

SAF-RC-189
100N Field Remediation –
Soil Full Protocol
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21

KW 11/1/12
INITIAL/DATE

COMMENTS:

SDG JP0418

SAF-RC-189

Rad only

Chem only

Rad & Chem

Complete

Partial

Sample Location: 120-N-3 Verification Sample

ANALYTICAL REPORT

Job Number: 280-35023-1

SDG Number: JP0418

Job Description: SAF# RC-189

For:

Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354

Attention: Joan H Kessner



Approved for release.
Kae E Yoder
Project Manager II
10/31/2012 11:25 AM

Kae E Yoder
Project Manager II
kae.yoder@testamericainc.com
10/31/2012

The test results in this report relate only to the samples in this report and meet all requirements of NELAP, 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 E87667.

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

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CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-35023-1

SDG #: JP0418

SAF#: RC-189

Date SDG Closed: October 24, 2012

Data Deliverable: 7 Day / Summary

<u>CLIENT ID</u>	<u>LAB ID</u>	<u>ANALYSES REQUESTED</u>	<u>ANALYSES PERFORMED</u>
J1PWD8-A	280-35023-1	9056M/353.2/9045	9056M/353.2/9045C

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.

This report includes reporting limits (RLs) less than TestAmerica Denver's practical quantitation limits. These reporting limits are being used specifically at the client's request to meet the needs of this project. Please note that data are not normally reported to these levels without qualification, since they are inherently less reliable and potentially less defensible than required by the current NELAC standards.

The results, RLs and MDLs included in this report have been adjusted for dry weight, as appropriate.

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 10/24/2012 9:30 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.7° C.

GENERAL CHEMISTRY - MCAWW 353.2 - NITRATE NITRITE as N

The duplicate analysis of sample J1PWD8-A exceeded the RPD limit, and the associated sample result has been flagged "M". There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

GENERAL CHEMISTRY - SW846 9056M - ANIONS

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to high constituent concentration, the Sulfate analysis of sample J1PWD8-A had to be performed at a dilution, and the associated result has been flagged with a "D". The reporting limit has been adjusted relative to the dilution required.

The Matrix Spike performed on sample J1PWD8-A exhibited percent recoveries outside the control limits for Orthophosphate as P, Sulfate and Fluoride, and the associated sample results have been flagged "N". There is no indication that the analytical systems were operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

GENERAL CHEMISTRY - SW846 9045C - PH

SU = standard units

No anomalies were encountered.

DATA REPORTING QUALIFIERS

Client: Washington Closure Hanford

Job Number: 280-35023-1

Sdg Number: JP0418

Lab Section	Qualifier	Description
General Chemistry	U	Analyzed for but not detected.
	B	Estimated result. Result is less than the RL, but greater than MDL
	N	MS, MSD: Spike recovery exceeds upper or lower control limits.
	M	Sample duplicate precision not met.
	D	Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.

METHOD SUMMARY

Client: Washington Closure Hanford

Job Number: 280-35023-1

Sdg Number: JP0418

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Nitrogen, Nitrate-Nitrite	TAL DEN	MCAWW 353.2	
Deionized Water Leaching Procedure	TAL DEN		ASTM DI Leach
pH	TAL DEN	SW846 9045C	
Deionized Water Leaching Procedure	TAL DEN		ASTM DI Leach
Anions, Ion Chromatography	TAL DEN	SW846 9056M	
Deionized Water Leaching Procedure	TAL DEN		ASTM DI Leach
ASTM D-2216	TAL DEN	ASTM D-2216	

Lab References:

TAL DEN = TestAmerica Denver

Method References:

ASTM = ASTM International

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.

