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 12/23/13
INITIAL/DATE

COMMENTS:

SDG J02060 SAF RC-074

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Waste Site: 100-D-100 Floor Sample (Ground Water Level)

Analytical Data Package Prepared For

Washington Closure Hanford

Radiochemical Analysis By

TestAmerica Inc

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

Assigned Laboratory Code: TARL

Data Package Contains 49 *Pages*

Report No.: 58158

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.
J02060	RC-074	J1T704	J3L160406-1	M2N0W1AC	9M2N0W10	3350022
		J1T707	J3L170424-1	M2PDA1AC	9M2PDA10	3351080
		J1T708	J3L170424-2	M2PDC1AC	9M2PDC10	3351080
		J1T709	J3L170424-3	M2PDD1AC	9M2PDD10	3351080
		J1T710	J3L170424-4	M2PDE1AC	9M2PDE10	3351080
		J1T711	J3L170424-5	M2PDF1AC	9M2PDF10	3351080
		J1T712	J3L170424-6	M2PDG1AC	9M2PDG10	3351080
		J1T713	J3L190415-1	M2P281AC	9M2P2810	3353048

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354

December 20, 2013

Attention: Joan Kessner

SAF Number	:	RC-074
Date SDG Closed	:	December 20, 2013
Number of Samples	:	Eight (8)
Sample Type	:	Soil
SDG Number	:	J02060
Data Deliverable	:	Quick Turn Metals / Summary

CASE NARRATIVE

I. Introduction

Between December 16, 2013 and December 19, 2013, eight 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
J1T704	M2N0W	SOIL	12/16/13
J1T707	M2PDA	SOIL	12/17/13
J1T708	M2PDC	SOIL	12/17/13
J1T709	M2PDD	SOIL	12/17/13
J1T710	M2PDE	SOIL	12/17/13
J1T711	M2PDF	SOIL	12/17/13
J1T712	M2ODG	SOIL	12/17/13
J1T713	M2P28	SOIL	12/19/13

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 J02060 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
Three batches were analyzed for the samples with the standard metal request list.

Batch 3350020:
The LCS, batch blank, sample, sample duplicate, MS, MSD, ICB, ICV, CCB and CCV results are within contractual limits.

Batch 3351081:
The RPD for the sample and sample duplicate for Barium, Beryllium, Chromium and Lead were not within the acceptance limits. This maybe attributed to the inhomogeniety of the matrix. All other QC acceptance requirements are within limits. Except as noted; the LCS, batch blank, samples, sample duplicate, MS, MSD, ICB, ICV, CCB and CCV results are within contractual limits.

Batch 3353047:
The LCS, batch blank, sample, sample duplicate, MS, MSD, ICB, ICV, CCB and CCV results are within contractual limits.

Chemical Analysis
Hexavalent Chromium by EPA method 7196A
Three batches were analyzed.

Batch 3350022:
The LCS, batch blank, sample, sample duplicate (J1T704) and sample matrix spike (J1T704) results are within contractual requirements.

Batch 3351080:
The LCS, batch blank, samples, sample duplicate (J1T707) and sample matrix spike (J1T707) results are within contractual requirements.

Batch 3353048:
The LCS, batch blank, sample, sample duplicate (J1T713) and sample matrix spike (J1T713) 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
December 20, 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 = 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.

TestAmerica Inc
rptGeneralInfo v3.72

Sample Results Summary

TestAmerica Inc TARL

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

Date: 20-Dec-13

Report No. : 58158

SDG No: J02060

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDL	CRDL	RPD
3350022 7196_CR6									
J1T704									
	M2N0W1AC	HEXCHROME	2.94E+02 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
	M2N0W1CF	HEXCHROME	2.80E+02 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	5.0
3351080 7196_CR6									
J1T707									
	M2PDA1AC	HEXCHROME	3.85E-01 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
	M2PDA1AM	HEXCHROME	3.04E-01 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	23.5
J1T708									
	M2PDC1AC	HEXCHROME	2.28E-01 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
J1T709									
	M2PDD1AC	HEXCHROME	1.84E-01 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
J1T710									
	M2PDE1AC	HEXCHROME	2.39E-01 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
J1T711									
	M2PDF1AC	HEXCHROME	2.63E-01 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
J1T712									
	M2PDG1AC	HEXCHROME	4.12E-01 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
3353048 7196_CR6									
J1T713									
	M2P281AC	HEXCHROME	2.11E+00 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
	M2P281CF	HEXCHROME	1.87E+00 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	12.2

No. of Results: 11

TestAmerica Inc **RPD** - Relative Percent Difference.

rptSTLRchSaSum
mary2 V5.2.25
A2002

QC Results Summary

Date: 20-Dec-13

TestAmerica Inc TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 58158

SDG No.: J02060

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDL
7196_CR6								
3350022 MATRIX SPIKE, J1T704								
M2N0W1CE	HEXCHROME	3.46E+02 +- 0.0E+00		mg/kg	N/A	106%	0.1	1.55E-01
3350022 LCS,								
M2N181AC	HEXCHROME	1.79E+01 +- 0.0E+00		mg/kg	N/A	94%	-0.1	1.55E-01
3350022 BLANK QC,								
M2N181AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A			1.55E-01
7196_CR6								
3351080 MATRIX SPIKE, J1T707								
M2PDA1AL	HEXCHROME	2.75E+01 +- 0.0E+00		mg/kg	N/A	89%	-0.1	1.55E-01
3351080 LCS,								
M2PDK1AC	HEXCHROME	1.79E+01 +- 0.0E+00		mg/kg	N/A	94%	-0.1	1.55E-01
3351080 BLANK QC,								
M2PDK1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A			1.55E-01
7196_CR6								
3353048 MATRIX SPIKE, J1T713								
M2P281CE	HEXCHROME	2.73E+01 +- 0.0E+00		mg/kg	N/A	86%	-0.1	1.55E-01
3353048 LCS,								
M2P3W1AC	HEXCHROME	1.75E+01 +- 0.0E+00		mg/kg	N/A	92%	-0.1	1.55E-01
3353048 BLANK QC,								
M2P3W1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A			1.55E-01

No. of Results: 9

TestAmerica Inc

rptSTLRchQcSummary V5.2.25
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/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 20-Dec-13

Lab Name:	TestAmerica Inc	**SDG:**	J02060	**Collection Date:**	12/13/2013 8:15:00 AM
Lot-Sample No.:	J3L160406-1	**Report No. :**	58158	**Received Date:**	12/16/2013 9:17:00 AM
Client Sample ID:	J1T704	**COC No. :**	RC-074-623	**Matrix:**	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3350022	7196_CR6			**Work Order:**	M2N0W1AC		**Report DB ID:**	9M2N0W10				
HEXCHROME	2.94E+02			0.0E+00	1.55E-01	mg/kg	N/A	*(1897.8)*	12/16/13 11:15 a		2.5157	
							1.55E-01	*N/A*			g	

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

TestAmerica Inc
rptSTLRchSample
V5.2.25 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/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 20-Dec-13

Lab Name:	**TestAmerica Inc**	**SDG:**	J02060	**Collection Date:**	12/17/2013 1:10:00 PM
Lot-Sample No.:	**J3L170424-1**	**Report No. :**	58158	**Received Date:**	12/17/2013 3:43:00 PM
Client Sample ID:	**J1T707**	**COC No. :**	RC-074-624	**Matrix:**	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3351080	7196_CR6			**Work Order:**	M2PDA1AC		**Report DB ID:**	9M2PDA10				
HEXCHROME	**3.85E-01**			0.0E+00	1.55E-01	mg/kg	N/A	*(2.5)*	12/18/13 06:30 a		2.5146	
							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/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 20-Dec-13

Lab Name:	**TestAmerica Inc**	**SDG:**	J02060	**Collection Date:**	12/17/2013 1:15:00 PM
Lot-Sample No.:	**J3L170424-2**	**Report No. :**	58158	**Received Date:**	12/17/2013 3:43:00 PM
Client Sample ID:	**J1T708**	**COC No. :**	RC-074-624	**Matrix:**	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3351080	7196_CR6			**Work Order:**	M2PDC1AC		**Report DB ID:**	9M2PDC10				
HEXCHROME	**2.28E-01**			0.0E+00	1.55E-01	mg/kg	N/A	*(1.5)*	12/18/13 06:30 a		2.5122	
							1.55E-01	*N/A*			g	

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

TestAmerica Inc
rptSTLRchSample
V5.2.25 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/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 20-Dec-13

Lab Name:	TestAmerica Inc	**SDG:**	J02060	**Collection Date:**	12/17/2013 1:20:00 PM
Lot-Sample No.:	J3L170424-3	**Report No. :**	58158	**Received Date:**	12/17/2013 3:43:00 PM
Client Sample ID:	J1T709	**COC No. :**	RC-074-624	**Matrix:**	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3351080	7196_CR6			**Work Order:**	M2PDD1AC		**Report DB ID:**	9M2PDD10				
HEXCHROME	**1.84E-01**			0.0E+00	1.55E-01	mg/kg	N/A	*(1.2)*	12/18/13 06:30 a		2.503	
							1.55E-01	*N/A*			g	

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

TestAmerica Inc
rptSTLRchSample
V5.2.25 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/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 20-Dec-13

Lab Name:	**TestAmerica Inc**	**SDG:**	J02060	**Collection Date:**	12/17/2013 1:30:00 PM
Lot-Sample No.:	**J3L170424-4**	**Report No. :**	58158	**Received Date:**	12/17/2013 3:43:00 PM
Client Sample ID:	**J1T710**	**COC No. :**	RC-074-624	**Matrix:**	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3351080	7196_CR6			**Work Order:**	M2PDE1AC		**Report DB ID:**	9M2PDE10				
HEXCHROME	**2.39E-01**			0.0E+00	1.55E-01	mg/kg	N/A	*(1.5)*	12/18/13 06:30 a		2.517	
							1.55E-01	*N/A*			g	

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

TestAmerica Inc
rptSTLRchSample
V5.2.25 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/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 20-Dec-13

Lab Name:	TestAmerica Inc	**SDG:**	J02060	**Collection Date:**	12/17/2013 1:35:00 PM
Lot-Sample No.:	J3L170424-5	**Report No. :**	58158	**Received Date:**	12/17/2013 3:43:00 PM
Client Sample ID:	J1T711	**COC No. :**	RC-074-624	**Matrix:**	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3351080	7196_CR6			**Work Order:**	M2PDF1AC		**Report DB ID:**	9M2PDF10				
HEXCHROME	**2.63E-01**			0.0E+00	1.55E-01	mg/kg	N/A	*(1.7)*	12/18/13 06:30 a		2.5193	
							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/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 20-Dec-13

Lab Name:	**TestAmerica Inc**	**SDG:**	J02060	**Collection Date:**	12/17/2013 1:45:00 PM
Lot-Sample No.:	**J3L170424-6**	**Report No. :**	58158	**Received Date:**	12/17/2013 3:43:00 PM
Client Sample ID:	**J1T712**	**COC No. :**	RC-074-624	**Matrix:**	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3351080	7196_CR6			**Work Order:**	M2PDG1AC		**Report DB ID:**	9M2PDG10				
HEXCHROME	**4.12E-01**			0.0E+00	1.55E-01	mg/kg	N/A	*(2.7)*	12/18/13 06:30 a		2.5122	
							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/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 20-Dec-13

Lab Name:	TestAmerica Inc	**SDG:**	J02060	**Collection Date:**	12/19/2013 8:20:00 AM
Lot-Sample No.:	J3L190415-1	**Report No. :**	58158	**Received Date:**	12/19/2013 1:26:00 PM
Client Sample ID:	J1T713	**COC No. :**	RC-074-624	**Matrix:**	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3353048	7196_CR6			**Work Order:**	M2P281AC		**Report DB ID:**	9M2P2810				
HEXCHROME	**2.11E+00**			0.0E+00	1.55E-01	mg/kg	N/A	*(13.6)*	12/19/13 02:30 p		2.5025	
							1.55E-01	*N/A*			g	

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

TestAmerica Inc
rptSTLRchSample
V5.2.25 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/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

FORM II

Date: 20-Dec-13

DUPLICATE RESULTS

Lab Name:	**TestAmerica Inc**	**SDG:**	J02060	**Collection Date:**	12/13/2013 8:15:00 AM
Lot-Sample No.:	**J3L160406-1**	**Report No. :**	58158	**Received Date:**	12/16/2013 9:17:00 AM
Client Sample ID:	**J1T704**	**COC No. :**	RC-074-623	**Matrix:**	SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3350022	7196_CR6			**Work Order:** M2N0W1CF		**Report DB ID:** M2N0W1ER			**Orig Sa DB ID:** 9M2N0W10			
HEXCHROME	2.80E+02			0.0E+00	1.55E-01	mg/kg	N/A	(1804.8)	12/16/13 11:15 a		2.5152	
	2.94E+02		**RPD**	**5.0**		1.55E-01		N/A			g	

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

TestAmerica Inc
rptSTLRchDupV5.
2.25 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.

