sample Location: 618-10 uranium oxide drums/grout sampling, GR-284s

ANALYTICAL REPORT

Job Number: 280-78844-1

SDG Number: JP1021

Job Description: SAF# RC-155

For:
Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354

Attention: Joan H Kessner

Approved for release.
Kae E Yoder
Senior Project Manager
1/19/2016 4:44 PM

Kae E Yoder, Senior Project Manager
4955 Yarrow Street, Arvada, CO, 80002
(303)736-0190
kae.yoder@testamericainc.com
01/19/2016

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

Table of Contents

Cover Title Page 1
Report Narrative 3
Data Qualifiers 4
Sample Summary 5
Method Summary 6
Method / Analyst Summary 7
Sample Results 8
Sample Datasheets 9
QC Results 10
Qc Reports 11
Qc Association Summary 17
Client Chain of Custody 19
Sample Receipt Checklist 20

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Job Number: 280-78844-1

SDG #: JP1021
SAF#: RC-155

Date SDG Closed: January 14, 2016
Data Deliverable: 3 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1V890	280-78844-1	1311-6010-7470	1311-6010B-7470A

I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed in this Case Narrative. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the signature on the Report Cover.

With exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. All laboratory quality control samples analyzed in conjunction with the samples in this project were within established control limits, with any exceptions noted. Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The sample was received on 1/14/2016 10:20 AM; the sample arrived intact, but at an elevated temperature of 8.5º C. No ice was present in the cooler. The client was notified on 1/15/2016.

TCLP METALS - SW846 1311/6010B/7470A
Serial dilution of a digestate in batch 280-310654 indicates that physical and chemical interferences are present for Barium and Sodium. Results have been flagged with an “X”.

Sodium was recovered outside the control limits, biased high, in the LCS associated with batch 280-310654, and the associated sample result has been flagged “N”. In addition, Sodium is present at a level greater than the reporting limit in the method blank associated with batch 280-310654. The reagent used to make the blank fluid for this TCLP extraction contains Sodium; therefore, data are reported.

It can be noted that the sample amount was greater than four times the spike amount for Sodium in the Matrix Spike performed on sample J1V890; therefore, control limits are not applicable.

No other anomalies were encountered.

DATA REPORTING QUALIFIERS

Client: Washington Closure Hanford

Job Number: 280-78844-1
Sdg Number: JP1021

Lab Section	Qualifier	Description
Metals		
	U	Analyzed for but not detected.
	B	Estimated result. Result is less than the RL, but greater than MDL
	4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
	N	Recovery exceeds upper or lower control limits
	X	Serial dilution in the analytical batch indicates that physical and chemical interferences are present.
	C	The analyte was detected in both the sample and the assoicated QC blank, and the sample concentration was </= 5X the blank concentration.

SAMPLE SUMMARY

Client: Washington Closure Hanford

Job Number: 280-78844-1
Sdg Number: JP1021

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-78844-1	J1V890	Solid	01/11/2016 1525	01/14/2016 1020

METHOD SUMMARY

Client: Washington Closure Hanford

Job Number: 280-78844-1
Sdg Number: JP1021

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
TCLP Metals (ICP)	TAL DEN	SW846 6010B	
TCLP Extraction	TAL DEN		SW846 1311
Preparation, Total Metals	TAL DEN		SW846 3010A
TCLP Mercury	TAL DEN	SW846 7470A	
TCLP Extraction	TAL DEN		SW846 1311
Preparation, Mercury	TAL DEN		SW846 7470A

Lab References:

TAL DEN = TestAmerica Denver

Method References:

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

METHOD / ANALYST SUMMARY

Client: Washington Closure Hanford

Job Number: 280-78844-1
Sdg Number: JP1021

Method	Analyst	Analyst ID
SW846 6010B	Rhoades, Chris R	CRR
SW846 6010B	Scott, Samantha J	SJS
SW846 7470A	Henning, Christopher D	CDH

