SAF-RC-074
100-D/DR Burial Grounds & Remaining Sites – Soil In-Process
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 1/21/14
INITIAL/DATE

COMMENTS:

SDG J02064 SAF RC-074

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Waste Site: 100-D-100 ACL SPA Areas

Analytical Data Package Prepared For

Washington Closure Hanford

Radiochemical Analysis By

TestAmerica Inc

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

Assigned Laboratory Code: TARL

Data Package Contains 19 *Pages*

Report No.: 58433

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.
J02064	RC-074	J1T3T8	J4A160405-1	M2VFC1AA	9M2VFC10	4016019
		J1T3T9	J4A160405-2	M2VFD1AA	9M2VFD10	4016019

TestAmerica Inc
rptSTLRchTitle v3.73

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354

January 17, 2014

Attention: Joan Kessner

SAF Number	:	RC-074
Date SDG Closed	:	January 16, 2014
Number of Samples	:	Two (2)
Sample Type	:	Soil
SDG Number	:	J02064
Data Deliverable	:	Quick Turn / Summary

CASE NARRATIVE

I. Introduction

On January 16, 2014, two soil samples were received at TestAmerica for chemical 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
J1T3T8	M2VFC	SOIL	1/16/14
J1T3T9	M2VFD	SOIL	1/16/14

II. Sample Receipt

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

III. Analytical Results/Methodology

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

Chemical Analysis
Hexavalent Chromium by EPA method 7196A

IV. Quality Control

SDG J02064 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

Chemical Analysis
Hexavalent Chromium by EPA method 7196A

Batch 4016019:
The LCS, batch blank, samples, sample duplicate (J1T3T8) and sample matrix spike (J1T3T8) 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 = constants * f(x,y,z,...). The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

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

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

Report Definitions

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

Sample Results Summary

Date: 17-Jan-14

TestAmerica Inc TARL

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

Report No. : 58433

SDG No: J02064

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDL	CRDL	RPD
4016019	7196_CR6								
	J1T3T8								
	M2VFC1AA	HEXCHROME	2.02E-01 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
	M2VFC1AD	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	26.3
	J1T3T9								
	M2VFD1AA	HEXCHROME	4.66E-01 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	

No. of Results: 3

TestAmerica Inc

rptTALRchSaSummary2 V5.2.26 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: 17-Jan-14

TestAmerica Inc TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 58433

SDG No.: J02064

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDL
7196_CR6								
4016019 MATRIX SPIKE, J1T3T8								
M2VFC1AC	HEXCHROME	2.46E+01 +- 0.0E+00		mg/kg	N/A	78%	-0.2	1.55E-01
4016019 LCS,								
M2VFJ1AC	HEXCHROME	1.85E+01 +- 0.0E+00		mg/kg	N/A	93%	-0.1	1.55E-01
4016019 BLANK QC,								
M2VFJ1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A			1.55E-01

No. of Results: 3

TestAmerica Inc

rptSTLRchQcSummary V5.2.26
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: 17-Jan-14

Lab Name:	TestAmerica Inc	**SDG:**	J02064	**Collection Date:**	1/15/2014 11:00:00 AM
Lot-Sample No.:	J4A160405-1	**Report No. :**	58433	**Received Date:**	1/16/2014 8:25:00 AM
Client Sample ID:	J1T3T8	**COC No. :**	RC-074-595	**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: 4016019	7196_CR6			**Work Order:**	M2VFC1AA		**Report DB ID:**	9M2VFC10				
HEXCHROME	**2.02E-01**			0.0E+00	1.55E-01	mg/kg	N/A	*(1.3)*	1/16/14 10:45 a		2.5045	
							1.55E-01	*N/A*			g	

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

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

FORM I

SAMPLE RESULTS

Date: 17-Jan-14

Lab Name:	**TestAmerica Inc**	**SDG:**	J02064	**Collection Date:**	1/15/2014 11:05:00 AM
Lot-Sample No.:	**J4A160405-2**	**Report No. :**	58433	**Received Date:**	1/16/2014 8:25:00 AM
Client Sample ID:	**J1T3T9**	**COC No. :**	RC-074-595	**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: 4016019	7196_CR6			**Work Order:** M2VFD1AA			**Report DB ID:** 9M2VFD10					
HEXCHROME	**4.66E-01**			0.0E+00	1.55E-01	mg/kg	N/A	*(3.)*	1/16/14 10:45 a		2.5096	
							1.55E-01	*N/A*			g	

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

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

FORM II

Date: 17-Jan-14

DUPLICATE RESULTS

Lab Name:	**TestAmerica Inc**	**SDG:**	J02064	**Collection Date:**	1/15/2014 11:00:00 AM
Lot-Sample No.:	**J4A160405-1**	**Report No. :**	58433	**Received Date:**	1/16/2014 8:25:00 AM
Client Sample ID:	**J1T3T8**	**COC No. :**	RC-074-595	**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: 4016019	7196_CR6			**Work Order:** M2VFC1AD		**Report DB ID:** M2VFC1ER			**Orig Sa DB ID:** 9M2VFC10			
HEXCHROME	1.55E-01	U		0.0E+00	1.55E-01	mg/kg	N/A	1.	1/16/14 10:45 a		2.5088	
	2.02E-01		**RPD**	**26.3**		1.55E-01		N/A			g	

