0090537

SAF-RC-174
ARRA Remaining Sites Confirmation Sampling – Soil Full Protocol
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 9/15/10
INITIAL/DATE

COMMENTS:

SDG J00839 SAF-RC-174

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Sample Location: 100-D-94 Test Pit

RECEIVED
SEP 24 2010
EDMC

Analytical Data Package Prepared For

Washington Closure Hanford

Radiochemical Analysis By

TestAmerica

2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.

Assigned Laboratory Code: TARL

Data Package Contains ____ *Pages*

Report No.: 44653

Results in this report relate only to the sample(s) analyzed.

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
J00839	RC-174	J1C0L5	J0H240419-2	L52MV1AA	9L52MV10	0242356
		J1C0L6	J0H240419-3	L52M01AA	9L52M010	0242356
		J1C0L7	J0H240419-4	L52M11AA	9L52M110	0242356

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

TestAmerica Laboratories, Inc.

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

September 14, 2010

Attention: Joan Kessner

SAF Number	:	RC-174
Date SDG Closed	:	August 23, 2010
Number of Samples	:	Three (3)
Sample Type	:	Soil
SDG Number	:	J00839
Data Deliverable	:	15/15 Summary

CASE NARRATIVE

I. Introduction

On August 23, 2010 three soil samples were received at TestAmerica for chemistry analysis. Upon receipt, the samples were assigned the following laboratory ID number to correspond with the Washington Closure Hanford (WCH) specific ID:

WCH ID#	TARL ID#	MATRIX	DATE OF RECEIPT
J1C0L5	L52MV	SOIL	08/23/10
J1C0L6	L52M0	SOIL	08/23/10
J1C0L7	L52M1	SOIL	08/23/10

II. Sample Receipt

The samples were received in good condition and no anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Chemical Analysis
Hexavalent Chromium by EPA method 7196A

IV. Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

Chemical Analysis
Hexavalent Chromium by EPA method 7196A:
The LCS, batch blank, sample, sample duplicate (J1C0L5) and sample matrix spike (J1C0L5) results are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. 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 following signature.

Reviewed and approved:

Sandra Seger
Project Manager

Drinking Water Method Cross References

	DRINKING WATER ASTM METHOD CROSS REFERENCES	
Referenced Method	**Isotope(s)**	**TestAmerica Richland's SOP No.**
EPA 901.1	Cs-134, I-131	RL-GAM-001
EPA 900.0	Alpha & Beta	RL-GPC-001
EPA 00-02	Gross Alpha (Coprecipitation)	RL-GPC-002
EPA 903.0	Total Alpha Radium (Ra-226)	RL-RA-002
EPA 903.1	Ra-226	RL-RA-001
EPA 904.0	Ra-228	RL-RA-001
EPA 905.0	Sr-89/90	RL-GPC-003
ASTM D5174	Uranium	RL-KPA-003
EPA 906.0	Tritium	RL-LSC-005

Results in this report relate only to the sample(s) analyzed.

Uncertainty Estimation

TestAmerica Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, R = constants * f(x,y,z,...). The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/?n), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

Report Definitions

Action Lev	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
Bias	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or TestAmerica.
Count Error (#s)	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
Total Uncert (#s) ***u_c - Combined Uncertainty.***	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, u_c *the combined uncertainty.* The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
CRDL (RL)	Contractual Required Detection Limit as defined in the Client's Statement Of Work or TestAmerica "default" nominal detection limit. Often referred to the reporting level (RL)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. Lc=(1.645 * Sqrt(2*(BkgrndCnt/BkgrndCntMin)/SCntMin)) * (ConvFct/(Eff*Yld*Abn*Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC|MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. MDC = (4.65 * Sqrt((BkgrndCnt/BkgrndCntMin)/SCntMin) + 2.71/SCntMin) * (ConvFct/(Eff * Yld * Abn * Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the **Work Order** Number.
RER	The equation Replicate Error Ratio = (S-D)/[sqrt($TPUs^2$ + $TPUd^2$)] as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by TestAmerica upon sample receipt.
Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
Work Order	The LIMS software assign test specific identifier.
Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

Sample Results Summary

TestAmerica TARL

Ordered by Method, Batch No., Client Sample ID.

Date: 14-Sep-10

Report No. : 44653

SDG No: J00839

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
0242356	7196_CR6								
	J1C0L5								
	L52MV1AA	HEXCHROME	1.38E-01 +- 0.0E+00	U	mg/kg	N/A	1.38E-01	1.55E-01	
	L52MV1AE	HEXCHROME	1.49E-01 +- 0.0E+00	U	mg/kg	N/A	1.49E-01	3.50E-01	7.7
	J1C0L6								
	L52M01AA	HEXCHROME	1.52E-01 +- 0.0E+00	U	mg/kg	N/A	1.52E-01	1.55E-01	
	J1C0L7								
	L52M11AA	HEXCHROME	1.53E-01 +- 0.0E+00	U	mg/kg	N/A	1.53E-01	1.55E-01	

No. of Results: 4

TestAmerica

rptSTLRchSaSummary2 V5.2.7
A2002

RPD - Relative Percent Difference.

U Qual - Analyzed for but not detected above limiting criteria. Limit criterin is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

QC Results Summary

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Date: 14-Sep-10

Report No. : 44653

SDG No.: J00839

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
7196_CR6								
0242356 BLANK QC,								
L6AK71AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A			1.55E-01
0242356 LCS,								
L6AK71AC	HEXCHROME	1.73E+01 +- 0.0E+00		mg/kg	N/A	87%	-0.1	1.55E-01
0242356 MATRIX SPIKE, J1C0L5								
L52MV1AC	HEXCHROME	9.01E+00 +- 0.0E+00		mg/kg	N/A	87%	-0.1	1.52E-01

No. of Results: 3

TestAmerica
rptSTLRchQcSummary V5.2.7 A2002

Bias - (Result/Expected)-1 as defined by ANSI N13.30.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 14-Sep-10

Lab Name:	TestAmerica	SDG:	J00839	Collection Date:	8/19/2010 2:50:00 PM
Lot-Sample No.:	J0H240419-2	Report No. :	44653	Received Date:	8/23/2010 5:00:00 PM
Client Sample ID:	J1C0L5	COC No. :	RC-174-030	Matrix:	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 0242356	7196_CR6			Work Order:	L52MV1AA		Report DB ID:	9L52MV10				
HEXCHROME	***1.38E-01***	U		0.0E+00	1.38E-01	mg/kg	N/A	*(1.)*	9/7/10 12:00 p		2.808	
							1.55E-01	*N/A*			g	

No. of Results: 1 Comments:

TestAmerica
rptSTLRchSample
V5.2.7 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 14-Sep-10

Lab Name:	TestAmerica	SDG:	J00839	Collection Date:	8/19/2010 3:10:00 PM
Lot-Sample No.:	J0H240419-3	Report No. :	44653	Received Date:	8/23/2010 5:00:00 PM
Client Sample ID:	J1C0L6	COC No. :	RC-174-030	Matrix:	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 0242356	7196_CR6			Work Order:	L52M01AA		Report DB ID:	9L52M010				
HEXCHROME	***1.52E-01***	U		0.0E+00	1.52E-01	mg/kg	N/A	*(1.)*	9/7/10 12:00 p		2.5488	
							1.55E-01	*N/A*			g	

No. of Results: 1 Comments:

TestAmerica
rptSTLRchSample
V5.2.7 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 14-Sep-10

Lab Name:	TestAmerica	SDG:	J00839	Collection Date:	8/19/2010 2:50:00 PM
Lot-Sample No.:	J0H240419-4	Report No. :	44653	Received Date:	8/23/2010 5:00:00 PM
Client Sample ID:	J1C0L7	COC No. :	RC-174-030	Matrix:	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 0242356	7196_CR6			Work Order:	L52M11AA		Report DB ID:	9L52M110				
HEXCHROME	***1.53E-01***	U		0.0E+00	1.53E-01	mg/kg	N/A	*(1.)*	9/7/10 12:00 p		2.5265	
							1.55E-01	*N/A*			g	

No. of Results: 1 Comments:

TestAmerica
rptSTLRchSample
V5.2.7 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

Date: 14-Sep-10

DUPLICATE RESULTS

Lab Name:	TestAmerica	SDG:	J00839	Collection Date:	8/19/2010 2:50:00 PM
Lot-Sample No.:	J0H240419-2	Report No. :	44653	Received Date:	8/23/2010 5:00:00 PM
Client Sample ID:	J1C0L5	COC No. :	RC-174-030	Matrix:	SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 0242356	7196_CR6			Work Order: L52MV1AE		Report DB ID: L52MV1AE			Orig Sa DB ID: 9L52MV10			
HEXCHROME	1.49E-01	U		0.0E+00	1.49E-01	mg/kg	N/A	1.	9/7/10 12:00 p		2.5992	
	1.38E-01	U	RPD 7.7			3.50E-01		N/A			g	

No. of Results: 1 Comments:

TestAmerica
rptSTLRchDupV5.2
.7 A2002

RPD - Relative Percent Difference.
MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

BLANK RESULTS

Date: 14-Sep-10

Lab Name: TestAmerica

Matrix: SOIL

SDG: J00839

Report No. : 44653

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 0242356	7196_CR6			Work Order:	L6AK71AA		Report DB ID:	L6AK71AA				
HEXCHROME	1.55E-01	U		0.0E+00	1.55E-01	mg/kg	N/A	1.	9/7/10 12:00 p		2.5	
						1.55E-01		N/A			g	

No. of Results: 1 Comments:

