

SAF-RC-074

**100-D/DR Burial Grounds & Remaining
Sites – Soil In-Process**

FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21

KW 1/29/13
INITIAL/DATE

COMMENTS:

SDG J01672 SAF RC-074

Rad only

Chem only

Rad & Chem

Complete

Partial

Waste Site: 100-D-100 In-Situ BCL 18-30' bgs

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 49 Pages

Report No.: 54357

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.
J01672	RC-074	J1RCF5	J3A210426-1	MXW821AC	9MXW8210	3021048
		J1RCF6	J3A210426-2	MXW851AC	9MXW8510	3021048
		J1RCF7	J3A210426-3	MXW861AC	9MXW8610	3021048
		J1RCF8	J3A210426-4	MXW871AC	9MXW8710	3021048
		J1RCF9	J3A210426-5	MXW891AC	9MXW8910	3021048
		J1RCH0	J3A210426-6	MXW9E1AC	9MXW9E10	3021048
		J1RCH1	J3A210426-7	MXW9H1AC	9MXW9H10	3021048
		J1RCH2	J3A210426-8	MXW9L1AC	9MXW9L10	3021048
		J1RCH3	J3A210426-9	MXW9P1AC	9MXW9P10	3021048
		J1RCH4	J3A210426-10	MXW9R1AC	9MXW9R10	3021048
		J1RCH5	J3A210426-11	MXW901AC	9MXW9010	3021048
		J1RCH6	J3A210426-12	MXW921AC	9MXW9210	3021048
		J1RCH7	J3A210426-13	MXW951AC	9MXW9510	3021048
		J1RCH8	J3A210426-14	MXW971AC	9MXW9710	3021048
		J1RCH9	J3A210426-15	MXW991AC	9MXW9910	3021048
		J1RCJ0	J3A210426-16	MXXAE1AC	9MXXAE10	3021048
		J1RCJ1	J3A210426-17	MXXAF1AC	9MXXAF10	3021048
		J1RCJ2	J3A210426-18	MXXAG1AC	9MXXAG10	3021048
		J1RCJ3	J3A210426-19	MXXAH1AC	9MXXAH10	3021048
		J1RCJ4	J3A210426-20	MXXAJ1AC	9MXXAJ10	3021048



THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

TestAmerica Laboratories, Inc.

Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354

January 25, 2013

Attention: Joan Kessner

SAF Number	:	RC-074
Date SDG Closed	:	January 21, 2013
Number of Samples	:	Twenty (20)
Sample Type	:	Soil
SDG Number	:	J01672
Data Deliverable	:	Quick Turn Metals / Summary

CASE NARRATIVE

I. Introduction

On January 21, 2013, twenty soil samples were received at TestAmerica for analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Washington Closure Hanford (WCH) specific ID;

WCH ID#	TARL ID#	MATRIX	DATE OF RECEIPT
J1RCF5	MXW82	SOIL	1/21/13
J1RCF6	MXW85	SOIL	1/21/13
J1RCF7	MXW86	SOIL	1/21/13
J1RCF8	MXW87	SOIL	1/21/13
J1RCF9	MXW89	SOIL	1/21/13
J1RCH0	MXW9E	SOIL	1/21/13
J1RCH1	MXW9H	SOIL	1/21/13
J1RCH2	MXW9L	SOIL	1/21/13
J1RCH3	MXW9P	SOIL	1/21/13
J1RCH4	MXW9R	SOIL	1/21/13
J1RCH5	MXW90	SOIL	1/21/13
J1RCH6	MXW92	SOIL	1/21/13
J1RCH7	MXW95	SOIL	1/21/13
J1RCH8	MXW97	SOIL	1/21/13
J1RCH9	MXW99	SOIL	1/21/13
J1RCJ0	MXXAE	SOIL	1/21/13
J1RCJ1	MXXAF	SOIL	1/21/13
J1RCJ2	MXXAG	SOIL	1/21/13
J1RCJ3	MXXAH	SOIL	1/21/13
J1RCJ4	MXXAJ	SOIL	1/21/13

Washington Closure Hanford
January 25, 2013

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:

ICP Metals

ICP Metals by method SW-846 6010A

Chemical Analysis

Hexavalent Chromium by EPA method 7196A

IV. Quality Control

SDG J01672 includes a minimum of one Laboratory Control Samples (LCS), one method (reagent) blank, a duplicate sample, matrix spike sample and a matrix spike duplicate sample. Any exceptions have been noted in the "Comments" section.

Blanks and LCS are reported in mg/L units, other QC and sample results are reported in the same units.

V. Comments

ICP Metals

ICP Metals by method SW-846 6010A

One batch was analyzed for the samples with the standard metal request list.

Batch 3021052:

The LCS, batch blank, samples, sample duplicate, MS, MSD, ICB, ICV, CCB and CCV results are within contractual limits.

Chemical Analysis

Hexavalent Chromium by EPA method 7196A

One batch was analyzed.

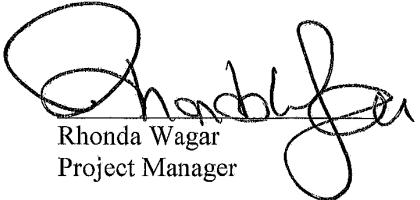
Batch 3021048:

The LCS, batch blank, samples, sample duplicate (J1RCF5) and sample matrix spike (J1RCF5) 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.

Washington Closure Hanford
January 25, 2013

Reviewed and approved:



Rhonda Wagar
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, $R = \text{constants} * f(x,y,z,...)$. 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/\sqrt{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) <i>u_c - Combined Uncertainty</i>	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, <i>u_c</i> the <i>combined uncertainty</i> . 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%. $Lc = (1.645 * \text{Sqrt}(2 * (\text{BkgrndCnt/BkgrndCntMin}) / \text{SCntMin})) * (\text{ConvFct} / (\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$. 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%. $MDC = (4.65 * \text{Sqrt}((\text{BkgrndCnt/BkgrndCntMin}) / \text{SCntMin}) + 2.71 / \text{SCntMin}) * (\text{ConvFct} / (\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$. 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 = $(S-D)/[\sqrt{TPUs^2 + TPUsd^2}]$ 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 TPUsd 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

Date: 25-Jan-13

TestAmerica TARL

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

Report No. : 54357

SDG No: J01672

Client Id Batch	Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDL	CRDL	RPD
3021048 7196_CR6									
J1RCF5	MXW821AC	HEXCHROME	2.39E-01	+- 0.0E+00	mg/kg	N/A	1.55E-01	1.55E-01	
	MXW821AM	HEXCHROME	2.39E-01	+- 0.0E+00	mg/kg	N/A	1.55E-01	3.50E-01	0.0
J1RCF6	MXW851AC	HEXCHROME	2.81E-01	+- 0.0E+00	mg/kg	N/A	1.55E-01	1.55E-01	
J1RCF7	MXW861AC	HEXCHROME	1.70E-01	+- 0.0E+00	mg/kg	N/A	1.55E-01	1.55E-01	
J1RCF8	MXW871AC	HEXCHROME	2.56E-01	+- 0.0E+00	mg/kg	N/A	1.55E-01	1.55E-01	
J1RCF9	MXW891AC	HEXCHROME	2.58E-01	+- 0.0E+00	mg/kg	N/A	1.55E-01	1.55E-01	
J1RCH0	MXW9E1AC	HEXCHROME	3.24E-01	+- 0.0E+00	mg/kg	N/A	1.55E-01	1.55E-01	
J1RCH1	MXW9H1AC	HEXCHROME	6.26E-01	+- 0.0E+00	mg/kg	N/A	1.55E-01	1.55E-01	
J1RCH2	MXW9L1AC	HEXCHROME	3.77E-01	+- 0.0E+00	mg/kg	N/A	1.55E-01	1.55E-01	
J1RCH3	MXW9P1AC	HEXCHROME	3.34E-01	+- 0.0E+00	mg/kg	N/A	1.55E-01	1.55E-01	
J1RCH4	MXW9R1AC	HEXCHROME	3.43E-01	+- 0.0E+00	mg/kg	N/A	1.55E-01	1.55E-01	
J1RCH5	MXW901AC	HEXCHROME	4.81E-01	+- 0.0E+00	mg/kg	N/A	1.55E-01	1.55E-01	
J1RCH6	MXW921AC	HEXCHROME	4.83E-01	+- 0.0E+00	mg/kg	N/A	1.55E-01	1.55E-01	
J1RCH7	MXW951AC	HEXCHROME	4.00E-01	+- 0.0E+00	mg/kg	N/A	1.55E-01	1.55E-01	
J1RCH8	MXW971AC	HEXCHROME	4.24E-01	+- 0.0E+00	mg/kg	N/A	1.55E-01	1.55E-01	
J1RCH9	MXW991AC	HEXCHROME	5.10E-01	+- 0.0E+00	mg/kg	N/A	1.55E-01	1.55E-01	
J1RCJ0	MXXAE1AC	HEXCHROME	6.38E-01	+- 0.0E+00	mg/kg	N/A	1.55E-01	1.55E-01	
J1RCJ1	MXXAF1AC	HEXCHROME	3.60E-01	+- 0.0E+00	mg/kg	N/A	1.55E-01	1.55E-01	
J1RCJ2	MXXAG1AC	HEXCHROME	4.82E-01	+- 0.0E+00	mg/kg	N/A	1.55E-01	1.55E-01	
J1RCJ3	MXXAH1AC	HEXCHROME	3.69E-01	+- 0.0E+00	mg/kg	N/A	1.55E-01	1.55E-01	

TestAmerica RPD - Relative Percent Difference.

rptSTLRchSaSum
mary2 V5.2.23
A2002

Sample Results Summary

Date: 25-Jan-13

TestAmerica TARL

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

Report No. : 54357**SDG No: J01672**

Client Id Batch	Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDL	CRDL	RPD
3021048 7196_CR6	J1RCJ4	MXXAJ1AC HEXCHROME	4.51E-01 +- .00E+00		mg/kg	N/A	1.55E-01	1.55E-01	
		No. of Results: 21							

TestAmerica RPD - Relative Percent Difference.

rptSTLRchSaSum
mary2 V5.2.23
A2002

QC Results Summary
TestAmerica TARL
 Ordered by Method, Batch No, QC Type,.