METHOD / ANALYST SUMMARY

Client: Washington Closure Hanford

Job Number: 280-35023-1

Sdg Number: JP0418

Method	Analyst	Analyst ID
MCAWW 353.2	Scott, Samantha J	SJS
SW846 9045C	Ayala, Delaina	DA
SW846 9056M	Kudla, Ewa	EK
ASTM D-2216	Graham, Shane	SG

SAMPLE SUMMARY

Client: Washington Closure Hanford

Job Number: 280-35023-1

Sdg Number: JP0418

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-35023-1	J1PWD8-A	Solid	10/22/2012 1404	10/24/2012 0930

SAMPLE RESULTS

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-35023-1
Sdg Number: JP0418

General Chemistry

Client Sample ID: J1PWD8-A

Lab Sample ID: 280-35023-1
Client Matrix: Solid

% Moisture: 3.9

Date Sampled: 10/22/2012 1404
Date Received: 10/24/2012 0930

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Nitrate Nitrite as N-Soluble	0.55	B M	mg/Kg	0.31	0.78	1.0	353.2
	Analysis Batch: 280-144993	Analysis Date: 10/30/2012 1527					DryWt Corrected: Y
Chloride-Soluble	8.8		mg/Kg	1.9	4.9	1.0	9056M
	Analysis Batch: 280-144286	Analysis Date: 10/25/2012 1132					DryWt Corrected: Y
Nitrate as N-Soluble	0.65	B	mg/Kg	0.31	2.5	1.0	9056M
	Analysis Batch: 280-144285	Analysis Date: 10/25/2012 1132					DryWt Corrected: Y
Bromide-Soluble	0.38	U	mg/Kg	0.38	2.0	1.0	9056M
	Analysis Batch: 280-144286	Analysis Date: 10/25/2012 1132					DryWt Corrected: Y
Nitrite as N-Soluble	0.33	U	mg/Kg	0.33	2.5	1.0	9056M
	Analysis Batch: 280-144285	Analysis Date: 10/25/2012 1132					DryWt Corrected: Y
Orthophosphate as P-Soluble	1.2	U N	mg/Kg	1.2	4.9	1.0	9056M
	Analysis Batch: 280-144285	Analysis Date: 10/25/2012 1132					DryWt Corrected: Y
Sulfate-Soluble	2350	D N	mg/Kg	17.0	49.1	10	9056M
	Analysis Batch: 280-144286	Analysis Date: 10/25/2012 1353					DryWt Corrected: Y
Fluoride-Soluble	0.81	U N	mg/Kg	0.81	4.9	1.0	9056M
	Analysis Batch: 280-144286	Analysis Date: 10/25/2012 1132					DryWt Corrected: Y
Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH adj. to 25 deg C-Soluble	6.92		SU	0.100	0.100	1.0	9045C
	Analysis Batch: 280-143965	Analysis Date: 10/24/2012 2117					DryWt Corrected: N
Percent Moisture	3.9		%	0.10	0.10	1.0	D-2216
	Analysis Batch: 280-144066	Analysis Date: 10/25/2012 1106					DryWt Corrected: N

QUALITY CONTROL RESULTS

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-35023-1

Sdg Number: JP0418

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Prep Batch: 280-143906					
LCS 280-143906/1-A	Lab Control Sample	S	Solid	DI Leach	
MB 280-143906/2-A	Method Blank	S	Solid	DI Leach	
280-35023-1	J1PWD8-A	S	Solid	DI Leach	
280-35023-1DU	Duplicate	S	Solid	DI Leach	
280-35023-1MS	Matrix Spike	S	Solid	DI Leach	
Prep Batch: 280-143955					
280-35023-1	J1PWD8-A	S	Solid	DI Leach	
280-35023-1DU	Duplicate	S	Solid	DI Leach	
Analysis Batch:280-143965					
LCS 280-143965/4	Lab Control Sample	T	Water	9045C	
LCSD 280-143965/5	Lab Control Sample Duplicate	T	Water	9045C	
280-35023-1	J1PWD8-A	S	Solid	9045C	
280-35023-1DU	Duplicate	S	Solid	9045C	
Analysis Batch:280-144066					
280-35023-1	J1PWD8-A	T	Solid	D-2216	
280-35023-1DU	Duplicate	T	Solid	D-2216	
Analysis Batch:280-144285					
LCS 280-143906/1-A	Lab Control Sample	S	Solid	9056M	
MB 280-143906/2-A	Method Blank	S	Solid	9056M	
280-35023-1	J1PWD8-A	S	Solid	9056M	
280-35023-1DU	Duplicate	S	Solid	9056M	
280-35023-1MS	Matrix Spike	S	Solid	9056M	
Analysis Batch:280-144286					
LCS 280-143906/1-A	Lab Control Sample	S	Solid	9056M	
MB 280-143906/2-A	Method Blank	S	Solid	9056M	
280-35023-1	J1PWD8-A	S	Solid	9056M	
280-35023-1DU	Duplicate	S	Solid	9056M	
280-35023-1MS	Matrix Spike	S	Solid	9056M	
Prep Batch: 280-144823					
LCS 280-144823/2-A	Lab Control Sample	S	Solid	DI Leach	
MB 280-144823/1-A	Method Blank	S	Solid	DI Leach	
280-35023-1	J1PWD8-A	S	Solid	DI Leach	
280-35023-1DU	Duplicate	S	Solid	DI Leach	
280-35023-1MS	Matrix Spike	S	Solid	DI Leach	

