

SAF-RC-207

Remedial Action of the 100-C-7 &

100-C-7:1 Waste Sites – In-Process

FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 1/30/13
 INITIAL/DATE

COMMENTS:

SDG J01670

SAF-RC-207

Rad only Chem only Rad & Chem

Complete Partial

Sample Location: 100-C-7:1

Analytical Data Package Prepared For
Washington Closure Hanford

Radiochemical Analysis By
TestAmerica

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

Assigned Laboratory Code: TARL

Data Package Contains 57 Pages

Report No.: 54335

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.
J01670	RC-207	J1R8K3	J3A170422-6	MXWQT1AA	9MXWQT10	3017071
		J1R8K4	J3A170422-7	MXWQV1AA	9MXWQV10	3017071
		J1R8K5	J3A170422-8	MXWQW1AA	9MXWQW10	3017071
		J1R8K6	J3A170422-9	MXWQX1AA	9MXWQX10	3017071
		J1R8K7	J3A170422-10	MXWQ01AA	9MXWQ010	3017071
		J1R9J0	J3A170422-1	MXWQJ1AA	9MXWQJ10	3017071
		J1R9J1	J3A170422-2	MXWQN1AC	9MXWQN10	3017071
		J1R9J2	J3A170422-3	MXWQP1AA	9MXWQP10	3017071
		J1R9J3	J3A170422-4	MXWQQ1AA	9MXWQQ10	3017071
		J1R9J4	J3A170422-5	MXWQR1AA	9MXWQR10	3017071
		J1R9P9	J3A170406-1	MXWJT2AC	9MXWJT20	3021026
		J1R9R0	J3A170406-2	MXWJX2AC	9MXWJX20	3021026
		J1R9R1	J3A170406-3	MXWJ02AC	9MXWJ020	3021026
		J1R9R2	J3A170406-4	MXWJ12AC	9MXWJ120	3021026
		J1R9R3	J3A170406-5	MXWJ22AC	9MXWJ220	3021026
		J1R9R4	J3A170406-6	MXWJ32AC	9MXWJ320	3021026
		J1R9R5	J3A170406-7	MXWJ42AC	9MXWJ420	3021026
		J1R9R6	J3A170406-8	MXWJ52AC	9MXWJ520	3021026
		J1R9R7	J3A170406-9	MXWJ72AC	9MXWJ720	3021026
		J1R9R8	J3A170406-10	MXWJ82AC	9MXWJ820	3021026



THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Certificate of Analysis

Washington Closure Hanford
 2620 Fermi Avenue
 Richland, WA 99354

January 24, 2013

January 18, 2013

Attention: Joan Kessner

SAF Number	:	RC-207
Date SDG Closed	:	January 18, 2013
Number of Samples	:	Twenty (20)
Sample Type	:	Soil
SDG Number	:	J01670
Data Deliverable	:	Quick Turn Metals / Summary

AMENDED CASE NARRATIVE

January 24, 2013: This report has been amended to report the re-analysis results for the Hexavalent Chromium samples in batch number 3017042. All amended information in this case narrative will be bold, underlined and italicized.

I. Introduction

On January 17, 2013, twenty soil samples were received at TestAmerica for analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Washington Closure Hanford (WCH) specific ID;

WCH ID#	TARL ID#	MATRIX	DATE OF RECEIPT
J1R9P9	MXWJT	SOIL	1/17/13
J1R9R0	MXWJX	SOIL	1/17/13
J1R9R1	MXWJ0	SOIL	1/17/13
J1R9R2	MXWJ1	SOIL	1/17/13
J1R9R3	MXWJ2	SOIL	1/17/13
J1R9R4	MXWJ3	SOIL	1/17/13
J1R9R5	MXWJ4	SOIL	1/17/13
J1R9R6	MXWJ5	SOIL	1/17/13
J1R9R7	MXWJ7	SOIL	1/17/13
J1R9R8	MXWJ8	SOIL	1/17/13
J1R8K3	MXWQT	SOIL	1/17/13
J1R8K4	MXWQV	SOIL	1/17/13
J1R8K5	MXWQW	SOIL	1/17/13
J1R8K6	MXWQX	SOIL	1/17/13
J1R8K7	MXWQ0	SOIL	1/17/13

2800 George Washington Way Richland, WA 99354 tel 509.375.3131 fax 509.375.5590 www.testamericainc.com

Washington Closure Hanford

January 24, 2013

January 18, 2013

<u>WCH ID#</u>	<u>TARL ID#</u>	<u>MATRIX</u>	<u>DATE OF RECEIPT</u>
J1R9J0	MXWQJ	SOIL	1/17/13
J1R9J1	MXWQN	SOIL	1/17/13
J1R9J2	MXWQP	SOIL	1/17/13
J1R9J3	MXWQQ	SOIL	1/17/13
J1R9J4	MXWQR	SOIL	1/17/13

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 J01670 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

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

Batch 3017045:

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

Batch 3017072:

The MSD recovery for Selenium was not within the acceptance limits. All other batch QC is within the acceptance criteria. Except as noted; the LCS, batch blank, samples, sample duplicate, MS, MSD, ICB, ICV, CCB and CCV results are within contractual limits.

Chemical Analysis

Hexavalent Chromium by EPA method 7196A

Two batches were analyzed.

Washington Closure Hanford

January 24, 2013

January 18, 2013

Batch 301704:

The samples were reanalyzed in batch 3021026 due to a data discrepancy in the original batch. Except as noted; the LCS, batch blank, samples, sample duplicate (J1R9P9) and sample matrix spike (J1R9P9) results are within contractual requirements.

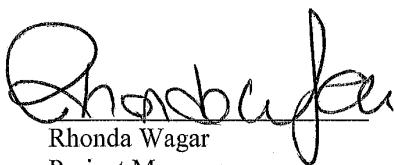
The LCS, batch blank, samples, sample duplicate (J1R9P9) and sample matrix spike (J1R9P9) results are within contractual requirements.

Batch 3017071:

The LCS, batch blank, samples, sample duplicate (J1R9J0) and sample matrix spike (J1R9J0) results are within contractual requirements.

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

Reviewed and approved:



Rhonda Wagar
Project Manager

Drinking Water Method Cross References

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

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

Uncertainty Estimation

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

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

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

Report Definitions

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

Sample Results Summary

Date: 24-Jan-13

TestAmerica TARL

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

Report No.: 54335

SDG No: J01670

Client Id Batch	Work Order	Parameter	Result +/- Uncertainty (2s)	Qual	Units	Tracer Yield	MDL	CRDL	RPD
3017071 7196_CR6									
J1R8K3	MXWQT1AA	HEXCHROME	1.07E+00 +/- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
J1R8K4	MXWQV1A	HEXCHROME	1.55E-01 +/- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J1R8K5	MXWQW1A	HEXCHROME	1.55E-01 +/- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J1R8K6	MXWQX1A	HEXCHROME	1.55E-01 +/- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J1R8K7	MXWQ01AA	HEXCHROME	1.55E-01 +/- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J1R9J0	MXWQJ1AA	HEXCHROME	1.55E-01 +/- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
	MXWQJ1A	HEXCHROME	1.55E-01 +/- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J1R9J1	MXWQN1A	HEXCHROME	1.55E-01 +/- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J1R9J2	MXWQP1A	HEXCHROME	1.55E-01 +/- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J1R9J3	MXWQQ1A	HEXCHROME	1.55E-01 +/- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
J1R9J4	MXWQR1A	HEXCHROME	1.55E-01 +/- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
3021026 7196_CR6									
J1R9P9	MXWJT2AC	HEXCHROME	6.21E-01 +/- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
	MXWJT1CH	HEXCHROME	6.80E-01 +/- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
J1R9R0	MXWJX2AC	HEXCHROME	2.40E+01 +/- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
J1R9R1	MXWJ02AC	HEXCHROME	2.24E+01 +/- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
J1R9R2	MXWJ12AC	HEXCHROME	3.97E-01 +/- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
J1R9R3	MXWJ22AC	HEXCHROME	4.13E-01 +/- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
J1R9R4	MXWJ32AC	HEXCHROME	1.10E+01 +/- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
J1R9R5	MXWJ42AC	HEXCHROME	2.98E+00 +/- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
J1R9R6									