SAMPLE RESULTS

Client: Washington Closure Hanford

Job Number: 280-78844-1
Sdg Number: JP1021

Client Sample ID: **J1V890**

Lab Sample ID: 280-78844-1
Client Matrix: Solid

Date Sampled: 01/11/2016 1525
Date Received: 01/14/2016 1020

6010B TCLP Metals (ICP)-TCLP

Analysis Method:	6010B	Analysis Batch:	280-310964	Instrument ID:	MT_025
Prep Method:	3010A	Prep Batch:	280-310654	Lab File ID:	25A011816.asc
Dilution:	1.0	Leach Batch:	280-310573	Initial Weight/Volume:	10 mL
Analysis Date:	01/18/2016 0952			Final Weight/Volume:	50 mL
Prep Date:	01/15/2016 1425				
Leach Date:	01/14/2016 1447				

Analyte	DryWt Corrected: N	Result (mg/L)	Qualifier	MDL	RL
Aluminum		0.91	B	0.090	10.0
Antimony		0.016	U	0.016	0.20
Arsenic		0.022	U	0.022	0.50
Barium		3.3	X	0.0020	1.0
Beryllium		0.0020	U	0.0020	0.030
Cadmium		0.0020	U	0.0020	0.10
Chromium		0.076	B	0.0030	0.50
Lead		0.013	U	0.013	0.50
Nickel		0.0089	B	0.0060	0.40
Selenium		0.024	U	0.024	0.10
Silver		0.0040	U	0.0040	0.50
Sodium		1610	C N X	0.46	50.0
Vanadium		0.0060	U	0.0060	0.10
Zinc		0.022	U	0.022	2.0

Analysis Method:	6010B	Analysis Batch:	280-311083	Instrument ID:	MT_025
Prep Method:	3010A	Prep Batch:	280-310654	Lab File ID:	25a011916a.asc
Dilution:	1.0	Leach Batch:	280-310573	Initial Weight/Volume:	10 mL
Analysis Date:	01/19/2016 1444			Final Weight/Volume:	50 mL
Prep Date:	01/15/2016 1425				
Leach Date:	01/14/2016 1447				

Analyte	DryWt Corrected: N	Result (mg/L)	Qualifier	MDL	RL
Thallium		0.024	U	0.024	0.10

7470A TCLP Mercury-TCLP

Analysis Method:	7470A	Analysis Batch:	280-310997	Instrument ID:	MT_034
Prep Method:	7470A	Prep Batch:	280-310830	Lab File ID:	160119ba.txt
Dilution:	1.0	Leach Batch:	280-310573	Initial Weight/Volume:	30 mL
Analysis Date:	01/18/2016 1527			Final Weight/Volume:	50 mL
Prep Date:	01/18/2016 1005				
Leach Date:	01/14/2016 1447				

Analyte	DryWt Corrected: N	Result (mg/L)	Qualifier	MDL	RL
Mercury		0.000030	U	0.000030	0.0020

QUALITY CONTROL RESULTS

Client: Washington Closure Hanford

Job Number: 280-78844-1
Sdg Number: JP1021

TCLP SPLPE Leachate Blank - Batch: 280-310654

Method: 6010B
Preparation: 3010A
TCLP

Lab Sample ID:	LB 280-310573/1-B	Analysis Batch:	280-310964	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-310654	Lab File ID:	25A011816.asc
Dilution:	1.0	Leach Batch:	280-310573	Initial Weight/Volume:	10 mL
Analysis Date:	01/18/2016 0946	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	01/15/2016 1425				
Leach Date:	01/14/2016 1447				

Analyte	Result	Qual	MDL	RL
Aluminum	0.090	U	0.090	10.0
Antimony	0.016	U	0.016	0.20
Arsenic	0.022	U	0.022	0.50
Barium	0.0020	U	0.0020	1.0
Beryllium	0.0020	U	0.0020	0.030
Cadmium	0.0020	U	0.0020	0.10
Chromium	0.0030	U	0.0030	0.50
Lead	0.013	U	0.013	0.50
Nickel	0.0060	U	0.0060	0.40
Selenium	0.024	U	0.024	0.10
Silver	0.0040	U	0.0040	0.50
Sodium	1589		0.46	50.0
Vanadium	0.0060	U	0.0060	0.10
Zinc	0.022	U	0.022	2.0

TCLP SPLPE Leachate Blank - Batch: 280-310654

Method: 6010B
Preparation: 3010A
TCLP

Lab Sample ID:	LB 280-310573/1-B	Analysis Batch:	280-311083	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-310654	Lab File ID:	25a011916a.asc
Dilution:	1.0	Leach Batch:	280-310573	Initial Weight/Volume:	10 mL
Analysis Date:	01/19/2016 1439	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	01/15/2016 1425				
Leach Date:	01/14/2016 1447				