FORM II

Date: 20-Dec-13

DUPLICATE RESULTS

Lab Name:	TestAmerica Inc	**SDG:**	J02060	**Collection Date:**	12/17/2013 1:10:00 PM
Lot-Sample No.:	J3L170424-1	**Report No. :**	58158	**Received Date:**	12/17/2013 3:43:00 PM
Client Sample ID:	J1T707	**COC No. :**	RC-074-624	**Matrix:**	SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3351080	7196_CR6			**Work Order:** M2PDA1AM		**Report DB ID:** M2PDA1ER			**Orig Sa DB ID:** 9M2PDA10			
HEXCHROME	3.04E-01			0.0E+00	1.55E-01	mg/kg	N/A	(2.)	12/18/13 06:30 a		2.5049	
	3.85E-01		**RPD**	**23.5**		1.55E-01		N/A			g	

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

TestAmerica Inc RPD - Relative Percent Difference.

rptSTLRchDupV5.2.25 A2002 MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

FORM II

Date: 20-Dec-13

DUPLICATE RESULTS

Lab Name:	**TestAmerica Inc**	**SDG:**	J02060	**Collection Date:**	12/19/2013 8:20:00 AM
Lot-Sample No.:	**J3L190415-1**	**Report No. :**	58158	**Received Date:**	12/19/2013 1:26:00 PM
Client Sample ID:	**J1T713**	**COC No. :**	RC-074-624	**Matrix:**	SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3353048	7196_CR6			**Work Order:** M2P281CF		**Report DB ID:** M2P281ER			**Orig Sa DB ID:** 9M2P2810			
HEXCHROME	1.87E+00			0.0E+00	1.55E-01	mg/kg	N/A	(12.1)	12/19/13 02:30 p		2.5016	
	2.11E+00		**RPD**	**12.2**		1.55E-01		N/A			g	

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

TestAmerica Inc RPD - Relative Percent Difference.

rptSTLRchDupV5.2.25 A2002 MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

FORM II

BLANK RESULTS

Date: 20-Dec-13

Lab Name: TestAmerica Inc

Matrix: SOIL

SDG: J02060

Report No. : 58158

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Lc	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3350022	7196_CR6			**Work Order:**	M2N181AA		**Report DB ID:**	M2N181AB				
HEXCHROME	1.55E-01	U		0.0E+00	1.55E-01	mg/kg	N/A	1.	12/16/13 11:15 a		2.5	
						1.55E-01		N/A			g	
Batch: 3351080	7196_CR6			**Work Order:**	M2PDK1AA		**Report DB ID:**	M2PDK1AB				
HEXCHROME	1.55E-01	U		0.0E+00	1.55E-01	mg/kg	N/A	1.	12/18/13 06:30 a		2.5	
						1.55E-01		N/A			g	
Batch: 3353048	7196_CR6			**Work Order:**	M2P3W1AA		**Report DB ID:**	M2P3W1AB				
HEXCHROME	1.55E-01	U		0.0E+00	1.55E-01	mg/kg	N/A	1.	12/19/13 02:30 p		2.5	
						1.55E-01		N/A			g	

No. of Results: 3 **Comments:**

TestAmerica Inc
rptSTLRchBlank
V5.2.25 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/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

FORM II

LCS RESULTS

Date: 20-Dec-13

Lab Name: TestAmerica Inc

Matrix: SOIL

SDG: J02060

Report No. : 58158

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 3350022	7196_CR6			**Work Order:**	M2N181AC		**Report DB ID:**	M2N181AS					
HEXCHROME	1.79E+01			0.0E+00	1.55E-01	mg/kg	N/A	1.90E+01		94%	12/16/13 11:15 a	2.5	
							Rec Limits:	80	120	-0.1		g	
Batch: 3351080	7196_CR6			**Work Order:**	M2PDK1AC		**Report DB ID:**	M2PDK1AS					
HEXCHROME	1.79E+01			0.0E+00	1.55E-01	mg/kg	N/A	1.90E+01		94%	12/18/13 06:30 a	2.5	
							Rec Limits:	80	120	-0.1		g	
Batch: 3353048	7196_CR6			**Work Order:**	M2P3W1AC		**Report DB ID:**	M2P3W1AS					
HEXCHROME	1.75E+01			0.0E+00	1.55E-01	mg/kg	N/A	1.90E+01		92%	12/19/13 02:30 p	2.5	
							Rec Limits:	80	120	-0.1		g	

No. of Results: 3 **Comments:**

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

rptSTLRchLcs
V5.2.25 A2002

FORM II

MATRIX SPIKE RESULTS

Date: 20-Dec-13

Lab Name: TestAmerica Inc **SDG:** J02060

Lot-Sample No.: J3L160406-1, J1T704 **Report No. :** 58158 **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: 3350022	**Work Order:**	M2N0W1CE		**Report DB ID:**	M2N0W1CW		**Orig Sa DB ID:**	9M2N0W10				
HEXCHROME	3.46E+02			0.0E+00	1.55E-01	mg/kg	N/A	106.36%	3.25E+02	12/16/13 11:15 a	2.515	7196_CR6
	2.94E+02										g	

Number of Results: 1

Comments:

TestAmerica Inc
rptSTLRchMs
V5.2.25 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.

FORM II

MATRIX SPIKE RESULTS

Date: 20-Dec-13

Lab Name: TestAmerica Inc **SDG:** J02060

Lot-Sample No.: J3L170424-1, J1T707 **Report No. :** 58158 **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: 3351080	Work Order:	M2PDA1AL		Report DB ID:	M2PDA1CW		Orig Sa DB ID:	9M2PDA10				
HEXCHROME	2.75E+01			0.0E+00	1.55E-01	mg/kg	N/A	88.80%	3.10E+01	12/18/13 06:30 a	2.509	7196_CR6
	3.85E-01										g	

Number of Results: 1

Comments:

TestAmerica Inc
rptSTLRchMs
V5.2.25 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.

FORM II

MATRIX SPIKE RESULTS

Date: 20-Dec-13

Lab Name: TestAmerica Inc **SDG:** J02060

Lot-Sample No.: J3L190415-1, J1T713 **Report No. :** 58158 **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: 3353048	Work Order:	M2P281CE		Report DB ID:	M2P281CW		Orig Sa DB ID:	9M2P2810				
HEXCHROME	2.73E+01			0.0E+00	1.55E-01	mg/kg	N/A	86.18%	3.17E+01	12/19/13 02:30 p	2.5068	7196_CR6
	2.11E+00										g	

Number of Results: 1

Comments:

TestAmerica Inc
rptSTLRchMs
V5.2.25 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.