TestAmerica RPD - Relative Percent Difference.
 rptSTLRchSaSum U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or
 mary2 V5.2.23 not identified by gamma scan software.
 A2002

Sample Results Summary**Date:** 24-Jan-13**TestAmerica TARL**

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

Report No. : 54335**SDG No:** J01670

Client Id Batch	Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDL	CRDL	RPD
3021026_7196_CR6									
J1R9R6	MXWJ52AC	HEXCHROME	5.35E-01 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
J1R9R7	MXWJ72AC	HEXCHROME	3.61E+00 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
J1R9R8	MXWJ82AC	HEXCHROME	3.96E-01 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
No. of Results: 22									

TestAmerica RPD - Relative Percent Difference.

rptSTLRchSaSum
mary2 V5.2.23
A2002

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

Date: 24-Jan-13

Report No. : 54335

SDG No.: J01670

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDL
7196_CR6								
3017071	MATRIX SPIKE, J1R9J0							
MXWQJ1AL	HEXCHROME	2.57E+01 +- 0.0E+00		mg/kg	N/A	88%	-0.1	1.55E-01
3017071	LCS,							
MXWQ41AC	HEXCHROME	1.78E+01 +- 0.0E+00		mg/kg	N/A	94%	-0.1	1.55E-01
3017071	BLANK QC,							
MXWQ41AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A			1.55E-01
7196_CR6								
3021026	MATRIX SPIKE, J1R9P9							
MXWJT1CG	HEXCHROME	2.80E+01 +- 0.0E+00		mg/kg	N/A	92%	-0.1	1.55E-01
3021026	LCS,							
MXW7W1A	HEXCHROME	1.88E+01 +- 0.0E+00		mg/kg	N/A	99%	0.0	1.55E-01
3021026	BLANK QC,							
MXW7W1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A			1.55E-01

No. of Results: 6

TestAmerica rptSTLRchQcSum mary V5.2.23 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.
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FORM I
SAMPLE RESULTS

Date: 24-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A170422-6
Client Sample ID: J1R8K3

Parameter	Result	Count	Total	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUncrt	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3017071	7196 CR6	Work Order: MXWQT1AA	Report DB ID: 9MXWQT10								
HEXCHROME	1.07E+00	0.0E+00	1.55E-01	mg/kg	N/A	(6.9)	1/17/13 12:00 p		2.513	g	

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 24-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A170422-7
Client Sample ID: J1R8K4

Parameter	Result	Count	Total	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3017071	7196 CR6		Work Order: MXWQV1AA		Report DB ID: 9MXWQV10						
HEXCHROME	1.55E-01	U	0.0E+00	1.55E-01 mg/kg	N/A	1.	1/17/13 12:00 p	2.5054		g	

No. of Results: 1 Comments:

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

FORM I
SAMPLE RESULTS

Date: 24-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A170422-8
Client Sample ID: J1R8K5

Parameter	Result	Count	Total	MDL,	Rpt Unit,	Yield	Rst/MDL,	Analysis,	Total Sa	Aliquot	Primary
		Qual	Uncert(2 s)	Action Lev	Lc	CRDL(RL)	Rst/TotUcert	Prep Date	Size	Size	Detector
Batch: 3017071	7196 CR6		Work Order: MXVQW1AA			Report DB ID: 9MXVQW10					
HEXCHROME	1.55E-01	U	0.0E+00	1.55E-01	mg/kg	N/A	1.	1/17/13 12:00 p	2.5367		
						1.55E-01	N/A			g	

No. of Results: 1 Comments:

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

FORM I
SAMPLE RESULTS

Date: 24-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A170422-9
Client Sample ID: J1R8K6

Parameter	Result	Count	Total	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUncrt	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3017071	7196 CR6	Work Order: MXWQX1AA	Report DB ID: 9MXWQX10								
HEXCHROME	1.55E-01 U	0.0E+00	1.55E-01 mg/kg	N/A	N/A	1.55E-01	N/A	1/17/13 12:00 p	2.5408	g	

No. of Results: 1 Comments:

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

FORM I
SAMPLE RESULTS

Date: 24-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A170422-10
Client Sample ID: J1R8K7

SDG: J01670
Report No. : 54335
COC No. : RC-207-157

Collection Date: 1/17/2013 12:45:00 PM
Received Date: 1/17/2013 2:50:00 PM
Matrix: SOIL

Parameter	Result	Count	Total	MDL,	Rpt Unit,	Yield	Rst/MDL,	Analysis,	Total Sa	Aliquot	Primary
		Error (2 s)	Uncert(2 s)	Action Lev	Lc	CRDL(RL)	Rst/TotUcert	Prep Date	Size	Size	Detector
Batch: 3017071	7196 CR6			MXWQ01AA		Report DB ID: 9MXWVQ010					
HEXCHROME	1.55E-01	U	0.0E+00	1.55E-01	mg/kg	N/A	1.	1/17/13 12:00 p	2.5147		

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 24-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A170422-1
Client Sample ID: J1R9J0

Parameter	Result	Count	Total	MDL,	Rpt Unit,	Yield	Rst/MDL,	Analysis,	Total Sa	Aliquot	Primary
		Qual	Error (2 s)	Action Lev	Lc	CRDL(RL)	Rst/TotUncrt	Prep Date	Size	Size	Detector
Batch: 3017071	7196	CR6	Work Order: MXWQJ1AA	Report DB ID: 9MXWQJ10							
HEXCHROME	1.55E-01	U	0.0E+00	1.55E-01	mg/kg	N/A	1.	1/17/13 12:00 p	2.5203	g	

No. of Results: 1 Comments:

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

FORM I
SAMPLE RESULTS

Date: 24-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A170422-2
Client Sample ID: J1R9J1

SDG: J01670
Report No. : 54335
COC No. : RC-207-161

Collection Date: 1/17/2013 12:55:00 PM
Received Date: 1/17/2013 2:50:00 PM
Matrix: SOIL

Parameter	Result	Count	Total	MDL,	Rpt Unit,	Yield	Rst/MDL,	Analysis,	Total Sa	Aliquot	Primary
		Error (2 s)	Uncert(2 s)	Action Lev	Lc	CRDL(RL)	Rs/UTot/Ucert	Prep Date	Size	Size	Detector
Batch: 3017071	7196_CR6			MXW/QN1AC		Report DB ID: 9MXW/QN10					
HEXCHROME	1.55E-01	U	0.0E+00	1.55E-01	mg/kg	N/A	1.	1/17/13 12:00 p	2.5115	g	

No. of Results: 1 Comments:

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

FORM I
SAMPLE RESULTS

Date: 24-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A170422-3
Client Sample ID: J1R9J2