Analyte	Result	Qual	MDL	RL
Thallium	0.024	U	0.024	0.10

Client: Washington Closure Hanford

Job Number: 280-78844-1
Sdg Number: JP1021

Lab Control Sample - Batch: 280-310654

Method: 6010B
Preparation: 3010A
TCLP

Lab Sample ID:	LCS 280-310573/2-B	Analysis Batch:	280-310964	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-310654	Lab File ID:	25A011816.asc
Dilution:	1.0	Leach Batch:	280-310573	Initial Weight/Volume:	10 mL
Analysis Date:	01/18/2016 0949	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	01/15/2016 1425				
Leach Date:	01/14/2016 1447				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	2.00	1.82	91	80 - 120	B
Antimony	0.500	0.531	106	80 - 120	
Arsenic	4.00	3.95	99	80 - 120	
Barium	12.0	11.59	97	80 - 120	
Beryllium	0.0500	0.0488	98	80 - 120	
Cadmium	1.10	1.07	98	80 - 120	
Chromium	5.20	5.02	97	80 - 120	
Lead	5.50	5.24	95	80 - 120	
Nickel	0.500	0.479	96	80 - 120	
Selenium	3.00	2.96	99	80 - 120	
Silver	1.05	1.02	97	80 - 120	
Sodium	50.0	1579	3159	80 - 120	N
Vanadium	0.500	0.450	90	80 - 120	
Zinc	2.50	2.43	97	80 - 120	

Lab Control Sample - Batch: 280-310654

Method: 6010B
Preparation: 3010A
TCLP

Lab Sample ID:	LCS 280-310573/2-B	Analysis Batch:	280-311083	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-310654	Lab File ID:	25a011916a.asc
Dilution:	1.0	Leach Batch:	280-310573	Initial Weight/Volume:	10 mL
Analysis Date:	01/19/2016 1441	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	01/15/2016 1425				
Leach Date:	01/14/2016 1447				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Thallium	2.00	1.93	97	80 - 120	

Client: Washington Closure Hanford

Job Number: 280-78844-1
Sdg Number: JP1021

Matrix Spike - Batch: 280-310654

Method: 6010B
Preparation: 3010A
TCLP

Lab Sample ID:	280-78844-1	Analysis Batch:	280-310964	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-310654	Lab File ID:	25A011816.asc
Dilution:	1.0	Leach Batch:	280-310573	Initial Weight/Volume:	10 mL
Analysis Date:	01/18/2016 1000	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	01/15/2016 1425				
Leach Date:	01/14/2016 1447				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	0.91	B	2.00	2.81	95	80 - 120	B
Antimony	0.016	U	0.500	0.578	116	80 - 120	
Arsenic	0.022	U	4.00	4.18	105	80 - 120	
Barium	3.3		12.0	16.00	105	80 - 120	
Beryllium	0.0020	U	0.0500	0.0517	103	80 - 120	
Cadmium	0.0020	U	1.10	1.16	106	80 - 120	
Chromium	0.076	B	5.20	5.37	102	80 - 120	
Lead	0.013	U	5.50	5.50	100	80 - 120	
Nickel	0.0089	B	0.500	0.512	101	80 - 120	
Selenium	0.024	U	3.00	3.16	105	80 - 120	
Silver	0.0040	U	1.05	1.10	105	80 - 120	
Sodium	1610		50.0	1728	234	80 - 120	C 4
Vanadium	0.0060	U	0.500	0.481	96	80 - 120	
Zinc	0.022	U	2.50	2.48	99	80 - 120	

Matrix Spike - Batch: 280-310654

Method: 6010B
Preparation: 3010A
TCLP

Lab Sample ID:	280-78844-1	Analysis Batch:	280-311083	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-310654	Lab File ID:	25a011916a.asc
Dilution:	1.0	Leach Batch:	280-310573	Initial Weight/Volume:	10 mL
Analysis Date:	01/19/2016 1452	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	01/15/2016 1425				
Leach Date:	01/14/2016 1447				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Thallium	0.024	U	2.00	1.87	94	80 - 120	

