

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 5/7/12
INITIAL/DATE

COMMENTS:

SDG J01491

SAF-RC-207

Rad only

Chem only

Rad & Chem

Complete

Partial

Sample Location: 100-C-7:1 (ACL Footprints)

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 30 Pages

Report No.: 51531

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.
J01491	RC-207	J1NMW3	J2E010474-1	MTATK1AA	9MTATK10	2122157
		J1NMW4	J2E010474-2	MTATL1AA	9MTATL10	2122157
		J1NMW5	J2E010474-3	MTATM1AA	9MTATM10	2122157
		J1NMW6	J2E010474-4	MTATN1AA	9MTATN10	2122157
		J1NMW7	J2E010474-5	MTATP1AA	9MTATP10	2122157
		J1NMW8	J2E010474-6	MTATQ1AA	9MTATQ10	2122157
		J1NMW9	J2E010474-7	MTATR1AA	9MTATR10	2122157
		J1NMX0	J2E010474-8	MTATT1AA	9MTATT10	2122157
		J1NMX1	J2E010474-9	MTATV1AA	9MTATV10	2122157
		J1NMX2	J2E010474-10	MTATW1AA	9MTATW10	2122157

Certificate of Analysis

Washington Hanford Closure
 2620 Fermi Avenue
 Richland, WA 99354

TestAmerica Laboratories, Inc.

May 3, 2012

Attention: Joan Kessner

SAF Number	:	RC-207
Date SDG Closed	:	May 1, 2012
Number of Samples	:	Ten (10)
Sample Type	:	Soil
SDG Number	:	J01491
Data Deliverable	:	24- Hour / Summary

CASE NARRATIVE

I. Introduction

On May 1, 2012, ten soil samples were received at TestAmerica for radiochemical and chemical analysis. Upon receipt, the samples were assigned the following laboratory ID number to correspond with the Washington Closure Hanford (WCH) specific ID:

<u>WCH ID#</u>	<u>TARL ID#</u>	<u>MATRIX</u>	<u>DATE OF RECEIPT</u>
J1NMW3	MTATK	SOIL	5/01/12
J1NMW4	MTATL	SOIL	5/01/12
J1NMW5	MTATM	SOIL	5/01/12
J1NMW6	MTATN	SOIL	5/01/12
J1NMW7	MTATP	SOIL	5/01/12
J1NMW8	MTATQ	SOIL	5/01/12
J1NMW9	MTATR	SOIL	5/01/12
J1NMX0	MTATT	SOIL	5/01/12
J1NMX1	MTATV	SOIL	5/01/12
J1NMX2	MTATW	SOIL	5/01/12

II. Sample Receipt

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

III. Analytical Results/Methodology

Washington Closure Hanford
May 3, 2012

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

The requested analyses were:

Chemical Analysis
Hexavalent Chromium by EPA method 7196A

IV. Quality Control

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

QC and sample results are reported in the same units.

V. Comments

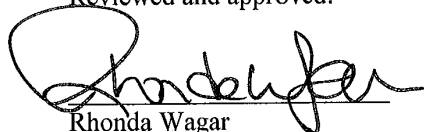
Chemical Analysis

Hexavalent Chromium by EPA method 7196A

The LCS, batch blank, samples, sample duplicate (J1NMW3) and sample matrix spike (J1NMW3) 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 the 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%. $Lc = (1.645 * \sqrt{2 * (BkgrndCnt / BkgrndCntMin) / SCntMin}) * (ConvFct / (Eff * Yld * Abn * Vol) * IngrFct)$. For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. $MDC = (4.65 * \sqrt{(BkgrndCnt / BkgrndCntMin) / SCntMin} + 2.71 / SCntMin) * (ConvFct / (Eff * Yld * Abn * Vol) * IngrFct)$. For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the Work Order Number.
RER	The equation Replicate Error Ratio = $(S-D) / [\sqrt{(TPUs^2 + TPUD^2)}]$ as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUD is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by TestAmerica upon sample receipt.
Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
Work Order	The LIMS software assign test specific identifier.
Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