Date: 25-Jan-13

Report No. : 54357

SDG No.: J01672

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDL
7196_CR6								
3021048 MATRIX SPIKE, J1RCF5 MXW821AL	HEXCHROME	2.87E+01 +- 0.0E+00		mg/kg	N/A	94%	-0.1	1.55E-01
3021048 LCS, MXXCV1AC	HEXCHROME	1.87E+01 +- 0.0E+00		mg/kg	N/A	98%	0.0	1.55E-01
3021048 BLANK QC, MXXCV1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A			1.55E-01
No. of Results: 3								

TestAmerica Bias - (Result/Expected)-1 as defined by ANSI N13.30.
 rptSTLRchQcSum U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or
 mary V5.2.23 not identified by gamma scan software.
 A2002

FORM I
SAMPLE RESULTS

Date: 25-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A210426-1
Client Sample ID: J1RCF5

SDG: J01672
Report No.: 54357
COC No.: RC-074-449

Parameter	Result	Count	Total	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3021048	7196 CR6	Work Order:	MXW821AC	Report DB ID: 9MXW8210							
HEXCROME	2.39E-01	0.0E+00	1.55E-01 mg/kg	N/A	(1.5)	1.55E-01	N/A	1/21/13 02:00 p	2.5064	g	

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 25-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A210426-2
Client Sample ID: J1RCF6

SDG: J01672
Report No. : 54357
COC No. : RC-074-449

Collection Date: 1/18/2013 8:52:00 AM
Received Date: 1/21/2013 10:55:00 AM
Matrix: SOIL

Parameter	Result	Count	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUncrt	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3021048 HEXCHROME	7196 CR6	2.81E-01	0.0E+00	MXW851AC Work Order: MXW851AC	1.55E-01 mg/kg	N/A	Report DB ID: 9MXW8510 (1.8)	1/21/13 02:00 p	2.5042 g		
					1.55E-01	N/A					

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 25-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A210426-3
Client Sample ID: J1RCFF7

SDG: J01672
Report No.: 54357
COC No.: RC-074-449

Parameter	Result	Count	Total	MDL,	Rpt Unit,	Yield	Rst/MDL,	Analysis,	Total Sa	Aliquot	Primary
		Qual	Error (2 s)	Action Lev	Lc	CRDL(RL)	Rst/TotUncrt	Prep Date	Size	Size	Detector
Batch: 3021048	7196 CR6		Work Order: MXW861AC	MXW861AC		Report DB ID: 9MXW8610					
HEXCHROME	1.70E-01	0.0E+00		1.55E-01	mg/kg	N/A	(1.1)	1/21/13 02:00 p		2.5048	g

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 25-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A210426-4
Client Sample ID: J1RCF8

SDG: J01672
Report No.: 54357
COC No.: RC-074-449

Collection Date: 1/18/2013 9:01:00 AM
Received Date: 1/21/2013 10:55:00 AM
Matrix: SOIL

Parameter	Result	Count	Total	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUncrt	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3021048	7196 CR6	Work Order: MXW871AC	Report DB ID: 9MXW8710								
HEXCHROME	2.56E-01	0.0E+00	1.55E-01 mg/kg	1.55E-01	N/A	(1.7)	1/21/13 02:00 p	2.5081			g

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 25-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A210426-5
Client Sample ID: J1RCF9

SDG: J01672
Report No. : 54357
COC No. : RC-074-449

Collection Date: 1/18/2013 9:09:00 AM
Received Date: 1/21/2013 10:55:00 AM
Matrix: SOIL

Parameter	Result	Count	Total	Rpt Unit,	Yield	Analysis,	Total Sa	Aliquot	Primary
		Error (2 s)	Uncert(2 s)	MDL, Action Lev	CRDL(RL)	Rst/Tot/Ucert	Size	Size	Detector
Batch: 3021048	7196 CR6			Work Order: MXW891AC	Report DB ID: 9MXW8910				
HEXCROME	2.58E-01	0.0E+00	1.55E-01	mg/kg	N/A	(1.7)	1/21/13 02:00 p	2.5017	

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 25-Jan-13

Lab Name: TestAmerica
 Lot-Sample No.: J3A210426-6
 Client Sample ID: J1RCH0

SDG: J01672
 Report No.: 54357
 COC No.: RC-074-449

Collection Date: 1/18/2013 9:13:00 AM
 Received Date: 1/21/2013 10:55:00 AM
 Matrix: SOIL

Parameter	Result	Count	Total	MDL, Action Lev	Rpt Unit, Lc	Yield	Rst/MDL, Rst/TotUncrt	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3021048	7196 CR6	Work Order:	MXW9E1AC	Report DB ID: 9MXW9E10							
HEXCROME	3.24E-01	0.0E+00	1.55E-01	mg/kg	N/A	(2.1)	1/21/13 02:00 p		2.5036	g	

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 25-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A210426-7
Client Sample ID: J1RCH1

SDG: J01672
Report No. : 54357
COC No. : RC-074-449

Collection Date: 1/18/2013 9:15:00 AM
Received Date: 1/21/2013 10:55:00 AM
Matrix: SOIL

Parameter	Result	Count	Total	Rpt Unit,	Yield	Analysis,	Total Sa	Aliquot	Primary
		Qual	Uncert(2 s)	Action Lev	CRDL(Lc)	Rst/Tot/Ucert	Size	Size	Detector
Batch: 3021048	7196 CR6	Work Order: MXW9H1AC		MDL, Rpt Unit, Lc		Report DB ID: 9MXW9H10			
HEXCROME	6.26E-01	0.0E+00	1.55E-01	mg/kg	N/A	(4.)	1/21/13 02:00 p	2.506	

No. of Results: 1 **Comments:**

FORM I
SAMPLE RESULTS

Date: 25-Jan-13

Lab Name: TestAmerica
 Lot-Sample No.: J3A210426-8
 Client Sample ID: J1RCH2

SDG: J01672
 Report No.: 54357
 COC No.: RC-074-449

Collection Date: 1/18/2013 9:18:00 AM

Received Date: 1/21/2013 10:55:00 AM

Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Count	Total	MDL, Action Lev	Rpt Unit, Lc	Yield	Rst/MDL, Rst/(RL)	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3021048	7196 CR6	Work Order:	MXW9L1AC	Report DB ID: 9MXW9L10							
HEXCHROME	3.77E-01	Uncert(2 s)	0.0E+00	1.55E-01 mg/kg	N/A	(2.4)	1/21/13 02:00 p	2.5008	9	N/A	

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 25-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A210426-9
Client Sample ID: J1RCH3

SDG: J01672
Report No.: 54357
COC No.: RC-074-449

Collection Date: 1/18/2013 9:24:00 AM
Received Date: 1/21/2013 10:55:00 AM
Matrix: SOIL

Parameter	Result	Count	Total	MDL, Action Lev	Rpt Unit, Lc	Yield	Rst/MDL, Rst/TotUncrt	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3021048	7196 CR6	Work Order: MXW9P1AC	Report DB ID: 9MXW9P10								
HEXCROME	3.34E-01	0.0E+00	1.55E-01	mg/kg	N/A	(2.2)	1/21/13 02:00 p	2.506		g	

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 25-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A210426-10
Client Sample ID: J1RCH4

Parameter	Result	Count	Total	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3021048	7196_CRG	Work Order: MXW9R1AC					Report DB ID: 9MXW9R10				
HEXCHROME	3.43E-01	0.0E+00	1.55E-01	mg/kg	N/A	(2.2)	1/21/13 02:00 p	2.5087		g	

No. of Results: 1 **Comments:**

FORM I
SAMPLE RESULTS

Date: 25-Jan-13

Lab Name: TestAmerica
 Lot-Sample No.: J3A210426-11
 Client Sample ID: J1RCH5

SDG: J01672

Report No.: 54357

COC No.: RC-074-449

Collection Date: 1/18/2013 9:34:00 AM

Received Date: 1/21/2013 10:55:00 AM

Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Count	Total	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, RsUTotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3021048 HEXCHROME	7196_CRF6 4.81E-01	Work Order: MXW901AC 0.00E+00	Report DB ID: 9MXW9010 1.55E-01 mg/kg	Report DB ID: 9MXW9010 N/A (3.1) 1.55E-01 N/A	1/21/13 02:00 p 2.5053 g						
No. of Results: 1	Comments:										

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.
 V5.2.23 A2002

FORM I
SAMPLE RESULTS

Date: 25-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A210426-12
Client Sample ID: J1RCH6

SDG: J01672
Report No. : 54357
COC No. : RC-074-449

Collection Date: 1/18/2013 9:39:00 AM
Received Date: 1/21/2013 10:55:00 AM
Matrix: SOIL