Client: Washington Closure Hanford

Job Number: 280-78844-1
Sdg Number: JP1021

Duplicate - Batch: 280-310654

Method: 6010B
Preparation: 3010A
TCLP

Lab Sample ID:	280-78844-1	Analysis Batch:	280-310964	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-310654	Lab File ID:	25A011816.asc
Dilution:	1.0	Leach Batch:	280-310573	Initial Weight/Volume:	10 mL
Analysis Date:	01/18/2016 0957	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	01/15/2016 1425				
Leach Date:	01/14/2016 1447				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Aluminum	0.91	B	0.955	5	20	B
Antimony	0.016	U	0.016	NC	20	U
Arsenic	0.022	U	0.022	NC	20	U
Barium	3.3		3.58	7	20	
Beryllium	0.0020	U	0.0020	NC	20	U
Cadmium	0.0020	U	0.0020	NC	20	U
Chromium	0.076	B	0.0781	3	20	B
Lead	0.013	U	0.013	NC	20	U
Nickel	0.0089	B	0.00780	13	20	B
Selenium	0.024	U	0.024	NC	20	U
Silver	0.0040	U	0.0040	NC	20	U
Sodium	1610		1713	6	20	C N
Vanadium	0.0060	U	0.0060	NC	20	U
Zinc	0.022	U	0.022	NC	20	U

Duplicate - Batch: 280-310654

Method: 6010B
Preparation: 3010A
TCLP

Lab Sample ID:	280-78844-1	Analysis Batch:	280-311083	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-310654	Lab File ID:	25a011916a.asc
Dilution:	1.0	Leach Batch:	280-310573	Initial Weight/Volume:	10 mL
Analysis Date:	01/19/2016 1450	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	01/15/2016 1425				
Leach Date:	01/14/2016 1447				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Thallium	0.024	U	0.024	NC	20	U

Client: Washington Closure Hanford

Job Number: 280-78844-1
Sdg Number: JP1021

TCLP SPLPE Leachate Blank - Batch: 280-310830

Method: 7470A
Preparation: 7470A
TCLP

Lab Sample ID:	LB 280-310573/1-C	Analysis Batch:	280-310997	Instrument ID:	MT_034
Client Matrix:	Solid	Prep Batch:	280-310830	Lab File ID:	160119ba.txt
Dilution:	1.0	Leach Batch:	280-310573	Initial Weight/Volume:	30 mL
Analysis Date:	01/18/2016 1523	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	01/18/2016 1005				
Leach Date:	01/14/2016 1447				

Analyte	Result	Qual	MDL	RL
Mercury	0.000030	U	0.000030	0.0020

Lab Control Sample - Batch: 280-310830

Method: 7470A
Preparation: 7470A
TCLP

Lab Sample ID:	LCS 280-310573/2-C	Analysis Batch:	280-310997	Instrument ID:	MT_034
Client Matrix:	Solid	Prep Batch:	280-310830	Lab File ID:	160119ba.txt
Dilution:	1.0	Leach Batch:	280-310573	Initial Weight/Volume:	30 mL
Analysis Date:	01/18/2016 1525	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	01/18/2016 1005				
Leach Date:	01/14/2016 1447				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.00500	0.00544	109	90 - 116	

Matrix Spike - Batch: 280-310830

Method: 7470A
Preparation: 7470A
TCLP

Lab Sample ID:	280-78844-1	Analysis Batch:	280-310997	Instrument ID:	MT_034
Client Matrix:	Solid	Prep Batch:	280-310830	Lab File ID:	160119ba.txt
Dilution:	1.0	Leach Batch:	280-310573	Initial Weight/Volume:	30 mL
Analysis Date:	01/18/2016 1537	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	01/18/2016 1005				
Leach Date:	01/14/2016 1447				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.000030	U	0.00500	0.00553	111	90 - 116	

Client: Washington Closure Hanford

Job Number: 280-78844-1
Sdg Number: JP1021

Duplicate - Batch: 280-310830

Method: 7470A
Preparation: 7470A
TCLP

Lab Sample ID:	280-78844-1	Analysis Batch:	280-310997	Instrument ID:	MT_034
Client Matrix:	Solid	Prep Batch:	280-310830	Lab File ID:	160119ba.txt
Dilution:	1.0	Leach Batch:	280-310573	Initial Weight/Volume:	30 mL
Analysis Date:	01/18/2016 1530	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	01/18/2016 1005				
Leach Date:	01/14/2016 1447				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Mercury	0.000030	U	0.000030	NC	20	U