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

LCS RESULTS

Date: 14-Sep-10

Lab Name: TestAmerica

Matrix: SOIL

SDG: J00839

Report No. : 44653

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 0242356	7196_CR6			Work Order:	L6AK71AC		Report DB ID:	L6AK71AC					
HEXCHROME	1.73E+01			0.0E+00	1.55E-01	mg/kg	N/A	2.00E+01		87%	9/7/10 12:00 p	2.5	
							Rec Limits:	80	120	-0.1		g	

No. of Results: 1 Comments:

TestAmerica Bias - (Result/Expected)-1 as defined by ANSI N13.30.

rptSTLRchLcs
V5.2.7 A2002

FORM II

MATRIX SPIKE RESULTS

Date: 14-Sep-10

Lab Name: TestAmerica

SDG: J00839

Lot-Sample No.: J0H240419-2, J1C0L5

Report No. : 44653

Matrix: SOIL

Parameter	SpikeResult, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Rpt Unit, CRDL	Yield	Rec-overy	Expected, Uncert	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 0242356	Work Order:	L52MV1AC		Report DB ID:	L52MV1AC		Orig Sa DB ID:	9L52MV10				
HEXCHROME	9.01E+00			0.0E+00	1.52E-01	mg/kg	N/A	86.52%	1.04E+01	9/7/10 12:00 p	2.5408	7196_CR6
	1.38E-01										g	

Number of Results: 1

Comments:

TestAmerica
rptSTLRchMs
V5.2.7 A2002

RER - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.
Bias - (Result/Expected)-1 as defined by ANSI N13.30.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Richland Laboratory
Data Review Check List
Hexavalent Chromium

Batch Number(s): **0242356**

Lab Sample Numbers or SDG: JT00839

Method/Test/Parameter: **Cr+6 in SOLID / RL-WC-004**

Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level Review (✓)
A. Initial Calibration				
1. Performed at required frequency with required number of levels?	✓			✓
2. Correlation coefficient within QC limits?	✓			✓
3. Initial calibration verification (ICV) analyzed immediately after calibration and results within QC limits?	✓			✓
4. Initial calibration blank (ICB) analyzed immediately after ICV and concentrations of all parameters ≤ reporting limit?	✓			✓
B. Continuing Calibration				
1. CCV analyzed at required frequency and all parameters within QC limits?	✓			✓
2. CCB analyzed at required frequency and all results ≤ reporting limit?	✓			✓
C. Sample Analysis				
1. Were any samples with concentrations above the linear range for any parameter diluted and reanalyzed?			✓	✓
2. Were all sample holding times met?	✓			✓
D. QC Samples				
1. All results for the preparation blank below limits?	✓			✓
2. MS or MS/MSD recoveries within QC limits and %RPD (for MSD) acceptable?	✓			✓
3. LCS percent recovery within QC limits and %RPD (for LCSD) acceptable?	✓			✓
4. Analytical spikes within QC limits where applicable?	✓			✓
5. ICP only: One serial dilution performed per SDG?			✓	✓
6. ICP only: CRDL standard (CRI or CRA) analyzed at required frequency?			✓	✓
7. ICP only: Interference check samples (ICSA, ICSAB) and HICAL analyzed at the required frequencies and within QC limits?			✓	✓

Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level Review (✓)
E. Other			✓	
1. Are all nonconformances included and noted?				✓
2. Is the correct date and time of analysis shown?		✓		✓
3. Did the analyst sign and date the front page of the analytical run?	✓			✓
4. Correct methodology used?	✓			✓
5. Transcriptions checked?	✓			✓
6. Calculations checked at minimum frequency?	✓			✓
7. Units checked?	✓			✓

Comments on any "No" response:
One hour should be added to the instrument recorded time to account for the daylight saving.

Analyst: _____ Date: 9/7/10
Second-Level Review: _____ Date: 9/8/10

Form CG-191, Rev. 4, 2/03 page 2 of 2

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-174-030	Page 1 of 1

Collector: WT Sexsmith	Company Contact: Joan Kessner	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 8G	Data Turnaround: 15 Days		
Project Designation: ARRA Remaining Sites Confirmation Sampling - Soil Full Pr	Sampling Location: 100-D-94 Test Pit		SAF No.: RC-174
Ice Chest No.: NA	Field Logbook No.: EL-1649	COA: S10D94A000	Method of Shipment: Hand Deliver
Shipped To: TestAmerica Incorporated, Richland	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 C

JOH240419 WCH

JDGJW0839

DUL-90710

Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None						
Type of Container	G/P	G/P	G/P	aG	P						
No. of Container(s)	1	1	1	1	1						
Volume	60mL	60mL	60mL	60mL	500mL						
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	See item (2) in Special Instructions.	VOA - 8260A (TCL)	See item (3) in Special Instructions.						

Sample No.	Matrix *	Sample Date	Sample Time										
J1C0L4	SOIL	8/19/10	1445	✓									EB
J1C0L5	SOIL	8/19/10	1450	✓	✓	✓		L52MV					2m
J1C0L6	SOIL	8/19/10	1510	✓	✓	✓		L52MO					3m
J1C0L7	SOIL	8/19/10	1450	✓	✓	✓		L52M1					D
~~J1C0L8~~ JCD 8/19/10	SOIL												

CHAIN OF POSSESSION	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From: Whitney T. Sexsmith	8/19/10 1520	Received By/Stored In: JCDeBruine	8/19/10 1520
Relinquished By/Removed From: JCDeBruine	8/19/10 1630	Received By/Stored In: J.E. Benthe	8-19-10 1630
Relinquished By/Removed From: J.E. Benthe WCH	8-23-10 1700	Received By/Stored In: Lucas Velazquez	8/23/10 1700
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

(1) ICP Metals - 6010TR (Close-out List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV) {Mercury}

(2) IC Anions - 9056 Modified {Bromide, Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphorous in phosphate, Sulfate}; NO2/NO3 - 353.2; pH (Soil) - 9045

(3) Gamma Spec (Client List) {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gross Alpha & Gross Beta

REVIEWED BY SUD14 DATE 8/23/10

Matrix *: S=Soil, SE=Sediment, SO=Solid, SL=Sludge, W=Water, O=Oil, A=Air, DS=Drum Solids, DL=Drum Liquids, TS=Tissue, WI=Wipe, L=Liquid, V=Vegetation, X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 1700 8/23/10 @ GM Screen Results (out) .3 (in) .4 Initials [✓]

Client: WCh SDG #: JW0839 NA [ ] SAF #: RC-174 NA [ ]

Work Order Number: JOH240419 Chain of Custody # RC-174-028

Shipping Container ID: Hand Delivery [✓] Air Bill # _____ NA [✓]

Item 1 through 5 for shipping container only. Initial appropriate response.

1. Custody Seals on shipping container intact? Yes [✓] No [ ] No Custody Seal [ ]
2. Custody Seals dated and signed? Yes [✓] No [ ] No Custody Seal [ ]
3. Chain of Custody record present? Yes [✓] No [ ]
4. Cooler temperature: 2.0 NA [ ] 5. Vermiculite/packing materials is NA [ ] Wet [ ] Dry [✓]

Item 6 through 10 for samples. Initial appropriate response.

6. Number of samples in shipping container (Each sample may contain multiple bottles): 4
7. Sample holding times exceeded? NA [ ] Yes [ ] No [✓]
8. Samples have:
   - ✓ tape
   - ✓ custody seals
   - ✓ hazard labels
   - ✓ appropriate sample labels
9. Samples are:
   - ✓ in good condition
   - ____ broken
   - (JOPL CG)
   - ____ leaking
   - ____ have air bubbles (Only for samples requiring head space)
10. Sample pH taken? NA [✓] pH<2 [ ] pH>2 [ ] pH>9 [ ] Amount of HNO3 Added _____
11. Sample Location, Sample Collector Listed? * Yes [✓] No [ ]
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [✓]
13. Description of anomalies (include sample numbers): NA [✓] _____

see other side for additional comments

Sample Custodian: Angela Garcia Date: 8/23/10 @ 1700

Client Informed on N/A by N/A Person contacted N/A

[✓] No action necessary; process as is

Project Manager Steger Date 8/24/10

LS-023, Rev. 10, 10/09

8/30/2010 4:30:24 PM

Sample Preparation/Analysis

127642, Washington Closure Hanford LLC
Bechtel Hanford, Inc.

DW Alkaline Digestion by method 3060A
EA Chromium, Hexavalent (7196A)
5I CLIENT: HANFORD

AnalyDueDate: 09/07/2010

Batch: 0242356 **SOIL** **mg/kg** **PM, Quote: SS , 27038**
SEQ Batch, Test: None

Balance Id:
Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech:

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 L52MV-1-AA J0H240419-2-SAMP 08/19/2010 14:50		AmtRec: 1XJAR60MLG		#Containers: 1				Scr:	Alpha:	Beta:
2 L52MV-1-AC-S J0H240419-2-MS 08/19/2010 14:50		AmtRec: 1XJAR60MLG		#Containers: 1				Scr:	Alpha:	Beta:
3 L52MV-1-AD-D J0H240419-2-MSD 08/19/2010 14:50		AmtRec: 1XJAR60MLG		#Containers: 1				Scr:	Alpha:	Beta:
4 L52MV-1-AE-X J0H240419-2-DUP 08/19/2010 14:50		AmtRec: 1XJAR60MLG		#Containers: 1				Scr:	Alpha:	Beta:
5 L52M0-1-AA J0H240419-3-SAMP 08/19/2010 15:10		AmtRec: 1XJAR60MLG		#Containers: 1				Scr:	Alpha:	Beta:
6 L52M1-1-AA J0H240419-4-SAMP 08/19/2010 14:50		AmtRec: 1XJAR60MLG		#Containers: 1				Scr:	Alpha:	Beta:
7 L6AK7-1-AA-B J0H300000-356-BLK 08/30/2010 16:30 pd		AmtRec:		#Containers: 1				Scr:	Alpha:	Beta:

8/30/2010 4:30:24 PM

Sample Preparation/Analysis

DW Alkaline Digestion by method 3060A
EA Chromium, Hexavalent (7196A)
5I CLIENT: HANFORD

Balance Id:
Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech:

AnalyDueDate: 09/07/2010

Batch: 0242356 mg/kg
SEQ Batch, Test: None

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 L6AK7-1-AC-C J0H300000-356-LCS 08/30/2010 16:30 pd		AmtRec:	#Containers: 1					Scr:	Alpha:	Beta:

Comments:

```
All Clients for Batch:
   127642, Washington Closure Hanford LLC          Bechtel Hanford, Inc.        ,  SS , 27038

L52MV1AA-SAMP Constituent List:
  HEXCHROME   RDL:0.1548     mg/kg     LCL:80     UCL:120     RPD:20
L52MV1AC-MS Constituent List:

L52MV1AD-MSD:

L6AK71AA-BLK:

L6AK71AC-LCS:

L52MV1AA-SAMP Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
L52MV1AC-MS Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
L52MV1AD-MSD:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
L6AK71AA-BLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
L6AK71AC-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

TestAmerica

ANALYTICAL REPORT

Job Number: 280-6759-1

SDG Number: J00839

Job Description: SAF# RC-174

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

Attention: Joan H Kessner

Approved for release.
Kae E Yoder
Project Manager II
9/14/2010 10:24 AM

Kae E Yoder
Project Manager II
kae.yoder@testamericainc.com
09/14/2010

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 E87667.

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 5

Method Summary 6

Method / Analyst Summary 7

Sample Summary 8

Sample Results 9

Sample Datasheets 10

QC Results 22

Qc Association Summary 23

Qc Reports 27

Client Chain of Custody 44

Sample Receipt Checklist 45

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-6759-1

SDG #: J00839
SAF#: RC-174

Date SDG Closed: August 26, 2010
Data Deliverable: 15 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1C0L4	280-6759-1	6010/7471	6010B/7471A
J1C0L5	280-6759-2	6010/7471/9056M/353.2/9045	6010B/7471A/9056M/353.2/9045C
J1C0L6	280-6759-3	6010/7471/9056M/353.2/9045	6010B/7471A/9056M/353.2/9045C
J1C0L7	280-6759-4	6010/7471/9056M/353.2/9045	6010B/7471A/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 samples were received on 8/26/2010; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 0.1 C.

TOTAL METALS - SW846 6010B/7471A
Serial dilution of a digestate in batch 280-29651 indicates that physical and chemical interferences are present for Cobalt, Copper, Nickel, Silicon and Zinc. Results have been flagged with an "L".

Due to limited volume available, sample J1C0L5, requesting SW846 6010B analysis, was digested with only 0.61g of sample instead of the method specified 1g. The reporting limits have been adjusted accordingly.

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the methods. Due to high constituent concentration, the Magnesium analysis of samples J1C0L5, J1C0L6 and J1C0L7 had to be performed at 5X dilutions. The reporting limits have been adjusted relative to the dilution required.

Low levels of Barium and Calcium are present in the method blank associated with batch 280-29651. Because the concentrations in the method blank are not present at levels greater than the reporting limits, corrective action is deemed unnecessary. Associated sample results present above the MDL and/or RL have been flagged with a "J".

It can be noted that the sample amount was greater than four times the spike amount for Aluminum, Iron, and Manganese in the Matrix Spike performed on sample J1C0L6; therefore, control limits are not applicable.

The SW846 6010B Matrix Spike performed on sample J1C0L6 exhibited percent recoveries outside the control limits for Calcium and Silicon, and the associated sample results have been flagged "N". 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 - MCAWW 353.2 - NITRATE+NITRITE

The Nitrate Nitrite as N Matrix Spike performed on sample J1C0L5 exhibited the percent recovery outside the control limits, and the associated sample result has been flagged "N". 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.

The Nitrate Nitrite as N duplicate analysis of sample J1C0L5 exhibited RPD data outside the control limits, 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

Low levels of Orthophosphate as P are present in the method blank associated with batch 280-30242. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary. Associated sample results present above the MDL and/or RL have been flagged with a "J".

The Orthophosphate as P duplicate analysis of sample J1C0L5 exhibited RPD data outside the control limits, 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 9045C - PH

No anomalies were encountered.

DATA REPORTING QUALIFIERS

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Lab Section	Qualifier	Description
Metals		
	B	Estimated result. Result is less than the RL, but greater than MDL
	L	Serial dilution in the analytical batch indicates that physical and chemical interferences are present.
	4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
	N	Recovery exceeds upper or lower control limits
	U	Analyzed for but not detected.
	J	Method blank contamination. The assoicated method blank contains the target analyte at a reportable level.
General Chemistry		
	J	Method blank contamination. The assoicated method blank contains the target analyte at a reportable level.
	B	Estimated result. Result is less than the RL, but greater than MDL
	M	Sample duplicate precision not met.
	U	Analyzed for but not detected.
	N	MS, MSD: Spike recovery exceeds upper or lower control limits.

METHOD SUMMARY

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Metals (ICP)	TAL DEN	SW846 6010B	
Preparation, Metals	TAL DEN		SW846 3050B
Mercury (CVAA)	TAL DEN	SW846 7471A	
Preparation, Mercury	TAL DEN		SW846 7471A
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	
Anions, Ion Chromatography	TAL DEN	SW846 9056M	
Deionized Water Leaching Procedure	TAL DEN		ASTM DI Leach
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: 280-6759-1
Sdg Number: J00839

Method	Analyst	Analyst ID
SW846 6010B	Trudell, Lynn-Anne	LT
SW846 6010B	Wells, David	DW
SW846 7471A	Stoltz, Katie	KS
MCAWW 353.2	Stosak, Lara E	LES
SW846 9045C	Kilker, Lorelei M	LMK
SW846 9056M	Kudla, Ewa	EK
ASTM D-2216	Derosia, Marcia R	MRD

SAMPLE SUMMARY

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-6759-1	J1C0L4	Solid	08/19/2010 1445	08/26/2010 0900
280-6759-2	J1C0L5	Solid	08/19/2010 1450	08/26/2010 0900
280-6759-3	J1C0L6	Solid	08/19/2010 1510	08/26/2010 0900
280-6759-4	J1C0L7	Solid	08/19/2010 1450	08/26/2010 0900

SAMPLE RESULTS

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Client Sample ID: **J1C0L4**

Lab Sample ID: 280-6759-1
Client Matrix: Solid
% Moisture: 0.0

Date Sampled: 08/19/2010 1445
Date Received: 08/26/2010 0900

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 280-30308		Instrument ID:	MT_026
Preparation:	3050B	Prep Batch: 280-29651		Lab File ID:	26a090410.txt
Dilution:	1.0			Initial Weight/Volume:	1.19 g
Date Analyzed:	09/04/2010 1116			Final Weight/Volume:	100 mL
Date Prepared:	09/02/2010 1400				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		198		1.3	4.2
Antimony		0.32	U	0.32	0.50
Arsenic		0.55	U	0.55	0.84
Barium		7.9	J	0.064	0.42
Beryllium		0.080	B	0.028	0.17
Boron		0.82	U	0.82	1.7
Cadmium		0.034	U	0.034	0.17
Calcium		87.5	J	11.8	42.0
Chromium		0.15	B	0.049	0.17
Cobalt		0.10	B L	0.084	0.84
Copper		0.36	B L	0.18	0.84
Iron		2460		3.2	4.2
Lead		0.77		0.23	0.42
Manganese		64.6		0.084	0.84
Molybdenum		0.22	U	0.22	1.7
Nickel		0.24	B L	0.10	3.4
Selenium		0.72	U	0.72	0.84
Silicon		77.8	L	1.8	8.4
Silver		0.13	U	0.13	0.17
Sodium		49.6	U	49.6	101
Vanadium		1.1	B	0.079	1.7
Zinc		2.5	L	0.33	0.84

Method:	6010B	Analysis Batch: 280-30552		Instrument ID:	MT_026
Preparation:	3050B	Prep Batch: 280-29651		Lab File ID:	26a090710.txt
Dilution:	1.0			Initial Weight/Volume:	1.19 g
Date Analyzed:	09/07/2010 1825			Final Weight/Volume:	100 mL