Parameter	Result	Count	Total	MDL,	Rpt Unit,	Yield	Rst/MDL,	Analysis,	Total Sa	Aliquot	Primary
		Qual	Uncert(2 s)	Action Lev	Lc	CRDL(RL)	Rst/TotUncrt	Prep Date	Size	Size	Detector
Batch: 3021048	7196 CR6		Work Order: MXW921AC			Report DB ID: 9MXW9210					
HEXCHROME	4.83E-01	0.0E+00	0.55E-01	mg/kg	N/A	(3.1)	1/21/13 02:00 p		2.5063		g

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 25-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A210426-13
Client Sample ID: J1RCH7

SDG: J01672
Report No.: 54357
COC No.: RC-074-449

Collection Date: 1/18/2013 9:47:00 AM
Received Date: 1/21/2013 10:55:00 AM
Matrix: SOIL

Parameter	Result	Count	Total	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3021048	7196 CR6	Work Order:	MXW951AC	MXW951AC	Report DB ID: 9MXW9510						
HEXCHROME	4.00E-01	0.0E+00	1.55E-01	mg/kg	N/A	(2.6)	1/21/13 02:00 p	2.5059			g

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 25-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A210426-14
Client Sample ID: J1RCH8

SDG: J01672
Report No.: 54357
COC No.: RC-074-449

Parameter	Result	Count	Total	MDL,	Rpt Unit,	Yield	Rst/MDL,	Analysis,	Total Sa	Aliquot	Primary
		Qual	Error (2 s)	Action Lev	Lc	CRDL(RL)	Rst/TotUncrt	Prep Date	Size	Size	Detector
Batch: 3021048 HEXCHROME	7196 CR6	4.24E-01	0.0E+00	MXW971AC	mg/kg	Report DB ID: 9MXW9710					
				1.55E-01		N/A	(2.7)	1/21/13 02:00 p		2.5011	g

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 25-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A210426-15
Client Sample ID: J1RCH9

SDG: J01672
Report No.: 54357
COC No.: RC-074-449

Collection Date: 1/18/2013 9:55:00 AM

Received Date: 1/21/2013 10:55:00 AM

Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Count	Total	MDL,	Rpt Unit,	Yield	Rst/MDL,	Analysis,	Total Sa	Aliquot	Primary
		Qual	Error (2 s)	Action Lev	Lc	CRDL(RL)	Rst/TotUcert	Prep Date	Size	Size	Detector
Batch: 3021048	7196 CR6		Work Order: MXWV991AC			Report DB ID: 9MXWV9910					
HEXCROME	5.10E-01	0.0E+00	1.55E-01	mg/kg	N/A	(3.3)	1/21/13 02:00 p		2.5092		g

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 25-Jan-13

Lab Name: TestAmerica
 Lot-Sample No.: J3A210426-16
 Client Sample ID: J1RCJ0

SDG: J01672
 Report No.: 54357
 COC No.: RC-074-449

Collection Date: 1/18/2013 10:00:00 AM
 Received Date: 1/21/2013 10:55:00 AM
 Matrix: SOIL

Parameter	Result	Count	Total	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3021048	7196_CR6	Work Order: MXXAE1AC	Report DB ID: 9MXXAE10								
HEXCHROME	6.38E-01	0.0E+00	1.55E-01	mg/kg	N/A	(4.1)	1/21/13 02:00 p		2.5015	g	

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 25-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A210426-17
Client Sample ID: J1RCJ1

SDG: J01672
Report No. : 54357
COC No. : RC-074-449

Collection Date: 1/18/2013 10:07:00 AM
Received Date: 1/21/2013 10:55:00 AM
Matrix: SOIL

Parameter	Result	Count	Total	MDL,	Rpt Unit,	Yield	Rst/MDL,	Analysis,	Total Sa	Aliquot	Primary
		Error (2 s)	Uncert(2 s)	Action Lev	Lc	CRDL(RL)	Rst/TotUncrt	Prep Date	Size	Size	Detector
Batch: 3021048	7196 CR6		Work Order: MXXAF1AC		Report DB ID: 9MXXAF10						
HEXCHROME	3.60E-01	0.0E+00	1.55E-01	mg/kg	N/A	(2.3)	1/21/13 02:00 p		2.5065		g

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 25-Jan-13

Lab Name: TestAmerica
 Lot-Sample No.: J3A210426-18
 Client Sample ID: J1RCJ2

SDG: J01672
 Report No.: 54357
 COC No.: RC-074-449

Collection Date: 1/18/2013 10:11:00 AM
 Received Date: 1/21/2013 10:55:00 AM
 Matrix: Soil

Parameter	Result	Count	Total	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3021048	7196_CR6	Work Order: MXXAG1AC	Report DB ID: 9MXXAG10								
HEXCHROME	4.82E-01	0.0E+00	1.55E-01	mg/kg	N/A	(3.1)	1/21/13 02:00 p	2.5063		g	

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 25-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A210426-19
Client Sample ID: J1RCJ3

SDG: J01672
Report No. : 54357
COC No. : RC-074-449

Collection Date: 1/18/2013 10:15:00 AM
Received Date: 1/21/2013 10:55:00 AM
Matrix: SOIL

Parameter	Result	Count	Total	MDL,	Rpt Unit,	Yield	Rst/MDL,	Analysis,	Total Sa	Aliquot	Primary
		Qual	Uncert(2 s)	Action Lev	Lc	CRDL(RL)	Rst/TotUcert	Prep Date	Size	Size	Detector
Batch: 3021048	7196 CR6	Work Order: MXXAH1AC				Report DB ID: 9MXXAH10					
HEXCHROME	3.69E-01	0.0E+00	1.55E-01	mg/kg	N/A	(2.4)	1/21/13 02:00 p	2.5011			

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 25-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A210426-20
Client Sample ID: J1RCJ4

SDG: J01672
Report No. : 54357
COC No. : RC-074-449

Collection Date: 1/18/2013 10:18:00 AM
Received Date: 1/21/2013 10:55:00 AM
Matrix: SOIL

Parameter	Result	Count	Total	MDL,	Rpt Unit,	Yield	Analysis,	Total Sa	Aliquot	Primary
		Qual	Uncert(2 s)	Action Lev.	Lc	CRDL(RL)	Rst/TotUcert	Prep Date	Size	Detector
Batch: 3021048	7196 CR6	Work Order: MXXAJ1AC				Report DB ID: 9MXXAJ10				
HEXCHROME	4.51E-01	0.0E+00	1.55E-01	mg/kg	N/A	(2.9)	1/21/13 02:00 p	2.504	g	

No. of Results: 1 Comments:

FORM II

Date: 25-Jan-13

DUPLICATE RESULTS

Lab Name: TestAmerica
Lot-Sample No.: J3A210426-1
Client Sample ID: J1RCF5

Parameter	Result, Orig Rst	Count	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, CRDL	Rpt/MDL, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3021048	7196_CR6		Work Order: MXW821AM		Report DB ID: MXW821ER	Orig Sa DB ID: 9MXW8210				
HEXCHROME	2.39E-01 2.39E-01	RPD 0.0	0.0E+00	1.55E-01	mg/kg	N/A	(1.5)	1/21/13 02:00 p	2.5038	g

No. of Results: 1 Comments:

TestAmerica RPD - Relative Percent Difference.
 rptSTLRchDupV5. MDCL|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 2.23 A2002

FORM II
BLANK RESULTS

Date: 25-Jan-13

Lab Name: TestAmerica
 Matrix: SOIL

Parameter	Result	Qual	Count	Total	MDL, Lc	Rpt Unit, CRDL	Rst/MDL, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3021048 HEXCHROME	7196_CRL6 1.55E-01	U	Work Order: MXXCV1AA 0.0E+00	1.55E-01	mg/kg	Report DB ID: MXXCV1AB N/A	N/A	1/21/13 02:00 p	1.	2.5	g
No. of Results: 1	Comments:			1.55E-01							

TestAmerica
 rptSTLRchBlank
 V5.2.23 A2002

MDC/MDA₁Lc - 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/Mdl, Total Uncert, CRDL₀, RDL or not identified by gamma scan software.