SDG: J02060
SAF: RC-074
BATCH: 3350020
MATRIX: SOIL
ANALYSIS DATE: 12/16/13

Client_id	Matrix	Result_t	Cas_nbr	Parameter	Result	Qualifier	Units	Reporting_Limits_S	Reporting_Limits	Uncertainty_1s	Analyzed_s	Analyz	Decision_level_lc	LCSRecc	Adde	Analysis_date_time	Batch_nbr	Test_Me	Lab_sample_id
J1T704	**SOIL**	**CS**	**7440-22-4**	**Ag**	**-1.60E-01**	**U**	UG/G	9.95E+00	9.95E+00	1.80E-01	0.2512	G	1.48E-01			12/16/2013 14:50	3350020	46DQ	M2N0W1A0
J1T704	**SOIL**	**CS**	**7440-38-2**	**As**	**-3.18E-01**	**U**	UG/G	9.95E+00	9.95E+00	4.00E-01	0.2512	G	3.32E-01			12/16/2013 14:50	3350020	46DQ	M2N0W1A0
J1T704	**SOIL**	**CS**	**7440-39-3**	**Ba**	**6.66E+01**		UG/G	1.99E+00	1.99E+00	9.00E-02	0.2512	G	7.44E-02			12/16/2013 14:50	3350020	46DQ	M2N0W1A0
J1T704	**SOIL**	**CS**	**7440-41-7**	**Beryllium**	**1.80E-01**		UG/G	9.95E-02	9.95E-02	3.90E-02	0.2512	G	3.18E-02			12/16/2013 14:50	3350020	46DQ	M2N0W1A0
J1T704	**SOIL**	**CS**	**7440-43-9**	**Cadmium**	**1.34E-01**	**U**	UG/G	1.99E+00	1.99E+00	1.80E-02	0.2512	G	1.45E-02			12/16/2013 14:50	3350020	46DQ	M2N0W1A0
J1T704	**SOIL**	**CS**	**7440-47-3**	**Chromium**	**3.10E+02**		UG/G	9.95E+00	9.95E+00	3.00E+00	0.2512	G	2.51E+00			12/16/2013 14:50	3350020	46DQ	M2N0W1A0
J1T704	**SOIL**	**CS**	**7439-92-1**	**Lead**	**2.65E+00**	**U**	UG/G	9.95E+00	9.95E+00	1.40E-01	0.2512	G	1.14E-01			12/16/2013 14:50	3350020	46DQ	M2N0W1A0
J1T704	**SOIL**	**CS**	**7782-49-2**	**Se**	**-2.05E-01**	**U**	UG/G	9.95E+00	9.95E+00	2.70E-01	0.2512	G	2.21E-01			12/16/2013 14:50	3350020	46DQ	M2N0W1A0
INTRA-LAB BLANK	SOIL	BLK	7440-22-4	Ag	1.76E-01	U	MG/L	9.88E+00	9.88E+00	1.40E-02	0.253	L	1.15E-02			12/16/2013 14:38	3350020	46DQ	M2N1E1AA
INTRA-LAB BLANK	SOIL	BLK	7440-38-2	As	-1.52E-01	U	MG/L	9.88E+00	9.88E+00	6.50E-01	0.253	L	5.36E-01			12/16/2013 14:38	3350020	46DQ	M2N1E1AA
INTRA-LAB BLANK	SOIL	BLK	7440-39-3	Ba	-6.50E-02	U	MG/L	1.98E+00	1.98E+00	6.60E-03	0.253	L	5.42E-03			12/16/2013 14:38	3350020	46DQ	M2N1E1AA
INTRA-LAB BLANK	SOIL	BLK	7440-41-7	Beryllium	2.11E-03	U	MG/L	9.88E-02	9.88E-02	2.10E-02	0.253	L	1.74E-02			12/16/2013 14:38	3350020	46DQ	M2N1E1AA
INTRA-LAB BLANK	SOIL	BLK	7440-43-9	Cadmium	2.24E-02	U	MG/L	1.98E+00	1.98E+00	2.60E-02	0.253	L	2.12E-02			12/16/2013 14:38	3350020	46DQ	M2N1E1AA
INTRA-LAB BLANK	SOIL	BLK	7440-47-3	Chromium	-3.06E-02	U	MG/L	9.88E+00	9.88E+00	5.90E-02	0.253	L	4.87E-02			12/16/2013 14:38	3350020	46DQ	M2N1E1AA
INTRA-LAB BLANK	SOIL	BLK	7439-92-1	Lead	-4.06E-02	U	MG/L	9.88E+00	9.88E+00	1.90E-01	0.253	L	1.59E-01			12/16/2013 14:38	3350020	46DQ	M2N1E1AA
INTRA-LAB BLANK	SOIL	BLK	7782-49-2	Se	3.01E-01	U	MG/L	9.88E+00	9.88E+00	7.10E-01	0.253	L	5.80E-01			12/16/2013 14:38	3350020	46DQ	M2N1E1AA
INTRA-LAB CHECK	SOIL	LCS	7440-22-4	Ag	1.87E+02		MG/L	9.98E+00	9.98E+00	6.10E-02	0.2504	L	5.04E-02	0.93	200	12/16/2013 14:41	3350020	46DQ	M2N1E1AA
INTRA-LAB CHECK	SOIL	LCS	7440-38-2	As	1.86E+02		MG/L	9.98E+00	9.98E+00	1.30E+00	0.2504	L	1.07E+00	0.93	200	12/16/2013 14:41	3350020	46DQ	M2N1E1AA
INTRA-LAB CHECK	SOIL	LCS	7440-39-3	Ba	1.92E+02		MG/L	2.00E+00	2.00E+00	1.10E+00	0.2504	L	9.02E-01	0.96	200	12/16/2013 14:41	3350020	46DQ	M2N1E1AA
INTRA-LAB CHECK	SOIL	LCS	7440-41-7	Beryllium	1.92E+02		MG/L	9.98E-02	9.98E-02	2.30E+00	0.2504	L	1.88E+00	0.96	200	12/16/2013 14:41	3350020	46DQ	M2N1E1AA
INTRA-LAB CHECK	SOIL	LCS	7440-43-9	Cadmium	1.83E+02		MG/L	2.00E+00	2.00E+00	7.00E-01	0.2504	L	5.75E-01	0.92	200	12/16/2013 14:41	3350020	46DQ	M2N1E1AA
INTRA-LAB CHECK	SOIL	LCS	7440-47-3	Chromium	1.95E+02		MG/L	9.98E+00	9.98E+00	2.50E+00	0.2504	L	2.07E+00	0.98	200	12/16/2013 14:41	3350020	46DQ	M2N1E1AA
INTRA-LAB CHECK	SOIL	LCS	7439-92-1	Lead	1.88E+02		MG/L	9.98E+00	9.98E+00	6.00E-01	0.2504	L	4.92E-01	0.94	200	12/16/2013 14:41	3350020	46DQ	M2N1E1AA
INTRA-LAB CHECK	SOIL	LCS	7782-49-2	Se	1.68E+02		MG/L	9.98E+00	9.98E+00	1.20E+00	0.2504	L	9.58E-01	0.84	200	12/16/2013 14:41	3350020	46DQ	M2N1E1AA
J1T704 DUP	SOIL	DUP	7440-22-4	Ag	-1.38E-01	U	UG/G	1.00E+01	1.00E+01	9.90E-02	0.249	G	8.17E-02			12/16/2013 15:04	3350020	46DQ	M2N0W1A0
J1T704 DUP	SOIL	DUP	7440-38-2	As	-6.14E-01	U	UG/G	1.00E+01	1.00E+01	6.10E-02	0.249	G	5.02E-02			12/16/2013 15:04	3350020	46DQ	M2N0W1A0
J1T704 DUP	SOIL	DUP	7440-39-3	Ba	5.80E+01		UG/G	2.01E+00	2.01E+00	1.80E-01	0.249	G	1.46E-01			12/16/2013 15:04	3350020	46DQ	M2N0W1A0
J1T704 DUP	SOIL	DUP	7440-41-7	Beryllium	1.72E-01		UG/G	1.00E-01	1.00E-01	2.00E-02	0.249	G	1.62E-02			12/16/2013 15:04	3350020	46DQ	M2N0W1A0
J1T704 DUP	SOIL	DUP	7440-43-9	Cadmium	1.11E-01	U	UG/G	2.01E+00	2.01E+00	4.30E-02	0.249	G	3.58E-02			12/16/2013 15:04	3350020	46DQ	M2N0W1A0
J1T704 DUP	SOIL	DUP	7440-47-3	Chromium	2.92E+02		UG/G	1.00E+01	1.00E+01	1.90E+00	0.249	G	1.56E+00			12/16/2013 15:04	3350020	46DQ	M2N0W1A0
J1T704 DUP	SOIL	DUP	7439-92-1	Lead	2.38E+00	U	UG/G	1.00E+01	1.00E+01	5.90E-01	0.249	G	4.89E-01			12/16/2013 15:04	3350020	46DQ	M2N0W1A0
J1T704 DUP	SOIL	DUP	7782-49-2	Se	3.35E-01	U	UG/G	1.00E+01	1.00E+01	4.20E-01	0.249	G	3.45E-01			12/16/2013 15:04	3350020	46DQ	M2N0W1A0
J1T704	SOIL	MS	7440-22-4	Ag	1.82E+02		% REC	1.00E+01	1.00E+01	3.50E-01	0.2491	L	2.85E-01	0.91	201	12/16/2013 14:55	3350020	46DQ	M2N0W1A0
J1T704	SOIL	MS	7440-38-2	As	1.84E+02		% REC	1.00E+01	1.00E+01	1.10E+00	0.2491	L	8.74E-01	0.92	201	12/16/2013 14:55	3350020	46DQ	M2N0W1A0
J1T704	SOIL	MS	7440-39-3	Ba	1.76E+02		% REC	2.01E+00	2.01E+00	3.60E+00	0.2491	L	2.95E+00	0.88	201	12/16/2013 14:55	3350020	46DQ	M2N0W1A0
J1T704	SOIL	MS	7440-41-7	Beryllium	1.92E+02		% REC	1.00E-01	1.00E-01	4.40E-02	0.2491	L	3.61E-02	0.95	201	12/16/2013 14:55	3350020	46DQ	M2N0W1A0
J1T704	SOIL	MS	7440-43-9	Cadmium	1.81E+02		% REC	2.01E+00	2.01E+00	4.80E-01	0.2491	L	3.92E-01	0.9	201	12/16/2013 14:55	3350020	46DQ	M2N0W1A0
J1T704	SOIL	MS	7440-47-3	Chromium	1.56E+02		% REC	1.00E+01	1.00E+01	1.10E+00	0.2491	L	9.26E-01	0.78	201	12/16/2013 14:55	3350020	46DQ	M2N0W1A0
J1T704	SOIL	MS	7439-92-1	Lead	1.80E+02		% REC	1.00E+01	1.00E+01	7.50E-01	0.2491	L	6.16E-01	0.9	201	12/16/2013 14:55	3350020	46DQ	M2N0W1A0
J1T704	SOIL	MS	7782-49-2	Se	1.67E+02		% REC	1.00E+01	1.00E+01	1.10E+00	0.2491	L	8.65E-01	0.83	201	12/16/2013 14:55	3350020	46DQ	M2N0W1A0
J1T704	SOIL	MSD	7440-22-4	Ag	1.84E+02		% REC	1.00E+01	1.00E+01	7.70E-01	0.2488	L	6.33E-01	0.92	201	12/16/2013 14:59	3350020	46DQ	M2N0W1A0
J1T704	SOIL	MSD	7440-38-2	As	1.86E+02		% REC	1.00E+01	1.00E+01	6.80E-01	0.2488	L	5.61E-01	0.92	201	12/16/2013 14:59	3350020	46DQ	M2N0W1A0
J1T704	SOIL	MSD	7440-39-3	Ba	1.91E+02		% REC	2.01E+00	2.01E+00	3.10E+00	0.2488	L	2.55E+00	0.95	201	12/16/2013 14:59	3350020	46DQ	M2N0W1A0
J1T704	SOIL	MSD	7440-41-7	Beryllium	1.94E+02		% REC	1.00E-01	1.00E-01	1.20E+00	0.2488	L	1.01E+00	0.96	201	12/16/2013 14:59	3350020	46DQ	M2N0W1A0
J1T704	SOIL	MSD	7440-43-9	Cadmium	1.82E+02		% REC	2.01E+00	2.01E+00	2.20E-01	0.2488	L	1.79E-01	0.91	201	12/16/2013 14:59	3350020	46DQ	M2N0W1A0
J1T704	SOIL	MSD	7440-47-3	Chromium	1.80E+02		% REC	1.00E+01	1.00E+01	2.00E+00	0.2488	L	1.66E+00	0.9	201	12/16/2013 14:59	3350020	46DQ	M2N0W1A0
J1T704	SOIL	MSD	7439-92-1	Lead	1.80E+02		% REC	1.00E+01	1.00E+01	2.00E+00	0.2488	L	1.66E+00	0.89	201	12/16/2013 14:59	3350020	46DQ	M2N0W1A0
J1T704	SOIL	MSD	7782-49-2	Se	1.69E+02		% REC	1.00E+01	1.00E+01	1.40E+00	0.2488	L	1.14E+00	0.84	201	12/16/2013 14:59	3350020	46DQ	M2N0W1A0