SDG: J01670
Report No.: 54335
COC No.: RC-207-161

Collection Date: 1/17/2013 1:00:00 PM
Received Date: 1/17/2013 2:50:00 PM
Matrix: SOIL

Parameter	Result	Count	Total	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUncrt	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3017071 HEXCHROME	7196 CR6	1.55E-01	U	0.0E+00	1.55E-01 mg/kg	N/A	Report DB ID: 9MXWQP10	1/17/13 12:00 p	2.5056 g	N/A	
	No. of Results: 1	Comments:									

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

FORM I
SAMPLE RESULTS

Date: 24-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A170422-4
Client Sample ID: J1R9J3

Parameter	Result	Count	Total	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3017071	7196_CR6	Work Order:	MXWQQ/AA	Report DB ID: 9MXWQQ10							
HEXCHROME	1.55E-01	U	0.0E+00	1.55E-01	mg/kg	N/A	1.	1/17/13 12:00 p	2.555	g	

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 24-Jan-13

Lab Name: TestAmerica
 Lot-Sample No.: J3A170422-5
 Client Sample ID: J1R9J4

Parameter	Result	Qual	Count	Error (2 s)	Total	MDL _{Lc}	Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3017071	7196 CR6				Work Order: MXWQR1AA			Report DB ID: 9MXWQR10						
HEXCHROME	1.55E-01	U	0.0E+00	1.55E-01	mg/kg	N/A	N/A	1.	1.55E-01	N/A	1/17/13 12:00 p	2.5133	g	

No. of Results: 1 Comments:

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

FORM I
SAMPLE RESULTS

Date: 24-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A170406-1
Client Sample ID: J1R9P9

SDG: J01670
Report No.: 54335
COC No.: RC-207-168

Collection Date: 1/16/2013 2:25:00 PM
Received Date: 1/17/2013 8:32:00 AM
Matrix: SOIL

Parameter	Result	Count	Total	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3021026	7196 CR6	Work Order: MXWJT2AC	Report DB ID: 9MXWJT20								
HEXCHROME	6.21E-01	0.0E+00	1.55E-01	mg/kg	N/A	(4.)	1/21/13 09:45 a	2.4996			g

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 24-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A170406-2
Client Sample ID: J1R9R0

Parameter	Result	Count	Total	MDL,	Rpt Unit,	Yield	Rst/MDL,	Analysis,	Total Sa	Aliquot	Primary
		Qual	Error (2 s)	Action Lev	Lc	CRDL(RL)	Rst/TotUncert	Prep Date	Size	Size	Detector
Batch: 3021026	7196 CR6		Work Order: MXWJX2AC		Report DB ID: 9MXWJX20						
HEXCROME	2.40E+01	0.0E+00	1.55E-01	mg/kg	N/A	(155.1)	1/21/13 09:45 a		2.5019		
					1.55E-01	N/A				g	
No. of Results:	1	Comments:									

FORM I
SAMPLE RESULTS

Date: 24-Jan-13

Lab Name: TestAmerica
 Lot-Sample No.: J3A170406-3
 Client Sample ID: J1RR9R1

SDG: J01670
 Report No.: 543335
 COC No.: RC-207-168

Collection Date: 1/16/2013 2:35:00 PM
 Received Date: 1/17/2013 8:32:00 AM
 Matrix: SOIL

Parameter	Result	Count	Total	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUncrt	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3021026	7196 CR6	Work Order:	MXWJ02AC		Report DB ID: 9MXWJ020						
HEXCHROME	2.24E+01	0.0E+00	1.55E-01	mg/kg	N/A	(144.7)	1/21/13 09:45 a		2.5056		g

No. of Results: 1 Comments:

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

FORM I
SAMPLE RESULTS

Date: 24-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A170406-4
Client Sample ID: J1RR9R2

Parameter	Result	Count	Total	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3021026 HEXCHROME	7196 CR6	3.97E-01	0.0E+00	1.55E-01 mg/kg	Report DB ID: MXWJ12AC	N/A	(2.6)	1/21/13 09:45 a	2.5028 g		
No. of Results: 1	Comments:			1.55E-01		N/A					

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
rpfSTLRchSample U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.
V5.2.3 A2002

FORM I
SAMPLE RESULTS

Date: 24-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A170406-5
Client Sample ID: J1R9R3

SDG: J01670

Report No. : 54335

COC No. : RC-207-168

Collection Date: 1/16/2013 2:45:00 PM

Received Date: 1/17/2013 8:32:00 AM

Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count	Total	MDL,	Rpt Unit,	Yield	Rst/MDL,	Analysis,	Total Sa	Aliquot	Primary
			Error (2 s)	Uncert(2 s)	Action Lev	Lc	CRDL(RL)	Rst/Tot/Ucert	Prep Date	Size	Size	Detector
Batch: 3021026	7196_CRG			Work Order: MXWJ22AC			Report DB ID: 9MXWJ220					
HEXCHROME	4.13E-01	0.0E+00	1.55E-01	mg/kg	N/A	(2.7)	1/21/13 09:45 a			2.5035		g

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

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

FORM I
SAMPLE RESULTS

Date: 24-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A170406-6
Client Sample ID: J1RR9R4

Parameter	Result	Count	Total	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3021026	7196 CR6	Work Order: MXWJ32AC					Report DB ID: 9MXWJ320				
HEXCHROME	1.10E+01	0.0E+00	1.55E-01	mg/kg	N/A	(70.7)	1/21/13 09:45 a	2.5001	N/A	g	

No. of Results: 1 Comments:

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

FORM I
SAMPLE RESULTS

Date: 24-Jan-13

Lab Name: TestAmerica
 Lot-Sample No.: J3A170406-7
 Client Sample ID: J1RR9R5

SDG: J01670
 Report No.: 54335
 COC No.: RC-207-168

Collection Date: 1/16/2013 2:55:00 PM
 Received Date: 1/17/2013 8:32:00 AM

Matrix: Soil

Parameter	Result	Qual	Count	Error (2 s)	Total	MDL,	Rpt Unit,	Yield	Rst/MDL,	Analysis,	Total Sa	Aliquot	Primary
					Uncert(2 s)	Action Lev	Lc	CRDL(RL)	Rst/TotUncert	Prep Date	Size	Size	Detector
Batch: 3021026	7196 CR6				Work Order: MXWJ42AC			Report DB ID: 9MXWJ420					
HEXCHROME	2.98E+00				0.0E+00	1.55E-01	mg/kg	N/A	(19.2)	1/21/13 09:45 a	2.5082		
								1.55E-01	N/A			g	

No. of Results: 1 Comments:

TestAmerica MDL|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the MDL|MDA|MDL, Total Uncert, CRDL, RDL or not identified by gamma scan software.
 V5.2.3 A2002

FORM I
SAMPLE RESULTS

Date: 24-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A170406-8
Client Sample ID: J1RR9R6

SDG: J01670
Report No. : 54335
COC No. : RC-207-168

Collection Date: 1/16/2013 3:00:00 PM
Received Date: 1/17/2013 8:32:00 AM
Matrix: SOIL

Parameter	Result	Count	Total	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3021026	7196_CR6	Work Order: MXWJ52AC	Report DB ID: 9MXWJ520								
HEXCHROME	5.35E-01	0.0E+00	1.55E-01	mg/kg	N/A	(3.5)	1/21/13 09:45 a		2.506	g	

No. of Results: 1 Comments:

TestAmerica MDC(MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdi, Total Uncert, CRDL, RDL or not identified by gamma scan software.
 V5.2.3 A2002