Sample Results Summary

Date: 03-May-12

TestAmerica TARL

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

Report No. : 51531

SDG No: J01491

Batch	Client Id Work Order	Parameter	Result +/- Uncertainty (2s)	Qual	Units	Tracer Yield	MDL	CRDL	RPD
2122157	7196_CR6								
	J1NMW3								
	MTATK1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
	MTATK1AD	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	3.50E-01	0.0
	J1NMW4								
	MTATL1AA	HEXCHROME	2.44E-01 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
	J1NMW5								
	MTATM1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
	J1NMW6								
	MTATN1AA	HEXCHROME	3.12E-01 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
	J1NMW7								
	MTATP1AA	HEXCHROME	3.56E-01 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
	J1NMW8								
	MTATQ1AA	HEXCHROME	2.67E-01 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
	J1NMW9								
	MTATR1AA	HEXCHROME	2.02E-01 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
	J1NMX0								
	MTATT1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
	J1NMX1								
	MTATV1AA	HEXCHROME	2.30E-01 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
	J1NMX2								
	MTATW1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
No. of Results: 11									

TestAmerica
rptSTLRchSaSummary2 V5.2.20
A2002

RPD - Relative Percent Difference.

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.

QC Results Summary

Date: 03-May-12

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 51531

SDG No.: J01491

Batch	Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDL
7196_CR6									
2122157	MATRIX SPIKE, J1NMW3								
	MTATK1AC	HEXCHROME	9.13E+00 +- 0.0E+00		mg/kg	N/A	90%	-0.1	1.55E-01
2122157	LCS,								
	MTAVX1AC	HEXCHROME	1.92E+01 +- 0.0E+00		mg/kg	N/A	96%	0.0	1.55E-01
2122157	BLANK QC,								
	MTAVX1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A			1.55E-01
No. of Results: 3									

TestAmerica
rptSTLRchQcSummary V5.2.20
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: 03-May-12

Lab Name: TestAmerica SDG: J01491 Collection Date: 5/1/2012 8:30:00 AM
 Lot-Sample No.: J2E010474-1 Report No.: 51531 Received Date: 5/1/2012 4:15:00 PM
 Client Sample ID: J1NMW3 COC No.: RC-207-072 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: 2122157	7196_CR6											
HEXCHROME	1.55E-01	U		0.0E+00	1.55E-01 mg/kg	N/A	1.	5/1/12 05:10 p		2.5062	g	
Work Order: MTATK1AA Report DB ID: 9MTATK10												
1.55E-01 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.
 rpt|STLRchSample 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.
 V5.2.20 A2002

FORM I

Date: 03-May-12

SAMPLE RESULTS

Lab Name: TestAmerica **SDG:** J01491 **Collection Date:** 5/1/2012 8:35:00 AM
Lot-Sample No.: J2E010474-2 **Report No.:** 51531 **Received Date:** 5/1/2012 4:15:00 PM
Client Sample ID: J1NIMW4 **COC No.:** RC-207-072 **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: 2122157	7196_CR6											
HEXCHROME	2.44E-01			0.0E+00	1.55E-01 mg/kg		N/A	(1.6)	5/1/12 05:10 p		2.5073	
							1.55E-01	N/A			g	

Work Order: MTATL1AA Report DB ID: 9MTATL10

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.
 V5.2.20 AZ002

FORM I

Date: 03-May-12

SAMPLE RESULTS

Lab Name: TestAmerica
 Lot-Sample No.: J2E010474-3
 Client Sample ID: J1N1MW5

SDG: J01491
 Report No.: 51531
 COC No.: RC-207-072

Collection Date: 5/1/2012 8:40:00 AM
 Received Date: 5/1/2012 4:15:00 PM
 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: 2122157	7196_CR6											
HEXCHROME	1.55E-01	U		0.0E+00	1.55E-01	mg/kg	N/A	1.	5/1/12 05:10 p		2.5152	
							1.55E-01	N/A			9	