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Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-35023-1

Sdg Number: JP0418

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-144993					
LCS 280-144823/2-A	Lab Control Sample	S	Solid	353.2	
MB 280-144823/1-A	Method Blank	S	Solid	353.2	
280-35023-1	J1PWD8-A	S	Solid	353.2	
280-35023-1DU	Duplicate	S	Solid	353.2	
280-35023-1MS	Matrix Spike	S	Solid	353.2	

Report Basis

S = Soluble

T = Total

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-35023-1
Sdg Number: JP0418

Method Blank - Batch: 280-144993

Method: 353.2
Preparation: N/A

Lab Sample ID:	MB 280-144823/1-A	Analysis Batch:	280-144993	Instrument ID:	WC_Alpha 2
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\1030NXNJ
Dilution:	1.0	Leach Batch:	280-144823	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/30/2012 1524	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	10/30/2012 1044				

Analyte	Result	Qual	MDL	RL
Nitrate Nitrite as N-Soluble	0.31	U	0.31	0.77

Method Reporting Limit Check - Batch: 280-144993

Method: 353.2
Preparation: N/A

Lab Sample ID:	MRL 280-144993/18	Analysis Batch:	280-144993	Instrument ID:	WC_Alpha 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\1030NXNJ
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	10/30/2012 1453	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N-Soluble	0.100	0.116	116	50 - 150	

Lab Control Sample - Batch: 280-144993

Method: 353.2
Preparation: N/A

Lab Sample ID:	LCS 280-144823/2-A	Analysis Batch:	280-144993	Instrument ID:	WC_Alpha 2
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\1030NXNJ
Dilution:	1.0	Leach Batch:	280-144823	Initial Weight/Volume:	100 mL
Analysis Date:	10/30/2012 1526	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	10/30/2012 1044				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N-Soluble	51.5	50.04	97	90 - 110	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-35023-1
Sdg Number: JP0418

Matrix Spike - Batch: 280-144993

Method: 353.2
Preparation: N/A

Lab Sample ID:	280-35023-1	Analysis Batch:	280-144993	Instrument ID:	WC_Alph 2
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\1030NXNJ
Dilution:	1.0	Leach Batch:	280-144823	Initial Weight/Volume:	5 mL
Analysis Date:	10/30/2012 1530	Units:	mg/Kg	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	10/30/2012 1044				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N-Soluble	0.55 B	41.6	39.87	95	90 - 110	

Duplicate - Batch: 280-144993

Method: 353.2
Preparation: N/A

Lab Sample ID:	280-35023-1	Analysis Batch:	280-144993	Instrument ID:	WC_Alph 2
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\1030NXNJ
Dilution:	1.0	Leach Batch:	280-144823	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/30/2012 1529	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	10/30/2012 1044				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Nitrate Nitrite as N-Soluble	0.55 B	0.466	17	10	B M

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-35023-1
Sdg Number: JP0418

**Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-143965**

**Method: 9045C
Preparation: N/A**

LCS Lab Sample ID:	LCS 280-143965/4	Analysis Batch:	280-143965	Instrument ID:	No Equipment
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/24/2012 2115	Units:	SU	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-143965/5	Analysis Batch:	280-143965	Instrument ID:	No Equipment
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/24/2012 2116	Units:	SU	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
pH adj. to 25 deg C-Soluble	101	101	97 - 103	0	5		