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

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

FORM II

BLANK RESULTS

Date: 17-Jan-14

Lab Name: TestAmerica Inc

Matrix: SOIL

SDG: J02064

Report No. : 58433

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: 4016019	7196_CR6			**Work Order:**	M2VFJ1AA		**Report DB ID:**	M2VFJ1AB				
HEXCHROME	1.55E-01	U		0.0E+00	1.55E-01	mg/kg	N/A	1.	1/16/14 10:45 a		2.5	
						1.55E-01		N/A			g	

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

TestAmerica Inc
rptSTLRchBlank
V5.2.26 A2002

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

FORM II

LCS RESULTS

Date: 17-Jan-14

Lab Name: TestAmerica Inc

Matrix: SOIL

SDG: J02064

Report No. : 58433

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: 4016019	7196_CR6			**Work Order:**	M2VFJ1AC		**Report DB ID:**	M2VFJ1AS					
HEXCHROME	1.85E+01			0.0E+00	1.55E-01	mg/kg	N/A	2.00E+01		93%	1/16/14 10:45 a	2.5	
							Rec Limits:	80	120	-0.1		g	

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

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

rptSTLRchLcs
V5.2.26 A2002

FORM II

MATRIX SPIKE RESULTS

Date: 17-Jan-14

Lab Name: TestAmerica Inc **SDG:** J02064

Lot-Sample No.: J4A160405-1, J1T3T8 **Report No. :** 58433 **Matrix:** SOIL

Parameter	SpikeResult, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Rpt Unit	Yield	Rec-overy	Expected, Uncert	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 4016019	**Work Order:** M2VFC1AC			**Report DB ID:** M2VFC1CW			**Orig Sa DB ID:** 9M2VFC10					
HEXCHROME	2.46E+01			0.0E+00	1.55E-01	mg/kg	N/A	77.99%	3.15E+01	1/16/14 10:45 a	2.5155	7196_CR6
	2.02E-01										g	

Number of Results: 1

Comments:

TestAmerica Inc
rptSTLRchMs
V5.2.26 A2002

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Richland Laboratory
Data Review Check List
Hexavalent Chromium

Batch Number(s):	4016019	Lab Sample Numbers or SDG:	J02064

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

Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level Review (✓)
A. Initial Calibration 1. Performed at required frequency with required number of levels?	✓			✓
2. Correlation coefficient greater than 0.97?	✓			✓
3. Initial calibration verification (ICV) analyzed immediately after calibration and results within 10% of expected?	✓			✓
4. Initial calibration blank (ICB) analyzed immediately after ICV and concentrations of all parameters ≤ reporting limit?	✓			✓
B. Continuing Calibration 1. CCV analyzed at required frequency and all parameters within 10% of expected?	✓			✓
2. CCB analyzed at required frequency and all results ≤ reporting limit?	✓			✓
C. Sample Analysis 1. Were any samples with concentrations above the linear range diluted and reanalyzed?			✓	✓
2. Were all sample holding times met?	✓			✓
D. QC Samples 1. All results for the preparation blank below limits?	✓			✓
2. LCS percent recovery within 85-115%	✓			✓
3. $PbCrO_4$ percent recovery within 75-125%?	✓			✓
4. Sample and Duplicate within 20% (aqueous) or 35% (solid) RPD?			✓	✓
5. MS or MS/MSD recoveries within 85-115% (aqueous) or 75-125% (solid)?	✓			✓
6. On MS failure, PDMS within 85-115%?			✓	✓
E. Other 1. Are all nonconformances included and noted?			✓	✓
2. Is the correct date and time of analysis shown?	✓			✓
3. Did the analyst sign and date the front page of the analytical run?	✓			✓
4. Correct methodology used?	✓			✓
5. Transcriptions checked?	✓			✓
6. Calculations checked at minimum frequency?	✓			✓
7. Units checked?	✓			✓

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

Analyst [signature] Date 1/17/14 2nd Review [signature] Date 1/17/14

CG-231 Rev 1, 5/12

Washington Closure Hanford — CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-074-595

Collector: WEBER, HC	Company Contact: Joan Kessner	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: D.J.	Data Turnaround		
Project Designation: 100-D/DR Field Remediation	Sampling Location: 100-D-100 ACL SPA Areas		SAF No.: RC-074
Ice Chest No.: N/A	Field Logbook No.: EL-1607-~~28~~ 22 SMS 1-15-14	COA: 0D10032600	Method of Shipment: Local Delivery
Shipped To: TestAmerica Richland	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A

Other Labs Shipped To: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS: N/A

Special Handling and/or Storage: Cool 4C

Preservation	Cool 4C										
Type of Container	G/P										
No. of Container(s)	1										
Volume	125mL										
Sample Analysis	Chromium Hex - 7196 - Quick Turn {Hexavalent Chromium}										