Work Order: MTATM1AA Report DB ID: 9MTATM10

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.
 V5.2.20 A2002

**FORM I
SAMPLE RESULTS**

Date: 03-May-12

Lab Name: TestAmerica
 Lot-Sample No.: J2E010474-4
 Client Sample ID: J1NMMW6

SDG: J01491
 Report No.: 51531
 COC No.: RC-207-072

Collection Date: 5/1/2012 8:45:00 AM
 Received Date: 5/1/2012 4:15:00 PM
 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: 2122157	7196_CR6											
HEXCHROME	3.12E-01			0.0E+00	1.55E-01 mg/kg		N/A	(2.)	5/1/12 05:10 p		2.5085	
							1.55E-01	N/A			g	

Work Order: MTATN1AA Report DB ID: 9MTATN10

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.
 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.
 V5.2.20 A2002

FORM I

Date: 03-May-12

SAMPLE RESULTS

Lab Name: TestAmerica
 Lot-Sample No.: J2E010474-5
 Client Sample ID: J1NMW7

SDG: J01491
 Report No.: 51531
 COC No.: RC-207-072

Collection Date: 5/1/2012 8:50:00 AM
 Received Date: 5/1/2012 4:15:00 PM
 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: 2122157	7196_CR6											
HEXCHROME	3.56E-01			0.0E+00	1.55E-01 mg/kg		N/A	(2.3)	5/1/12 05:10 p		2.5157 g	
							1.55E-01	N/A				

Work Order: MTATP1AA Report DB ID: 9MTATP10

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.
 rpt|STLRchSample 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.
 V5.2.20 A2002

FORM I

Date: 03-May-12

SAMPLE RESULTS

Lab Name: TestAmerica
 Lot-Sample No.: J2E010474-6
 Client Sample ID: J1N1MW8

SDG: J01491
 Report No.: 51531
 COC No.: RC-207-072

Collection Date: 5/1/2012 8:55:00 AM
 Received Date: 5/1/2012 4:15:00 PM
 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: 2122157	7196_CR6											
HEXCHROME	2.67E-01			0.0E+00	1.55E-01 mg/kg		N/A	(1.7)	5/1/12 05:10 p		2.5068	
							1.55E-01	N/A			g	

Work Order: MTATQ1AA Report DB ID: 9MTATQ10

No. of Results: 1 Comments:

TestAmerica
 rptSTLRchSample
 V5.2.20 AZ002

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: 03-May-12

Lab Name: TestAmerica SDG: J01491 Collection Date: 5/1/2012 9:10:00 AM
 Lot-Sample No.: J2E010474-7 Report No.: 51531 Received Date: 5/1/2012 4:15:00 PM
 Client Sample ID: J1NMMW9 COC No.: RC-207-072 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: 2122157	7196_CR6											
HEXCHROME	2.02E-01			0.0E+00	1.55E-01 mg/kg		N/A	(1.3)	5/1/12 05:10 p		2.5005	
							1.55E-01	N/A			g	

Work Order: MTATR1AA Report DB ID: 9MTATR10

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.
 rptSTLResSample 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.
 V5.2.20 A2002

FORM I

Date: 03-May-12

SAMPLE RESULTS

Lab Name: TestAmerica
 Lot-Sample No.: J2E010474-8
 Client Sample ID: J1NMX0

SDG: J01491
 Report No.: 51531
 COC No.: RC-207-072

Collection Date: 5/1/2012 9:15:00 AM
 Received Date: 5/1/2012 4:15:00 PM
 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: 2122157	7196_CR6											
HEXCHROME	1.55E-01	U		0.0E+00	1.55E-01 mg/kg		N/A	1.	5/1/12 05:10 p		2.5016	
							1.55E-01	N/A			g	

Work Order: MTATT1AA Report DB ID: 9MTATT10

No. of Results: 1 Comments:

TestAmerica
 rpt\$TLRcstSample
 V5.2.20 AZ002

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/Mdi, Total Uncert, CRDL, RDL or not identified by gamma scan software.