OK
J.C
12/17/13

SDG: J02060
SAF: RC-074
BATCH: 3351081
MATRIX: SOIL
ANALYSIS DATE: 12/18/13

Client_id	Matrix	Result_t	Cas_nbr	Parameter	Result	Qualifier	Units	Reporting_Limits_s	Reporting_Limits	Uncertainty_1s	Analyzed_:	Analyz	Decision_level_lc	LCSReco	Adde	Analysis_date_time	Batch_nbr	Test_Meti	Lab_sample_id
J1T707	SOIL	CS	7440-22-4	Ag	1.01E-01	U	UG/G	9.99E+00	9.99E+00	2.50E-01	0.2503	G	2.07E-01			12/18/2013 8:20	3351081	46DQ	M2PDA1A0
J1T707	SOIL	CS	7440-38-2	As	4.06E-01	U	UG/G	9.99E+00	9.99E+00	5.50E-01	0.2503	G	4.51E-01			12/18/2013 8:20	3351081	46DQ	M2PDA1A0
J1T707	SOIL	CS	7440-39-3	Ba	2.29E+01		UG/G	2.00E+00	2.00E+00	2.00E-01	0.2503	G	1.63E-01			12/18/2013 8:20	3351081	46DQ	M2PDA1A0
J1T707	SOIL	CS	7440-41-7	Beryllium	6.63E-02	U	UG/G	9.99E-02	9.99E-02	1.50E-02	0.2503	G	1.25E-02			12/18/2013 8:20	3351081	46DQ	M2PDA1A0
J1T707	SOIL	CS	7440-43-9	Cadmium	5.64E-02	U	UG/G	2.00E+00	2.00E+00	5.00E-02	0.2503	G	4.09E-02			12/18/2013 8:20	3351081	46DQ	M2PDA1A0
J1T707	SOIL	CS	7440-47-3	Chromium	2.74E+00	U	UG/G	9.99E+00	9.99E+00	9.90E-02	0.2503	G	8.18E-02			12/18/2013 8:20	3351081	46DQ	M2PDA1A0
J1T707	SOIL	CS	7439-92-1	Lead	7.47E-01	U	UG/G	9.99E+00	9.99E+00	5.00E-01	0.2503	G	4.09E-01			12/18/2013 8:20	3351081	46DQ	M2PDA1A0
J1T707	SOIL	CS	7782-49-2	Se	-1.08E+00	U	UG/G	9.99E+00	9.99E+00	5.90E-01	0.2503	G	4.83E-01			12/18/2013 8:20	3351081	46DQ	M2PDA1A0
J1T708	SOIL	CS	7440-22-4	Ag	1.40E-01	U	UG/G	1.01E+01	1.01E+01	2.20E-01	0.2481	G	1.80E-01			12/18/2013 8:48	3351081	46DQ	M2PDC1AA
J1T708	SOIL	CS	7440-38-2	As	1.17E+00	U	UG/G	1.01E+01	1.01E+01	1.20E+00	0.2481	G	9.55E-01			12/18/2013 8:48	3351081	46DQ	M2PDC1AA
J1T708	SOIL	CS	7440-39-3	Ba	6.33E+01		UG/G	2.02E+00	2.02E+00	6.50E-01	0.2481	G	5.36E-01			12/18/2013 8:48	3351081	46DQ	M2PDC1AA
J1T708	SOIL	CS	7440-41-7	Beryllium	2.22E-01		UG/G	1.01E-01	1.01E-01	5.50E-03	0.2481	G	4.49E-03			12/18/2013 8:48	3351081	46DQ	M2PDC1AA
J1T708	SOIL	CS	7440-43-9	Cadmium	1.10E-01	U	UG/G	2.02E+00	2.02E+00	2.90E-02	0.2481	G	2.40E-02			12/18/2013 8:48	3351081	46DQ	M2PDC1AA
J1T708	SOIL	CS	7440-47-3	Chromium	6.78E+00	U	UG/G	1.01E+01	1.01E+01	1.40E-01	0.2481	G	1.13E-01			12/18/2013 8:48	3351081	46DQ	M2PDC1AA
J1T708	SOIL	CS	7439-92-1	Lead	3.33E+00	U	UG/G	1.01E+01	1.01E+01	1.30E-01	0.2481	G	1.04E-01			12/18/2013 8:48	3351081	46DQ	M2PDC1AA
J1T708	SOIL	CS	7782-49-2	Se	-1.23E-01	U	UG/G	1.01E+01	1.01E+01	3.20E-01	0.2481	G	2.67E-01			12/18/2013 8:48	3351081	46DQ	M2PDC1AA
J1T709	SOIL	CS	7440-22-4	Ag	1.12E-01	U	UG/G	1.00E+01	1.00E+01	1.10E-01	0.2496	G	8.67E-02			12/18/2013 8:52	3351081	46DQ	M2PDD1AA
J1T709	SOIL	CS	7440-38-2	As	3.56E-01	U	UG/G	1.00E+01	1.00E+01	2.70E-01	0.2496	G	2.19E-01			12/18/2013 8:52	3351081	46DQ	M2PDD1AA
J1T709	SOIL	CS	7440-39-3	Ba	7.73E+01		UG/G	2.00E+00	2.00E+00	4.60E-01	0.2496	G	3.78E-01			12/18/2013 8:52	3351081	46DQ	M2PDD1AA
J1T709	SOIL	CS	7440-41-7	Beryllium	1.86E-01		UG/G	1.00E-01	1.00E-01	1.70E-02	0.2496	G	1.36E-02			12/18/2013 8:52	3351081	46DQ	M2PDD1AA
J1T709	SOIL	CS	7440-43-9	Cadmium	1.34E-01	U	UG/G	2.00E+00	2.00E+00	4.70E-02	0.2496	G	3.86E-02			12/18/2013 8:52	3351081	46DQ	M2PDD1AA
J1T709	SOIL	CS	7440-47-3	Chromium	6.37E+00	U	UG/G	1.00E+01	1.00E+01	1.30E-01	0.2496	G	1.04E-01			12/18/2013 8:52	3351081	46DQ	M2PDD1AA
J1T709	SOIL	CS	7439-92-1	Lead	3.25E+00	U	UG/G	1.00E+01	1.00E+01	4.50E-01	0.2496	G	3.69E-01			12/18/2013 8:52	3351081	46DQ	M2PDD1AA
J1T709	SOIL	CS	7782-49-2	Se	-1.12E-01	U	UG/G	1.00E+01	1.00E+01	3.40E-01	0.2496	G	2.81E-01			12/18/2013 8:52	3351081	46DQ	M2PDD1AA
J1T710	SOIL	CS	7440-22-4	Ag	7.70E-02	U	UG/G	1.01E+01	1.01E+01	2.00E-01	0.2484	G	1.61E-01			12/18/2013 8:55	3351081	46DQ	M2PDE1AA
J1T710	SOIL	CS	7440-38-2	As	1.49E+00	U	UG/G	1.01E+01	1.01E+01	1.10E+00	0.2484	G	9.42E-01			12/18/2013 8:55	3351081	46DQ	M2PDE1AA
J1T710	SOIL	CS	7440-39-3	Ba	6.03E+01		UG/G	2.01E+00	2.01E+00	2.60E+00	0.2484	G	2.11E+00			12/18/2013 8:55	3351081	46DQ	M2PDE1AA
J1T710	SOIL	CS	7440-41-7	Beryllium	2.27E-01		UG/G	1.01E-01	1.01E-01	1.40E-02	0.2484	G	1.13E-02			12/18/2013 8:55	3351081	46DQ	M2PDE1AA
J1T710	SOIL	CS	7440-43-9	Cadmium	1.29E-01	U	UG/G	2.01E+00	2.01E+00	3.90E-02	0.2484	G	3.24E-02			12/18/2013 8:55	3351081	46DQ	M2PDE1AA
J1T710	SOIL	CS	7440-47-3	Chromium	7.23E+00	U	UG/G	1.01E+01	1.01E+01	7.20E-02	0.2484	G	5.92E-02			12/18/2013 8:55	3351081	46DQ	M2PDE1AA
J1T710	SOIL	CS	7439-92-1	Lead	3.94E+00	U	UG/G	1.01E+01	1.01E+01	6.40E-01	0.2484	G	5.23E-01			12/18/2013 8:55	3351081	46DQ	M2PDE1AA
J1T710	SOIL	CS	7782-49-2	Se	-6.18E-01	U	UG/G	1.01E+01	1.01E+01	4.50E-01	0.2484	G	3.71E-01			12/18/2013 8:55	3351081	46DQ	M2PDE1AA
J1T711	SOIL	CS	7440-22-4	Ag	-1.85E-02	U	UG/G	1.00E+01	1.00E+01	1.30E-01	0.2498	G	1.09E-01			12/18/2013 8:59	3351081	46DQ	M2PDF1AA
J1T711	SOIL	CS	7440-38-2	As	1.21E+00	U	UG/G	1.00E+01	1.00E+01	1.20E+00	0.2498	G	1.02E+00			12/18/2013 8:59	3351081	46DQ	M2PDF1AA
J1T711	SOIL	CS	7440-39-3	Ba	6.07E+01		UG/G	2.00E+00	2.00E+00	4.60E-01	0.2498	G	3.77E-01			12/18/2013 8:59	3351081	46DQ	M2PDF1AA
J1T711	SOIL	CS	7440-41-7	Beryllium	2.20E-01		UG/G	1.00E-01	1.00E-01	7.80E-03	0.2498	G	6.38E-03			12/18/2013 8:59	3351081	46DQ	M2PDF1AA
J1T711	SOIL	CS	7440-43-9	Cadmium	1.22E-01	U	UG/G	2.00E+00	2.00E+00	4.20E-02	0.2498	G	3.46E-02			12/18/2013 8:59	3351081	46DQ	M2PDF1AA
J1T711	SOIL	CS	7440-47-3	Chromium	6.46E+00	U	UG/G	1.00E+01	1.00E+01	1.50E-01	0.2498	G	1.23E-01			12/18/2013 8:59	3351081	46DQ	M2PDF1AA
J1T711	SOIL	CS	7439-92-1	Lead	4.18E+00	U	UG/G	1.00E+01	1.00E+01	3.00E-01	0.2498	G	2.51E-01			12/18/2013 8:59	3351081	46DQ	M2PDF1AA
J1T711	SOIL	CS	7782-49-2	Se	-9.07E-02	U	UG/G	1.00E+01	1.00E+01	1.40E+00	0.2498	G	1.17E+00			12/18/2013 8:59	3351081	46DQ	M2PDF1AA
J1T712	SOIL	CS	7440-22-4	Ag	1.04E-01	U	UG/G	9.95E+00	9.95E+00	1.70E-01	0.2513	G	1.38E-01			12/18/2013 9:03	3351081	46DQ	M2PDG1AA
J1T712	SOIL	CS	7440-38-2	As	7.98E-01	U	UG/G	9.95E+00	9.95E+00	1.50E+00	0.2513	G	1.26E+00			12/18/2013 9:03	3351081	46DQ	M2PDG1AA
J1T712	SOIL	CS	7440-39-3	Ba	7.49E+01		UG/G	1.99E+00	1.99E+00	1.20E+00	0.2513	G	1.02E+00			12/18/2013 9:03	3351081	46DQ	M2PDG1AA
J1T712	SOIL	CS	7440-41-7	Beryllium	2.17E-01		UG/G	9.95E-02	9.95E-02	1.90E-02	0.2513	G	1.56E-02			12/18/2013 9:03	3351081	46DQ	M2PDG1AA
J1T712	SOIL	CS	7440-43-9	Cadmium	1.47E-01	U	UG/G	1.99E+00	1.99E+00	5.60E-02	0.2513	G	4.63E-02			12/18/2013 9:03	3351081	46DQ	M2PDG1AA
J1T712	SOIL	CS	7440-47-3	Chromium	7.38E+00	U	UG/G	9.95E+00	9.95E+00	2.70E-01	0.2513	G	2.20E-01			12/18/2013 9:03	3351081	46DQ	M2PDG1AA
J1T712	SOIL	CS	7439-92-1	Lead	5.39E+00	U	UG/G	9.95E+00	9.95E+00	5.60E-01	0.2513	G	4.63E-01			12/18/2013 9:03	3351081	46DQ	M2PDG1AA
J1T712	SOIL	CS	7782-49-2	Se	-1.09E+00	U	UG/G	9.95E+00	9.95E+00	2.00E+00	0.2513	G	1.61E+00			12/18/2013 9:03	3351081	46DQ	M2PDG1AA
INTRA-LAB BLANK	SOIL	BLK	7440-22-4	Ag	8.37E-02	U	MG/L	1.00E+01	1.00E+01	4.10E-01	0.2492	L	3.41E-01			12/18/2013 8:08	3351081	46DQ	M2PDM1AA
INTRA-LAB BLANK	SOIL	BLK	7440-38-2	As	7.68E-01	U	MG/L	1.00E+01	1.00E+01	1.00E+00	0.2492	L	8.22E-01			12/18/2013 8:08	3351081	46DQ	M2PDM1AA
INTRA-LAB BLANK	SOIL	BLK	7440-39-3	Ba	1.63E-02	U	MG/L	2.01E+00	2.01E+00	9.80E-03	0.2492	L	8.07E-03			12/18/2013 8:08	3351081	46DQ	M2PDM1AA
INTRA-LAB BLANK	SOIL	BLK	7440-41-7	Beryllium	3.48E-03	U	MG/L	1.00E-01	1.00E-01	1.30E-02	0.2492	L	1.07E-02			12/18/2013 8:08	3351081	46DQ	M2PDM1AA
INTRA-LAB BLANK	SOIL	BLK	7440-43-9	Cadmium	5.76E-02	U	MG/L	2.01E+00	2.01E+00	7.00E-02	0.2492	L	5.79E-02			12/18/2013 8:08	3351081	46DQ	M2PDM1AA
INTRA-LAB BLANK	SOIL	BLK	7440-47-3	Chromium	5.62E-02	U	MG/L	1.00E+01	1.00E+01	1.30E-01	0.2492	L	1.08E-01			12/18/2013 8:08	3351081	46DQ	M2PDM1AA
INTRA-LAB BLANK	SOIL	BLK	7439-92-1	Lead	2.61E-01	U	MG/L	1.00E+01	1.00E+01	4.10E-01	0.2492	L	3.36E-01			12/18/2013 8:08	3351081	46DQ	M2PDM1AA
INTRA-LAB BLANK	SOIL	BLK	7782-49-2	Se	9.69E-01	U	MG/L	1.00E+01	1.00E+01	1.50E+00	0.2492	L	1.24E+00			12/18/2013 8:08	3351081	46DQ	M2PDM1AA
INTRA-LAB CHECK	SOIL	LCS	7440-22-4	Ag	1.84E+02		MG/L	1.01E+01	1.01E+01	7.30E-01	0.248	L	6.03E-01	0.91	202	12/18/2013 8:11	3351081	46DQ	M2PDM1AA
INTRA-LAB CHECK	SOIL	LCS	7440-38-2	As	1.89E+02		MG/L	1.01E+01	1.01E+01	2.50E+00	0.248	L	2.05E+00	0.94	202	12/18/2013 8:11	3351081	46DQ	M2PDM1AA
INTRA-LAB CHECK	SOIL	LCS	7440-39-3	Ba	1.91E+02		MG/L	2.02E+00	2.02E+00	9.90E-01	0.248	L	8.10E-01	0.95	202	12/18/2013 8:11	3351081	46DQ	M2PDM1AA
INTRA-LAB CHECK	SOIL	LCS	7440-41-7	Beryllium	1.87E+02		MG/L	1.01E-01	1.01E-01	1.90E+00	0.248	L	1.58E+00	0.93	202	12/18/2013 8:11	3351081	46DQ	M2PDM1AA
INTRA-LAB CHECK	SOIL	LCS	7440-43-9	Cadmium	1.87E+02		MG/L	2.02E+00	2.02E+00	3.40E-01	0.248	L	2.83E-01	0.93	202	12/18/2013 8:11	3351081	46DQ	M2PDM1AA
INTRA-LAB CHECK	SOIL	LCS	7440-47-3	Chromium	1.97E+02		MG/L	1.01E+01	1.01E+01	2.10E+00	0.248	L	1.70E+00	0.98	202	12/18/2013 8:11	3351081	46DQ	M2PDM1AA
INTRA-LAB CHECK	SOIL	LCS	7439-92-1	Lead	1.87E+02		MG/L	1.01E+01	1.01E+01	5.70E-01	0.248	L	4.70E-01	0.93	202	12/18/2013 8:11	3351081	46DQ	M2PDM1AA
INTRA-LAB CHECK	SOIL	LCS	7782-49-2	Se	1.81E+02		MG/L	1.01E+01	1.01E+01	1.10E+00	0.248	L	8.73E-01	0.9	202	12/18/2013 8:11	3351081	46DQ	M2PDM1AA
J1T707 DUP	SOIL	DUP	7440-22-4	Ag	1.36E-01	U	UG/G	9.93E+00	9.93E+00	7.30E-02	0.2517	G	5.98E-02			12/18/2013 8:44	3351081	46DQ	M2PDA1A0
J1T707 DUP	SOIL	DUP	7440-38-2	As	1.13E+00	U	UG/G	9.93E+00	9.93E+00	1.10E+00	0.2517	G	9.04E-01			12/18/2013 8:44	3351081	46DQ	M2PDA1A0
J1T707 DUP	SOIL	DUP	7440-39-3	Ba	6.19E+01		UG/G	1.99E+00	1.99E+00	8.70E-02	0.2517	G	7.18E-02			12/18/2013 8:44	3351081	46DQ	M2PDA1A0
J1T707 DUP	SOIL	DUP	7440-41-7	Beryllium	2.19E-01		UG/G	9.93E-02	9.93E-02	1.30E-02	0.2517	G	1.07E-02			12/18/2013 8:44	3351081	46DQ	M2PDA1A0