Date Prepared:	09/02/2010 1400				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Potassium		58.7	B	34.5	252

Method:	6010B	Analysis Batch: 280-30671		Instrument ID:	MT_026
Preparation:	3050B	Prep Batch: 280-29651		Lab File ID:	26A090810.txt
Dilution:	1.0			Initial Weight/Volume:	1.19 g
Date Analyzed:	09/08/2010 1607			Final Weight/Volume:	100 mL
Date Prepared:	09/02/2010 1400				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Magnesium		7.9	B	3.1	16.8

7471A Mercury (CVAA)

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Client Sample ID: **J1C0L4**

Lab Sample ID: 280-6759-1
Client Matrix: Solid
% Moisture: 0.0

Date Sampled: 08/19/2010 1445
Date Received: 08/26/2010 0900

7471A Mercury (CVAA)

Method:	7471A	Analysis Batch: 280-30487		Instrument ID:	MT_033
Preparation:	7471A	Prep Batch: 280-30282		Lab File ID:	100907AA.txt
Dilution:	1.0			Initial Weight/Volume:	0.65 g
Date Analyzed:	09/07/2010 2213			Final Weight/Volume:	50 mL
Date Prepared:	09/07/2010 1000				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0051	U	0.0051	0.016

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Client Sample ID: **J1C0L5**

Lab Sample ID: 280-6759-2
Client Matrix: Solid
% Moisture: 7.3

Date Sampled: 08/19/2010 1450
Date Received: 08/26/2010 0900

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 09/04/2010 1119
Date Prepared: 09/02/2010 1400

Analysis Batch: 280-30308
Prep Batch: 280-29651

Instrument ID: MT_026
Lab File ID: 26a090410.txt
Initial Weight/Volume: 0.61 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		5820		2.7	8.8
Antimony		0.67	U	0.67	1.1
Arsenic		2.1		1.2	1.8
Barium		59.8	J	0.13	0.88
Beryllium		0.19	B	0.058	0.35
Boron		1.7	U	1.7	3.5
Cadmium		0.072	U	0.072	0.35
Calcium		6620	J	24.9	88.4
Chromium		9.0		0.10	0.35
Cobalt		6.3	L	0.18	1.8
Copper		11.8	L	0.38	1.8
Iron		18100		6.7	8.8
Lead		24.7		0.48	0.88
Manganese		275		0.18	1.8
Molybdenum		0.46	U	0.46	3.5
Nickel		10	L	0.22	7.1
Selenium		1.5	U	1.5	1.8
Silicon		143	L	3.7	17.7
Silver		0.28	U	0.28	0.35
Sodium		249		104	212
Vanadium		40.2		0.17	3.5
Zinc		38.7	L	0.70	1.8

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 09/07/2010 1827
Date Prepared: 09/02/2010 1400

Analysis Batch: 280-30552
Prep Batch: 280-29651

Instrument ID: MT_026
Lab File ID: 26a090710.txt
Initial Weight/Volume: 0.61 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Potassium		929		72.5	530

Method: 6010B
Preparation: 3050B
Dilution: 5.0
Date Analyzed: 09/08/2010 1610
Date Prepared: 09/02/2010 1400

Analysis Batch: 280-30671
Prep Batch: 280-29651

Instrument ID: MT_026
Lab File ID: 26A090810.txt
Initial Weight/Volume: 0.61 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Magnesium		4370		32.7	177

7471A Mercury (CVAA)

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Client Sample ID: **J1C0L5**

Lab Sample ID: 280-6759-2
Client Matrix: Solid
% Moisture: 7.3

Date Sampled: 08/19/2010 1450
Date Received: 08/26/2010 0900

7471A Mercury (CVAA)

Method:	7471A	Analysis Batch: 280-30487		Instrument ID:	MT_033
Preparation:	7471A	Prep Batch: 280-30282		Lab File ID:	100907AA.txt
Dilution:	1.0			Initial Weight/Volume:	0.67 g
Date Analyzed:	09/07/2010 2225			Final Weight/Volume:	50 mL
Date Prepared:	09/07/2010 1000				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.53		0.0053	0.016

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Client Sample ID: **J1C0L6**

Lab Sample ID: 280-6759-3
Client Matrix: Solid
% Moisture: 7.1

Date Sampled: 08/19/2010 1510
Date Received: 08/26/2010 0900

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 280-30308		Instrument ID:	MT_026
Preparation:	3050B	Prep Batch: 280-29651		Lab File ID:	26a090410.txt
Dilution:	1.0			Initial Weight/Volume:	1.15 g
Date Analyzed:	09/04/2010 1121			Final Weight/Volume:	100 mL
Date Prepared:	09/02/2010 1400				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		5970		1.5	4.7
Antimony		0.36	U	0.36	0.56
Arsenic		2.1		0.62	0.94
Barium		56.9	J	0.071	0.47
Beryllium		0.20		0.031	0.19
Boron		0.92	U	0.92	1.9
Cadmium		0.038	U	0.038	0.19
Calcium		5510	J N	13.2	46.8
Chromium		7.9		0.054	0.19
Cobalt		5.4	L	0.094	0.94
Copper		10.8	L	0.20	0.94
Iron		15300		3.6	4.7
Lead		9.8		0.25	0.47
Manganese		240		0.094	0.94
Molybdenum		0.24	U	0.24	1.9
Nickel		8.7	L	0.12	3.7
Selenium		0.81	U	0.81	0.94
Silicon		108	L N	2.0	9.4
Silver		0.15	U	0.15	0.19
Sodium		185		55.2	112
Vanadium		33.1		0.088	1.9
Zinc		32.7	L	0.37	0.94

Method:	6010B	Analysis Batch: 280-30552		Instrument ID:	MT_026
Preparation:	3050B	Prep Batch: 280-29651		Lab File ID:	26a090710.txt
Dilution:	1.0			Initial Weight/Volume:	1.15 g
Date Analyzed:	09/07/2010 1830			Final Weight/Volume:	100 mL
Date Prepared:	09/02/2010 1400				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Potassium		917		38.4	281

Method:	6010B	Analysis Batch: 280-30671		Instrument ID:	MT_026
Preparation:	3050B	Prep Batch: 280-29651		Lab File ID:	26A090810.txt
Dilution:	5.0			Initial Weight/Volume:	1.15 g
Date Analyzed:	09/08/2010 1612			Final Weight/Volume:	100 mL
Date Prepared:	09/02/2010 1400				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Magnesium		4130		17.3	93.6

7471A Mercury (CVAA)

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Client Sample ID: **J1C0L6**

Lab Sample ID: 280-6759-3
Client Matrix: Solid
% Moisture: 7.1

Date Sampled: 08/19/2010 1510
Date Received: 08/26/2010 0900

7471A Mercury (CVAA)

Method:	7471A	Analysis Batch: 280-30487		Instrument ID:	MT_033
Preparation:	7471A	Prep Batch: 280-30282		Lab File ID:	100907AA.txt
Dilution:	1.0			Initial Weight/Volume:	0.66 g
Date Analyzed:	09/07/2010 2230			Final Weight/Volume:	50 mL
Date Prepared:	09/07/2010 1000				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.37		0.0054	0.017

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Client Sample ID: **J1C0L7**

Lab Sample ID: 280-6759-4
Client Matrix: Solid
% Moisture: 7.2

Date Sampled: 08/19/2010 1450
Date Received: 08/26/2010 0900

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 280-30308		Instrument ID:	MT_026
Preparation:	3050B	Prep Batch: 280-29651		Lab File ID:	26a090410.txt
Dilution:	1.0			Initial Weight/Volume:	1.16 g
Date Analyzed:	09/04/2010 1130			Final Weight/Volume:	100 mL
Date Prepared:	09/02/2010 1400				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		5020		1.4	4.6
Antimony		0.45	B	0.35	0.56
Arsenic		2.0		0.61	0.93
Barium		53.4	J	0.071	0.46
Beryllium		0.16	B	0.031	0.19
Boron		0.91	U	0.91	1.9
Cadmium		0.038	U	0.038	0.19
Calcium		5900	J	13.1	46.4
Chromium		8.3		0.054	0.19
Cobalt		5.7	L	0.093	0.93
Copper		12.0	L	0.20	0.93
Iron		16500		3.5	4.6
Lead		18.0		0.25	0.46
Manganese		231		0.093	0.93
Molybdenum		0.24	U	0.24	1.9
Nickel		9.1	L	0.11	3.7
Selenium		0.80	U	0.80	0.93
Silicon		117	L	2.0	9.3
Silver		0.15	U	0.15	0.19
Sodium		224		54.8	111
Vanadium		36.1		0.087	1.9
Zinc		34.9	L	0.37	0.93

Method:	6010B	Analysis Batch: 280-30552		Instrument ID:	MT_026
Preparation:	3050B	Prep Batch: 280-29651		Lab File ID:	26a090710.txt
Dilution:	1.0			Initial Weight/Volume:	1.16 g
Date Analyzed:	09/07/2010 1839			Final Weight/Volume:	100 mL
Date Prepared:	09/02/2010 1400				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Potassium		755		38.1	279

Method:	6010B	Analysis Batch: 280-30671		Instrument ID:	MT_026
Preparation:	3050B	Prep Batch: 280-29651		Lab File ID:	26A090810.txt
Dilution:	5.0			Initial Weight/Volume:	1.16 g
Date Analyzed:	09/08/2010 1621			Final Weight/Volume:	100 mL
Date Prepared:	09/02/2010 1400				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Magnesium		4200		17.2	92.9

7471A Mercury (CVAA)

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Client Sample ID: **J1C0L7**

Lab Sample ID: 280-6759-4
Client Matrix: Solid
% Moisture: 7.2

Date Sampled: 08/19/2010 1450
Date Received: 08/26/2010 0900

7471A Mercury (CVAA)

Method:	7471A	Analysis Batch: 280-30487		Instrument ID:	MT_033
Preparation:	7471A	Prep Batch: 280-30282		Lab File ID:	100907AA.txt
Dilution:	1.0			Initial Weight/Volume:	0.60 g
Date Analyzed:	09/07/2010 2232			Final Weight/Volume:	50 mL
Date Prepared:	09/07/2010 1000				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.58		0.0060	0.018