FORM I
SAMPLE RESULTS

Date: 24-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A170406-9
Client Sample ID: J1RR9R7

SDG: J01670
Report No.: 54335
COC No.: RC-207-168

Parameter	Result	Count	Total	MDL, Action Lev	Rpt Unit, Lc	Yield	Rst/MDL, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3021026	7196 CR6	Work Order: MXWJ72AC	MXWJ72AC	Report DB ID: 9MXWJ720							
HEXCHROME	3.61E+00	0.0E+00	1.55E-01	mg/kg	N/A	(23.3)	1/21/13 09:45 a	2.5022		g	

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 24-Jan-13

Lab Name: TestAmerica
Lot-Sample No.: J3A170406-10
Client Sample ID: J1R9R8

Parameter	Result	Qual	Count	Total	MDL,	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3021026 HEXCHROME	7196 CR6	3.96E-01	Work Order: MXWJ82AC 0.0E+00	MXWJ82AC 1.55E-01	Action Lev mg/kg	Report DB ID: 9MXWJ820 N/A	Rst/TotUncert (2.6)	1/21/13 09:45 a N/A	1/16/2013 3:10:00 PM	2.5025 1.55E-01	g N/A	
No. of Results: 1	Comments:											

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

FORM II

Date: 24-Jan-13

DUPLICATE RESULTS

Lab Name: TestAmerica
Lot-Sample No.: J3A170422-1
Client Sample ID: J1R9J0

Parameter	Result, Orig Rst	Count	Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, CRDL	Rst/MDL, Yield	Rst/TotUncrt	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3017071	7196_CR6				Work Order: MXWQJ1AM		Report DB ID: MXWQJ1ER		Orig Sa DB ID: 9MXWQJ10			
HEXCHROME	1.55E-01	U		0.0E+00	1.55E-01	mg/kg	N/A	1.	1/17/13 12:00 p	2.5022	9	N/A
	1.55E-01	U		RPD 0.0			1.55E-01					

No. of Results: 1 Comments:

TestAmerica RPD - Relative Percent Difference.
 rpfSTLRchDupV5. MDCL|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 2.23 A2002 U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the MDCL|MDA,Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

Date: 24-Jan-13

FORM II

DUPLICATE RESULTS

Lab Name: TestAmerica
 Lot-Sample No.: J3A170406-1
 Client Sample ID: J1R9P9

Parameter	Result, Orig Rst	Count	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, CRDL	Rst/MDL, Yield	Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3021026	7196_CRF6	Work Order: MXWJUT1CH		Report DB ID: MXWJUT1CH		Orig Sa DB ID: 9MXWJUT20					
HEXCHROME	6.80E-01	0.0E+00	1.55E-01	mg/kg	N/A	1/21/13 09:45 a		2.5052			
	6.21E-01	RPD 9.1		1.55E-01	N/A						

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

Date: 24-Jan-13

Lab Name: TestAmerica
 Matrix: SOIL

SDG: J01670
 Report No.: 54335

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Lc	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUncrt	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3017071 HEXCHROME	7196_CR6 1.55E-01	U		Work Order: MXWQ41AA 0.0E+00	1.55E-01	mg/kg	N/A	Report DB ID: MXWQ41AB 1.	1/17/13 12:00 p		2.5	
					1.55E-01		N/A				g	
Batch: 3021026 HEXCHROME	7196_CR6 1.55E-01	U		Work Order: MXWTW1AA 0.0E+00	1.55E-01	mg/kg	N/A	Report DB ID: MXWTW1AB 1.	1/21/13 09:45 a		2.5	
					1.55E-01		N/A				g	

No. of Results: 2 Comments:

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

Date: 24-Jan-13

FORM II
LCS RESULTS

Lab Name: TestAmerica
 Matrix: SOIL

Parameter	Result	Count	Total Uncert(2 s)	Report Unit	Yield	Expected	Recovery, Uncert	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 3017071 HEXCHROME	7196_CRF6 1.78E+01	0.0E+00	1.55E-01 mg/kg	Report DB ID: MXWQ41AC	N/A	1.90E+01	94%	1/17/13 12:00 p	2.5 g	
Batch: 3021026 HEXCHROME	7196_CRF6 1.88E+01	0.0E+00	1.55E-01 mg/kg	Report DB ID: MXW7W1AC	N/A	1.90E+01	99%	1/21/13 09:45 a	2.5 g	
No. of Results:	2	Comments:								

FORM II
MATRIX SPIKE RESULTS

Date: 24-Jan-13

Lab Name: TestAmerica
 Lot-Sample No.: J3A170406-1, J1R9P9

SDG: J01670
 Report No. : 54335

Parameter	SpikeResult, Orig Rst	Count	Total Uncert(2 s)	MDC MDA	Rpt Unit, CRDL	Rec- over	Expected, Uncert	Analysis Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 3021026	Work Order: MXWJT1CG	Report DB ID: MXWJT1CG	0.0E+00	1.55E-01	Orig Sa DB ID: 9MXWJT20	N/A	92.14%	3.04E+01	1/21/13 09:45 a	2.5052
HEXCHROME	2.80E+01									7196_CRF6
	6.21E-01									g

Number of Results: 1

Comments:

TestAmerica RpSTRchMs V5.2.23 A2002	RER Bias	- Replicate Error Ratio = $(S-D)/[\sqrt{(\sum(TPUs)+\sum(TPUs))}]$ as defined by ICPT BOA. - (Result/Expected)-1 as defined by ANSI N13.30.
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FORM II
MATRIX SPIKE RESULTS

Date: 24-Jan-13

Lab Name: TestAmerica
 Lot-Sample No.: J3A170422-1, J1R9J0

SDG: J01670
 Report No. : 54335

Parameter	SpikeResult, Orig Rst	Count	Total Uncert(2 s)	MDC MDA	Rpt Unit, CRDL	Rec- overy	Expected, Uncert	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 3017071	Work Order: MXWQJ1AL		Report DB ID: MXWQJ1CW		Orig Sa DB ID: 9MXWQJ10					
HEXCHROME	2.57E+01	0.0E+00	1.55E-01	mg/kg	N/A	87.38%	2.92E+01	1/17/13 12:00 p	2.5331	7196_CRF6
	1.55E-01								g	

Number of Results: 1

Comments:

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

Clouseau

Nonconformance Memo



NCM #: **10-22629**
 NCM Initiated By: Traci KROUPA
 Date Opened: 01/18/2013
 Date Closed:

Classification: **Deficiency**
 Status: **PMREVIEW**
 Production Area: Classical Chemistry
 Tests: 6010A
 Lot #'s (Sample #'s): J3A170000 (72), J3A170422
 (1,10,2,3,4,5,6,7,8,9),
 QC Batches: 3017072,

Nonconformance: Batch Result Out of Limits
 Subcategory: MS/MSD result outside acceptance limits

Problem Description / Root Cause

Name	Date	Description
Traci KROUPA	01/18/2013	The MSD recovery for Se was below the acceptance criteria. All other QC were within the acceptable limits for Se.