Client: Washington Closure Hanford

Job Number: 280-78844-1
Sdg Number: JP1021

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-310573					
LCS 280-310573/2-B	Lab Control Sample	P	Solid	1311	
LCS 280-310573/2-C	Lab Control Sample	P	Solid	1311	
LB 280-310573/1-B	TCLP SPLPE Leachate Blank	P	Solid	1311	
LB 280-310573/1-C	TCLP SPLPE Leachate Blank	P	Solid	1311	
280-78844-1	J1V890	P	Solid	1311	
280-78844-1DU	Duplicate	P	Solid	1311	
280-78844-1MS	Matrix Spike	P	Solid	1311	
Prep Batch: 280-310654					
LCS 280-310573/2-B	Lab Control Sample	P	Solid	3010A	280-310573
LB 280-310573/1-B	TCLP SPLPE Leachate Blank	P	Solid	3010A	280-310573
280-78844-1	J1V890	P	Solid	3010A	280-310573
280-78844-1DU	Duplicate	P	Solid	3010A	280-310573
280-78844-1MS	Matrix Spike	P	Solid	3010A	280-310573
Prep Batch: 280-310830					
LCS 280-310573/2-C	Lab Control Sample	P	Solid	7470A	280-310573
LB 280-310573/1-C	TCLP SPLPE Leachate Blank	P	Solid	7470A	280-310573
280-78844-1	J1V890	P	Solid	7470A	280-310573
280-78844-1DU	Duplicate	P	Solid	7470A	280-310573
280-78844-1MS	Matrix Spike	P	Solid	7470A	280-310573
Analysis Batch:280-310964					
LCS 280-310573/2-B	Lab Control Sample	P	Solid	6010B	280-310654
LB 280-310573/1-B	TCLP SPLPE Leachate Blank	P	Solid	6010B	280-310654
280-78844-1	J1V890	P	Solid	6010B	280-310654
280-78844-1DU	Duplicate	P	Solid	6010B	280-310654
280-78844-1MS	Matrix Spike	P	Solid	6010B	280-310654
Analysis Batch:280-310997					
LCS 280-310573/2-C	Lab Control Sample	P	Solid	7470A	280-310830
LB 280-310573/1-C	TCLP SPLPE Leachate Blank	P	Solid	7470A	280-310830
280-78844-1	J1V890	P	Solid	7470A	280-310830
280-78844-1DU	Duplicate	P	Solid	7470A	280-310830
280-78844-1MS	Matrix Spike	P	Solid	7470A	280-310830
Analysis Batch:280-311083					
LCS 280-310573/2-B	Lab Control Sample	P	Solid	6010B	280-310654
LB 280-310573/1-B	TCLP SPLPE Leachate Blank	P	Solid	6010B	280-310654
280-78844-1	J1V890	P	Solid	6010B	280-310654
280-78844-1DU	Duplicate	P	Solid	6010B	280-310654
280-78844-1MS	Matrix Spike	P	Solid	6010B	280-310654

Client: Washington Closure Hanford

Job Number: 280-78844-1
Sdg Number: JP1021

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch

Report Basis
P = TCLP

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-155-195

Collector: D. Becker	Company Contact: Joan Kessner	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 9A	Data Turnaround: 3 days		
Project Designation: 618-10 & 618-11 Remediation	Sampling Location: 618-10 uranium oxide drums/grout sampling, GR-284S		SAF No.: RC-155
Ice Chest No.: WCH-11-070	Field Logbook No.: EL-1664-01	COA: R618102F20	Method of Shipment: Commercial Carrier
Shipped To: TestAmerica Denver	Offsite Property No.: N/A TRE 1-13-16		Bill of Lading/Air Bill No.: SEE RSR

Other Labs Shipped To: N/A TRE 1-13-16

POSSIBLE SAMPLE HAZARDS/REMARKS
radioactive

Special Handling and/or Storage
trans ship RCF to TA-DEN

Preservation	None	None										
Type of Container	G/P	G/P										
No. of Container(s)	1	0										
Volume	1000mL	1000 mL										
Sample Analysis	See item (1) in Special Instructions	RCF Shipping screen										

280-78844 Chain of Custody

Sample No.	Matrix	Sample Date	Sample Time										
JHV890	OTHER	01/11/16	1525	X	X	39695	3869						