Client_id	Matrix	Result_1	Cas_nbr	Parameter	Result	Qualifier	Units	Reporting_Limits_S	Reporting_Limits	Uncertainty_1s	Analyzed_:	Analyz	Decision_level_lc	LCS	Reco	Adde	Analysis_date_time	Batch_nbr	Test_Metl	Lab_sample_id
J1T707 DUP	SOIL	DUP	7440-43-9	Cadmium	1.32E-01	U	UG/G	1.99E+00	1.99E+00	4.60E-02	0.2517	G	3.82E-02				12/18/2013 8:44	3351081	46DQ	M2PDA1A0
J1T707 DUP	SOIL	DUP	7440-47-3	Chromium	6.67E+00	U	UG/G	9.93E+00	9.93E+00	1.90E-01	0.2517	G	1.57E-01				12/18/2013 8:44	3351081	46DQ	M2PDA1A0
J1T707 DUP	SOIL	DUP	7439-92-1	Lead	3.22E+00	U	UG/G	9.93E+00	9.93E+00	7.10E-01	0.2517	G	5.81E-01				12/18/2013 8:44	3351081	46DQ	M2PDA1A0
J1T707 DUP	SOIL	DUP	7782-49-2	Se	-6.02E-02	U	UG/G	9.93E+00	9.93E+00	1.30E+00	0.2517	G	1.07E+00				12/18/2013 8:44	3351081	46DQ	M2PDA1A0
J1T707	SOIL	MS	7440-22-4	Ag	1.71E+02		% REC(	9.97E+00	9.97E+00	1.30E+00	0.2508	L	1.09E+00	0.86	199		12/18/2013 8:23	3351081	46DQ	M2PDA1A0
J1T707	SOIL	MS	7440-38-2	As	1.79E+02		% REC(	9.97E+00	9.97E+00	1.70E+00	0.2508	L	1.39E+00	0.9	199		12/18/2013 8:23	3351081	46DQ	M2PDA1A0
J1T707	SOIL	MS	7440-39-3	Ba	2.21E+02		% REC(	1.99E+00	1.99E+00	4.50E+00	0.2508	L	3.68E+00	1.11	199		12/18/2013 8:23	3351081	46DQ	M2PDA1A0
J1T707	SOIL	MS	7440-41-7	Beryllium	1.79E+02		% REC(	9.97E-02	9.97E-02	2.00E-01	0.2508	L	1.61E-01	0.9	199		12/18/2013 8:23	3351081	46DQ	M2PDA1A0
J1T707	SOIL	MS	7440-43-9	Cadmium	1.75E+02		% REC(	1.99E+00	1.99E+00	7.20E-01	0.2508	L	5.89E-01	0.88	199		12/18/2013 8:23	3351081	46DQ	M2PDA1A0
J1T707	SOIL	MS	7440-47-3	Chromium	1.87E+02		% REC(	9.97E+00	9.97E+00	1.40E+00	0.2508	L	1.11E+00	0.94	199		12/18/2013 8:23	3351081	46DQ	M2PDA1A0
J1T707	SOIL	MS	7439-92-1	Lead	1.72E+02		% REC(	9.97E+00	9.97E+00	1.00E+00	0.2508	L	8.28E-01	0.86	199		12/18/2013 8:23	3351081	46DQ	M2PDA1A0
J1T707	SOIL	MS	7782-49-2	Se	1.72E+02		% REC(	9.97E+00	9.97E+00	5.10E-01	0.2508	L	4.19E-01	0.86	199		12/18/2013 8:23	3351081	46DQ	M2PDA1A0
J1T707	SOIL	MSD	7440-22-4	Ag	1.81E+02		% REC(	1.01E+01	1.01E+01	1.30E+00	0.2485	L	1.10E+00	0.9	201		12/18/2013 8:28	3351081	46DQ	M2PDA1A0
J1T707	SOIL	MSD	7440-38-2	As	1.89E+02		% REC(	1.01E+01	1.01E+01	8.40E-01	0.2485	L	6.88E-01	0.94	201		12/18/2013 8:28	3351081	46DQ	M2PDA1A0
J1T707	SOIL	MSD	7440-39-3	Ba	2.33E+02		% REC(	2.01E+00	2.01E+00	3.80E+00	0.2485	L	3.11E+00	1.16	201		12/18/2013 8:28	3351081	46DQ	M2PDA1A0
J1T707	SOIL	MSD	7440-41-7	Beryllium	1.89E+02		% REC(	1.01E-01	1.01E-01	2.00E+00	0.2485	L	1.67E+00	0.94	201		12/18/2013 8:28	3351081	46DQ	M2PDA1A0
J1T707	SOIL	MSD	7440-43-9	Cadmium	1.86E+02		% REC(	2.01E+00	2.01E+00	7.20E-01	0.2485	L	5.94E-01	0.92	201		12/18/2013 8:28	3351081	46DQ	M2PDA1A0
J1T707	SOIL	MSD	7440-47-3	Chromium	1.99E+02		% REC(	1.01E+01	1.01E+01	2.10E+00	0.2485	L	1.72E+00	0.99	201		12/18/2013 8:28	3351081	46DQ	M2PDA1A0
J1T707	SOIL	MSD	7439-92-1	Lead	1.81E+02		% REC(	1.01E+01	1.01E+01	6.20E-01	0.2485	L	5.12E-01	0.9	201		12/18/2013 8:28	3351081	46DQ	M2PDA1A0
J1T707	SOIL	MSD	7782-49-2	Se	1.81E+02		% REC(	1.01E+01	1.01E+01	2.50E+00	0.2485	L	2.04E+00	0.9	201		12/18/2013 8:28	3351081	46DQ	M2PDA1A0