Date: 25-Jan-13

FORM II
LCS RESULTS

Lab Name: TestAmerica
Matrix: SOIL

SDG: J01672
Report No. : 54357

Parameter	Result	Qual	Count	Total	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 3021048	7196_CR6		Work Order: MXXCV1AC		Report DB ID: MXXCV1AC							
HEXCHROME	1.87E+01	0.0E+00	1.55E-01	mg/kg	N/A	1.90E+01	98%	1/21/13 02:00 p	2.5	g		

No. of Results: 1 Comments:

FORM II
MATRIX SPIKE RESULTS

Date: 25-Jan-13

Lab Name: TestAmerica
 Lot-Sample No.: J3A210426-1, J1RCF5

SDG: J01672
 Report No. : 54357

Parameter	SpikeResult, Orig Rst	Count	Total	Rpt Unit, CRDL	Expected, Uncert	Aliquot Size	Analy Method, Primary Detector
	Qual	Error (2 s)	Uncert(2 s)	MDC MDA	Yield		
Batch: 3021048 HEXCHROME	Work Order: MXW821AL 2.87E+01	Report DB ID: MXW821CW 0.0E+00	Report DB ID: MXW821CW 1.55E-01	Orig Sa DB ID: 9MXW8210 N/A	94.34%	3.05E+01 1/21/13 02:00 p	2.5002 7196_CR6
	2.39E-01					g	

Number of Results: 1

Comments:

TestAmerica RER - Replicate Error Ratio = $(S-D)/[\sqrt{(\sum PUs) + \sqrt{(\sum PUs)}}]$ as defined by ICFT BOA.
 rptSTLRchMs Bias - (Result/Expected)-1 as defined by ANSI N13.30.
 V5.2.23 A2002

Client_id	Result_Cas_nbr	Parameter	Result	Qualifier	Units	Reporting_Limits_SReporting_Limits	Uncertainty_1s	Analyzed_Analzy Decision_level_ic	LCSRRecAddAnalysis_date_time	Batch_nbr	Test_MetricLab_sample_id	
JRCF5	7440-22-4	Ag	-3.59E-02	U	ug/g	9.87E+00	9.87E+00	7.00E-01	0.2534 G	1/21/2013 20:59	3021052 46DQ	
SOIL	CS	7440-35-2	As	1.49E+00	U	ug/g	9.87E+00	8.00E-01	0.2534 G	1/21/2013 20:59	3021052 46DQ	
SOIL	CS	7440-39-3	Ba	6.12E+01	U	ug/g	1.97E+00	1.97E+00	6.20E-01	0.2534 G	1/21/2013 20:59	3021052 46DQ
SOIL	CS	7440-41-7	Beryllium	2.14E-01	U	ug/g	9.87E-02	1.97E+00	1.60E-02	0.2534 G	1/21/2013 20:59	3021052 46DQ
SOIL	CS	7440-43-9	Cadmium	1.61E-01	U	ug/g	9.87E-02	1.97E+00	6.50E-02	0.2534 G	1/21/2013 20:59	3021052 46DQ
SOIL	CS	7440-47-3	Chromium	6.29E+00	U	ug/g	9.87E+00	9.87E+00	2.40E-01	0.2534 G	1/21/2013 20:59	3021052 46DQ
SOIL	CS	7440-50-0	Lead	2.83E+00	U	ug/g	9.87E+00	1.50E-01	0.2534 G	1/21/2013 20:59	3021052 46DQ	
SOIL	CS	7782-49-2	Se	1.46E+00	U	ug/g	9.87E+00	1.10E+00	0.2534 G	1/21/2013 20:59	3021052 46DQ	
SOIL	CS	7440-22-4	Ag	-3.59E-02	U	ug/g	9.92E+00	9.92E+00	0.252 G	1/21/2013 21:16	3021052 46DQ	
SOIL	CS	7440-36-2	As	1.32E+00	U	ug/g	9.92E+00	9.92E+00	0.252 G	1/21/2013 21:16	3021052 46DQ	
SOIL	CS	7440-39-3	Ba	6.13E+01	U	ug/g	1.98E+00	1.98E+00	5.00E-01	0.252 G	1/21/2013 21:16	3021052 46DQ
SOIL	CS	7440-41-7	Beryllium	2.28E-01	U	ug/g	9.92E-02	1.98E+00	1.30E-02	0.252 G	1/21/2013 21:16	3021052 46DQ
SOIL	CS	7440-43-9	Cadmium	1.71E-01	U	ug/g	9.92E+00	1.98E+00	2.70E-02	0.252 G	1/21/2013 21:16	3021052 46DQ
SOIL	CS	7440-47-3	Chromium	6.90E+00	U	ug/g	9.92E+00	1.10E-01	0.252 G	1/21/2013 21:16	3021052 46DQ	
SOIL	CS	7439-92-1	Lead	3.59E+00	U	ug/g	9.92E+00	9.92E+00	0.252 G	1/21/2013 21:16	3021052 46DQ	
SOIL	CS	7782-49-2	Se	8.60E-01	U	ug/g	9.92E+00	9.92E+00	6.70E-01	0.252 G	1/21/2013 21:16	3021052 46DQ
SOIL	CS	7440-22-4	Ag	-3.68E-02	U	ug/g	9.92E+00	9.92E+00	2.70E-01	0.252 G	1/21/2013 21:16	3021052 46DQ
SOIL	CS	7440-35-2	As	1.32E+00	U	ug/g	9.92E+00	9.92E+00	8.20E-01	0.252 G	1/21/2013 21:16	3021052 46DQ
SOIL	CS	7440-39-3	Ba	7.02E+01	U	ug/g	1.98E+00	1.98E+00	5.40E-01	0.252 G	1/21/2013 21:16	3021052 46DQ
SOIL	CS	7440-41-7	Beryllium	2.25E-01	U	ug/g	9.97E-02	1.98E+00	1.30E-02	0.252 G	1/21/2013 21:16	3021052 46DQ
SOIL	CS	7440-43-9	Cadmium	1.84E-01	U	ug/g	9.97E-02	1.98E+00	9.60E-03	0.252 G	1/21/2013 21:16	3021052 46DQ
SOIL	CS	7440-47-3	Chromium	5.66E+00	U	ug/g	9.97E+00	9.97E+00	1.60E-01	0.252 G	1/21/2013 21:16	3021052 46DQ
SOIL	CS	7439-92-1	Lead	2.58E+00	U	ug/g	9.97E+00	9.97E+00	5.60E-01	0.252 G	1/21/2013 21:16	3021052 46DQ
SOIL	CS	7440-41-7	Beryllium	1.79E-01	U	ug/g	9.97E+00	9.97E+00	4.64E-01	0.252 G	1/21/2013 21:16	3021052 46DQ
SOIL	CS	7782-49-2	Se	8.20E-01	U	ug/g	9.97E+00	9.97E+00	8.64E-02	0.252 G	1/21/2013 21:16	3021052 46DQ
SOIL	CS	7440-22-4	Ag	-3.49E-02	U	ug/g	1.00E+01	1.00E+01	1.30E-01	0.2488 G	1/21/2013 21:24	3021052 46DQ
SOIL	CS	7440-35-2	As	1.47E+00	U	ug/g	1.00E+01	1.00E+01	6.80E-02	0.2488 G	1/21/2013 21:24	3021052 46DQ
SOIL	CS	7440-39-3	Ba	5.12E+01	U	ug/g	2.01E+00	2.01E+00	6.80E-01	0.2488 G	1/21/2013 21:24	3021052 46DQ
SOIL	CS	7440-41-7	Beryllium	2.00E-01	U	ug/g	1.00E-01	1.00E-01	4.70E-03	0.2488 G	1/21/2013 21:24	3021052 46DQ
SOIL	CS	7440-43-9	Cadmium	5.70E+00	U	ug/g	9.97E+00	9.97E+00	6.50E-02	0.2488 G	1/21/2013 21:24	3021052 46DQ
SOIL	CS	7440-47-3	Chromium	2.05E+00	U	ug/g	9.97E+00	9.97E+00	1.20E-01	0.2488 G	1/21/2013 21:24	3021052 46DQ
SOIL	CS	7439-92-1	Lead	1.00E+01	U	ug/g	1.00E+01	1.00E+01	1.00E-01	0.2488 G	1/21/2013 21:24	3021052 46DQ
SOIL	CS	7782-49-2	Se	1.00E+01	U	ug/g	9.86E+00	9.86E+00	1.70E-01	0.2526 G	1/21/2013 21:24	3021052 46DQ
SOIL	CS	7440-22-4	Ag	-5.52E-02	U	ug/g	9.86E+00	9.86E+00	6.80E-01	0.2526 G	1/21/2013 21:24	3021052 46DQ
SOIL	CS	7440-35-2	As	1.00E-01	U	ug/g	9.86E+00	9.86E+00	4.90E-01	0.2526 G	1/21/2013 21:24	3021052 46DQ
SOIL	CS	7440-39-3	Ba	9.57E-01	U	ug/g	2.01E+00	2.01E+00	6.50E-02	0.2488 G	1/21/2013 21:24	3021052 46DQ
SOIL	CS	7440-41-7	Beryllium	1.79E-01	U	ug/g	9.86E-02	1.98E+00	3.20E-03	0.2488 G	1/21/2013 21:24	3021052 46DQ
SOIL	CS	7440-43-9	Cadmium	5.70E+00	U	ug/g	1.00E+01	1.00E+01	1.90E-01	0.2488 G	1/21/2013 21:24	3021052 46DQ
SOIL	CS	7440-47-3	Chromium	2.05E+00	U	ug/g	1.00E+01	1.00E+01	1.00E-01	0.2488 G	1/21/2013 21:24	3021052 46DQ
SOIL	CS	7439-92-1	Lead	1.00E+01	U	ug/g	9.86E+00	9.86E+00	1.90E-01	0.2488 G	1/21/2013 21:24	3021052 46DQ
SOIL	CS	7782-49-2	Se	6.76E-01	U	ug/g	9.86E+00	9.86E+00	1.60E-02	0.2488 G	1/21/2013 21:24	3021052 46DQ
SOIL	CS	7440-22-4	Ag	-7.05E-02	U	ug/g	1.79E+00	1.79E+00	1.97E-02	0.2488 G	1/21/2013 21:24	3021052 46DQ
SOIL	CS	7440-35-2	As	1.76E+00	U	ug/g	1.00E-01	1.00E-01	8.60E-03	0.2488 G	1/21/2013 21:24	3021052 46DQ
SOIL	CS	7440-39-3	Ba	7.00E+01	U	ug/g	9.93E+00	9.93E+00	8.50E-02	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7440-41-7	Beryllium	2.40E-01	U	ug/g	9.93E+00	9.93E+00	5.22E-02	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7440-43-9	Cadmium	7.02E+00	U	ug/g	9.93E+00	9.93E+00	2.42E-01	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7440-47-3	Chromium	2.34E+00	U	ug/g	9.93E+00	9.93E+00	2.55E-01	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7439-92-1	Lead	7.77E-01	U	ug/g	9.86E+00	9.86E+00	6.60E-01	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7782-49-2	Se	7.05E-01	U	ug/g	9.93E+00	9.93E+00	3.21E-02	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7440-22-4	Ag	-7.44E-02	U	ug/g	1.79E+00	1.79E+00	5.50E-02	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7440-35-2	As	1.00E-01	U	ug/g	1.79E+00	1.79E+00	8.50E-03	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7440-39-3	Ba	7.00E+01	U	ug/g	9.93E+00	9.93E+00	8.50E-02	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7440-41-7	Beryllium	2.40E-01	U	ug/g	9.93E+00	9.93E+00	5.50E-01	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7440-43-9	Cadmium	7.02E+00	U	ug/g	9.93E+00	9.93E+00	2.42E-01	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7440-47-3	Chromium	2.34E+00	U	ug/g	9.93E+00	9.93E+00	2.55E-01	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7439-92-1	Lead	7.77E-01	U	ug/g	9.86E+00	9.86E+00	6.60E-02	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7782-49-2	Se	7.05E-01	U	ug/g	9.86E+00	9.86E+00	1.20E-02	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7440-22-4	Ag	-7.84E-02	U	ug/g	1.79E+00	1.79E+00	8.50E-03	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7440-35-2	As	1.00E-01	U	ug/g	1.79E+00	1.79E+00	8.50E-04	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7440-39-3	Ba	7.00E+01	U	ug/g	9.93E+00	9.93E+00	8.50E-02	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7440-41-7	Beryllium	2.40E-01	U	ug/g	9.93E+00	9.93E+00	5.50E-01	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7440-43-9	Cadmium	7.02E+00	U	ug/g	9.93E+00	9.93E+00	2.42E-01	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7440-47-3	Chromium	2.34E+00	U	ug/g	9.93E+00	9.93E+00	2.55E-01	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7439-92-1	Lead	7.77E-01	U	ug/g	9.86E+00	9.86E+00	6.60E-02	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7782-49-2	Se	7.05E-01	U	ug/g	9.86E+00	9.86E+00	1.20E-02	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7440-22-4	Ag	-8.23E-02	U	ug/g	1.79E+00	1.79E+00	8.50E-03	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7440-35-2	As	1.00E-01	U	ug/g	1.79E+00	1.79E+00	8.50E-04	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7440-39-3	Ba	7.00E+01	U	ug/g	9.93E+00	9.93E+00	8.50E-02	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7440-41-7	Beryllium	2.40E-01	U	ug/g	9.93E+00	9.93E+00	5.50E-01	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7440-43-9	Cadmium	7.02E+00	U	ug/g	9.93E+00	9.93E+00	2.42E-01	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7440-47-3	Chromium	2.34E+00	U	ug/g	9.93E+00	9.93E+00	2.55E-01	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7439-92-1	Lead	7.77E-01	U	ug/g	9.86E+00	9.86E+00	6.60E-02	0.2526 G	1/21/2013 21:39	3021052 46DQ
SOIL	CS	7782-49-2	Se	7.05E-01	U	ug/g	9.86E+00</td					