Duplicate - Batch: 280-143965

**Method: 9045C
Preparation: N/A**

Lab Sample ID:	280-35023-1	Analysis Batch:	280-143965	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	280-143955	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/24/2012 2118	Units:	SU	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	10/24/2012 2026				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
pH adj. to 25 deg C-Soluble	6.92	6.900	0.3	5	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-35023-1
Sdg Number: JP0418

Method Blank - Batch: 280-144285

Method: 9056M
Preparation: N/A

Lab Sample ID: MB 280-143906/2-A	Analysis Batch: 280-144285	Instrument ID: WC_IC3
Client Matrix: Solid	Prep Batch: N/A	Lab File ID: 119.TXT
Dilution: 1.0	Leach Batch: 280-143906	Initial Weight/Volume: 1.0 mL
Analysis Date: 10/25/2012 1116	Units: mg/Kg	Final Weight/Volume: 1.0 mL
Prep Date: N/A		
Leach Date: 10/24/2012 1509		

Analyte	Result	Qual	MDL	RL
Nitrate as N-Soluble	0.31	U	0.31	2.5
Nitrite as N-Soluble	0.34	U	0.34	2.5
Orthophosphate as P-Soluble	1.2	U	1.2	5.0

Method Reporting Limit Check - Batch: 280-144285

Method: 9056M
Preparation: N/A

Lab Sample ID: MRL 280-144285/3	Analysis Batch: 280-144285	Instrument ID: WC_IC3
Client Matrix: Water	Prep Batch: N/A	Lab File ID: 112.TXT
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 1.0 mL
Analysis Date: 10/25/2012 0919	Units: mg/L	Final Weight/Volume: 5 mL
Prep Date: N/A		
Leach Date: N/A		

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N-Soluble	0.200	0.237	119	50 - 150	B
Nitrite as N-Soluble	0.200	0.209	105	50 - 150	B
Orthophosphate as P-Soluble	0.200	0.19	81	50 - 150	U

Lab Control Sample - Batch: 280-144285

Method: 9056M
Preparation: N/A

Lab Sample ID: LCS 280-143906/1-A	Analysis Batch: 280-144285	Instrument ID: WC_IC3
Client Matrix: Solid	Prep Batch: N/A	Lab File ID: 118.TXT
Dilution: 1.0	Leach Batch: 280-143906	Initial Weight/Volume: 1.0 mL
Analysis Date: 10/25/2012 1059	Units: mg/Kg	Final Weight/Volume: 1.0 mL
Prep Date: N/A		
Leach Date: 10/24/2012 1509		

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N-Soluble	50.0	47.90	96	90 - 110	
Nitrite as N-Soluble	50.0	46.74	93	90 - 110	
Orthophosphate as P-Soluble	50.0	49.46	99	90 - 110	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-35023-1
Sdg Number: JP0418

Matrix Spike - Batch: 280-144285

Method: 9056M
Preparation: N/A

Lab Sample ID:	280-35023-1	Analysis Batch:	280-144285	Instrument ID:	WC_IC3
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	122.TXT
Dilution:	1.0	Leach Batch:	280-143906	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/25/2012 1206	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	10/24/2012 1509				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N-Soluble	0.65 B	49.1	50.21	101	80 - 120	
Nitrite as N-Soluble	0.33 U	49.1	48.76	99	80 - 120	
Orthophosphate as P-Soluble	1.2 U	49.1	8.17	17	80 - 120	N

Duplicate - Batch: 280-144285

Method: 9056M
Preparation: N/A

Lab Sample ID:	280-35023-1	Analysis Batch:	280-144285	Instrument ID:	WC_IC3
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	121.TXT
Dilution:	1.0	Leach Batch:	280-143906	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/25/2012 1149	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	10/24/2012 1509				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Nitrate as N-Soluble	0.65 B	0.677	4	15	B
Nitrite as N-Soluble	0.33 U	0.33	NC	15	U
Orthophosphate as P-Soluble	1.2 U	1.2	NC	15	U

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-35023-1
Sdg Number: JP0418

Method Blank - Batch: 280-144286

Method: 9056M
Preparation: N/A

Lab Sample ID:	MB 280-143906/2-A	Analysis Batch:	280-144286	Instrument ID:	WC_IC3
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	119.TXT
Dilution:	1.0	Leach Batch:	280-143906	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/25/2012 1116	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	10/24/2012 1509				