Page 20 of 21

CHAIN OF POSSESSION / Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
DAVID BECKER [signature]	01.11.16 1530	C. Martinez/C. Martinez	01/11/16 1530
C. Martinez/C. Martinez	01/11/16 1550	MO-6107 RMA	01/11/16 1550
MO-6107 RMA	1-12-16 0725	T.R. Edmundson / T.R. Edmundson	1-12-16 0725
T.R. Edmundson / T.R. Edmundson	1-12-16 0800	D. Miller / [signature] (RCF)	1-12-16 0800
[signature] (RCF)	1-13-16/0930	T.R. Edmundson / T.R. Edmundson	1-12-16 1-13-16 0930
T.R. Edmundson / T.R. Edmundson (WCH)	1-13-16 1500	Fred Eff	1-13-16
		[signature]	14Jan16 1020

FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals (TCLP) (Client List) - 1311/6010 {Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Lead, Nickel, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc}; Mercury (TCLP) - 1311/7470 (Client List) {Mercury}

SS IR 70.0
[signature]

REVIEWED BY K Wpeszteb DATE 1-13-16

JP1021

Custodian unavailable to remove samples from controlled storage. Shipper removed samples, taking custody for shipment to lab.

WCH-EE-011

Temp 8.5 IR# 7
CF +0.0 Initials ST
Date: 01/14/16
No ICE
*90 w/permission

Project 28002142
Report Due: 1/19/16
TALs TAT: 3 Day

Sample Check-in List

4AT3

Date/Time Received: 1-14-16 1020 **GM Screen Result** 12 **microR/hr**

Client: Washington Closure Hanford **SDG #:** JP1021 NA[ ] **SAF #:** RC-155 NA [ ]

Job Number: 78844 **Chain of Custody #** ~~JP1021~~ RC-155-195

Shipping Container ID: WCH-11-070 **Air Bill #** 7754 0759 5809

1. Custody Seals on shipping container intact? NA [ ] Yes [✓] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [✓] No [ ]
3. Chain of Custody record present? NA [ ] Yes [✓] No [ ]
4. Cooler Temperature °C: 8.5 NA [ ] 5. Vermiculite/packing materials is NA [✓] Wet [ ] Dry [ ]
6. Number of samples in shipping container: 2
7. Sample holding times exceeded? NA [ ] Yes [ ] No [✓]
8. Samples have:
   - X Tape
   - X Custody Seals
   - X Hazard Labels
   - X Appropriate Sample Labels
9. Samples are:
   - X In Good Condition
   - ____ Broken
   - ____ Leaking
   - ____ Have Air Bubbles (Only for samples requiring no head space.)
10. Sample pH taken? NA [X] pH<2 [ ] pH>2 [ ] pH>9 [ ] **Amount HNO_3 Added** ____
11. Sample Location, Sample Collector Listed? *
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [X] No [ ] 1/14/16
13. Description of anomalies (include sample numbers): Sample not received on ice. Elevated temp of 8.5 KGM 1/15/16

Sample Custodian: [signature] **Date:** 1-14-16

Client Sample ID	Analysis Requested	Condition	Comments/Action
J1V890	TCLP Metals		Proceed w/ analysis

Client Informed on 1-15-16 by KGM Person Contacted Joan Kessner

[X] No action necessary; process as is.

Project Manager [signature] Date 1-15-16

LS-023, Rev. 7, 1/08

ORIGIN ID:PSCA (509) 376-6016
JEFF EHLIS
US DOE C/O WASHINGTON CLOSURE HAN
2355 STEVENS DR BLDG 1162
RICHLAND, WA 99354
UNITED STATES US

SHIP DATE: 13JAN16
ACTWGT: 18.00 LB
CAD: 105266502/INET3670

BILL THIRD PARTY

TO KAE YODER
TEST AMERICA
4955 YARROW ST

ARVADA CO 80002
(303) 736-0190
INV:
PO:
REF: R6181020F20 RMWC-0197
DEPT:

539J1/0E61/3100

FedEx Express

J16301609190 1uv

THU - 14 JAN 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7754 0759 5809

XH WHHA

80002
CO-US DEN

UN2910 RADIOACTIVE MATERIAL,
EXCEPTED PACKAGE-LIMITED
QUANTITY OF MATERIAL

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.