Matrix	Result_Cas_nbr	Parameter	Result	Qualifier	Units	Reporting_Limits_S	Reporting_Units	Reporting_Uncertainty_1s	Analyzed_Uncertainty_1s	Decision_Level	IC	LCSSRecd	Analysis date	Time	Batch nbr	Method	Lab sample id
SOIL	CS	7439-92-1 Lead	3.22E+00	U	UGG	1.01E-01	1.01E+01	7.50E-01	7.50E-01	0.2482	G	6.17E-01			3021052 46DQ	MXXAG1AA	
SOIL	CS	7782-49-2 Se	9.59E-01	U	UGG	1.01E-01	1.01E+01	9.60E-01	9.60E-01	0.2482	G	7.92E-01			3021052 46DQ	MXXAH1AA	
SOIL	CS	7440-22-4 Ag	-1.18E-01	U	UGG	9.88E+00	9.88E+00	2.70E-01	2.531 G	2.23E-01					3021052 46DQ	MXXAH1AA	
SOIL	CS	7440-38-2 As	1.44E+00	U	UGG	1.98E+00	1.98E+00	8.70E-01	2.531 G	7.15E-01					3021052 46DQ	MXXAH1AA	
SOIL	CS	7440-39-3 Ba	5.77E+01	U	UGG	1.98E+00	1.98E+00	4.60E-01	0.2531 G	3.78E-01					3021052 46DQ	MXXAH1AA	
SOIL	CS	7440-41-7 Beryllium	2.13E-01	U	UGG	9.38E-02	9.38E-02	2.70E-02	0.2531 G	2.19E-02					3021052 46DQ	MXXAH1AA	
SOIL	CS	7440-43-9 Cadmium	1.51E-01	U	UGG	1.98E+00	1.98E+00	1.60E-02	0.2531 G	1.30E-02					3021052 46DQ	MXXAH1AA	
SOIL	CS	7440-47-3 Chromium	1.02E+01	U	UGG	9.38E+00	9.38E+00	2.00E-01	0.2531 G	1.68E-01					3021052 46DQ	MXXAH1AA	
SOIL	CS	7439-92-1 Lead	3.81E+00	U	UGG	9.38E+00	9.38E+00	1.70E-01	0.2531 G	1.36E-01					3021052 46DQ	MXXAH1AA	
SOIL	CS	7782-49-2 Se	1.05E+00	U	UGG	9.38E+00	9.38E+00	5.90E-01	0.2531 G	4.82E-01					3021052 46DQ	MXXAH1AA	
SOIL	CS	7440-22-4 Ag	-7.03E-02	U	UGG	9.30E+00	9.30E+00	5.70E-02	0.2525 G	4.67E-02					3021052 46DQ	MXXAH1AA	
SOIL	CS	7440-38-2 As	2.34E+00	U	UGG	9.30E+00	9.30E+00	1.60E+00	0.2525 G	1.60E+00					3021052 46DQ	MXXAH1AA	
SOIL	CS	7440-39-3 Ba	6.30E+01	U	UGG	1.98E+00	1.98E+00	1.40E-01	0.2525 G	1.13E-01					3021052 46DQ	MXXAH1AA	
SOIL	CS	7440-41-7 Beryllium	2.29E+01	U	UGG	9.30E-02	9.30E-02	6.40E-03	0.2525 G	5.24E-03					3021052 46DQ	MXXAH1AA	
SOIL	CS	7440-43-9 Cadmium	1.90E-01	U	UGG	1.98E+00	1.98E+00	7.30E-02	0.2525 G	6.00E-02					3021052 46DQ	MXXAH1AA	
SOIL	CS	7440-47-3 Chromium	1.12E+01	U	UGG	9.30E+00	9.30E+00	7.80E-02	0.2525 G	6.41E-02					3021052 46DQ	MXXAH1AA	
SOIL	CS	7439-92-1 Lead	3.71E+00	U	UGG	9.30E+00	9.30E+00	7.10E-01	0.2525 G	5.83E-01					3021052 46DQ	MXXAH1AA	
SOIL	CS	7782-49-2 Se	9.06E-01	U	UGG	9.30E+00	9.30E+00	9.90E+00	0.2525 G	2.88E-01					3021052 46DQ	MXXDF1AA	
SOIL	BLK	7440-22-4 Ag	-4.82E-04	U	MGL	5.00E-02	5.00E-02	4.00E-04	0.2475 L	3.28E-04					3021052 46DQ	MXXDF1AA	
SOIL	BLK	7440-38-2 As	-1.74E-03	U	MGL	5.00E-02	5.00E-02	2.00E-03	0.2475 L	1.68E-03					3021052 46DQ	MXXDF1AA	
SOIL	BLK	7440-39-3 Ba	2.32E-05	U	MGL	1.00E-02	1.00E-02	1.30E-03	0.2475 L	1.08E-05					3021052 46DQ	MXXDF1AA	
SOIL	BLK	7440-41-7 Beryllium	5.62E-06	U	MGL	5.00E-04	5.00E-04	7.50E-05	0.2475 L	1.68E-05					3021052 46DQ	MXXDF1AA	
SOIL	BLK	7440-43-9 Cadmium	2.18E-04	U	MGL	1.00E-02	1.00E-02	2.20E-04	0.2475 L	1.85E-04					3021052 46DQ	MXXDF1AA	
SOIL	BLK	7440-47-3 Chromium	4.98E-05	U	MGL	5.00E-02	5.00E-02	3.00E-04	0.2475 L	2.48E-04					3021052 46DQ	MXXDF1AA	
SOIL	BLK	7439-92-1 Lead	3.73E-01	U	MGL	5.00E-02	5.00E-02	1.10E-02	0.2475 L	8.95E-03					3021052 46DQ	MXXDF1AA	
SOIL	BLK	7782-49-2 Se	2.65E-03	U	MGL	5.00E-02	5.00E-02	3.00E-03	0.2475 L	2.48E-03					3021052 46DQ	MXXDF1AA	
SOIL	BLK	7440-22-4 Ag	9.73E-01	U	MGL	5.00E-02	5.00E-02	2.20E-03	0.2475 L	1.80E-03					3021052 46DQ	MXXDF1AA	
SOIL	LCS	7440-38-2 As	9.64E-01	U	MGL	5.00E-02	5.00E-02	9.80E-03	0.2476 L	8.07E-03					3021052 46DQ	MXXDF1AA	
SOIL	LCS	7440-39-3 Ba	1.03E-00	U	MGL	1.00E-02	1.00E-02	1.00E-02	0.2476 L	7.04E-03					3021052 46DQ	MXXDF1AA	
SOIL	LCS	7440-41-7 Beryllium	9.70E-03	U	MGL	5.00E-04	5.00E-04	3.20E-03	0.2476 L	2.61E-03					3021052 46DQ	MXXDF1AA	
SOIL	LCS	7440-43-9 Cadmium	9.40E-01	U	MGL	1.00E-02	1.00E-02	2.80E-03	0.2476 L	2.28E-03					3021052 46DQ	MXXDF1AA	
SOIL	LCS	7440-47-3 Chromium	2.07E-01	U	MGL	5.00E-02	5.00E-02	7.30E-04	0.2476 L	5.97E-04					3021052 46DQ	MXXDF1AA	
SOIL	LCS	7439-92-1 Lead	9.56E-01	U	MGL	5.00E-02	5.00E-02	6.60E-03	0.2476 L	5.47E-03					3021052 46DQ	MXXDF1AA	
SOIL	LCS	7782-49-2 Se	8.37E-01	U	MGL	5.00E-02	5.00E-02	1.40E-02	0.2476 L	1.16E-02					3021052 46DQ	MXXDF1AA	
SOIL	DUP	7440-22-4 Ag	-8.17E-02	U	UGG	1.00E-01	1.00E-01	9.20E-02	0.2491 G	7.50E-02					3021052 46DQ	MXXDF1AA	
SOIL	DUP	7440-38-2 As	1.17E-00	U	UGG	1.00E-01	1.00E-01	8.10E-01	0.2491 G	6.68E-01					3021052 46DQ	MXXDF1AA	
SOIL	DUP	7440-39-3 Ba	6.75E-01	U	UGG	2.01E-00	2.01E+00	2.40E-01	0.2491 G	1.95E-01					3021052 46DQ	MXXDF1AA	
SOIL	DUP	7440-41-7 Beryllium	9.40E-01	U	UGG	1.00E-01	1.00E-01	1.20E-02	0.2491 G	9.64E-03					3021052 46DQ	MXXDF1AA	
SOIL	DUP	7440-43-9 Chromium	1.93E-01	U	UGG	2.01E-00	2.01E+00	7.20E-02	0.2491 G	5.90E-02					3021052 46DQ	MXXDF1AA	
SOIL	DUP	7440-47-3 Chromium	1.93E-00	U	UGG	1.00E-01	1.00E-01	1.20E-01	0.2491 G	6.93E-02					3021052 46DQ	MXXDF1AA	
SOIL	DUP	7439-92-1 Lead	3.17E-00	U	UGG	1.00E-01	1.00E-01	1.00E+00	0.2491 G	4.27E-01					3021052 46DQ	MXXDF1AA	
SOIL	DUP	7782-49-2 Se	8.37E-02	U	UGG	1.00E-01	1.00E-01	2.80E-01	0.2491 G	2.31E-01					3021052 46DQ	MXXDF1AA	
SOIL	DUP	7440-38-2 As	8.17E-02	U	UGG	1.00E-01	1.00E-01	3.80E-01	0.2472 L	3.14E-01					3021052 46DQ	MXXDF1AA	
SOIL	DUP	7440-39-3 Ba	2.19E-02	U	REC	1.01E-01	1.01E+01	1.01E+01	0.2472 L	2.97E-01					3021052 46DQ	MXXDF1AA	
SOIL	DUP	7440-41-7 Beryllium	2.05E-02	U	REC	2.02E+00	2.02E+00	3.70E+00	0.2472 L	3.07E-00					3021052 46DQ	MXXDF1AA	
SOIL	DUP	7440-43-9 Cadmium	1.86E-02	U	REC	1.01E-01	1.01E-01	8.10E-01	0.2472 L	6.63E-01					3021052 46DQ	MXXDF1AA	
SOIL	DUP	7440-47-3 Chromium	1.95E-02	U	REC	2.02E+00	2.02E+00	1.10E+00	0.2472 L	9.10E-01					3021052 46DQ	MXXDF1AA	
SOIL	DUP	7439-92-1 Lead	1.83E-02	U	REC	1.01E-01	1.01E-01	1.01E+00	0.2472 L	8.88E-01					3021052 46DQ	MXXDF1AA	
SOIL	DUP	7782-49-2 Se	9.38E-02	U	REC	1.01E-01	1.01E-01	2.70E+00	0.2472 L	2.21E+00					3021052 46DQ	MXXDF1AA	
SOIL	DUP	7440-22-4 Ag	1.90E-02	U	REC	1.90E-02	1.90E-02	2.90E-00	0.2472 L	2.37E-00					3021052 46DQ	MXXDF1AA	
SOIL	DUP	7440-38-2 As	1.90E-02	U	REC	1.90E-02	1.90E-02	9.30E-01	0.2472 L	0.95 E-00					3021052 46DQ	MXXDF1AA	
SOIL	DUP	7440-39-3 Ba	2.00E-02	U	REC	1.01E-01	1.01E-01	3.10E-01	0.2472 L	1.71E-00					3021052 46DQ	MXXDF1AA	
SOIL	DUP	7440-41-7 Beryllium	2.00E-02	U	REC	2.02E+00	2.02E+00	2.00E+00	0.2472 L	3.51E+00					3021052 46DQ	MXXDF1AA	
SOIL	DUP	7440-43-9 Cadmium	1.97E-02	U	REC	1.01E-01	1.01E-01	9.98E-02	0.2472 L	8.94E-01					3021052 46DQ	MXXDF1AA	
SOIL	DUP	7440-47-3 Chromium	1.93E-02	U	REC	2.00E+00	2.00E+00	2.00E+00	0.2472 L	2.35E-01					3021052 46DQ	MXXDF1AA	
SOIL	DUP	7439-92-1 Lead	1.82E-02	U	REC	1.82E-02	1.82E-02	9.80E-01	0.2472 L	0.97 E-00					3021052 46DQ	MXXDF1AA	
SOIL	DUP	7782-49-2 Se	1.74E-02	U	REC	1.74E-02	1.74E-02	9.98E+00	0.2472 L	0.91 E-01					3021052 46DQ	MXXDF1AA	