Analyte	Result	Qual	MDL	RL
Chloride-Soluble	2.0	U	2.0	5.0
Bromide-Soluble	0.39	U	0.39	2.0
Sulfate-Soluble	1.7	U	1.7	5.0
Fluoride-Soluble	0.82	U	0.82	5.0

Method Reporting Limit Check - Batch: 280-144286

Method: 9056M
Preparation: N/A

Lab Sample ID:	MRL 280-144286/3	Analysis Batch:	280-144286	Instrument ID:	WC_IC3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	112.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/25/2012 0919	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chloride-Soluble	1.00	1.19	119	50 - 150	B
Bromide-Soluble	0.200	0.186	93	50 - 150	B
Sulfate-Soluble	1.00	1.09	109	50 - 150	B
Fluoride-Soluble	0.200	0.204	102	50 - 150	B

Lab Control Sample - Batch: 280-144286

Method: 9056M
Preparation: N/A

Lab Sample ID:	LCS 280-143906/1-A	Analysis Batch:	280-144286	Instrument ID:	WC_IC3
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	118.TXT
Dilution:	1.0	Leach Batch:	280-143906	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/25/2012 1059	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	10/24/2012 1509				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chloride-Soluble	250	236.8	95	90 - 110	
Bromide-Soluble	50.0	48.78	98	90 - 110	
Sulfate-Soluble	250	248.5	99	90 - 110	
Fluoride-Soluble	50.0	47.02	94	90 - 110	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-35023-1
Sdg Number: JP0418

Matrix Spike - Batch: 280-144286

Method: 9056M
Preparation: N/A

Lab Sample ID: 280-35023-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 10/25/2012 1206
Prep Date: N/A
Leach Date: 10/24/2012 1509

Analysis Batch: 280-144286
Prep Batch: N/A
Leach Batch: 280-143906
Units: mg/Kg

Instrument ID: WC_IC3
Lab File ID: 122.TXT
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Chloride-Soluble	8.8	245	251.2	99	80 - 120	
Bromide-Soluble	0.38 U	49.1	51.43	105	80 - 120	
Fluoride-Soluble	0.81 U	49.1	26.94	55	80 - 120	N

Matrix Spike - Batch: 280-144286

Method: 9056M
Preparation: N/A

Lab Sample ID: 280-35023-1
Client Matrix: Solid
Dilution: 10
Analysis Date: 10/25/2012 1426
Prep Date: N/A
Leach Date: 10/24/2012 1509

Analysis Batch: 280-144286
Prep Batch: N/A
Leach Batch: 280-143906
Units: mg/Kg

Instrument ID: WC_IC3
Lab File ID: 130.TXT
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Sulfate-Soluble	2350	245	2378	10	80 - 120	D N

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-35023-1

Sdg Number: JP0418

Duplicate - Batch: 280-144286

Method: 9056M

Preparation: N/A

Lab Sample ID:	280-35023-1	Analysis Batch:	280-144286	Instrument ID:	WC_IC3
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	121.TXT
Dilution:	1.0	Leach Batch:	280-143906	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/25/2012 1149	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	10/24/2012 1509				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Chloride-Soluble	8.8	8.82	0.2	15	
Bromide-Soluble	0.38 U	0.38	NC	15	U
Fluoride-Soluble	0.81 U	0.81	NC	15	U

Duplicate - Batch: 280-144286

Method: 9056M

Preparation: N/A

Lab Sample ID:	280-35023-1	Analysis Batch:	280-144286	Instrument ID:	WC_IC3
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	129.TXT
Dilution:	10	Leach Batch:	280-143906	Initial Weight/Volume:	1.0 mL
Analysis Date:	10/25/2012 1410	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	10/24/2012 1509				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Sulfate-Soluble	2350	2363	0.4	15	D

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-35023-1
Sdg Number: JP0418

Duplicate - Batch: 280-144066

Method: D-2216
Preparation: N/A

Lab Sample ID:	280-35023-1	Analysis Batch:	280-144066	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	10/25/2012 1106	Units:	%	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Moisture	3.9	3.8	2	20	