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

General Chemistry

Client Sample ID: **J1C0L4**

Lab Sample ID: 280-6759-1
Client Matrix: Solid

Date Sampled: 08/19/2010 1445
Date Received: 08/26/2010 0900

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	0.10	U	%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-29021 Date Analyzed: 08/27/2010 1736 DryWt Corrected: N

General Chemistry

Client Sample ID: **J1C0L5**

Lab Sample ID: 280-6759-2
Client Matrix: Solid
% Moisture: 7.3

Date Sampled: 08/19/2010 1450
Date Received: 08/26/2010 0900

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Nitrate Nitrite as N-Soluble	2.7	M N	mg/Kg	0.39	0.81	1.0	353.2
Analysis Batch: 280-30178	Date Analyzed: 09/04/2010 1309						DryWt Corrected: Y
Chloride-Soluble	2.7	B	mg/Kg	2.1	5.4	1.0	9056M
Analysis Batch: 280-30243	Date Analyzed: 09/04/2010 0218						DryWt Corrected: Y
Nitrate as N-Soluble	1.8	B	mg/Kg	0.34	2.7	1.0	9056M
Analysis Batch: 280-30242	Date Analyzed: 09/04/2010 0218						DryWt Corrected: Y
Bromide-Soluble	0.42	U	mg/Kg	0.42	2.2	1.0	9056M
Analysis Batch: 280-30243	Date Analyzed: 09/04/2010 0218						DryWt Corrected: Y
Nitrite as N-Soluble	0.36	U	mg/Kg	0.36	2.7	1.0	9056M
Analysis Batch: 280-30242	Date Analyzed: 09/04/2010 0218						DryWt Corrected: Y
Orthophosphate as P-Soluble	1.7	B J M	mg/Kg	1.3	5.4	1.0	9056M
Analysis Batch: 280-30242	Date Analyzed: 09/04/2010 0218						DryWt Corrected: Y
Sulfate-Soluble	5.5		mg/Kg	1.9	5.4	1.0	9056M
Analysis Batch: 280-30243	Date Analyzed: 09/04/2010 0218						DryWt Corrected: Y
Fluoride-Soluble	0.89	U	mg/Kg	0.89	5.4	1.0	9056M
Analysis Batch: 280-30243	Date Analyzed: 09/04/2010 0218						DryWt Corrected: Y

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH adj. to 25 deg C-Soluble	9.29		SU	0.0100	0.0100	1.0	9045C
Analysis Batch: 280-29076	Date Analyzed: 08/27/2010 1630						DryWt Corrected: N
Percent Moisture	7.3		%	0.10	0.10	1.0	D-2216
Analysis Batch: 280-29021	Date Analyzed: 08/27/2010 1736						DryWt Corrected: N

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

General Chemistry

Client Sample ID: **J1C0L6**

Lab Sample ID: 280-6759-3
Client Matrix: Solid
% Moisture: 7.1

Date Sampled: 08/19/2010 1510
Date Received: 08/26/2010 0900

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Nitrate Nitrite as N-Soluble	2.5		mg/Kg	0.37	0.77	1.0	353.2
Analysis Batch: 280-30178	Date Analyzed: 09/04/2010 1313						DryWt Corrected: Y
Chloride-Soluble	2.0	U	mg/Kg	2.0	5.1	1.0	9056M
Analysis Batch: 280-30243	Date Analyzed: 09/04/2010 0308						DryWt Corrected: Y
Nitrate as N-Soluble	1.6	B	mg/Kg	0.32	2.6	1.0	9056M
Analysis Batch: 280-30242	Date Analyzed: 09/04/2010 0308						DryWt Corrected: Y
Bromide-Soluble	0.40	U	mg/Kg	0.40	2.1	1.0	9056M
Analysis Batch: 280-30243	Date Analyzed: 09/04/2010 0308						DryWt Corrected: Y
Nitrite as N-Soluble	0.34	U	mg/Kg	0.34	2.6	1.0	9056M
Analysis Batch: 280-30242	Date Analyzed: 09/04/2010 0308						DryWt Corrected: Y
Orthophosphate as P-Soluble	2.6	B J	mg/Kg	1.3	5.1	1.0	9056M
Analysis Batch: 280-30242	Date Analyzed: 09/04/2010 0308						DryWt Corrected: Y
Sulfate-Soluble	6.1		mg/Kg	1.8	5.1	1.0	9056M
Analysis Batch: 280-30243	Date Analyzed: 09/04/2010 0308						DryWt Corrected: Y
Fluoride-Soluble	1.1	B	mg/Kg	0.84	5.1	1.0	9056M
Analysis Batch: 280-30243	Date Analyzed: 09/04/2010 0308						DryWt Corrected: Y

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH adj. to 25 deg C-Soluble	9.32		SU	0.0100	0.0100	1.0	9045C
Analysis Batch: 280-29076	Date Analyzed: 08/27/2010 1635						DryWt Corrected: N
Percent Moisture	7.1		%	0.10	0.10	1.0	D-2216
Analysis Batch: 280-29021	Date Analyzed: 08/27/2010 1736						DryWt Corrected: N

General Chemistry

Client Sample ID: **J1C0L7**

Lab Sample ID: 280-6759-4
Client Matrix: Solid
% Moisture: 7.2

Date Sampled: 08/19/2010 1450
Date Received: 08/26/2010 0900

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Nitrate Nitrite as N-Soluble	1.7		mg/Kg	0.37	0.78	1.0	353.2
Analysis Batch: 280-30178	Date Analyzed: 09/04/2010 1315						DryWt Corrected: Y
Chloride-Soluble	2.5	B	mg/Kg	2.1	5.2	1.0	9056M
Analysis Batch: 280-30243	Date Analyzed: 09/04/2010 0325						DryWt Corrected: Y
Nitrate as N-Soluble	1.5	B	mg/Kg	0.33	2.6	1.0	9056M
Analysis Batch: 280-30242	Date Analyzed: 09/04/2010 0325						DryWt Corrected: Y
Bromide-Soluble	0.41	U	mg/Kg	0.41	2.1	1.0	9056M
Analysis Batch: 280-30243	Date Analyzed: 09/04/2010 0325						DryWt Corrected: Y
Nitrite as N-Soluble	0.35	U	mg/Kg	0.35	2.6	1.0	9056M
Analysis Batch: 280-30242	Date Analyzed: 09/04/2010 0325						DryWt Corrected: Y
Orthophosphate as P-Soluble	2.1	B J	mg/Kg	1.3	5.2	1.0	9056M
Analysis Batch: 280-30242	Date Analyzed: 09/04/2010 0325						DryWt Corrected: Y
Sulfate-Soluble	10.9		mg/Kg	1.8	5.2	1.0	9056M
Analysis Batch: 280-30243	Date Analyzed: 09/04/2010 0325						DryWt Corrected: Y
Fluoride-Soluble	0.86	U	mg/Kg	0.86	5.2	1.0	9056M
Analysis Batch: 280-30243	Date Analyzed: 09/04/2010 0325						DryWt Corrected: Y

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH adj. to 25 deg C-Soluble	9.33		SU	0.0100	0.0100	1.0	9045C
Analysis Batch: 280-29076	Date Analyzed: 08/27/2010 1637						DryWt Corrected: N
Percent Moisture	7.2		%	0.10	0.10	1.0	D-2216
Analysis Batch: 280-29021	Date Analyzed: 08/27/2010 1736						DryWt Corrected: N

QUALITY CONTROL RESULTS

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-29651					
LCS 280-29651/2-A	Lab Control Sample	T	Solid	3050B	
MB 280-29651/1-A	Method Blank	T	Solid	3050B	
280-6759-1	J1C0L4	T	Solid	3050B	
280-6759-2	J1C0L5	T	Solid	3050B	
280-6759-3MS	Matrix Spike	T	Solid	3050B	
280-6759-3	J1C0L6	T	Solid	3050B	
280-6759-3DU	Duplicate	T	Solid	3050B	
280-6759-4	J1C0L7	T	Solid	3050B	
Prep Batch: 280-30282					
LCS 280-30282/2-A	Lab Control Sample	T	Solid	7471A	
MB 280-30282/1-A	Method Blank	T	Solid	7471A	
280-6759-1	J1C0L4	T	Solid	7471A	
280-6759-1MS	Matrix Spike	T	Solid	7471A	
280-6759-1DU	Duplicate	T	Solid	7471A	
280-6759-2	J1C0L5	T	Solid	7471A	
280-6759-3	J1C0L6	T	Solid	7471A	
280-6759-4	J1C0L7	T	Solid	7471A	
Analysis Batch:280-30308					
MB 280-29651/1-A	Method Blank	T	Solid	6010B	280-29651
LCS 280-29651/2-A	Lab Control Sample	T	Solid	6010B	280-29651
280-6759-1	J1C0L4	T	Solid	6010B	280-29651
280-6759-2	J1C0L5	T	Solid	6010B	280-29651
280-6759-3	J1C0L6	T	Solid	6010B	280-29651
280-6759-3MS	Matrix Spike	T	Solid	6010B	280-29651
280-6759-3DU	Duplicate	T	Solid	6010B	280-29651
280-6759-4	J1C0L7	T	Solid	6010B	280-29651
Analysis Batch:280-30487					
MB 280-30282/1-A	Method Blank	T	Solid	7471A	280-30282
LCS 280-30282/2-A	Lab Control Sample	T	Solid	7471A	280-30282
280-6759-1DU	Duplicate	T	Solid	7471A	280-30282
280-6759-1	J1C0L4	T	Solid	7471A	280-30282
280-6759-1MS	Matrix Spike	T	Solid	7471A	280-30282
280-6759-2	J1C0L5	T	Solid	7471A	280-30282
280-6759-3	J1C0L6	T	Solid	7471A	280-30282
280-6759-4	J1C0L7	T	Solid	7471A	280-30282

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Analysis Batch:280-30552					
LCS 280-29651/2-A	Lab Control Sample	T	Solid	6010B	280-29651
MB 280-29651/1-A	Method Blank	T	Solid	6010B	280-29651
280-6759-1	J1C0L4	T	Solid	6010B	280-29651
280-6759-2	J1C0L5	T	Solid	6010B	280-29651
280-6759-3	J1C0L6	T	Solid	6010B	280-29651
280-6759-3DU	Duplicate	T	Solid	6010B	280-29651
280-6759-3MS	Matrix Spike	T	Solid	6010B	280-29651
280-6759-4	J1C0L7	T	Solid	6010B	280-29651
Analysis Batch:280-30671					
LCS 280-29651/2-A	Lab Control Sample	T	Solid	6010B	280-29651
MB 280-29651/1-A	Method Blank	T	Solid	6010B	280-29651
280-6759-1	J1C0L4	T	Solid	6010B	280-29651
280-6759-2	J1C0L5	T	Solid	6010B	280-29651
280-6759-3DU	Duplicate	T	Solid	6010B	280-29651
280-6759-3	J1C0L6	T	Solid	6010B	280-29651
280-6759-3MS	Matrix Spike	T	Solid	6010B	280-29651
280-6759-4	J1C0L7	T	Solid	6010B	280-29651

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Prep Batch: 280-28982					
280-6759-2DU	Duplicate	S	Solid	DI Leach	
280-6759-2	J1C0L5	S	Solid	DI Leach	
280-6759-3	J1C0L6	S	Solid	DI Leach	
280-6759-4	J1C0L7	S	Solid	DI Leach	
Analysis Batch:280-29021					
280-6759-1	J1C0L4	T	Solid	D-2216	