**FORM I
SAMPLE RESULTS**

Date: 03-May-12

Lab Name: TestAmerica
 Lot-Sample No.: J2E010474-9
 Client Sample ID: J1NMX1

SDG: J01491
 Report No.: 51531
 COC No.: RC-207-072

Collection Date: 5/1/2012 9:20:00 AM
 Received Date: 5/1/2012 4:15:00 PM
 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: 2122157	7196_CR6											
HEXCHROME	2.30E-01			0.0E+00	1.55E-01 mg/kg		N/A	(1.5)	5/1/12 05:10 p		2.508 g	
							1.55E-01	N/A				

Work Order: MTATV1AA Report DB ID: 9MTATV10

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.
 rpt\$TLRchSample 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.
 V5.2.20 A2002

FORM I

Date: 03-May-12

SAMPLE RESULTS

Lab Name: TestAmerica
 Lot-Sample No.: J2E010474-10
 Client Sample ID: J1NMX2

SDG: J01491
 Report No.: 51531
 COC No.: RC-207-072

Collection Date: 5/1/2012 9:25:00 AM
 Received Date: 5/1/2012 4:15:00 PM
 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/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 2122157	7196_CR6											
HEXCHROME	1.55E-01	U		0.0E+00	1.55E-01 mg/kg	N/A	1.		5/1/12 05:10 p		2.5053	
						1.55E-01	N/A				g	

Work Order: MTATW1AA Report DB ID: 9MTATW10

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.
 rpt|STL|Rch|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.
 V5.2.20 A2002

FORM II

Date: 03-May-12

DUPLICATE RESULTS

Lab Name: TestAmerica **SDG:** J01491 **Collection Date:** 5/1/2012 8:30:00 AM
Lot-Sample No.: J2E010474-1 **Report No.:** 51531 **Received Date:** 5/1/2012 4:15:00 PM
Client Sample ID: J1NMMW3 **COC No.:** RC-207-072 **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: 2122157	7196_CR6											
Work Order:	MTATK1AD Report DB ID: MTATK1ER Orig Sa DB ID: 9MTATK10											
HEXCHROME	1.55E-01	U		0.0E+00	1.55E-01	mg/kg	N/A	1.	5/1/12 05:10 p		2.5113	
	1.55E-01	U	RPD 0.0			3.50E-01		N/A			g	

No. of Results: 1 Comments:

TestAmerica RPD - Relative Percent Difference.
rptSTLRchDupV5. MDC[MDA],Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
2.20 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: 03-May-12

Lab Name: TestAmerica SDG: J01491
 Matrix: SOIL Report No.: 51531

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: 2122157	7196_CR6											
HEXCHROME	1.55E-01	U		0.0E+00	1.55E-01	mg/kg	N/A	1.	5/1/12 05:10 p		2.5	
						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.
 rptSTL.RchBlank 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.
 V5.2.20 AZ002

Date: 03-May-12

FORM II
LCS RESULTS

Lab Name: TestAmerica SDG: J01491
Matrix: SOIL Report No.: 51531

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: 2122157	7196_CR6					Work Order: MTAVX1AC							
HEXCHROME	1.92E+01		0.0E+00	0.0E+00	1.55E-01	mg/kg	N/A	2.00E+01	120	96%	5/1/12 05:10 p	2.5	
							Rec Limits:	80		0.0		g	

No. of Results: 1 Comments:

TestAmerica Bias - (Result/Expected)-1 as defined by ANSI N13.30.
rptSTLRchLcs
V5.2.20 A2002

FORM II

Date: 03-May-12

MATRIX SPIKE RESULTS

Lab Name: TestAmerica SDG: J01491 Matrix: SOIL
 Lot-Sample No.: J2E010474-1, J1NMW3 Report No.: 51531

Parameter	SpikeResult, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDCIMDA	Rpt Unit, CRDL	Yield	Recovery	Expected, Uncert	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 2122157	Work Order: MTATK1AC	Report DB ID: MTATK1CW	Orig Sa DB ID: 9MTATK10									
HEXCHROME	9.13E+00		0.0E+00	0.0E+00	1.55E-01	mg/kg	N/A	89.50%	1.02E+01	5/1/12 05:10 p	2.5123	7196_CR6
	1.55E-01										9	