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J.C
12/18/13

SDG: J02060
SAF: RC-074
BATCH: 3353047
MATRIX: SOIL
ANALYSIS DATE: 12/20/13

Client_id	Matrix	Result_t	Cas_nbr	Parameter	Result	Qualifier	Units	Reporting_Limits_s	Reporting_Limits	Uncertainty_1s	Analyzed_	Analy	Decision_level_lc	LCSRec	Adde	Analysis_date_time	Batch_nbr	Test_Met	Lab_sample_id
J1T713	**SOIL**	**CS**	**7440-22-4**	**Ag**	**-1.00E-01**	**U**	**UG/G**	9.92E+00	9.92E+00	1.10E-01	0.2519	G	9.36E-02			12/20/2013 8:20	3353047	46DQ	M2P281A0
J1T713	**SOIL**	**CS**	**7440-38-2**	**As**	**1.46E+00**	**U**	**UG/G**	9.92E+00	9.92E+00	1.50E+00	0.2519	G	1.20E+00			12/20/2013 8:20	3353047	46DQ	M2P281A0
J1T713	**SOIL**	**CS**	**7440-39-3**	**Ba**	**7.06E+01**		**UG/G**	1.98E+00	1.98E+00	1.10E-01	0.2519	G	9.31E-02			12/20/2013 8:20	3353047	46DQ	M2P281A0
J1T713	**SOIL**	**CS**	**7440-41-7**	**Beryllium**	**2.55E-01**		**UG/G**	9.92E-02	9.92E-02	8.10E-03	0.2519	G	6.64E-03			12/20/2013 8:20	3353047	46DQ	M2P281A0
J1T713	**SOIL**	**CS**	**7440-43-9**	**Cadmium**	**1.53E-01**	**U**	**UG/G**	1.98E+00	1.98E+00	2.30E-02	0.2519	G	1.88E-02			12/20/2013 8:20	3353047	46DQ	M2P281A0
J1T713	**SOIL**	**CS**	**7440-47-3**	**Chromium**	**1.32E+01**		**UG/G**	9.92E+00	9.92E+00	2.10E-01	0.2519	G	1.69E-01			12/20/2013 8:20	3353047	46DQ	M2P281A0
J1T713	**SOIL**	**CS**	**7439-92-1**	**Lead**	**7.71E+00**	**U**	**UG/G**	9.92E+00	9.92E+00	9.90E-02	0.2519	G	8.11E-02			12/20/2013 8:20	3353047	46DQ	M2P281A0
J1T713	**SOIL**	**CS**	**7782-49-2**	**Se**	**9.58E-01**	**U**	**UG/G**	9.92E+00	9.92E+00	1.10E+00	0.2519	G	9.45E-01			12/20/2013 8:20	3353047	46DQ	M2P281A0
INTRA-LAB BLANK	SOIL	BLK	7440-22-4	Ag	6.42E-02	U	MG/L	9.92E+00	9.92E+00	1.30E-01	0.2521	L	1.08E-01			12/20/2013 8:09	3353047	46DQ	M2P3N1AA
INTRA-LAB BLANK	SOIL	BLK	7440-38-2	As	9.69E-01	U	MG/L	9.92E+00	9.92E+00	3.10E-01	0.2521	L	2.57E-01			12/20/2013 8:09	3353047	46DQ	M2P3N1AA
INTRA-LAB BLANK	SOIL	BLK	7440-39-3	Ba	3.39E-02	U	MG/L	1.98E+00	1.98E+00	1.10E-02	0.2521	L	8.84E-03			12/20/2013 8:09	3353047	46DQ	M2P3N1AA
INTRA-LAB BLANK	SOIL	BLK	7440-41-7	Beryllium	-2.48E-03	U	MG/L	9.92E-02	9.92E-02	1.10E-02	0.2521	L	8.82E-03			12/20/2013 8:09	3353047	46DQ	M2P3N1AA
INTRA-LAB BLANK	SOIL	BLK	7440-43-9	Cadmium	5.77E-03	U	MG/L	1.98E+00	1.98E+00	7.50E-02	0.2521	L	6.13E-02			12/20/2013 8:09	3353047	46DQ	M2P3N1AA
INTRA-LAB BLANK	SOIL	BLK	7440-47-3	Chromium	3.75E-02	U	MG/L	9.92E+00	9.92E+00	1.90E-01	0.2521	L	1.53E-01			12/20/2013 8:09	3353047	46DQ	M2P3N1AA
INTRA-LAB BLANK	SOIL	BLK	7439-92-1	Lead	1.93E-01	U	MG/L	9.92E+00	9.92E+00	2.20E-01	0.2521	L	1.80E-01			12/20/2013 8:09	3353047	46DQ	M2P3N1AA
INTRA-LAB BLANK	SOIL	BLK	7782-49-2	Se	1.30E+00	U	MG/L	9.92E+00	9.92E+00	1.20E+00	0.2521	L	1.00E+00			12/20/2013 8:09	3353047	46DQ	M2P3N1AA
INTRA-LAB CHECK	SOIL	LCS	7440-22-4	Ag	1.91E+02		MG/L	1.01E+01	1.01E+01	3.70E+00	0.248	L	3.07E+00	0.95	202	12/20/2013 8:12	3353047	46DQ	M2P3N1AA
INTRA-LAB CHECK	SOIL	LCS	7440-38-2	As	1.91E+02		MG/L	1.01E+01	1.01E+01	1.70E+00	0.248	L	1.42E+00	0.95	202	12/20/2013 8:12	3353047	46DQ	M2P3N1AA
INTRA-LAB CHECK	SOIL	LCS	7440-39-3	Ba	1.98E+02		MG/L	2.02E+00	2.02E+00	2.90E+00	0.248	L	2.41E+00	0.98	202	12/20/2013 8:12	3353047	46DQ	M2P3N1AA
INTRA-LAB CHECK	SOIL	LCS	7440-41-7	Beryllium	1.99E+02		MG/L	1.01E-01	1.01E-01	5.80E+00	0.248	L	4.74E+00	0.99	202	12/20/2013 8:12	3353047	46DQ	M2P3N1AA
INTRA-LAB CHECK	SOIL	LCS	7440-43-9	Cadmium	1.91E+02		MG/L	2.02E+00	2.02E+00	5.50E-01	0.248	L	4.48E-01	0.95	202	12/20/2013 8:12	3353047	46DQ	M2P3N1AA
INTRA-LAB CHECK	SOIL	LCS	7440-47-3	Chromium	2.07E+02		MG/L	1.01E+01	1.01E+01	4.20E+00	0.248	L	3.45E+00	1.03	202	12/20/2013 8:12	3353047	46DQ	M2P3N1AA
INTRA-LAB CHECK	SOIL	LCS	7439-92-1	Lead	1.93E+02		MG/L	1.01E+01	1.01E+01	1.00E+00	0.248	L	8.56E-01	0.96	202	12/20/2013 8:12	3353047	46DQ	M2P3N1AA
INTRA-LAB CHECK	SOIL	LCS	7782-49-2	Se	1.85E+02		MG/L	1.01E+01	1.01E+01	2.70E+00	0.248	L	2.22E+00	0.92	202	12/20/2013 8:12	3353047	46DQ	M2P3N1AA
J1T713 DUP	SOIL	DUP	7440-22-4	Ag	-6.89E-02	U	UG/G	1.00E+01	1.00E+01	1.60E-01	0.249	G	1.32E-01			12/20/2013 8:44	3353047	46DQ	M2P281A0
J1T713 DUP	SOIL	DUP	7440-38-2	As	1.36E+00	U	UG/G	1.00E+01	1.00E+01	1.10E+00	0.249	G	8.65E-01			12/20/2013 8:44	3353047	46DQ	M2P281A0
J1T713 DUP	SOIL	DUP	7440-39-3	Ba	7.30E+01		UG/G	2.01E+00	2.01E+00	3.20E-01	0.249	G	2.64E-01			12/20/2013 8:44	3353047	46DQ	M2P281A0
J1T713 DUP	SOIL	DUP	7440-41-7	Beryllium	2.45E-01		UG/G	1.00E-01	1.00E-01	2.20E-02	0.249	G	1.84E-02			12/20/2013 8:44	3353047	46DQ	M2P281A0
J1T713 DUP	SOIL	DUP	7440-43-9	Cadmium	1.42E-01	U	UG/G	2.01E+00	2.01E+00	6.20E-02	0.249	G	5.09E-02			12/20/2013 8:44	3353047	46DQ	M2P281A0
J1T713 DUP	SOIL	DUP	7440-47-3	Chromium	1.17E+01		UG/G	1.00E+01	1.00E+01	2.60E-01	0.249	G	2.13E-01			12/20/2013 8:44	3353047	46DQ	M2P281A0
J1T713 DUP	SOIL	DUP	7439-92-1	Lead	8.17E+00	U	UG/G	1.00E+01	1.00E+01	4.30E-01	0.249	G	3.53E-01			12/20/2013 8:44	3353047	46DQ	M2P281A0
J1T713 DUP	SOIL	DUP	7782-49-2	Se	1.39E+00	U	UG/G	1.00E+01	1.00E+01	1.70E+00	0.249	G	1.36E+00			12/20/2013 8:44	3353047	46DQ	M2P281A0
J1T713	SOIL	MS	7440-22-4	Ag	1.89E+02		% REC	1.01E+01	1.01E+01	3.00E-01	0.2487	L	2.48E-01	0.94	201	12/20/2013 8:24	3353047	46DQ	M2P281A0
J1T713	SOIL	MS	7440-38-2	As	1.91E+02		% REC	1.01E+01	1.01E+01	1.40E+00	0.2487	L	1.15E+00	0.95	201	12/20/2013 8:24	3353047	46DQ	M2P281A0
J1T713	SOIL	MS	7440-39-3	Ba	1.86E+02		% REC	2.01E+00	2.01E+00	1.80E+00	0.2487	L	1.48E+00	0.92	201	12/20/2013 8:24	3353047	46DQ	M2P281A0
J1T713	SOIL	MS	7440-41-7	Beryllium	2.00E+02		% REC	1.01E-01	1.01E-01	1.00E+00	0.2487	L	8.59E-01	0.99	201	12/20/2013 8:24	3353047	46DQ	M2P281A0
J1T713	SOIL	MS	7440-43-9	Cadmium	1.89E+02		% REC	2.01E+00	2.01E+00	3.10E-01	0.2487	L	2.58E-01	0.94	201	12/20/2013 8:24	3353047	46DQ	M2P281A0
J1T713	SOIL	MS	7440-47-3	Chromium	2.10E+02		% REC	1.01E+01	1.01E+01	1.40E+00	0.2487	L	1.16E+00	1.05	201	12/20/2013 8:24	3353047	46DQ	M2P281A0
J1T713	SOIL	MS	7439-92-1	Lead	1.83E+02		% REC	1.01E+01	1.01E+01	1.60E-01	0.2487	L	1.28E-01	0.91	201	12/20/2013 8:24	3353047	46DQ	M2P281A0
J1T713	SOIL	MS	7782-49-2	Se	1.84E+02		% REC	1.01E+01	1.01E+01	6.70E-01	0.2487	L	5.48E-01	0.92	201	12/20/2013 8:24	3353047	46DQ	M2P281A0
J1T713	SOIL	MSD	7440-22-4	Ag	1.86E+02		% REC	9.93E+00	9.93E+00	8.00E+00	0.2517	L	6.56E+00	0.94	199	12/20/2013 8:29	3353047	46DQ	M2P281A0
J1T713	SOIL	MSD	7440-38-2	As	1.88E+02		% REC	9.93E+00	9.93E+00	1.90E+00	0.2517	L	1.59E+00	0.95	199	12/20/2013 8:29	3353047	46DQ	M2P281A0
J1T713	SOIL	MSD	7440-39-3	Ba	1.80E+02		% REC	1.99E+00	1.99E+00	1.40E+01	0.2517	L	1.13E+01	0.9	199	12/20/2013 8:29	3353047	46DQ	M2P281A0
J1T713	SOIL	MSD	7440-41-7	Beryllium	1.98E+02		% REC	9.93E-02	9.93E-02	1.10E+01	0.2517	L	9.12E+00	1	199	12/20/2013 8:29	3353047	46DQ	M2P281A0
J1T713	SOIL	MSD	7440-43-9	Cadmium	1.86E+02		% REC	1.99E+00	1.99E+00	2.30E+00	0.2517	L	1.90E+00	0.94	199	12/20/2013 8:29	3353047	46DQ	M2P281A0
J1T713	SOIL	MSD	7440-47-3	Chromium	2.02E+02		% REC	9.93E+00	9.93E+00	1.10E+01	0.2517	L	9.03E+00	1.02	199	12/20/2013 8:29	3353047	46DQ	M2P281A0
J1T713	SOIL	MSD	7439-92-1	Lead	1.80E+02		% REC	9.93E+00	9.93E+00	3.10E+00	0.2517	L	2.53E+00	0.91	199	12/20/2013 8:29	3353047	46DQ	M2P281A0
J1T713	SOIL	MSD	7782-49-2	Se	1.81E+02		% REC	9.93E+00	9.93E+00	1.80E+00	0.2517	L	1.44E+00	0.91	199	12/20/2013 8:29	3353047	46DQ	M2P281A0

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12/20/13

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Richland Laboratory
Data Review Check List
Hexavalent Chromium

Batch Number(s):	3350022	Lab Sample Numbers or SDG:	J02060

Method/Test/Parameter: Cr+6 ☐ RL-WC-003(Aqueous) ☒ RL-WC-004(Solid)

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 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 I. Salifu Date 12/17/13 2nd Review H. Rahavi Date 12/17/13

CG-231 Rev 1 5/12

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Richland Laboratory
Data Review Check List
Hexavalent Chromium

Batch Number(s):	3351080	Lab Sample Numbers or SDG:	J02060

Method/Test/Parameter: Cr+6 ☐ RL-WC-003(Aqueous) ☒ RL-WC-004(Solid)

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 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 [signature] Date 12/18/13 2nd Review [signature] Date 12/18/13

CG-231 Rev 1 5/12

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Richland Laboratory
Data Review Check List
Hexavalent Chromium

Batch Number(s):	3353048	Lab Sample Numbers or SDG:	J02060

Method/Test/Parameter: Cr+6 ☐ RL-WC-003(Aqueous) ☒ RL-WC-004(Solid)

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 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 I. Saliefu Date 12/20/13 2nd Review [illegible] Date 12/20/13

CG-231 Rev 1, 5/12

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

CHEMISTRY, First/Second Level Review

12/16/2013 3:42:35 PM

Lot No., Due Date: J3L160406; 12/17/2013
Client, Site: 127642;
QC Batch No., Method Test: 3350020; M6010_S 6010A
SDG, Matrix: J02060,,,,,,; SOIL

	Yes	No	N/A	2nd
1.0 Initial Calibration				
1.1 Performed at required frequency with required number of levels?	✓			✓
1.2 Correlation coefficient within QC limits?	✓			✓
1.3 Initial calibration verification (ICV) analyzed immediately after calibr. and results within QC limits of +/- 10% at 0.75 ppm?	✓			✓
1.4 ICB analyzed immediately after ICV and concentration of all parameters +/- report limit from zero? RL per RadCalc.	✓			✓
2.0 Continuing Calibration				
2.1 CCV analyzed at required frequency and all parameters within QC limits or +/- 10% at 0.7500 ppm?	✓			✓
2.2 CCB analyzed at required frequency and all results +/- reporting limit from zero?	✓			✓
3.0 Sample Analysis				
3.1 Were any samples with concentration above the linear range diluted and reanalyzed?			✓	✓
3.2 Were all sample holding times met?	✓			✓
4.0 QC Samples				
4.1 All results for the preparation blank < reporting limits?	✓			✓
4.2 MS or MS/MSD recoveries within 25% at 1 ppm and within 20% RPD (for MSD)?	✓			✓
4.3 LCS precent recovery within 20% at 1 ppm and 20% RPD (for LCSD)?	✓			✓
4.4 "ICP Only: Sample and DUP within 35% RPD?"	✓			✓
4.5 ICP only: One serial dilution performed and within 10% of parent per SDG?	✓			✓
4.6 ICP only: RLV run per batch and within 20% of current values?	✓			✓
4.7 ICP only: ICSA,ICSAB analyzed at the required frequencies and within 20% of values per dilution record?	✓			✓
5.0 Other				
5.1 Are all nonconformances included and noted?			✓	✓
5.2 Is the correct date and time of analysis shown?	✓			✓
5.3 Did the analyst sign and date the digestion log for the analytical run?	✓			✓
5.4 Correct methodology used?	✓			✓
5.5 Transcriptions checked?	✓			✓
5.6 Calculations checked at minimum frequency?	✓			✓
5.7 Units checked?	✓			✓
5.8 Verified that appropriate data transferred to ReportDB?	✓			✓

6.0 Comments on any 'No' response:

First Level [signature] **Date** 12/16/13 **Second** H. Rahavi **Date** 12/16/13

TestAmerica Richland
QAS_RADCALCv4.8.66.1

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

CHEMISTRY, First/Second Level Review

12/18/2013 9:50:30 AM

Lot No., Due Date: J3L170424; 12/18/2013
Client, Site: 127642; S00X235B00 HANFORD
QC Batch No., Method Test: 3351081; M6010_S 6010A
SDG, Matrix: J02060; SOIL

	Yes	No	N/A	2nd
1.0 Initial Calibration				
1.1 Performed at required frequency with required number of levels?	✓			✓
1.2 Correlation coefficient within QC limits?	✓			✓
1.3 Initial calibration verification (ICV) analyzed immediately after calibr. and results within QC limits of +/- 10% at 0.75 ppm?	✓			✓
1.4 ICB analyzed immediately after ICV and concentration of all parameters +/- report limit from zero? RL per RadCalc.	✓			✓
2.0 Continuing Calibration				
2.1 CCV analyzed at required frequency and all parameters within QC limits or +/- 10% at 0.7500 ppm?	✓			✓
2.2 CCB analyzed at required frequency and all results +/- reporting limit from zero?	✓			✓
3.0 Sample Analysis				
3.1 Were any samples with concentration above the linear range diluted and reanalyzed?			✓	✓
3.2 Were all sample holding times met?	✓			✓
4.0 QC Samples				
4.1 All results for the preparation blank < reporting limits?	✓			✓
4.2 MS or MS/MSD recoveries within 25% at 1 ppm and within 20% RPD (for MSD)?	✓			✓
4.3 LCS precent recovery within 20% at 1 ppm and 20% RPD (for LCSD)?	✓			✓
4.4 "ICP Only: Sample and DUP within 35% RPD?"		✓		✓
4.5 ICP only: One serial dilution performed and within 10% of parent per SDG?	✓			✓
4.6 ICP only: RLV run per batch and within 20% of current values?	✓			✓
4.7 ICP only: ICSA,ICSAB analyzed at the required frequencies and within 20% of values per dilution record?	✓			✓
5.0 Other				
5.1 Are all nonconformances included and noted?	✓			✓
5.2 Is the correct date and time of analysis shown?	✓			✓
5.3 Did the analyst sign and date the digestion log for the analytical run?	✓			✓
5.4 Correct methodology used?	✓			✓
5.5 Transcriptions checked?	✓			✓
5.6 Calculations checked at minimum frequency?	✓			✓
5.7 Units checked?	✓			✓
5.8 Verified that appropriate data transferred to ReportDB?	✓			✓

6.0 Comments on any 'No' response:

First Level [signature] **Date** 12/18/13 **Second** H. Rahavi **Date** 12/18/13

TestAmerica Richland
QAS_RADCALCv4.8.66.1

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Clouseau
Nonconformance Memo

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

NCM #: **10-25589**
NCM Initiated By: Philip Bouslaugh
Date Opened: 12/18/2013
Date Closed:

Classification: **Anomaly**
Status: **PMREVIEW**
Production Area: Classical Chemistry
Tests: None
Lot #'s (Sample #'s): J3L170424 (1),
QC Batches: None.,

Nonconformance: Other (describe in detail)
Subcategory: Other (explanation required)

Problem Description / Root Cause

Name	Date	Description
Philip Bouslaugh	12/18/2013	The duplicate's RPD was above the acceptance criteria for Barium, Beryllium, Chromium, and Lead. The sample duplicate was not within acceptance criteria possibly due to inhomogeneity of the sample.