280-6759-1DU	Duplicate	T	Solid	D-2216	
280-6759-2	J1C0L5	T	Solid	D-2216	
280-6759-3	J1C0L6	T	Solid	D-2216	
280-6759-4	J1C0L7	T	Solid	D-2216	
Analysis Batch:280-29076					
LCS 280-29076/4	Lab Control Sample	T	Water	9045C	
LCSD 280-29076/5	Lab Control Sample Duplicate	T	Water	9045C	
280-6759-2	J1C0L5	S	Solid	9045C	
280-6759-2DU	Duplicate	S	Solid	9045C	
280-6759-3	J1C0L6	S	Solid	9045C	
280-6759-4	J1C0L7	S	Solid	9045C	
Prep Batch: 280-30065					
LCS 280-30065/2-A	Lab Control Sample	S	Solid	DI Leach	
MB 280-30065/1-A	Method Blank	S	Solid	DI Leach	
280-6759-2MS	Matrix Spike	S	Solid	DI Leach	
280-6759-2	J1C0L5	S	Solid	DI Leach	
280-6759-2DU	Duplicate	S	Solid	DI Leach	
280-6759-3	J1C0L6	S	Solid	DI Leach	
280-6759-4	J1C0L7	S	Solid	DI Leach	
Analysis Batch:280-30178					
MB 280-30065/1-A	Method Blank	S	Solid	353.2	
LCS 280-30065/2-A	Lab Control Sample	S	Solid	353.2	
280-6759-2MS	Matrix Spike	S	Solid	353.2	
280-6759-2	J1C0L5	S	Solid	353.2	
280-6759-2DU	Duplicate	S	Solid	353.2	
280-6759-3	J1C0L6	S	Solid	353.2	
280-6759-4	J1C0L7	S	Solid	353.2	

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-30242					
MB 280-30065/1-A	Method Blank	S	Solid	9056M	
LCS 280-30242/45	Lab Control Sample	T	Water	9056M	
280-6759-2DU	Duplicate	S	Solid	9056M	
280-6759-2	J1C0L5	S	Solid	9056M	
280-6759-2MS	Matrix Spike	S	Solid	9056M	
280-6759-3	J1C0L6	S	Solid	9056M	
280-6759-4	J1C0L7	S	Solid	9056M	
Analysis Batch:280-30243					
MB 280-30065/1-A	Method Blank	S	Solid	9056M	
LCS 280-30243/45	Lab Control Sample	T	Water	9056M	
280-6759-2	J1C0L5	S	Solid	9056M	
280-6759-2DU	Duplicate	S	Solid	9056M	
280-6759-2MS	Matrix Spike	S	Solid	9056M	
280-6759-3	J1C0L6	S	Solid	9056M	
280-6759-4	J1C0L7	S	Solid	9056M	

Report Basis
S = Soluble
T = Total

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Method Blank - Batch: 280-29651

Method: 6010B
Preparation: 3050B

Lab Sample ID: MB 280-29651/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/04/2010 1112
Date Prepared: 09/02/2010 1400

Analysis Batch: 280-30308
Prep Batch: 280-29651
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a090410.txt
Initial Weight/Volume: 1 g
Final Weight/Volume: 100 mL

Analyte	Result	Qual	MDL	RL
Aluminum	1.6	U	1.6	5.0
Antimony	0.38	U	0.38	0.60
Arsenic	0.66	U	0.66	1.0
Barium	0.0800	B	0.076	0.50
Beryllium	0.033	U	0.033	0.20
Boron	0.98	U	0.98	2.0
Cadmium	0.041	U	0.041	0.20
Calcium	16.52	B	14.1	50.0
Chromium	0.058	U	0.058	0.20
Cobalt	0.10	U	0.10	1.0
Copper	0.22	U	0.22	1.0
Iron	3.8	U	3.8	5.0
Lead	0.27	U	0.27	0.50
Magnesium	3.7	U	3.7	20.0
Manganese	0.10	U	0.10	1.0
Molybdenum	0.26	U	0.26	2.0
Nickel	0.12	U	0.12	4.0
Potassium	41.0	U	41.0	300
Selenium	0.86	U	0.86	1.0
Silicon	2.1	U	2.1	10.0
Silver	0.16	U	0.16	0.20
Sodium	59.0	U	59.0	120
Vanadium	0.094	U	0.094	2.0
Zinc	0.40	U	0.40	1.0

Method Blank - Batch: 280-29651

Method: 6010B
Preparation: 3050B

Lab Sample ID: MB 280-29651/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/07/2010 1821
Date Prepared: 09/02/2010 1400

Analysis Batch: 280-30552
Prep Batch: 280-29651
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a090710.txt
Initial Weight/Volume: 1 g
Final Weight/Volume: 100 mL

Analyte	Result	Qual	MDL	RL
Potassium	41.0	U	41.0	300

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Lab Control Sample - Batch: 280-29651

Method: 6010B
Preparation: 3050B

Lab Sample ID: LCS 280-29651/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/04/2010 1114
Date Prepared: 09/02/2010 1400

Analysis Batch: 280-30308
Prep Batch: 280-29651
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a090410.txt
Initial Weight/Volume: 1 g
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	200	174.1	87	82 - 116	
Antimony	50.0	43.01	86	82 - 110	
Arsenic	100	91.55	92	85 - 110	
Barium	200	185.2	93	87 - 112	
Beryllium	5.00	4.45	89	84 - 114	
Boron	100	90.40	90	81 - 110	
Cadmium	10.0	9.30	93	87 - 110	
Calcium	5000	4632	93	82 - 114	
Chromium	20.0	18.98	95	84 - 114	
Cobalt	50.0	45.64	91	87 - 110	
Copper	25.0	22.36	89	88 - 110	
Iron	100	89.66	90	87 - 120	
Lead	50.0	45.65	91	86 - 110	
Manganese	50.0	44.68	89	88 - 110	
Molybdenum	100	91.84	92	86 - 110	
Nickel	50.0	43.69	87	87 - 110	
Selenium	200	182.0	91	83 - 110	
Silicon	1000	290.9	29	10 - 70	
Silver	5.00	4.97	99	87 - 114	
Sodium	5000	4724	94	90 - 112	
Vanadium	50.0	44.73	89	88 - 110	
Zinc	50.0	47.31	95	76 - 114	

Lab Control Sample - Batch: 280-29651

Method: 6010B
Preparation: 3050B

Lab Sample ID: LCS 280-29651/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/07/2010 1823
Date Prepared: 09/02/2010 1400

Analysis Batch: 280-30552
Prep Batch: 280-29651
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a090710.txt
Initial Weight/Volume: 1 g
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Potassium	5000	4510	90	89 - 110	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Lab Control Sample - Batch: 280-29651

Method: 6010B
Preparation: 3050B

Lab Sample ID: LCS 280-29651/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/08/2010 1605
Date Prepared: 09/02/2010 1400

Analysis Batch: 280-30671
Prep Batch: 280-29651
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26A090810.txt
Initial Weight/Volume: 1 g
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Magnesium	5000	4567	91	90 - 110	

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Matrix Spike - Batch: 280-29651

Method: 6010B
Preparation: 3050B

Lab Sample ID: 280-6759-3
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/04/2010 1128
Date Prepared: 09/02/2010 1400

Analysis Batch: 280-30308
Prep Batch: 280-29651
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a090410.txt
Initial Weight/Volume: 1.11 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	5970		194	7462	771	50 - 200	4
Antimony	0.36	U	48.5	21.40	44	20 - 200	
Arsenic	2.1		97.0	81.21	82	76 - 111	
Barium	56.9		194	220.5	84	52 - 159	
Beryllium	0.20		4.85	4.02	79	72 - 105	
Boron	0.92	U	97.0	75.53	78	75 - 107	
Cadmium	0.038	U	9.70	8.08	83	40 - 130	
Calcium	5510		4850	14310	182	43 - 165	N
Chromium	7.9		19.4	24.94	88	70 - 200	
Cobalt	5.4		48.5	43.92	79	72 - 106	
Copper	10.8		24.3	30.04	79	37 - 187	
Iron	15300		97.0	15800	491	70 - 200	4
Lead	9.8		48.5	47.77	78	70 - 200	
Manganese	240		48.5	282.7	88	40 - 200	4
Molybdenum	0.24	U	97.0	76.16	79	75 - 103	
Nickel	8.7		48.5	45.93	77	61 - 126	
Selenium	0.81	U	194	157.2	81	76 - 104	
Silicon	108		970	229.0	12	20 - 200	N
Silver	0.15	U	4.85	4.39	91	75 - 141	
Sodium	185		4850	4572	90	78 - 111	
Vanadium	33.1		48.5	72.37	81	50 - 169	
Zinc	32.7		48.5	73.22	83	70 - 200	

Matrix Spike - Batch: 280-29651

Method: 6010B
Preparation: 3050B

Lab Sample ID: 280-6759-3
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/07/2010 1837
Date Prepared: 09/02/2010 1400

Analysis Batch: 280-30552
Prep Batch: 280-29651
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a090710.txt
Initial Weight/Volume: 1.11 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Potassium	917	4850	4888	82	56 - 172	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Matrix Spike - Batch: 280-29651

Method: 6010B
Preparation: 3050B

Lab Sample ID: 280-6759-3
Client Matrix: Solid
Dilution: 5.0
Date Analyzed: 09/08/2010 1619
Date Prepared: 09/02/2010 1400

Analysis Batch: 280-30671
Prep Batch: 280-29651
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26A090810.txt
Initial Weight/Volume: 1.11 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Magnesium	4130	4850	8879	98	64 - 145	

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Duplicate - Batch: 280-29651

Method: 6010B
Preparation: 3050B

Lab Sample ID: 280-6759-3
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/04/2010 1125
Date Prepared: 09/02/2010 1400

Analysis Batch: 280-30308
Prep Batch: 280-29651
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a090410.txt
Initial Weight/Volume: 1.08 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Aluminum	5970		5853	2	40	
Antimony	0.36	U	0.38	NC	40	U
Arsenic	2.1		1.92	8	30	
Barium	56.9		56.38	1	30	
Beryllium	0.20		0.194	3	30	B
Boron	0.92	U	0.98	NC	30	U
Cadmium	0.038	U	0.041	NC	30	U
Calcium	5510		6994	24	30	
Chromium	7.9		7.66	3	40	