Number of Results: 1

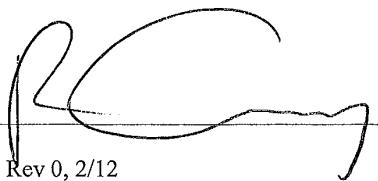

Comments:

TestAmerica RER - Replicate Error Ratio = (S-D)/[sqrt((sq(TPUs)+sq(TPUd))] as defined by ICPT BOA
 rptSTLRchMs Bias - (Result/Expected)-1 as defined by ANSI N13.30
 V5.2.20 A2002

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

Batch Number(s):	2122157	Lab Sample Numbers or SDG:	J01491	
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 85-115%?	✓			✓
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 5/2/12 2nd Review  Date 5/2/12
CG-231 Rev 0, 2/12

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-207-072	Page 2 of 3
Collector A. Dunnum	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code 8L	Data Turnaround Quick Turn		
Project Designation Remedial Action of the 100-C-7 & 100-C-7:1 Waste Sites - I	Sampling Location 100-C-7:1 (ACL Footprints)	Field Logbook No. EL-1655-05	SAF No. RC-207	Method of Shipment Hand deliver	21 Days		
Ice Chest No. N/A	Field Property No. N/A	COA R00C712600	Bill of Lading/Air Bill No. N/A		KS 3/22/12		
Shipped To TestAmerica Incorporated, Richland	Offsite Property No. N/A						
POSSIBLE SAMPLE HAZARDS/REMARKS							
None							
Special Handling and/or Storage Cool, 4 degrees Centigrade							
SAMPLE ANALYSIS							
Sample No.	Matrix *	Sample Date	Sample Time	Preservation	Cool 4C		
J1NMW7	SOIL	05/01/12	0850	G/P			
J1NMW8	SOIL	05/01/12	0855				
J1NMW9	SOIL	05/01/12	0910				
J1NMX0	SOIL	05/01/12	0915				
J1NMX1	SOIL	05/01/12	0920				
No. of Container(s)							
Volume							
Chromium Hex - 7196 - Quick Turn							
SPECIAL INSTRUCTIONS							
SDG#J01491 Lot#J2E010774 Due 5-2-12							
REVIEWED BY CMMS DATE 5-1-12							
CHAIN OF POSSESSION		Sign/Print Names		Date/Time		Matrix *	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Date/Time		S-Soil	
<i>B. Fallick</i>	5-1-12 1600	<i>B. Fallick</i>	5-1-12 1600	Date/Time		S-Settlement	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Date/Time		SO-Solid	
<i>B. Fallick</i>	5-1-12 1600	<i>A. Freier</i>	5-1-12 1600	Date/Time		SP-Sludge	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Date/Time		W = Water	
<i>A. Freier</i>	5-1-12 1615	<i>A. Freier</i>	5-1-12 1615	Date/Time		O-Oil	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Date/Time		A-Air	
				Date/Time		DS-Drum Solids	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Date/Time		DL-Drum Liquids	
				Date/Time		T-Tissue	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Date/Time		WF-Wipe	
				Date/Time		L-Liquid	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Date/Time		V-Vegetation	
				Date/Time		X-Other	
LABORATORY SECTION	Received By	Title		Date/Time			
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By		Date/Time			