Corrective Action

Name	Date	Corrective Action
Traci KROUPA	01/18/2013	Reported Data

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

TK 1/18/13
 -ZC 1/18/13

Richland Laboratory
Data Review Check List
Hexavalent Chromium

Batch Number(s):	3021026	Lab Sample Numbers or SDG:	J01670
------------------	---------	----------------------------	--------

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

Review Item	Yes (✓)	No (✗)	N/A (✗)	2 nd Level Review (✓)
A. Initial Calibration				
1. Performed at required frequency with required number of levels?	✓			✓
2. Correlation coefficient greater than 0.97?	✓			✓
3. Initial calibration verification (ICV) analyzed immediately after calibration and results within 10% of expected?	✓			✓
4. Initial calibration blank (ICB) analyzed immediately after ICV and concentrations of all parameters ≤ reporting limit?	✓			✓
B. Continuing Calibration				
1. CCV analyzed at required frequency and all parameters within 10% of expected?	✓			✓
2. CCB analyzed at required frequency and all results ≤ reporting limit?	✓			✓
C. Sample Analysis				
1. Were any samples with concentrations above the linear range diluted and reanalyzed?		✓		✓
2. Were all sample holding times met?	✓			✓
D. QC Samples				
1. All results for the preparation blank below limits?	✓			✓
2. LCS percent recovery within 85-115%	✓			✓
3. PbCrO ₄ percent recovery within 75-125%?	✓			✓
4. Sample and Duplicate within 20% (aqueous) or 35% (solid) RPD?	✓			✓
5. MS or MS/MSD recoveries within 85-115% (aqueous) or 75-125% (solid)?	✓			✓
6. On MS failure, PDMS within 85-115%?		✓		✓
E. Other				
1. Are all nonconformances included and noted?		✓		✓
2. Is the correct date and time of analysis shown?	✓			✓
3. Did the analyst sign and date the front page of the analytical run?	✓			✓
4. Correct methodology used?	✓			✓
5. Transcriptions checked?	✓			✓
6. Calculations checked at minimum frequency?	✓			✓
7. Units checked?	✓			✓

Comments on any "No" response or list NCM number:

Analyst

Date 1/1/13

2nd Review

H. Rahbari

Date 1/21/13



THE LEADER IN ENVIRONMENTAL TESTING

Richland Laboratory
Data Review Check List
Hexavalent Chromium

Batch Number(s):	3017071	Lab Sample Numbers or SDG:	J01670	
Method/Test/Parameter: Cr+6 <input type="checkbox"/> RL-WC-003(Aqueous) <input checked="" type="checkbox"/> RL-WC-004(Solid)				
Review Item	Yes (✓)	No (✗)	N/A (✗)	2 nd Level Review (✓)
A. Initial Calibration				
1. Performed at required frequency with required number of levels?	✓			✓
2. Correlation coefficient greater than 0.97?	✓			✓
3. Initial calibration verification (ICV) analyzed immediately after calibration and results within 10% of expected?	✓			✓
4. Initial calibration blank (ICB) analyzed immediately after ICV and concentrations of all parameters ≤ reporting limit?	✓			✓
B. Continuing Calibration				
1. CCV analyzed at required frequency and all parameters within 10% of expected?	✓			✓
2. CCB analyzed at required frequency and all results ≤ reporting limit?	✓			✓
C. Sample Analysis				
1. Were any samples with concentrations above the linear range diluted and reanalyzed?			✓	✓
2. Were all sample holding times met?	✓			✓
D. QC Samples				
1. All results for the preparation blank below limits?	✓			✓
2. LCS percent recovery within 85-115%	✓			✓
3. PbCrO ₄ percent recovery within 75-125%?	✓			✓
4. Sample and Duplicate within 20% (aqueous) or 35% (solid) RPD?	✓			✓
5. MS or MS/MSD recoveries within 85-115% (aqueous) or 75-125% (solid)?	✓			✓
6. On MS failure, PDMS within 85-115%?			✓	✓
E. Other				
1. Are all nonconformances included and noted?			✓	✓
2. Is the correct date and time of analysis shown?	✓			✓
3. Did the analyst sign and date the front page of the analytical run?	✓			✓
4. Correct methodology used?	✓			✓
5. Transcriptions checked?	✓			✓
6. Calculations checked at minimum frequency?	✓			✓
7. Units checked?	✓			✓

Comments on any "No" response or list NCM number:

Analyst _____

Date 11/17/13 2nd Review

Date 11/18/13

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-207-168	Page 1 of 2
Collector D. Brackett	Company Contact Kessner	Telephone No. 503-375-4688	Project Coordinator KESSNER, JH	Price Code 8H	Data Turnaround 11/15/13 - 21 Days Quick Turn
Project Designation Remedial Action of the 100-C-7 & 100-C-7.1 Waste Sites - 1	Sampling Location 1 DO-C-7:1 A.C.L.	SAF No. RC-207	Method of Shipment FEDEX Hand Deliver		
Ice Chest No. N/A	Field Logbook No. EL-165-07	COA R00C712406	Bill of Lading/Air Bill No. N/A		
Shipped To TestAmerica Incorporated, Richland	Offsite Property No. N/A				
POSSIBLE SAMPLE HAZARDS/REMARKS None					
Special Handling and/or Storage Cool 4°C					
Due 11/18/13					
 J3A170406 S06-J01670 Due 11/18/13					
Sample No.	Matrix *	Sample Date	Sample Time		
JIR9P9 MXXWJT	SOIL	01/16/13	1425	<input checked="" type="checkbox"/>	
JIR9R0 MXXWJT	SOIL		1430	<input checked="" type="checkbox"/>	
JIR9R1 MXXWJT	SOIL		1435	<input checked="" type="checkbox"/>	
JIR9R2 MXXWJT	SOIL		1440	<input checked="" type="checkbox"/>	
JIR9R3 MXXWJT	SOIL	01/16/13	1445	<input checked="" type="checkbox"/>	
SPECIAL INSTRUCTIONS					
Matrix * S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Dust Solids DL=Dust Liquids T=Tissue L=Liquid V=Vegetation X=Other					
REVIEWED BY  Date: 1-17-13					
CHAIN OF POSSESSION					
Relinquished By/Removed From TestAmerica	Date/Time 11/16/13	Received By/Stored In John Deller	Date/Time 11/16/13	[520]	
Relinquished By/Removed From TestAmerica	Date/Time 11/16/13	Received By/Stored In John Deller	Date/Time 11/16/13	[1000]	
Relinquished By/Removed From TestAmerica	Date/Time 11/16/13	Received By/Stored In John Deller	Date/Time 11/16/13	[1000]	
Relinquished By/Removed From TestAmerica	Date/Time 11/16/13	Received By/Stored In John Deller	Date/Time 11/16/13	[1000]	
Relinquished By/Removed From TestAmerica	Date/Time 11/16/13	Received By/Stored In John Deller	Date/Time 11/16/13	[1000]	
Relinquished By/Removed From TestAmerica	Date/Time 11/16/13	Received By/Stored In John Deller	Date/Time 11/16/13	[1000]	
Relinquished By/Removed From TestAmerica	Date/Time 11/16/13	Received By/Stored In John Deller	Date/Time 11/16/13	[1000]	
LABORATORY SECTION	Received By	Title			
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By			