Cobalt	5.4		5.54	3	30	
Copper	10.8		10.50	2	30	
Iron	15300		15150	1	40	
Lead	9.8		10.04	2	40	
Manganese	240		268.0	11	40	
Molybdenum	0.24	U	0.26	NC	30	U
Nickel	8.7		9.28	6	30	
Selenium	0.81	U	0.86	NC	30	U
Silicon	108		108.8	1	40	
Silver	0.15	U	0.16	NC	30	U
Sodium	185		188.9	2	30	
Vanadium	33.1		31.63	5	30	
Zinc	32.7		32.19	2	40	

Duplicate - Batch: 280-29651

Method: 6010B
Preparation: 3050B

Lab Sample ID: 280-6759-3
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/07/2010 1834
Date Prepared: 09/02/2010 1400

Analysis Batch: 280-30552
Prep Batch: 280-29651
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a090710.txt
Initial Weight/Volume: 1.08 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Potassium	917	900.6	2	40	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Duplicate - Batch: 280-29651

Method: 6010B
Preparation: 3050B

Lab Sample ID: 280-6759-3
Client Matrix: Solid
Dilution: 5.0
Date Analyzed: 09/08/2010 1617
Date Prepared: 09/02/2010 1400

Analysis Batch: 280-30671
Prep Batch: 280-29651
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26A090810.txt
Initial Weight/Volume: 1.08 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Magnesium	4130	4223	2	30	

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Method Blank - Batch: 280-30282

Method: 7471A
Preparation: 7471A

Lab Sample ID: MB 280-30282/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/07/2010 2209
Date Prepared: 09/07/2010 1000

Analysis Batch: 280-30487
Prep Batch: 280-30282
Units: mg/Kg

Instrument ID: MT_033
Lab File ID: 100907AA.txt
Initial Weight/Volume: 0.60 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Mercury	0.0055	U	0.0055	0.017

Lab Control Sample - Batch: 280-30282

Method: 7471A
Preparation: 7471A

Lab Sample ID: LCS 280-30282/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/07/2010 2211
Date Prepared: 09/07/2010 1000

Analysis Batch: 280-30487
Prep Batch: 280-30282
Units: mg/Kg

Instrument ID: MT_033
Lab File ID: 100907AA.txt
Initial Weight/Volume: 0.60 g
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.417	0.379	91	87 - 111	

Matrix Spike - Batch: 280-30282

Method: 7471A
Preparation: 7471A

Lab Sample ID: 280-6759-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/07/2010 2223
Date Prepared: 09/07/2010 1000

Analysis Batch: 280-30487
Prep Batch: 280-30282
Units: mg/Kg

Instrument ID: MT_033
Lab File ID: 100907AA.txt
Initial Weight/Volume: 0.65 g
Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.0051	U	0.385	0.343	89	87 - 111	

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Duplicate - Batch: 280-30282

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-6759-1	Analysis Batch:	280-30487	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-30282	Lab File ID:	100907AA.txt
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	0.67 g
Date Analyzed:	09/07/2010 2216			Final Weight/Volume:	50 mL
Date Prepared:	09/07/2010 1000				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Mercury	0.0051	U	0.0050	NC	20	U

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Method Blank - Batch: 280-30178

Method: 353.2
Preparation: N/A

Lab Sample ID: MB 280-30065/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/04/2010 1306
Date Prepared: N/A
Date Leached: 09/03/2010 1430

Analysis Batch: 280-30178
Prep Batch: N/A
Units: mg/Kg

Leachate Batch: 280-30065

Instrument ID: WC_Alp 2
Lab File ID: C:\FLOW_4\0904NXN.RST
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	MDL	RL
Nitrate Nitrite as N-Soluble	0.35	U	0.35	0.73

Lab Control Sample - Batch: 280-30178

Method: 353.2
Preparation: N/A

Lab Sample ID: LCS 280-30065/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/04/2010 1307
Date Prepared: N/A
Date Leached: 09/03/2010 1430

Analysis Batch: 280-30178
Prep Batch: N/A
Units: mg/Kg

Leachate Batch: 280-30065

Instrument ID: WC_Alp 2
Lab File ID: C:\FLOW_4\0904NXN.RST
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N-Soluble	48.5	49.78	103	90 - 110	

Matrix Spike - Batch: 280-30178

Method: 353.2
Preparation: N/A

Lab Sample ID: 280-6759-2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/04/2010 1312
Date Prepared: N/A
Date Leached: 09/03/2010 1430

Analysis Batch: 280-30178
Prep Batch: N/A
Units: mg/Kg

Leachate Batch: 280-30065

Instrument ID: WC_Alp 2
Lab File ID: C:\FLOW_4\0904NXN.RST
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N-Soluble	2.7	43.1	53.64	118	90 - 110	N

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Duplicate - Batch: 280-30178

Method: 353.2
Preparation: N/A

Lab Sample ID:	280-6759-2	Analysis Batch:	280-30178	Instrument ID:	WC_Alp 2
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\0904NXN.RST
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	1.0 mL
Date Analyzed:	09/04/2010 1310			Final Weight/Volume:	1.0 mL
Date Prepared:	N/A				
Date Leached:	09/03/2010 1430	Leachate Batch:	280-30065		

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Nitrate Nitrite as N-Soluble	2.7	2.23	18	10	M

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-29076

Method: 9045C
Preparation: N/A

LCS Lab Sample ID:	LCS 280-29076/4	Analysis Batch: 280-29076	Instrument ID: No Equipment Assigned
Client Matrix:	Water	Prep Batch: N/A	Lab File ID: N/A
Dilution:	1.0	Units: SU	Initial Weight/Volume: 1 mL
Date Analyzed:	08/27/2010 1628		Final Weight/Volume: 1 mL
Date Prepared:	N/A		

LCSD Lab Sample ID:	LCSD 280-29076/5	Analysis Batch: 280-29076	Instrument ID: No Equipment Assigned
Client Matrix:	Water	Prep Batch: N/A	Lab File ID: N/A
Dilution:	1.0	Units: SU	Initial Weight/Volume: 1 mL
Date Analyzed:	08/27/2010 1629		Final Weight/Volume: 1 mL
Date Prepared:	N/A		

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
pH adj. to 25 deg C-Soluble	100	100	97 - 103	0	5		

Duplicate - Batch: 280-29076

Method: 9045C
Preparation: N/A

Lab Sample ID:	280-6759-2	Analysis Batch: 280-29076	Instrument ID: No Equipment Assigned
Client Matrix:	Solid	Prep Batch: N/A	Lab File ID: N/A
Dilution:	1.0	Units: SU	Initial Weight/Volume: 1 mL
Date Analyzed:	08/27/2010 1632		Final Weight/Volume: 1 mL
Date Prepared:	N/A		
Date Leached:	08/27/2010 1446	Leachate Batch: 280-28982	

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
pH adj. to 25 deg C-Soluble	9.29	9.350	1	5	

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Method Blank - Batch: 280-30242

Method: 9056M
Preparation: N/A

Lab Sample ID: MB 280-30065/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/04/2010 0201
Date Prepared: N/A
Date Leached: 09/03/2010 1430

Analysis Batch: 280-30242
Prep Batch: N/A
Units: mg/Kg

Leachate Batch: 280-30065

Instrument ID: WC_IC8
Lab File ID: 155.TXT
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	MDL	RL
Nitrate as N-Soluble	0.30	U	0.30	2.4
Nitrite as N-Soluble	0.33	U	0.33	2.4
Orthophosphate as P-Soluble	2.23	B	1.2	4.9

Method Reporting Limit Check - Batch: 280-30242

Method: 9056M
Preparation: N/A

Lab Sample ID: MRL 280-30242/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/03/2010 1337
Date Prepared: N/A

Analysis Batch: 280-30242
Prep Batch: N/A
Units: mg/L

Instrument ID: WC_IC8
Lab File ID: 112.TXT
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N-Soluble	0.200	0.200	100	50 - 150	B
Nitrite as N-Soluble	0.200	0.190	95	50 - 150	B
Orthophosphate as P-Soluble	0.200	0.260	130	50 - 150	B

Lab Control Sample - Batch: 280-30242

Method: 9056M
Preparation: N/A

Lab Sample ID: LCS 280-30242/45
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/04/2010 0144
Date Prepared: N/A

Analysis Batch: 280-30242
Prep Batch: N/A
Units: mg/Kg

Instrument ID: WC_IC8
Lab File ID: 154.TXT
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N-Soluble	5.00	5.02	100	90 - 110	
Nitrite as N-Soluble	5.00	4.99	100	90 - 110	
Orthophosphate as P-Soluble	5.00	4.76	95	90 - 110	

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Matrix Spike - Batch: 280-30242

Method: 9056M
Preparation: N/A

Lab Sample ID: 280-6759-2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/04/2010 0251
Date Prepared: N/A
Date Leached: 09/03/2010 1430

Analysis Batch: 280-30242