**Richland Laboratory
Data Review Check List
Hexavalent Chromium**

Batch Number(s):	3021048	Lab Sample Numbers or SDG:	J01672
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Method/Test/Parameter: Cr+6 RL-WC-003(Aqueous) RL-WC-004(Solid)

Review Item	Yes (✓)	No (✗)	N/A (✗)	2 nd Level Review (✓)
A. Initial Calibration				
1. Performed at required frequency with required number of levels?	✓			✗
2. Correlation coefficient greater than 0.97?	✓			✗
3. Initial calibration verification (ICV) analyzed immediately after calibration and results within 10% of expected?	✓			✗
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 10% of expected?	✓			✗
2. CCB analyzed at required frequency and all results ≤ reporting limit?	✓			✗
C. Sample Analysis			✓	✗
1. Were any samples with concentrations above the linear range diluted and reanalyzed?				✗
2. Were all sample holding times met?	✓			✗
D. QC Samples				
1. All results for the preparation blank below limits?	✓			✗
2. LCS percent recovery within 85-115%	✓			✗
3. PbCrO ₄ percent recovery within 75-125%?	✓			✗
4. Sample and Duplicate within 20% (aqueous) or 35% (solid) RPD?	✓			✗
5. MS or MS/MSD recoveries within 85-115% (aqueous) or 75-125% (solid)?	✓			✗
6. On MS failure, PDMS within 85-115%?			✓	✗
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 or list NCM number:

Analyst _____

Date 1/21/13 2nd Review

Date 1/22/13

Lot No., Due Date: J3A210426; 01/22/2013
Client, Site: 127642; S00X235B00 HANFORD
QC Batch No., Method Test: 3021052; M6010_S 6010A
SDG, Matrix: J01672; SOIL

1.0 Initial Calibration

- 1.1 Performed at required frequency with required number of levels? Yes No N/A 2nd
- 1.2 Correlation coefficient within QC limits? Yes No N/A 2nd
- 1.3 Initial calibration verification (ICV) analyzed immediately after calibr. and results within QC limits of +/- 10% at 0.75 ppm? Yes No N/A 2nd
- 1.4 ICB analyzed immediately after ICV and concentration of all parameters +/- report limit from zero? RL per RadCalc. Yes No N/A 2nd

2.0 Continuing Calibration

- 2.1 CCV analyzed at required frequency and all parameters within QC limits or +/- 10% at 0.7500 ppm? Yes No N/A 2nd
- 2.2 CCB analyzed at required frequency and all results +/- reporting limit from zero? Yes No N/A 2nd

3.0 Sample Analysis

- 3.1 Were any samples with concentration above the linear range diluted and reanalyzed? Yes No N/A 2nd
- 3.2 Were all sample holding times met? Yes No N/A 2nd

4.0 QC Samples

- 4.1 All results for the preparation blank < reporting limits? Yes No N/A 2nd
- 4.2 MS or MS/MSD recoveries within 20% at 1 ppm and within 20% RPD (for MSD)? Yes No N/A 2nd
- 4.3 LCS precent recovery within 20% at 1 ppm and 20% RPD (for LCSD)? Yes No N/A 2nd
- 4.4 Analytical spikes within QC limits where applicable? Yes No N/A 2nd
- 4.5 ICP only: One serial dilution performed and within 10% of parent per SDG? Yes No N/A 2nd
- 4.6 ICP only: RLV run per batch and within 20% of current values? Yes No N/A 2nd
- 4.7 ICP only: ICSA,ICSAB analyzed at the required frequencies and within 20% of values per dilution record? Yes No N/A 2nd