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-207-168	Page 2 of 3 1/16/13
Collector <u>R. Brackett</u>	Company Contact <u>J. Kessner</u>	Telephone No. <u>509-375-4688</u>	Project Coordinator KESSNER, JH	Price Code <u>8L</u>	Data Turnaround <u>20th 1/16/13 - 21 Days</u>
Project Designation Remedial Action of the 100-C-7 & 100-C-7-1 Waste Sites - 1	Sampling Location <u>100-C-7-1 A CL</u>	SAF No. RC-207			
Ice Chest No. <u>N/A</u>	Field Logbook No. <u>EL-1655-07</u>	COA <u>A000712600</u>	Method of Shipment <u>Hand Deliver</u>		
Shipped To TestAmerica Incorporated, Richland	Offsite Property No. <u>N/A</u>		Bill of Lading/Air Bill No. <u>N/A</u>		
POSSIBLE SAMPLE HAZARDS/REMARKS <u>None</u>					
Special Handling and/or Storage <u>Cool 4°C</u>	Preservation	Cool 4C	Cool 4C		
	Type of Container	G/P	G/P		
	No. of Container(s)	1	1		
	Volume	125mL	125mL		
		See Item (1) in Special Instructions.	Chromium Hex - 7196 - Quick Turn		
J3A 170406 SOG 101670 Due 1/18/13	SAMPLE ANALYSIS				
Sample No.	Matrix *	Sample Date <u>01/16/13</u>	Sample Time <u>450</u>		
J1F9R4 MXWJ3	SOIL	<u>01/16/13</u>	<u>450</u>	X	
J1F9R5 MXWJ4	SOIL	<u>01/16/13</u>	<u>455</u>	X	
J1F9R6 MXWJ5	SOIL	<u>01/16/13</u>	<u>500</u>	X	
J1F9R7 MXWJ7	SOIL	<u>01/16/13</u>	<u>505</u>	X	
J1F9R8 MXWJ8	SOIL	<u>01/16/13</u>	<u>510</u>	X	
SPECIAL INSTRUCTIONS					
Matrix * S=Soil SE=Sediment SO=solid SH=Sludge W=Water O=Oil A=Air DS=Drun Solids DL=Drun Liquids T=Tissue L=Liquid V=Vegetation X=Other					
CHAIN OF POSSESSION					
Relinquished By/Removed From <u>Bob Deller</u>	Date/Time <u>1/16/13 1:16:00</u>	Received By/Stored In <u>Don Deller</u>	Date/Time <u>1/16/13 1:16:00</u>	(1) Metals by ICP - 6010 - Quick Turn {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; Metals by ICP - 6010 - Quick Turn {Add On} {Beryllium}	
Relinquished By/Removed From <u>D. Deller</u>	Date/Time <u>1/16/13 1:16:00</u>	Received By/Stored In <u>John B. Bingham</u>	Date/Time <u>1/16/13 1:16:00</u>		
Relinquished By/Removed From <u>John B. Bingham</u>	Date/Time <u>1/17/13 0832</u>	Received By/Stored In <u>Stock Room TAII-17-13 0832</u>	Date/Time <u>1/17/13 0832</u>		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time		
LABORATORY SECTION	Received By		Title	Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method			Date/Time	Disposed By

WCH-EE-011

Sample Check-in List

Date/Time Received: 117-13 | 0832 Container GM Screen Result: (Airlock) 16 Initials BS
 Sample GM Screen Result (Sample Receiving) 4 Initials BS

Client: wct SDG #: J01670 NA [] SAF #: RC-207 NA []

Lot Number: J3A170406

Chain of Custody # RC-207-168

Shipping Container ID: Winddew NA [] Air Bill Number: _____ NA []

Samples received inside shipping container/cooler/box Yes B Continue with 1 through 4. Initial appropriate response.

No [] Go to 5, add comment to #16.

- | | | | |
|--|----------------------|---------|------------------------------|
| 1. Custody Seals on shipping container intact? | Yes [] | No [] | No Custody Seal <u>B</u> [] |
| 2. Custody Seals dated and signed? | Yes [] | No [] | No Custody Seal <u>B</u> [] |
| 3. Cooler temperature: | <u>5.6 °C</u> NA [] | | |
| 4. Vermiculite/packing materials is | NA [<u>B</u>] | Wet [] | Dry [] |

Item 5 through 16 for samples. Initial appropriate response.

- | | | |
|---|--------------------|--------|
| 5. Chain of Custody record present? | Yes <u>B</u> [] | No [] |
| 6. Number of samples received (Each sample may contain multiple bottles): | <u>10</u> | |
| 7. Containers received: | <u>20 x 125 ml</u> | |

- | | | | |
|--|--|---------|-----------------|
| 8. Sample holding times exceeded? | NA [] | Yes [] | No <u>B</u> [] |
| 9. Samples have: | <input checked="" type="checkbox"/> tape hazard labels
<input checked="" type="checkbox"/> custody seals <u>B</u> appropriate sample labels | | |
| 10. Matrix: | <input checked="" type="checkbox"/> A (FLT, Wipe, Solid, Soil) I (Water)
<input checked="" type="checkbox"/> S (Air, Niosh 7400) T (Biological, Ni-63) | | |
| 11. Samples: | <input checked="" type="checkbox"/> are in good condition _____ are leaking
<input checked="" type="checkbox"/> are broken _____ have air bubbles (Only for samples requiring no head space)
<input checked="" type="checkbox"/> Other _____ | | |
| 12. Sample pH appropriate for analysis requested
(If acidification is necessary, then document sample ID, initial pH, amount of HNO ₃ added and pH after addition on table overleaf) | Yes [] No [] NA <u>B</u> [] | | |
| 13. RPL ID # of preservative used : | <u>N/A</u> | | |
| 14. Were any anomalies identified in sample receipt? | Yes [] No <u>B</u> [] | | |
| 15. Description of anomalies (include sample numbers): NA <u>B</u> [] | | | |

15. Sample Location, Sample Collector Listed on COC? * Yes] No []
 *For documentation only. No corrective action needed.

16. Additional Information: WPA
-

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

Sample Custodian: Juan Baca Date: 1-17-13

Client Informed on _____ by _____ Person contacted _____

No action necessary; process as is

Project Manager Randy L. Jones

Date 1/17/13

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

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-207-157		Page 1 of 1	
Collector R. Brackett	Company Contact Jean Kessner	Telephone No. 509-375-4688	Project Coordinator KESSLER, JH	Price Code 8L	Data Turnaround 21 Days				
Project Destination Remedial Action of the 100-C-7 & 100-C-7.1 Waste Sites - 1	Sampling Location 100-C-7.1(Section A, cell 1)	SAF No. RC-207							
Ice Chest No. N/A	Field Logbook No. EL-1655-07	COA R00C712600	Method of Shipment Hand deliver						
Shipped To TestAmerica Incorporated, Richland	Offsite Property No. N/A	Bill of Lading/Air Bill No. N/A							
POSSIBLE SAMPLE HAZARDS/REMARKS None		Preservation G/P	Cool 4C G/P						
Special Handling and/or Storage Cool 4 degrees centigrade		Type of Container No. of Container(s) 1							
J1R8K3 SAMPLE ANALYSIS Due 1-18-13		Volume 125mL	125mL						
		See Item(1) in Chromium Hex - 7196 - Quick Turn Special Instructions.							
Sample No.	Matrix *	Sample Date 01/17/13	Sample Time 1225	X	X				
J1R8K3	SOIL	01/17/13	1225	X	X				
J1R8K4	SOIL	01/17/13	1230	X	X				
J1R8K5	SOIL	01/17/13	1235	X	X				
J1R8K6	SOIL	01/17/13	1240	X	X				
J1R8K7	SOIL	01/17/13	1245	X	X				
SPECIAL INSTRUCTIONS									
<p>Matrix * S=Soil SI=Sediment SO=Solid ST=Sludge W=Water O=Oil A=Air DS=Dust Solids DL=Dust Liquids T=Tissue W=Wipe L=Liquid V=Vegetation X=Other</p> <p>REVIEWED  DATE 1-17-13</p>									
CHAIN OF POSSESSION									
Relinquished By/Removed From R. Brackett	Date/Time 1/17/13	Received By/Stored In Don Hebb	Date/Time 1/17/13						
Relinquished By/Removed From Don Hebb	Date/Time 1/17/13 1430	Received By/Stored In A. Freier	Date/Time 1/17/13						
Relinquished By/Removed From A. Freier	Date/Time 1/17/13	Received By/Stored In Don Hebb	Date/Time 1/17/13 1450						
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time						
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time						
LABORATORY SECTION	Received By	Title				Date/Time			
FINAL SAMPLE DISPOSITION	Disposal Method					Date/Time			
WCH-EE-011									