Prep Batch: N/A
Units: mg/Kg

Leachate Batch: 280-30065

Instrument ID: WC_IC8
Lab File ID: 158.TXT
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 5 mL

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N-Soluble	1.8	B	53.9	56.84	102	80 - 120	
Nitrite as N-Soluble	0.36	U	53.9	55.87	104	80 - 120	
Orthophosphate as P-Soluble	1.7	B	53.9	51.99	93	80 - 120	

Duplicate - Batch: 280-30242

Method: 9056M
Preparation: N/A

Lab Sample ID: 280-6759-2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/04/2010 0234
Date Prepared: N/A
Date Leached: 09/03/2010 1430

Analysis Batch: 280-30242
Prep Batch: N/A
Units: mg/Kg

Leachate Batch: 280-30065

Instrument ID: WC_IC8
Lab File ID: 157.TXT
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Nitrate as N-Soluble	1.8	B	1.83	0	15	B
Nitrite as N-Soluble	0.36	U	0.36	NC	15	U
Orthophosphate as P-Soluble	1.7	B	1.40	21	15	B M

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Method Blank - Batch: 280-30243

Method: 9056M
Preparation: N/A

Lab Sample ID: MB 280-30065/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/04/2010 0201
Date Prepared: N/A
Date Leached: 09/03/2010 1430

Analysis Batch: 280-30243
Prep Batch: N/A
Units: mg/Kg

Leachate Batch: 280-30065

Instrument ID: WC_IC8
Lab File ID: 155.TXT
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	MDL	RL
Chloride-Soluble	1.9	U	1.9	4.9
Bromide-Soluble	0.38	U	0.38	1.9
Sulfate-Soluble	1.7	U	1.7	4.9
Fluoride-Soluble	0.80	U	0.80	4.9

Method Reporting Limit Check - Batch: 280-30243

Method: 9056M
Preparation: N/A

Lab Sample ID: MRL 280-30243/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/03/2010 1337
Date Prepared: N/A

Analysis Batch: 280-30243
Prep Batch: N/A
Units: mg/L

Instrument ID: WC_IC8
Lab File ID: 112.TXT
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chloride-Soluble	1.00	1.02	102	50 - 150	B
Bromide-Soluble	0.200	0.280	140	50 - 150	B
Sulfate-Soluble	1.00	1.07	107	50 - 150	B
Fluoride-Soluble	0.200	0.180	90	50 - 150	B

Lab Control Sample - Batch: 280-30243

Method: 9056M
Preparation: N/A

Lab Sample ID: LCS 280-30243/45
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/04/2010 0144
Date Prepared: N/A

Analysis Batch: 280-30243
Prep Batch: N/A
Units: mg/Kg

Instrument ID: WC_IC8
Lab File ID: 154.TXT
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chloride-Soluble	25.0	24.86	99	90 - 110	
Bromide-Soluble	5.00	4.95	99	90 - 110	
Sulfate-Soluble	25.0	24.93	100	90 - 110	
Fluoride-Soluble	5.00	4.97	99	90 - 110	

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Matrix Spike - Batch: 280-30243

Method: 9056M
Preparation: N/A

Lab Sample ID: 280-6759-2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/04/2010 0251
Date Prepared: N/A
Date Leached: 09/03/2010 1430

Analysis Batch: 280-30243
Prep Batch: N/A
Units: mg/Kg

Leachate Batch: 280-30065

Instrument ID: WC_IC8
Lab File ID: 158.TXT
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 5 mL

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Chloride-Soluble	2.7	B	270	275.8	101	80 - 120	
Bromide-Soluble	0.42	U	53.9	54.68	101	80 - 120	
Sulfate-Soluble	5.5		270	282.1	103	80 - 120	
Fluoride-Soluble	0.89	U	53.9	53.93	100	80 - 120	

Duplicate - Batch: 280-30243

Method: 9056M
Preparation: N/A

Lab Sample ID: 280-6759-2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/04/2010 0234
Date Prepared: N/A
Date Leached: 09/03/2010 1430

Analysis Batch: 280-30243
Prep Batch: N/A
Units: mg/Kg

Leachate Batch: 280-30065

Instrument ID: WC_IC8
Lab File ID: 157.TXT
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Chloride-Soluble	2.7	B	2.70	0	15	B
Bromide-Soluble	0.42	U	0.42	NC	15	U
Sulfate-Soluble	5.5		5.29	4	15	B
Fluoride-Soluble	0.89	U	0.89	NC	15	U

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-6759-1
Sdg Number: J00839

Duplicate - Batch: 280-29021

Method: D-2216
Preparation: N/A

Lab Sample ID: 280-6759-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/27/2010 1736
Date Prepared: N/A

Analysis Batch: 280-29021
Prep Batch: N/A
Units: %

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Percent Moisture	0.10	U	0.10	NC	20	U

0.1°C # 8-26-10 RZ JRD 8/19/10

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-174-030	Page ~~1 of 2~~ 1 of 1

Collector WT Sexsmith	**Company Contact** Joan Kessner	**Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH
Price Code 8G	**Data Turnaround** 15 Days		
Project Designation ARRA Remaining Sites Confirmation Sampling - Soil Full Pr	**Sampling Location** 100-D-94 Test Pit		**SAF No.** RC-174
Ice Chest No. NA	**Field Logbook No.** EL-1649	**COA** S10D94A000	**Method of Shipment** Hand Deliver
Shipped To TestAmerica Incorporated, Richland	**Offsite Property No.** N/A		**Bill of Lading/Air Bill No.** N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 C

Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None						
Type of Container	G/P	G/P	G/P	aG	P						
No. of Container(s)	1	1	1	1	1						
Volume	60mL	60mL	60mL	60mL	500mL						
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	See item (2) in Special Instructions.	VOA - 8260A (TCL)	See item (3) in Special Instructions.						

Sample No.	Matrix *	Sample Date	Sample Time										
J1C0L4	SOIL	8/19/10	1445	✓									EB
J1C0L5	SOIL	8/19/10	1450	✓	✓	✓							2m
J1C0L6	SOIL	8/19/10	1510	✓	✓	✓							3m
J1C0L7	SOIL	8/19/10	1450	✓	✓	✓							D
~~J1C0L8~~ JRD 8/19/10	SOIL												

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Whitney T. Sexsmith	1520 8/19/10	JR DeBruigne JRD	1520 8/19/10
JR DeBruigne JRD	1630 8/19/10	J.E. Bennett	1630 8-19-10
J.E. Bennett WCH	1700 8-23-10	Lucas Velazquez	1700 8/23/10
Angelica Angel	0800 8-24-10	Lana Muller	8/24/10 0900

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Close-out List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV) {Mercury}

(2) IC Anions - 9056 Modified {Bromide, Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphorous in phosphate, Sulfate}; NO2/NO3 - 353.2; pH (Soil) - 9045

(3) Gamma Spec (Client List) {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gross Alpha & Gross Beta

SDGJ00839

REVIEWED BY SJD14 DATE 8/23/10

Matrix *

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

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Project 28002142 -6010TR -Solid

Analytical Due:

Report Due: 9/10/2010

Sample Check-in List

Date/Time Received: 8/26 GM Screen Result 12 microR/hr

Client: Washington Closure Hanford SDG #: J00839 NA[ ] SAF #: RC-174 NA [ ]

Job Number: 6759 Chain of Custody # RC-174-030

Shipping Container ID: _____ Air Bill # 7938 4947 7700

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: 0.1 NA [ ] 5. Vermiculite/packing materials is NA [ ] Wet [ ] Dry [ ]
6. Number of samples in shipping container: 4
7. Sample holding times exceeded? NA [ ] Yes [ ] No [✓]
8. Samples have:
   - ✓ Tape
   - ✓ Custody Seals
   - ✓ Hazard Lables
   - ✓ Appropriate Sample Lables
9. Samples are:
   - ✓ In Good Condition
   - ___ Broken
   - ___ Leaking
   - ___ Have Air Bubbles (Only for samples requiring no head space.)
10. Sample pH taken? NA [✓] 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 [ ] No [✓]
13. Description of anomalies (include sample numbers): _____

Sample Custodian: Lina Miller Date: 8/26/10

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[ ] No action necessary; process as is.

Project Manager [signature] Date 8/27/10

From: Origin ID: PSCA (509) 375-3131
Shipping Dept.
TESTAMERICA LABORATORIES
2800 GEORGE WASHINGTON WAY

RICHLAND, WA 99354

FedEx. Express

J10201008090225

Ship Date: 24AUG10
ActWgt: 23.0 LB
CAD: 1033413/INET3060

Delivery Address Bar Code

Ref # WCH/RC-119-041
Invoice #
PO #
Dept #

SHIP TO: (303) 736-0100 BILL SENDER

SAMPLE RECEIVING DENVER
TESTAMERICA DENVER
4955 YARROW ST

ARVADA, CO 80002

TRK# 0201 7938 4947 7700

WED - 25 AUG A1
PRIORITY OVERNIGHT

80002
CO-US
DEN

XH WHHA

508G4/03D5/9A24

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 valueof 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 $500, 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.