Corrective Action

Name	Date	Corrective Action
Philip Bouslaugh	12/18/2013	The data was reported as is; submitted for client review.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position
12/18/13		

Date Printed: 12/18/2013

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

CHEMISTRY, First/Second Level Review

12/20/2013 10:36:39 AM

Lot No., Due Date: J3L190415; 12/20/2013
Client, Site: 127642; S00X235B00 HANFORD
QC Batch No., Method Test: 3353047; M6010_S 6010A
SDG, Matrix: J02060; SOIL

	Yes	No	N/A	2nd
1.0 Initial Calibration				
1.1 Performed at required frequency with required number of levels?	✓			✓
1.2 Correlation coefficient within QC limits?	✓			✓
1.3 Initial calibration verification (ICV) analyzed immediately after calibr. and results within QC limits of +/- 10% at 0.75 ppm?	✓			✓
1.4 ICB analyzed immediately after ICV and concentration of all parameters +/- report limit from zero? RL per RadCalc.	✓			✓
2.0 Continuing Calibration				
2.1 CCV analyzed at required frequency and all parameters within QC limits or +/- 10% at 0.7500 ppm?	✓			✓
2.2 CCB analyzed at required frequency and all results +/- reporting limit from zero?	✓			✓
3.0 Sample Analysis				
3.1 Were any samples with concentration above the linear range diluted and reanalyzed?			✓	✓
3.2 Were all sample holding times met?	✓			✓
4.0 QC Samples				
4.1 All results for the preparation blank < reporting limits?	✓			✓
4.2 MS or MS/MSD recoveries within 25% at 1 ppm and within 20% RPD (for MSD)?	✓			✓
4.3 LCS precent recovery within 20% at 1 ppm and 20% RPD (for LCSD)?	✓			✓
4.4 "ICP Only: Sample and DUP within 35% RPD?"	✓			✓
4.5 ICP only: One serial dilution performed and within 10% of parent per SDG?	✓			✓
4.6 ICP only: RLV run per batch and within 20% of current values?	✓			✓
4.7 ICP only: ICSA,ICSAB analyzed at the required frequencies and within 20% of values per dilution record?	✓			✓
5.0 Other				
5.1 Are all nonconformances included and noted?			✓	✓
5.2 Is the correct date and time of analysis shown?	✓			✓
5.3 Did the analyst sign and date the digestion log for the analytical run?	✓			✓
5.4 Correct methodology used?	✓			✓
5.5 Transcriptions checked?	✓			✓
5.6 Calculations checked at minimum frequency?	✓			✓
5.7 Units checked?	✓			✓
5.8 Verified that appropriate data transferred to ReportDB?	✓			✓

6.0 Comments on any 'No' response:

First Level [signature] **Date** 12/20/13 **Second** H. Rahavi **Date** 12/20/13

TestAmerica Richland
QAS_RADCALCv4.8.66.3

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-074-623

Collector SEXSMITH, WT	**Company Contact** Joan Kessner	**Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH
Project Designation 100-D/DR Field Remediation	**Sampling Location** 100-D-100 Floor Sample (Ground Water Level)		**SAF No.** RC-074
Ice Chest No. N/A	**Field Logbook No.** EL-1607-22	**COA** 0D10032600	**Method of Shipment** Local Delivery
Shipped To TestAmerica Richland	**Offsite Property No.** N/A		**Bill of Lading/Air Bill No.** N/A

Price Code

Data Turnaround QT

Other Labs Shipped To NA

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

12-16-13 cmb

~~NA~~ cool 4C

Preservation	None	Cool 4C									
Type of Container	G/P	G/P									
No. of Container(s)	1	1									
Volume	125mL	125mL									
Sample Analysis	See item (1) in Special Instructions	Chromium Hex - 7196 - Quick Turn {Hexavalent Chromium}									

Sample No.	Matrix	Sample Date	Sample Time										
J1T704 M2NOW	SOIL	12/13/13	0815 ~~1215~~	X	X								

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Whitney T. Sexsmith [signature]	12/13/13 0838	JV Fullmer [signature]	0838 12/13/13
JV Fullmer [signature]	1435 12/13/13	SM Sexton [signature]	1435 12/13/13
SM Sexton [signature]	1600 12/13/13	1060 Battelle Fridge 1B	1600 12/13/13 *
1060 Battelle Fridge 1B	0800 12-16-13	C. Bingham [signature]	0800 12-16-13
C. Bingham [signature] WCH	12-16-13 0917	J. Bock [signature] TALR	12-16-13 0917

FINAL SAMPLE DISPOSITION Disposal Method Disposed By Date/Time

SPECIAL INSTRUCTIONS

(1) Metals by ICP - 6010 - Quick Turn {Arsenic, Barium, Beryllium, Cadmium, Chromium, Lead, Selenium, Silver}

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

J3L160406
JO2060
Due 12-17-13

K Woodvaemore
12-16-13

J3L160406

WCH-EE-011

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 12-16-13 / 0917 Container GM Screen Result: (Airlock) 250 cpm Initials [B]
Sample GM Screen Result (Sample Receiving) 80 cpm Initials [B]

Client: WCH SDG #: J02060 SAF #: RC-074 NA [ ]

Lot Number: J3L160406

Chain of Custody # RC-074-623

Shipping Container ID or Air Bill Number : hand deliv NA [N]

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: 2.8 °C 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): 1
7. Containers received: 2x 125 mLP
8. Sample holding times exceeded? NA [ ] Yes [ ] No [B]
9. Samples have: ____tape ____hazard labels [B] custody seals [B] appropriate sample labels
10. Matrix: [B] A (FLT, Wipe, Solid, Soil) ____I (Water) ____S (Air, Niosh 7400) ____T (Biological, Ni-63)
11. Samples:
    [B] are in good condition ____are leaking ____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 go to pH area & document sample ID, initial pH, amount of HNO_3 added and pH after addition on table)
13. Were any anomalies identified in sample receipt? Yes [ ] No [B]
14. Description of anomalies (include sample numbers): NA [B] ____
15. Sample Location, Sample Collector Listed on COC? * Yes [B] No [ ]
    *For documentation only. No corrective action needed.
16. Additional Information: N/A

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

Sample Check-in List completed by Sample Custodian:
Signature: Julie Beck Date: 12-16-13

Client Notification needed? Yes [ ] No [X] Date: ____
By: ____
Person contacted: ____

[X] No action necessary; process as is

Project Manager [signature] Date 12/16/13

LS-023 Rev. 17, 05/13 Page 1 of 1

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-074-624

Collector Whitney Sexsmith	**Company Contact** Joan Kessner	**Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH
Price Code Q.T.	**Data Turnaround**		
Project Designation 100-D/DR Field Remediation	**Sampling Location** 100-D-100 East Ramp		**SAF No.** RC-074
Ice Chest No. N/A	**Field Logbook No.** EL-1607-22	**COA** 0D10032600	**Method of Shipment** Local Delivery
Shipped To TestAmerica Richland	**Offsite Property No.** N/A		**Bill of Lading/Air Bill No.** N/A

Other Labs Shipped To

N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4C

Preservation	None	Cool 4C										
Type of Container	G/P	G/P										
No. of Container(s)	1	1										
Volume	125mL	125mL										
Sample Analysis	See item (1) in Special Instructions	Chromium Hex - 7196 - Quick Turn {Hexavalent Chromium}										

Sample No.	Matrix	Sample Date	Sample Time										
J1T707 M2PDA	SOIL	12-17-13	SMS 12-17-13 ~~1315~~ 1310	✓	✓								
J1T708 M2PDC	SOIL	12-17-13	SMS 12-17-13 ~~1320~~ 1315	✓	✓								
J1T709 M2PDD	SOIL	12-17-13	SMS 12-17-13 ~~1325~~ 1320	✓	✓								
J1T710 M2PDE	SOIL	12-17-13	1330	✓	✓								
J1T711 M2PDF	SOIL	12-17-13	1335	✓	✓								

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
L. Whitney Sexsmith	1350 12/17/13	WCH SM SEXTON	1350 12/17/13
SM SEXTON	1520 12/17/13	C. Birgham	12-17-13 1520
C. Birgham WCH	12-17-13 1543	J. Bock TALL	12-17-13 1543

FINAL SAMPLE DISPOSITION — Disposal Method — Disposed By — Date/Time

SPECIAL INSTRUCTIONS

(1) Metals by ICP - 6010 - Quick Turn {Arsenic, Barium, Beryllium, Cadmium, Chromium, Lead, Selenium, Silver}

J02060
J3L170424
Due 12-18-13

J3L170424

REVIEWED BY CMB DATE 12-17-13

WCH-EE-011

Washington Closure Hanford — CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-074-624

Collector: Whitney Sexsmith	Company Contact: Joan Kessner	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: Q.T.	Data Turnaround		
Project Designation: 100-D/DR Field Remediation	Sampling Location: 100-D-100 East Ramp		SAF No.: RC-074
Ice Chest No.: NA	Field Logbook No.: EL-1607-22	COA: 0D10032600	Method of Shipment: Local Delivery
Shipped To: TestAmerica Richland	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A

Other Labs Shipped To: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
None

Special Handling and/or Storage
Cool 4C

Preservation	None	Cool 4C										
Type of Container	G/P	G/P										
No. of Container(s)	1	1										
Volume	125mL	125mL										
Sample Analysis	See item (1) in Special Instructions	Chromium Hex - 7196 - Quick Turn {Hexavalent Chromium}										

Sample No.	Matrix	Sample Date	Sample Time										
J1T712 M2PDS	SOIL	12-17-13	1345	✓	✓								
~~J1T713~~	~~SOIL~~	SMS 12-17-13											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: Whitney T. Sexsmith	12/17/13 1350	Received By/Stored In: WCH SM SEXTON	12/17/13 1350
Relinquished By/Removed From: SM SEXTON	12/17/13 1520	Received By/Stored In: C. Bingham	12-17-13 1520
Relinquished By/Removed From: C. Bingham WCH	12-17-13 1543	Received By/Stored In: J. Bock TALK	12-17-13 1543
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

SPECIAL INSTRUCTIONS
(1) Metals by ICP - 6010 - Quick Turn {Arsenic, Barium, Beryllium, Cadmium, Chromium, Lead, Selenium, Silver}

J3L170424
J02060
Due 12-18-13

J3L170424

REVIEWED BY CMB
DATE 12-17-13

WCH-EE-011

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 12-17-13 | 1543 Container GM Screen Result: (Airlock) 60 cpm Initials [ ]
Sample GM Screen Result (Sample Receiving) 40 cpm Initials [ ]

Client: WCH SDG #: J02060 SAF #: RC-074-624 NA [ ]

Lot Number: J3L170424

Chain of Custody # RC-074-624

Shipping Container ID or Air Bill Number : hand delivered NA [ ]

Samples received inside shipping container/cooler/box Yes [ ] 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 [ ]
2. Custody Seals dated and signed? Yes [ ] No [ ] No Custody Seal [ ]
3. Cooler temperature: 5.0 °C on Ice NA [ ]
4. Vermiculite/packing materials is NA [ ] Wet [ ] Dry [ ]