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-207-072		Page 3 of 3		
Collector A. Dunning	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSENER, JH	Price Code 8L	Data Turnaround Quick Turn	21 Days		KS 3/22/12		
Project Designation Remedial Action of the 100-C-7 & 100-C-7:1 Waste Sites - I	Sampling Location 100-C-7:1(ACL Footprints)	Field Logbook No. EL-1655-05	SAF No. RC-207	Method of Shipment Hand deliver		Bill of Lading/Air Bill No. N/A				
Ice Chest No. N/A	Field Logbook No. EL-1655-05	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										
Special Handling and/or Storage Cool, 4 degrees Centigrade										
SAMPLE ANALYSIS										
Sample No.	Matrix *	Sample Date	Sample Time	Preservation	Volume	Chromium Hex - 7196 - Quick Turn				
J1NMX2 MTATW	SOIL	5/5/12	0935	Cool 4C	125mL					
J1NMX3	SOIL			G/P						
J1NMX4	SOIL			1						
J1NMX5	SOIL									
J1NMX6	SOIL									
CHAIN OF POSSESSION										
Relinquished By/Removed From A. Freier	Date/Time 5-1-12 0930	Received By/Stored In B. Feller	Date/Time 5-1-12 0930	SPECIAL INSTRUCTIONS SDQH# J01491 Lot# J2E010774 Dve 5.2.12						Matrix *
Relinquished By/Removed From B. Feller	Date/Time 5-1-12 1600	Received By/Stored In A. Freier	Date/Time 5-1-12 1600	REVIEWED BY CMMB DATE 5-1-12						S-Soil SP-Sediment SO-Solid SH-Sludge W = Water O=Oil A=Air DS-Drum Solids DL-Drum Liquids T=Tissue L=Liquid V=Vegetation X=Other
Relinquished By/Removed From A. Freier	Date/Time 5-1-12 1615	Received By/Stored In A. Freier	Date/Time 5-1-12 1615	Title						Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Disposal Method						Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Disposal Method						Date/Time
LABORATORY SECTION	Received By:	Title								
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By								

Sample Check-in List

Date/Time Received: 5-1-12 @ 1615 Container GM Screen Result: (Airlock) 04 Initials CK
 Sample GM Screen Result (Sample Receiving) 07 Initials CK

Client: WCH SDG #: J01491 NA [] SAF #: RC-207 NA []

Lot Number: J2E010474

Chain of Custody # RC-207-072

Shipping Container ID: Hand delivery NA W Air Bill Number: _____ NA CK

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

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes CK No []
6. Number of samples received (Each sample may contain multiple bottles): 11 10
7. Containers received: 11 x 125ml per CK 5-1-12 CK 5-1-12
10 x 125ml

8. Sample holding times exceeded? NA [] Yes [] No CK

9. Samples have:
CK tape hazard labels
CK custody seals appropriate sample labels

10. Matrix:
CK A (FLT, Wipe, Solid, Soil) _____ I (Water)
 _____ S (Air, Niosh 7400) _____ T (Biological, Ni-63)

11. Samples:
CK 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 CK
 (If acidification is necessary, then document sample ID, initial pH, amount of HNO₃ added and pH after addition on table overleaf)
 RPL ID # of preservative used: N/A

13. Were any anomalies identified in sample receipt? Yes [] No CK

14. Description of anomalies (include sample numbers): NA CK [] _____

5/1/2012 5:37:18 PM **Sample Preparation/Analysis** Balance Id: _____ Pipet #: _____
 127642, Washington Closure Hanford LLC DW Alkaline Digestion by method 3060A
 Bechtel Hanford, Inc. EA Chromium, Hexavalent (7196A)
 AnalyzeDate: 05/02/2012 51 CLIENT: HANFORD Sep1 DT/Tm Tech: _____
 Batch: 2122157 SOIL mg/kg PM, Quote: RW2, 27038 Sep2 DT/Tm Tech: _____
 SEQ Batch, Test: None All Tests: 2122157 DWEA, 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 MTATK-1-AA													
J2E010474-1-SAMP													
05/01/2012 08:30 AmtRec: 1X125P #Containers: 1 Alpha: _____ Beta: _____													
2 MTATK-1-AC-S													
J2E010474-1-MS													
05/01/2012 08:30 AmtRec: 1X125P #Containers: 1 Alpha: _____ Beta: _____													
3 MTATK-1-AD-X													
J2E010474-1-DUP													
05/01/2012 08:30 AmtRec: 1X125P #Containers: 1 Alpha: _____ Beta: _____													
4 MTATL-1-AA													
J2E010474-2-SAMP													
05/01/2012 08:35 AmtRec: 1X125P #Containers: 1 Alpha: _____ Beta: _____													
5 MTATM-1-AA													
J2E010474-3-SAMP													
05/01/2012 08:40 AmtRec: 1X125P #Containers: 1 Alpha: _____ Beta: _____													
6 MTATN-1-AA													
J2E010474-4-SAMP													
05/01/2012 08:45 AmtRec: 1X125P #Containers: 1 Alpha: _____ Beta: _____													
7 MTATP-1-AA													
J2E010474-5-SAMP													
05/01/2012 08:50 AmtRec: 1X125P #Containers: 1 Alpha: _____ Beta: _____													

TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1
 Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added
 ISV - Insufficient Volume for Analysis
 WO Cnt: 7
 ICOC v4.8.49

5/1/2012 5:37:19 PM **Sample Preparation/Analysis** Balance Id: _____
 127642, Washington Closure Hanford LLC DW Alkaline Digestion by method 3060A Pipet #: _____
 Bechtel Hanford, Inc. EA Chromium, Hexavalent (7196A) Sep1 DT/Tm Tech: _____
 51 CLIENT: HANFORD Sep2 DT/Tm Tech: _____

Analyte: mg/kg **PM, Quote:** RW2, 27038 **Prep Tech:** _____

Batch: 2122157 **SOIL** **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:
8 MTATQ-1-AA													
J2E010474-6-SAMP													
05/01/2012 08:55													Beta:
AmtRec: 1X125P #Containers: 1 Scr: Alpha: Beta:													
9 MTATR-1-AA													
J2E010474-7-SAMP													
05/01/2012 09:10													Beta:
AmtRec: 1X125P #Containers: 1 Scr: Alpha: Beta:													
10 MTATT-1-AA													
J2E010474-8-SAMP													
05/01/2012 09:15													Beta:
AmtRec: 1X125P #Containers: 1 Scr: Alpha: Beta:													
11 MTATV-1-AA													
J2E010474-9-SAMP													
05/01/2012 09:20													Beta:
AmtRec: 1X125P #Containers: 1 Scr: Alpha: Beta:													
12 MTATW-1-AA													
J2E010474-10-SAMP													
05/01/2012 09:25													Beta:
AmtRec: 1X125P #Containers: 1 Scr: Alpha: Beta:													
13 MTAVX-1-AA-B													
J2E010000-157-BLK													
05/01/2012 17:37 pd													Beta:
AmtRec: #Containers: 1 Scr: Alpha: Beta:													
14 MTAVX-1-AC-C													
J2E010000-157-LCS													
05/01/2012 17:37 pd													Beta:
AmtRec: #Containers: 1 Scr: Alpha: Beta:													

TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2 **WO Cnt: 14**
 Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added ISV - Insufficient Volume for Analysis ICOC v4.8.49

5/1/2012 5:37:19 PM

Sample Preparation/Analysis

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

Balance Id:

Pipet #:

AnalyseDate: 05/02/2012

Sep1 DT/Tm Tech:

Batch: 2122157

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

mg/kg

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, Intf/Date	Comments:
----------------------------	----------------	----------------------	--------------------------	-----------------------------	---------------------	--------------	-----------	-----------------	----------------	-------------	------------------------------	-----------------------	-----------

Comments:

All Clients for Batch:

127642, Washington Closure Hanford LLC Bechtel Hanford, Inc. , RW2, 27038

MTATK1AA-SAMP Constituent List:

MTATK1AC-MS Constituent List:

MTAVX1AA-BLK:

MTAVX1AC-LCS:

MTATK1AA-SAMP Calc Info:

Uncert Level (#s):	2	Decay to Sadt:	Y	Blk Subst.:	N	Sci. Not.:	Y	ODRs:	B
Uncert Level (#s):	2	Decay to Sadt:	Y	Blk Subst.:	N	Sci. Not.:	Y	ODRs:	B
Uncert Level (#s):	2	Decay to Sadt:	Y	Blk Subst.:	N	Sci. Not.:	Y	ODRs:	B
Uncert Level (#s):	2	Decay to Sadt:	Y	Blk Subst.:	N	Sci. Not.:	Y	ODRs:	B

TestAmerica

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2

ISV - Insufficient Volume for Analysis

WO Cnt: 14

Richland Wa.

pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ICOC v4.8.49