5.0 Other

- 5.1 Are all nonconformances included and noted? Yes No N/A 2nd
- 5.2 Is the correct date and time of analysis shown? Yes No N/A 2nd
- 5.3 Did the analyst sign and date the digestion log for the analytical run? Yes No N/A 2nd
- 5.4 Correct methodology used? Yes No N/A 2nd
- 5.5 Transcriptions checked? Yes No N/A 2nd
- 5.6 Calculations checked at minimum frequency? Yes No N/A 2nd
- 5.7 Units checked? Yes No N/A 2nd
- 5.8 Verified that appropriate data transferred to ReportDB? Yes No N/A 2nd

6.0 Comments on any 'No' response:

First Level Philip Barolph
TestAmerica Richland
QAS_RADCALCV4.8.58

Date 1/22/13

Second [Signature]

Date 1/22/13

Page 1

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-074-449		Page 1 of 4		
Collector <i>Quincy</i>	Command Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator MESSNER, JH	Price Code 81	SAF No. RC-074	Data Turnaround 21 Days 24 hrs				
Project Designation 100-D/DR Burial Grounds & Remaining Sites - Soil In-Proce	Sampling Location 100-D-100 In-Situ BCL 18-30' bgs	Field Logbook No. EL-1607-15	COA 0100D32600	Method of Shipment Hand Deliver						
Ice Chest No. N/A	Offsite Property No. N/A	Bill of Lading/Air Bill No. N/A								
POSSIBLE SAMPLE HAZARDS/REMARKS None										
Special Handling and/or Storage Cot 4 Deg C										
SAMPLE ANALYSIS <i>✓</i>										
Sample No.	Matrix *	Sample Date <i>1/18/13</i>	Sample Time <i>0849</i>	Sign/Print Names <i>JMB</i>		Date/Time / 355	SPECIAL INSTRUCTIONS			
J1RCF5 MXW82	SOIL	<i>1/18/13</i>	<i>0849</i>	<i>X X</i>		<i>1/18/13</i>	(1) Metals by ICP - 6010 - Quick Turn {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}			
J1RCF6 MXW85	SOIL	<i>1/18/13</i>	<i>0852</i>	<i>X X</i>		<i>1/18/13</i>	* Custodian unavailable to remove samples from controlled storage. Shipper removed samples, taking custody for shipment to lab.			
J1RCF7 MXW86	SOIL	<i>1/18/13</i>	<i>0858</i>	<i>X X</i>		<i>1/18/13</i>				
J1RCF8 MXW87	SOIL	<i>1/18/13</i>	<i>0901</i>	<i>X X</i>		<i>1/18/13</i>				
J1RCF9 MXW89	SOIL	<i>1/18/13</i>	<i>0909</i>	<i>X X</i>		<i>1/18/13</i>				
CHAIN OF POSSESSION										Matrix *
Relinquished By/Removed From <i>Quincy Stone Inc Z</i>	Date/Time <i>1/18/13</i>	Received By/Stored In <i>1/18/13</i>	Date/Time <i>1/18/13</i>	Sign/Print Names <i>JMB</i>		Date/Time / 355	(1) Metals by ICP - 6010 - Quick Turn {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}			
Relinquished By/Removed From <i>John Shanahan</i>	Date/Time <i>1/18/13</i>	Received By/Stored In <i>1/18/13</i>	Date/Time <i>1/18/13</i>	Sign/Print Names <i>JMB</i>		Date/Time / 355	* Custodian unavailable to remove samples from controlled storage. Shipper removed samples, taking custody for shipment to lab.			
Relinquished By/Removed From <i>DOO TA 1-21-13</i>	Date/Time <i>1/21/13</i>	Received By/Stored In <i>1/21/13</i>	Date/Time <i>1/21/13</i>	Sign/Print Names <i>JMB</i>		Date/Time / 355				
Relinquished By/Removed From <i>A-Fixer Inc 1-21-13</i>	Date/Time <i>1/21/13</i>	Received By/Stored In <i>1/21/13</i>	Date/Time <i>1/21/13</i>	Sign/Print Names <i>JMB</i>		Date/Time / 355				
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Sign/Print Names		Date/Time				
LABORATORY SECTION	Received By			Sign/Print Names		Date/Time				
FINAL SAMPLE DISPOSITION	Disposal Method			Sign/Print Names		Date/Time				



1-21-13
JMB
DATE-13

S=Soil
Sf=Sediment
So=Solid
Sh=Shade
W=Water
O=Oil
A=Air
Ds=Dm Solids
Dl=Dm Liquids
T=Liqe
Wl=Water
L=Liquid
V=Vegetation
X=Other

Date/Time
Disposed By
Date/Time
Date/Time

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-074-449	Page 2 of 4																																																
Collector <i>DeWey</i>	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code 81	Data Turnaround 1/8/13 21 Days 4 Weeks																																																
Project Designation 100-D/DR Burial Grounds & Remaining Sites - Soil In-Proce	Sampling Location 100-D-100 In-Situ BCL 18-30' bgs	SAF No. RC-074	Method of Shipment Hand Deliver																																																		
Ice Chest No. N/A	Field Logbook No. EL-1607-15	COA 0100DD32600																																																			
Shipped To TestAmerica Incorporated, Richland	Offsite Property No. N/A	Bill of Lading/Air Bill No. N/A																																																			
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CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-074-449	Page 3 of 4																																								
Collector <i>Quincy</i>	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code 8J	Data Turnaround 21 Days 24 hrs																																								
Project Designation 100-D/DR Burial Grounds & Remaining Sites - Soil In-Proce	Sampling Location 100-D-100 In-Situ BCL 18-30' bgs		SAF No. RC-074																																										
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JIRCH6	MXW92	SOIL	X																																										
JIRCH7	MXW95	SOIL	X																																										
JIRCH8	MXW97	SOIL	X																																										
JIRCH9	MXW99	SOIL	X																																										
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SPECIAL INSTRUCTIONS																																													
<p>Relinquished By/Removed From <u>Quincy Stone</u> Date/Time <u>1355</u> Received By/Stored In <u>AC4</u> Date/Time <u>1355</u> <i>mstankouch</i> <u>1/18/13</u> <u>1/18/13</u></p> <p>Relinquished By/Removed From <u>lock</u> Date/Time <u>645</u> Received By/Stored In <u>1645</u> Date/Time <u>1/18/13</u></p> <p>Relinquished By/Removed From <u>A. Fischer</u> Date/Time <u>1025</u> Received By/Stored In <u>A. Fischer</u> Date/Time <u>1025</u></p> <p>Relinquished By/Removed From <u>A. Fischer</u> Date/Time <u>1-21-13</u> Received By/Stored In <u>A. Fischer</u> Date/Time <u>1-21-13</u></p> <p>Relinquished By/Removed From <u>lock</u> Date/Time <u>1055</u> Received By/Stored In <u>lock</u> Date/Time <u>1055</u></p> <p>Relinquished By/Removed From <u>Date/Time</u> Received By/Stored In <u>Date/Time</u></p>																																													
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LABORATORY SECTION	Received By	Title		Date/Time																																									
FINAL SAMPLE DISPOSITION	Disposal Method			Date/Time																																									

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-074-449	Page 4 of 4
Collector <i>Quincey</i>	Project Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSLER, JH	Price Code 8L	Data Turnaround 21 Days 24/7 hrs		
Project Designation 100-DDR Burial Grounds & Remaining Sites - Soil In-Proce	Sampling Location 100-D-100 In-Situ BCL 18-30' bgs	SAF No. RC-074					
Ice Chest No. N/A	Field Logbook No. EL-1607-15	COA 0100D32600	Method of Shipment Hand Deliver				
Shipped To TestAmerica Incorporated, Richland N/A	Offsite Property No. N/A	Bill of Lading/Air Bill No. N/A					
POSSIBLE SAMPLE HAZARDS/REMARKS None		Preservation Cool4C	Cool4C				
Special Handling and/or Storage Cool 4 Deg C		Type of Container G/P	G/P				
		No. of Container(s) 1	1				
		Volume 125mL	125mL				
		See item (1) in Special Instructions	Chromium Hex 7196 - Quick Turn (Hexavalent Chromium)				
		SAMPLE ANALYSIS					
Sample No.	Matrix *	Sample Date 1/18/13	Sample Time 1000	X	X		
J1RCJ0 MXXAE	SOIL						
J1RCJ1 MXXAF	SOIL						
J1RCJ2 MXXAC	SOIL						
J1RCJ3 MXXAH	SOIL						
J1RCJ4 MXXAJ	SOIL						
SPECIAL INSTRUCTIONS							
Matrix * S=Soil SE=Stemint SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solid DL=Drum Liquids T=Tissue WI=Wipe L=Liquid Y=Generation X=Outfit							
CHAIN OF POSSESSION		Sign/Print Names	Date/Time 1355 Quincey Stone <i>1/18/13</i>	Received By/Stored In <i>m22 m starkoski</i>	Date/Time 1355 1/18/13		(1) Metals by ICP - 6010 - Quick Turn {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}
Relinquished By/Removed From <i>mtstankovich</i>			Date/Time 1645 <i>mtstankovich 1/18/13</i>	Received By/Stored In <i>1060/11A</i>	Date/Time 1645 1/18/13	*	
Relinquished By/Removed From <i>1060 1A</i>			Date/Time 1025 <i>1-21-13</i>	Received By/Stored In <i>A. Freier Antreec</i>	Date/Time 1025 1-21-13		Custodian unavailable to remove samples from controlled storage. Shipper removed samples, taking custody for shipment to lab.
Relinquished By/Removed From <i>A. Freier Antreec 1-21-13</i>			Date/Time 1055 <i>west</i>	Received By/Stored In <i>5. DCL Book Trial 1-31-13</i>	Date/Time 1055 1-31-13		
Relinquished By/Removed From		Date/Time	Date/Time	Received By/Stored In	Date/Time	Title	Date/Time
LABORATORY SECTION	Received By						
FINAL SAMPLE DISPOSITION	Disposal Method						Date/Time