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-207-161	Page 1 of 1
Collector R. Brackett	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH SAF No. RC-207	Price Code <u>8L7 OH/1/27/13</u>	Data Turnaround <u>21 Days - Quick Turn</u>
Project Designation Remedial Action of the 100-C-7 & 100-C-7:1 Waste Sites - I	Sample Location 100-C-7:1(Section C, cell 3)	Field Logbook No. EL-1655-07	COA R00C712600		
Ice Chest No. N/A	Offsite Property No. N/A	Preservation Cool 4C	Cool 4C		
Shipped To TestAmerica Incorporated, Richland	N/A	Type of Container G/P	G/P		
POSSIBLE SAMPLE HAZARDS/REMARKS					
None					
Special Handling and/or Storage Col 4 degrees centigrade					
J3A1NO422 Due 1-18-13 					
Sample No.	Matrix *	Sample Date or 1/17/13	Sample Time 1:25 P		
J1R9J0 MJKQ5	SOIL	or 1/17/13	1:25 P		
J1R9J1 MJKQ5	SOIL	or 1/17/13	1:25 P		
J1R9J2 MJKQ5	SOIL	or 1/17/13	1:30 P		
J1R9J3 MJKQ5	SOIL	or 1/17/13	1:30 P		
J1R9J4 MJKQ5	SOIL	or 1/17/13	1:30 P		
SPECIAL INSTRUCTIONS					
Relinquished By/Removed From <u>Q3S Barretts Inc</u> 1-17-13 Date/Time <u>13:15</u> Received By/Stored In <u>Darlene Berg</u> 1/17/13 Date/Time <u>13:15</u>					
Relinquished By/Removed From <u>Q3S Barretts Inc</u> 1-17-13 Date/Time <u>14:30</u> Received By/Stored In <u>A. Freier</u> 1-17-13 Date/Time <u>14:30</u>					
Relinquished By/Removed From <u>A. Freier A. Freier</u> 1-17-13 Date/Time <u>14:50</u> Received By/Stored In <u>S. Bell</u> <u>Quick Turn</u> 1-17-13 Date/Time <u>14:50</u>					
Relinquished By/Removed From Date/Time Received By/Stored In Date/Time					
Relinquished By/Removed From Date/Time Received By/Stored In Date/Time					
LABORATORY SECTION					
FINAL SAMPLE DISPOSITION					
Disposal Method WCH-EE-011					
Disposed By Date/Time					
Date/Time					

Sample Check-in List

Date/Time Received: 1-17-13 / 1450 Container GM Screen Result: (Airlock) .6 Initials B]
 Sample GM Screen Result (Sample Receiving) .4 Initials B]

Client: WCIT SDG #: SD1470 NA [] SAF #: LC-207 NA []

Lot Number: 53A170422

Chain of Custody # LC-207-161; 15n

Shipping Container ID: Brand new NA [] Air Bill Number: _____ NA []

Samples received inside shipping container/cooler/box Yes [] Continue with 1 through 4. Initial appropriate response.

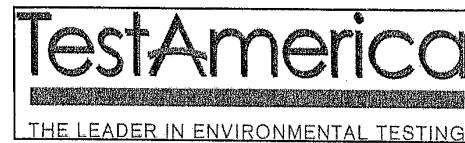
No [] Go to 5, add comment to #16.

- | | | | |
|--|---------------------------------------|---------|----------------------------|
| 1. Custody Seals on shipping container intact? | Yes [] | No [] | No Custody Seal <u>B</u>] |
| 2. Custody Seals dated and signed? | Yes [] | No [] | No Custody Seal <u>B</u>] |
| 3. Cooler temperature: | <u>5.0 °C</u> <u>Ice Packs</u> NA [] | | |
| 4. Vermiculite/packing materials is | NA <u>B</u>] | Wet [] | Dry [] |

Item 5 through 16 for samples. Initial appropriate response.

- | | | |
|---|-------------------|--------|
| 5. Chain of Custody record present? | Yes <u>B</u>] | No [] |
| 6. Number of samples received (Each sample may contain multiple bottles): | <u>10</u> | |
| 7. Containers received: | <u>20 x 125mL</u> | |

- | | | | |
|--|--|---------|---------------|
| 8. Sample holding times exceeded? | NA [] | Yes [] | No <u>B</u>] |
| 9. Samples have: | tape <u>B</u> hazard labels
custody seals <u>B</u> appropriate sample labels | | |
| 10. Matrix: | A (FLT, Wipe, Solid, Soil) <u>B</u> I (Water)
S (Air, Niosh 7400) <u>B</u> T (Biological, Ni-63) | | |
| 11. Samples: | are in good condition <u>B</u> are leaking
are broken <u>B</u> have air bubbles (Only for samples requiring no head space)
Other _____ | | |
| 12. Sample pH appropriate for analysis requested
(If acidification is necessary, then document sample ID, initial pH, amount of HNO ₃ added and pH after addition on table overleaf) | Yes [] No [] NA <u>B</u>] | | |
| RPL ID # of preservative used : | <u>101A</u> | | |
| 13. Were any anomalies identified in sample receipt? | Yes [] No <u>B</u>] | | |
| 14. Description of anomalies (include sample numbers): | NA <u>B</u> | | |



RE-ANALYSIS REQUEST

DUE DATE ASAPRC-207

CUSTOMER WCH RC-207
 ANALYSIS Cr + P QWR 12/13
 MATRIX Soil
 LOT NUMBER J3A17041b
 SAMPLE DELIVERY GROUP J01670
 OLD BATCH NUMBER 3017042
 NEW BATCH NUMBER 3021026

LAB SAMPLE ID	CLIENT ID	REASON FOR REQUEST & ANALYSIS COMMENTS
1) MXWJ11AC	J1R9P9	Client Requested re-analysis.
2) MXWJ1X1AC	J1R9R0	
3) MXWJ01AC	J1R9R1	
4) MXWJ11AC	J1R9R2	
5) MXWJ21AC	J1R9R3	* All lab sample IDs will end with dAC instead of fAC, do to re-analysis.
6) MXWJ31AC	J1R9R4	
7) MXWJ41AC	J1R9R5	
8) MXWJ51AC	J1R9R6	
9) MXWJ71AC	J1R9R7	
10) MXWJ81AC	J1R9R8	
11)		
12)		
13)		
14)		
15)		
16)		
17)		
18)		
19)		
20)		
LAB QC ID		Assigned with new batch.