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes [ ] No [ ]
6. Number of samples received (Each sample may contain multiple bottles): 6
7. Containers received: 12 x 125 mLP
8. Sample holding times exceeded? NA [ ] Yes [ ] No [ ]
9. Samples have: ____tape ____hazard labels [ ] custody seals [ ] appropriate sample labels
10. Matrix: [ ] A (FLT, Wipe, Solid, Soil) ____I (Water) ____S (Air, Niosh 7400) ____T (Biological, Ni-63)
11. Samples:
    [ ] are in good condition ____are leaking ____are broken
    ____have air bubbles (Only for samples requiring no head space) ____Other ____
12. Sample pH appropriate for analysis requested Yes [ ] No [ ] NA [ ]
    (If acidification is necessary go to pH area & document sample ID, initial pH, amount of HNO_3 added and pH after addition on table)
13. Were any anomalies identified in sample receipt? Yes [ ] No [ ]
14. Description of anomalies (include sample numbers): NA [ ]
15. Sample Location, Sample Collector Listed on COC? * Yes [ ] No [ ]
    *For documentation only. No corrective action needed.
16. Additional Information: N/A

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

Sample Check-in List completed by Sample Custodian:
Signature: [signature] Date: 12-17-13

Client Notification needed? Yes [ ] No [ ] Date: ____
By: ____
Person contacted: ____

[ ] No action necessary; process as is

Project Manager [signature] Date 12/18/13

1 of 1

Washington Closure Hanford — CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-074-624 | Page ~~2 of 2~~ SMS 12-17-13

Collector: H. Weber	Company Contact: Joan Kessner	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Project Designation: 100-D/DR Field Remediation	Sampling Location: 100-D-100 East Ramp		SAF No.: RC-074
Ice Chest No.: NA	Field Logbook No.: EL-1607-22	COA: 0D10032600	Method of Shipment: Local Delivery
Shipped To: TestAmerica Richland	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A

Price Code: Q.T. | Data Turnaround:

Other Labs Shipped To: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
None

Special Handling and/or Storage
Cool 4C

Preservation	None	Cool 4C
Type of Container	G/P	G/P
No. of Container(s)	1	1
Volume	125mL	125mL
Sample Analysis	See item (1) in Special Instructions	Chromium Hex - 7196 - Quick Turn {Hexavalent Chromium}

Sample No.	Matrix	Sample Date	Sample Time		
~~J1T712~~	~~SOIL~~ SMS 12-17-13				
J1T713 M2P28	SOIL	12/19/13	0820	X	X

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Heather Weber [signature]	12/19/13 0825	JV. Fullmer [signature]	0825 12/19/13
JV Fullmer [signature]	1150 12/19/13	DWShea DWSHEA	12/19/13 1150
DWShea DWSHEA	12/19/13 1234	C. Bingham [signature]	12-19-13 1234
C. Bingham [signature] WCH	12-19-13 1326	J. Bock [signature] TALR	12-19-13 1326

FINAL SAMPLE DISPOSITION — Disposal Method | Disposed By | Date/Time

SPECIAL INSTRUCTIONS

(1) Metals by ICP - 6010 - Quick Turn {Arsenic, Barium, Beryllium, Cadmium, Chromium, Lead, Selenium, Silver}

J3L190415
JO2060
Due 12-20-13

REVIEWED BY K. Wood Via email
DATE 12-19-13

J3L190415

WCH-EE-011

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 12-19-13/ 1326 Container GM Screen Result: (Airlock) 80 cpm Initials [B]
Sample GM Screen Result (Sample Receiving) 40 cpm Initials [B]

Client: WCH SDG #: J0 20610 SAF #: RC-074 NA [ ]

Lot Number: J3L190415

Chain of Custody # RC-074-624

Shipping Container ID or Air Bill Number : hand de Div. 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: 2.3 °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): 1
7. Containers received: 2 x 125mLp
8. Sample holding times exceeded? NA [ ] Yes [ ] No [B]
9. Samples have: ____tape ____hazard labels [B] custody seals [B] appropriate sample labels
10. Matrix: [B] A (FLT, Wipe, Solid, Soil) ____I (Water) ____S (Air, Niosh 7400) ____T (Biological, Ni-63)
11. Samples:
    [B] are in good condition ____are leaking ____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 go to pH area & document sample ID, initial pH, amount of HNO_3 added and pH after addition on table)
13. Were any anomalies identified in sample receipt? Yes [ ] No [B]
14. Description of anomalies (include sample numbers): NA [B]
15. Sample Location, Sample Collector Listed on COC? * Yes [B] No [ ]
    *For documentation only. No corrective action needed.
16. Additional Information: N/A

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

Sample Check-in List completed by Sample Custodian:
Signature: [signature] Date: 12-19-13

Client Notification needed? Yes [ ] No [X] Date:
By:
Person contacted:

[X] No action necessary; process as is

Project Manager [signature] Date 12/19/13

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Sample Preparation/Analysis

127642, Washington Closure Hanford LLC ,
Washington Closure Hanford LLC

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

AnalyDueDate: 12/17/2013

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

Batch: 3350022 SOIL mg/kg PM, Quote: RW2, 88144
SEQ Batch, Test: None All Tests: 3350020 , 3350020 46DQ, 3350022 DWEA,

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 | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 M2N0W-1-AC													
J3L160406-1-SAMP													
12/13/2013 08:15			AmtRec: 2X125MLP		#Containers: 2				Scr:		Alpha:		Beta:
2 M2N0W-1-CE-S													
J3L160406-1-MS													
12/13/2013 08:15			AmtRec: 2X125MLP		#Containers: 2				Scr:		Alpha:		Beta:
3 M2N0W-1-CF-X													
J3L160406-1-DUP													
12/13/2013 08:15			AmtRec: 2X125MLP		#Containers: 2				Scr:		Alpha:		Beta:
4 M2N0W-1-CG-S													
J3L160406-1-MS													
12/13/2013 08:15			AmtRec: 2X125MLP		#Containers: 2				Scr:		Alpha:		Beta:
5 M2N18-1-AA-B													
J3L160000-22-BLK													
12/16/2013 11:04 pd			AmtRec:		#Containers: 1				Scr:		Alpha:		Beta:
6 M2N18-1-AC-C													
J3L160000-22-LCS													
12/16/2013 11:04 pd			AmtRec:		#Containers: 1				Scr:		Alpha:		Beta:

12/16/2013 11:05:03 AM

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: 12/17/2013

Batch: 3350022 **mg/kg**
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	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:

Comments:

All Clients for Batch:
127642, Washington Closure Hanford LLC Washington Closure Hanford LLC, RW2, 88144

M2N0W1AC-SAMP Constituent List:

M2N0W1CE-MS Constituent List:

M2N0W1CG-MS:

M2N181AA-BLK:

M2N181AC-LCS:

M2N0W1AC-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
M2N0W1CE-MS Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
M2N0W1CG-MS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
M2N181AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
M2N181AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

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Sample Preparation/Analysis

127642, Washington Closure Hanford LLC ,
Washington Closure Hanford LLC

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

Balance Id:

Pipet #: _____

AnalyDueDate: 12/18/2013

Sep1 DT/Tm Tech:

Batch: 3351080 SOIL mg/kg **PM, Quote: RW2, 88144**
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	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 M2PDA-1-AC													
J3L170424-1-SAMP													
12/17/2013 13:10			AmtRec: 2X125MLP		#Containers: 2				Scr:		Alpha:		Beta:
2 M2PDA-1-AL-S													
J3L170424-1-MS													
12/17/2013 13:10			AmtRec: 2X125MLP		#Containers: 2				Scr:		Alpha:		Beta:
3 M2PDA-1-AM-X													
J3L170424-1-DUP													
12/17/2013 13:10			AmtRec: 2X125MLP		#Containers: 2				Scr:		Alpha:		Beta:
4 M2PDA-1-AN-S													
J3L170424-1-MS													
12/17/2013 13:10			AmtRec: 2X125MLP		#Containers: 2				Scr:		Alpha:		Beta:
5 M2PDC-1-AC													
J3L170424-2-SAMP													
12/17/2013 13:15			AmtRec: 2X125MLP		#Containers: 2				Scr:		Alpha:		Beta:
6 M2PDD-1-AC													
J3L170424-3-SAMP													
12/17/2013 13:20			AmtRec: 2X125MLP		#Containers: 2				Scr:		Alpha:		Beta:
7 M2PDE-1-AC													
J3L170424-4-SAMP													
12/17/2013 13:30			AmtRec: 2X125MLP		#Containers: 2				Scr:		Alpha:		Beta:

TestAmerica Richland Wa.

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

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ISV - Insufficient Volume for Analysis

WO Cnt: 7

ICOC v4.8.49

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Sample Preparation/Analysis

127642, Washington Closure Hanford LLC ,
Washington Closure Hanford LLC

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

Balance Id:
Pipet #:

AnalyDueDate: 12/18/2013

Sep1 DT/Tm Tech:

Batch: 3351080 SOIL mg/kg PM, Quote: RW2, 88144
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	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 M2PDF-1-AC													
J3L170424-5-SAMP													
12/17/2013 13:35			AmtRec: 2X125MLP		#Containers: 2				Scr:		Alpha:		Beta:
9 M2PDG-1-AC													
J3L170424-6-SAMP													
12/17/2013 13:45			AmtRec: 2X125MLP		#Containers: 2				Scr:		Alpha:		Beta:
10 M2PDK-1-AA-B													
J3L170000-80-BLK													
12/17/2013 17:20 pd			AmtRec:		#Containers: 1				Scr:		Alpha:		Beta:
11 M2PDK-1-AC-C													
J3L170000-80-LCS													
12/17/2013 17:20 pd			AmtRec:		#Containers: 1				Scr:		Alpha:		Beta:

Comments:

All Clients for Batch:
127642, Washington Closure Hanford LLC Washington Closure Hanford LLC, RW2, 88144

M2PDA1AC-SAMP Constituent List:

M2PDA1AL-MS Constituent List:

M2PDA1AN-MS:

M2PDK1AA-BLK:

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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: 12/18/2013

Batch: 3351080 **mg/kg**
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	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:

```
M2PDK1AC-LCS:

M2PDA1AC-SAMP Calc Info:
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
M2PDA1AL-MS Calc Info:
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
M2PDA1AN-MS:
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
M2PDK1AA-BLK:
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
M2PDK1AC-LCS:
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

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Sample Preparation/Analysis

127642, Washington Closure Hanford LLC ,
Washington Closure Hanford LLC

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

AnalyDueDate: 12/20/2013

Batch: 3353048 SOIL mg/kg PM, Quote: RW2, 88144
SEQ Batch, Test: None All Tests: 3353047 , 3353047 46DQ, 3353048 DWEA,

Balance Id:
Pipet #: _____
Sep1 DT/Tm Tech:
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	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 M2P28-1-AC													
J3L190415-1-SAMP													
12/19/2013 08:20			AmtRec: 2X125MLP		#Containers: 2				Scr:		Alpha:		Beta:
2 M2P28-1-CE-S													
J3L190415-1-MS													
12/19/2013 08:20			AmtRec: 2X125MLP		#Containers: 2				Scr:		Alpha:		Beta:
3 M2P28-1-CF-X													
J3L190415-1-DUP													
12/19/2013 08:20			AmtRec: 2X125MLP		#Containers: 2				Scr:		Alpha:		Beta:
4 M2P28-1-CG-S													
J3L190415-1-MS													
12/19/2013 08:20			AmtRec: 2X125MLP		#Containers: 2				Scr:		Alpha:		Beta:
5 M2P3W-1-AA-B													
J3L190000-48-BLK													
12/19/2013 15:09 pd			AmtRec:		#Containers: 1				Scr:		Alpha:		Beta:
6 M2P3W-1-AC-C													
J3L190000-48-LCS													
12/19/2013 15:09 pd			AmtRec:		#Containers: 1				Scr:		Alpha:		Beta:

12/19/2013 4:03:22 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: 12/20/2013

Batch: 3353048 **mg/kg**
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	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:

Comments:

All Clients for Batch:
127642, Washington Closure Hanford LLC Washington Closure Hanford LLC, RW2, 88144

M2P281AC-SAMP Constituent List:

M2P281CE-MS Constituent List:

M2P281CG-MS:

M2P3W1AA-BLK:

M2P3W1AC-LCS:

M2P281AC-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
M2P281CE-MS Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
M2P281CG-MS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
M2P3W1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
M2P3W1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B