WCH-EE-011

Sample Check-in List

Date/Time Received: 1-21-13 / 1055 Container GM Screen Result: (Airlock) .4 Initials B
Sample GM Screen Result (Sample Receiving) .6 Initials B

Client WCH SDG #: J01672 NA [] SAF #: RC-074 NA []

Lot Number: J3A210426

Chain of Custody # RC-074-449

Shipping Container ID: hand deliv. NA [] Air Bill Number: _____ NA []

Samples received inside shipping container/cooler/box Yes B [] Continue with 1 through 4. Initial appropriate response.
No [] Go to 5, add comment to #16.

1. Custody Seals on shipping container intact? Yes [] No [] No Custody Seal B []
2. Custody Seals dated and signed? Yes [] No [] No Custody Seal B []
3. Cooler temperature: 9.0 °C ON ICE NA []
4. Vermiculite/packing materials is NA B [] Wet [] Dry []

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes B [] No []
6. Number of samples received (Each sample may contain multiple bottles): 20
7. Containers received: 40 x 125 ml p

8. Sample holding times exceeded? NA [] Yes [] No B []
9. Samples have:
B tape hazard labels
B custody seals appropriate sample labels
10. Matrix:
B A (FLT, Wipe, Solid, Soil) I (Water)
B S (Air, Niosh 7400) T (Biological, Ni-63)
11. Samples:
B are in good condition _____ are leaking
B are broken _____ have air bubbles (Only for samples requiring no head space)
Other _____
12. Sample pH appropriate for analysis requested Yes [] No [] NA B []
(If acidification is necessary, then document sample ID, initial pH, amount of HNO₃ added and pH after addition on table overleaf)
13. RPL ID # of preservative used : N/A
14. Were any anomalies identified in sample receipt? Yes [] No B []
15. Description of anomalies (include sample numbers): NA B _____

15. Sample Location, Sample Collector Listed on COC? * Yes] No []
 *For documentation only. No corrective action needed.
16. Additional Information: W/A

[] Client/Courier denied temperature check.] Client/Courier unpack cooler.

Sample Custodian: Jane Beck Date: 1-2-13

Client Informed on _____ by _____ Person contacted _____

No action necessary; process as is

Project Manager: Chandell Jeter Date: 1/11/13

SAMPLE ID	Initial pH	Acid Amt	Final pH	SAMPLE ID	Initial pH	Acid Amt	Final pH

JBA 210426

JW 1/11/13

Sample Preparation/Analysis											Balance Id:		
											Pipet #:		
											Sep1 DT/Tm Tech:		
											Sep2 DT/Tm Tech:		
Batch: 3021048	SOIL	mg/kg	PM, Quote: RW2, 88144								Prep Tech:		
SEQ Batch, Test: None	All Tests:	46DDQ, 3021048 DWEA,									Prep Tech:		
Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt (Un-Acidified)	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MXW82-1-AC	J3A210426-1-SAMP												
01/18/2013 08:49													
2 MXW82-1-AL-S	J3A210426-1-MS												
01/18/2013 08:49													
3 MXW82-1-AM-X	J3A210426-1-DUP												
01/18/2013 08:49													
4 MXW85-1-AC	J3A210426-2-SAMP												
01/18/2013 08:52													
5 MXW86-1-AC	J3A210426-3-SAMP												
01/18/2013 08:58													
6 MXW87-1-AC	J3A210426-4-SAMP												
01/18/2013 09:01													
7 MXW89-1-AC	J3A210426-5-SAMP												
01/18/2013 09:09													
TestAmerica Richard W.	Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added	ISV - Insufficient Volume for Analysis											WO Cnt: 7 ICOC v4.8.49

Sample Preparation/Analysis										Balance Id:		
DW Alkaline Digestion by method 3060A EA Chromium, Hexavalent (7196A) 51 CLIENT: HANFORD										Pipet #: _____		
Sep1 DTTm Tech:										Sep2 DTTm Tech:		
Batch: 3021048 SOIL mg/kg										PM, Quote: RW2, 88144		
Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On (24hr) Circle	CR Analyst, InitDate
8 MXW9E-1-AC												Comments: _____
J3A210426-6-SAMP												
01/18/2013 09:13												
9 MXW9H-1-AC												
J3A210426-7-SAMP												
01/18/2013 09:15												
10 MXW9L-1-AC												
J3A210426-8-SAMP												
01/18/2013 09:18												
11 MXW9P-1-AC												
J3A210426-9-SAMP												
01/18/2013 09:24												
12 MXW9R-1-AC												
J3A210426-10-SAMP												
01/18/2013 09:30												
13 MXW90-1-AC												
J3A210426-11-SAMP												
01/18/2013 09:34												
14 MXW92-1-AC												
J3A210426-12-SAMP												
01/18/2013 09:39												
TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added	ISV - Insufficient Volume for Analysis										W/O Cnt: 14 IOCC v4.8.49	

Sample Preparation/Analysis										Balance Id:		
DW Alkaline Digestion by method 3060A EA Chromium, Hexavalent (7196A)										Pipet #: _____		
5I CLIENT: HANFORD										Sep1 DT/Tm Tech: _____		
Batch: 3021048 SOIL mg/kg										Sep2 DT/Tm Tech: _____		
PM, Quote: RW2, 88144										Prep Tech: _____		
Work Ord. Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Dish Yield	Ppt or Geometry	Count Time Min	Detector Id	Count On (24hr) Circle	CR Analyst, Init/Date	Comments:
15 MXW95-1-AC												
J3A210426-13-SAMP												
01/18/2013 09:47												
16 MXW97-1-AC												
J3A210426-14-SAMP												
01/18/2013 09:50												
17 MXW99-1-AC												
J3A210426-15-SAMP												
01/18/2013 09:55												
18 MXAAE-1-AC												
J3A210426-16-SAMP												
01/18/2013 10:00												
19 MXAAF-1-AC												
J3A210426-17-SAMP												
01/18/2013 10:07												
20 MXXAG-1-AC												
J3A210426-18-SAMP												
01/18/2013 10:11												
21 MXXAH-1-AC												
J3A210426-19-SAMP												
01/18/2013 10:15												
TestAmerica Richland Wa.	Key: In - Initial Amt	fi - Final Amt	di - Diluted Amt	s1 - Sep1, s2 - Sep2	Page 3	lSV - Insufficient Volume for Analysis	WO Cnt: 21	ICOC v4.8.49				
	pd - Prep Dt,	dc - Date Chg,	rf - Reference Dt,	ec-Enrichment Cell,	ct-Cocktailed Added							

Sample Preparation/Analysis										Balance Id:	Pipet #:	
DW Alkaline Digestion by method 3060A EA Chromium, Hexavalent (7196A) 51 CLIENT: HANFORD										Sep1 DT/Tm Tech:	Sep2 DT/Tm Tech:	
Batch: 3021048	SOIL	mg/kg	PM, Quote: RW2, 88144							Prep Tech:		
SEQ Batch, Test: None												
Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Dish Yield	Ppt or Geometry	Count Time Min	Detector Id	Count On (24hr) Circle	CR Analyst, Init/Date	Comments:
22 MXXAJ-1-AC												
J3A210426-20-SAMP												
01/18/2013 10:18												
23 MXCV-1-AA-B												
J3A210000-48-BLK												
01/21/2013 13:38 pd												
24 MXCV-1-AC-C												
J3A210000-48-L-CS												
01/21/2013 13:38 pd												
48												
Comments:												
All Clients for Batch: 127642, Washington Closure Hanford LLC										Washington Closure Hanford LLC, RW2, 88144		
MXW821AC-SAMP Constituent List:												
MXW821AL-MS Constituent List:												
MXCV1AA-BLK:												
MXCV1AC-LCS:												
MXW821AC-SAMP Calc Info:												
Uncert Level (#s) : 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B												
MXW821AL-MS Calc Info:												
Uncert Level (#s) : 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B												
MXCV1AA-BLK:												
Uncert Level (#s) : 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B												
TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, sl - Sep1, s2 - Sep2										Page 4	ISV - Insufficient Volume for Analysis	
Richard Wa.	pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added											

Sample Preparation/Analysis												
1/21/2013 1:44:34 PM	DW Alkaline Digestion by method 3060A EA Chromium, Hexavalent (7196A) 51 CLIENT: HANFORD											
AnalyDueDate: 01/22/2013	Pipet #: _____											
Batch: 3021048	mg/kg	Sep1 DT/Tm Tech:										
SEQ Batch, Test: None		Sep2 DT/Tm Tech:										
		Prep Tech:										
Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
xxxCVIAC-IACS: Uncert Level (#s) : 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRS: B								