RC-048, 12/07, Rev 8

Sample Preparation/Analysis										Balance Id:
										Pipet #:
										Sep1 DT/Tm Tech:
										Sep2 DT/Tm Tech:
Work Ord. Lot.	Total Amt/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, InitDate
Sample Date	Acidified/Unit	Amt/Unit								Comments:
1 MXWJT-1-CG-S										
J3A170406-1-MS										
01/16/2013 14:25										
2 MXWJT-1-CH-X										
J3A170406-1-DUP										
01/16/2013 14:25										
3 MXWJT-2-AC										
J3A170406-1-SAMP										
01/16/2013 14:25										
4 MXWJX-2-AC										
J3A170406-2-SAMP										
01/16/2013 14:30										
5 MXWJ0-2-AC										
J3A170406-3-SAMP										
01/16/2013 14:35										
6 MXWJ1-2-AC										
J3A170406-4-SAMP										
01/16/2013 14:40										
7 MXWJ2-2-AC										
J3A170406-5-SAMP										
01/16/2013 14:45										
TestAmerica Richland Wa.	Key: In - Initial Amt, pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added	fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1	ISV - Insufficient Volume for Analysis	WO Cnt: 7 ICOC v4.8.49						

Sample Preparation/Analysis												Balance Id:			
												Pipet #:			
												Sep1 DT/Tm Tech:			
Analyze Date: 01/18/2013												Sep2 DT/Tm Tech:			
Batch: 3021026	SOIL	mg/kg	PM, Quote: RW2, 88144										Prep Tech:		
SEQ Batch, Test: None			Total Amt/Unit	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, InitDate	Comments:
8 MXW432-AC															
J3A170406-6-SAMP															
01/16/2013 14:50							AmRec: 2X125P							Beta:	
9 MXW442-AC															
J3A170406-7-SAMP															
01/16/2013 14:55							AmRec: 2X125P							Beta:	
10 MXW452-AC															
J3A170406-8-SAMP															
01/16/2013 15:00							AmRec: 2X125P							Beta:	
11 MXW472-AC															
J3A170406-9-SAMP															
01/16/2013 15:05							AmRec: 2X125P							Beta:	
12 MXW482-AC															
J3A170406-10-SAMP															
01/16/2013 15:10							AmRec: 2X125P							Beta:	
13 MXW7W-1-AA-B															
J3A210000-26-BLK															
01/21/2013 10:09 pd							AmRec:							Beta:	
14 MXW7W-1-AC-C															
J3A210000-26-LCS															
01/21/2013 10:09 pd							AmRec:							Beta:	
TestAmerica	Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2													ISV - Insufficient Volume for Analysis	
Richland Wa.	pd - Prep Dt, dc - Date Chg, r - Reference Dl, ec-Enrichment Cell, ct-Cocktailed Added													WO Cnt: 14 ICOC v4.8.49	

Sample Preparation/Analysis										Balance Id:
										Pipet #:
										Sep1 DT/Tm Tech:
										Sep2 DT/Tm Tech:
										Prep Tech:
1/21/2013 10:09:53 AM	DW Alkaline Digestion by method 3060A EA Chromium, Hexavalent (7196A)									
AnalyDueDate: 01/18/2013	51 CLIENT: HANFORD									
Batch: 3021026	mg/kg									
SEQ Batch, Test: None										
Comments:										
All Clients for Batch: 127642, Washington Closure Hanford LLC	Washington Closure Hanford LLC, RW2, 88144									
WXW7WLAA-BLK:										
WXW7WLAC-ICS:										
WXWTIGG-MS Constituent List: WXW7WLAA-BLK:										
Uncert Level (#s) .:: 2 Decay to SdDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B										
Uncert Level (#s) .:: 2 Decay to SdDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B										
Uncert Level (#s) .:: 2 Decay to SdDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B										
TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added	ISV - Insufficient Volume for Analysis WO Cnt: 14 ICOC v4.8.49									

Sample Preparation/Analysis											Balance Id:
											Pipet #:
											Sep1 DT/Tm Tech:
											Sep2 DT/Tm Tech:
Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Dish Yield	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, InitDate
SEQ Batch, Test: None	mg/kg										Comments:
1 MXWQJ-1-AA											Prep Tech:
J3A170422-1-SAMP											
01/17/2013 12:50											
2 MXWQJ-1-AL-S											
J3A170422-1-MS											
01/17/2013 12:50											
3 MXWQJ-1-AM-X											
J3A170422-1-DUP											
01/17/2013 12:50											
4 MXWQJN-1-AC											
J3A170422-2-SAMP											
01/17/2013 12:55											
5 MXWQP-1-AA											
J3A170422-3-SAMP											
01/17/2013 13:00											
6 MXWQQ-1-AA											
J3A170422-4-SAMP											
01/17/2013 13:05											
7 MXWQR-1-AA											
J3A170422-5-SAMP											
01/17/2013 13:10											
TestAmerica Richland Wa.	Key: In - Initial Amt, fi - Final Amt, df - Diluted Amt, s1 - Sep1, s2 - Sep2 pd - Prep Dt, dc - Date Chg, r - Reference Dl, ec-Enrichment Cell, ct-Cocktailed Added	WO Cnt: 7 ICOC v4.8.49	ISV - Insufficient Volume for Analysis								

Sample Preparation/Analysis										Balance Id:
										Pipet #:
										Sep1 DT/Tm Tech:
										Sep2 DT/Tm Tech:
Work Ord. Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj. Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	CR Analyst, InitDate
Comments:										
8 MXWQT-1-AA										
J3A170422-6-SAMP										
01/17/2013 12:25					AmtRec: 2X125MLP					
9 MXWQV-1-AA										
J3A170422-7-SAMP										
01/17/2013 12:30					AmtRec: 2X125MLP					
10 MXWQW-1-AA										
J3A170422-8-SAMP										
01/17/2013 12:35					AmtRec: 2X125MLP					
11 MXWQX-1-AA										
J3A170422-9-SAMP										
01/17/2013 12:40					AmtRec: 2X125MLP					
12 MXWQ0-1-AA										
J3A170422-10-SAMP										
01/17/2013 12:45					AmtRec: 2X125MLP					
13 MXWQ4-1-AA-B										
J3A170000-71-BLK										
01/17/2013 16:46 pd					AmtRec:					
14 MXWQ4-1-AC-C										
J3A170000-71-LCS										
01/17/2013 16:46 pd					AmtRec:					
TestAmerica	Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Richland Wa.	pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added	ISV - Insufficient Volume for Analysis	WO Cnt: 14 ICOC v4.8.49						

Sample Preparation/Analysis		Balance Id:		
		Pipet #:		
		Sep1 DT/Tm Tech:		
		Sep2 DT/Tm Tech:		
		Prep Tech:		
1/17/2013 4:46:53 PM	DW Alkaline Digestion by method 3060A EA Chromium, Hexavalent (7196A)			
AnalyDueDate: 01/18/2013	51 CLIENT: HANFORD			
Batch: 3017071 SEQ Batch, Test: None	mg/kg			
Comments:				
All Clients for Batch: 127642, Washington Closure Hanford LLC	washington closure hanford llc, rw2, 88144			
MXWQJ1AA-SAMP Constituent List:				
MXWQJ1AL-MS Constituent List:				
MXWQ41AA-BLK:				
MXWQ41AC-LCS:				
MXWQJ1AA-SAMP Calc Info: Uncert Level (#s) : 2	Decay to SdDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRS: B
MXWQJ1AL-MS Calc Info: Uncert Level (#s) : 2	Decay to SdDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRS: B
MXWQ41AA-BLK: Uncert Level (#s) : 2	Decay to SdDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRS: B
MXWQ41Ac-LCS: Uncert Level (#s) : 2	Decay to SdDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRS: B
TestAmerica Richland Wa.	Key: ln - 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	Page 3	lSV - Insufficient Volume for Analysis	WO Cnt: 14 ICO v4.8.49