Sample No.	Matrix	Sample Date	Sample Time										
J1T3T4	SOIL												
J1T3T5	SOIL												
J1T3T6	SOIL	SMS 1-15-14											
J1T3T7	SOIL												
J1T3T8 M2VFC	SOIL	01/15/14	1100	✓									

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Heather Weiner	1/15/14 1115	WCH SM Sexton	1115 1/15/14
SM Sexton	1/15/14 1630	C. Bingham	1-15-14 1630
C. Bingham	1-15-14 1635	1060 Battelle fridge	1A 1635 1-15-14
1060 Battelle fridge	1A 1-16-14 0710	C. Bingham	1-16-14 0710
C. Bingham WCH	1-16-14 0825	Tom McGinnis	TALR 1/16/14 0825

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

SPECIAL INSTRUCTIONS

J4A160405

JO 2064

Due 1/17/14

REVIEWED BY K Woodworth DATE 1-16-14

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-074-595	Page 2 of 2

Collector: WEBER, HC	Company Contact: Joan Kessner	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Project Designation: 100-D/DR Field Remediation	Sampling Location: 100-D-100 ACL SPA Areas		SAF No.: RC-074
Ice Chest No.: N/A	Field Logbook No.: EL-1607-~~20~~ 22 SMS 1-15-14	COA: 0D10032600	Method of Shipment: Local Delivery
Shipped To: TestAmerica Richland	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A

Price Code: Q.T.

Data Turnaround:

Other Labs Shipped To: N/A

Preservation	Cool 4C										
Type of Container	G/P										
No. of Container(s)	1										
Volume	125mL										
Sample Analysis	Chromium Hex - 7196 - Quick Turn {Hexavalent Chromium}										

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

Cool 4C

Sample No.	Matrix	Sample Date	Sample Time									
J1T3T9 M2VFD	SOIL	01/15/14	1105	X								
~~J1T3V0~~	~~SOIL~~											
~~J1T3V1~~	~~SOIL~~	SMS 1-15-14										
~~J1T3V2~~	~~SOIL~~											
~~J1T3V3~~	~~SOIL~~											

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Heather Weber [signature]	1/15/14 1115	SM Sexton [signature]	1115 1/15/14
SM Sexton [signature]	1630 1/15/14	C. Bingham [signature]	1-15-14 1630
C. Bingham [signature]	1-15-14 1635	1060 Battelle, Fridge 1A	1635 1-15-14
1060 Battelle, Fridge 1A	0710 1-16-14	C. Bingham [signature]	1-16-14 0710
C. Bingham [signature] WCH	0825 1-16-14	Tom McGinnis [signature]	TALR 1/16/14 0825

FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

SPECIAL INSTRUCTIONS

J4A160405

JO 2064

Due 1/17/14

REVIEWED BY Kwood via email DATE 1-16-14

WCH-EE-011

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 1/16/14 0825 Container GM Screen Result: (Airlock) 20 cpm Initials[ ]
Sample GM Screen Result (Sample Receiving) 20 cpm Initials[ ]

Client: WCH SDG #: J02064 SAF #: RC-074 NA [ ]

Lot Number: J4A160405

Chain of Custody # RC-074-595

Shipping Container ID or Air Bill Number : Hand Delivered NA [ ]

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

1. Custody Seals on shipping container intact? Yes [ ] No [ ] No Custody Seal [ ]
2. Custody Seals dated and signed? Yes [ ] No [ ] No Custody Seal [ ]
3. Cooler temperature: 5.2 °C or SFC NA [ ]
4. Vermiculite/packing materials is NA [ ] Wet [ ] Dry [ ]

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes [ ] No [ ]
6. Number of samples received (Each sample may contain multiple bottles): 2
7. Containers received: 2 x 125 MLG
8. Sample holding times exceeded? NA [ ] Yes [ ] No [ ]
9. Samples have: _____tape _____hazard labels _____custody seals _____appropriate sample labels
10. Matrix: _____A (FLT, Wipe, Solid, Soil) _____I (Water) _____S (Air, Niosh 7400) _____T (Biological, Ni-63)
11. Samples:
_____are in good condition _____are leaking _____are broken
_____have air bubbles (Only for samples requiring no head space) _____Other _____
12. Sample pH appropriate for analysis requested Yes [ ] No [ ] NA [ ]
(If acidification is necessary go to pH area & document sample ID, initial pH, amount of HNO_3 added and pH after addition on table)
13. Were any anomalies identified in sample receipt? Yes [ ] No [ ]
14. Description of anomalies (include sample numbers): NA [ ]
15. Sample Location, Sample Collector Listed on COC? * Yes [ ] No [ ]
*For documentation only. No corrective action needed.
16. Additional Information: N/A

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

Sample Check-in List completed by Sample Custodian:
Signature: Tom Dome Date: 1/16/14

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

[ ] No action necessary; process as is

Project Manager Date 1/16/14

LS-023 Rev. 17, 05/13

1/16/2014 12:03:40 PM

Sample Preparation/Analysis

127642, Washington Closure Hanford LLC ,
Washington Closure Hanford LLC

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

AnalyDueDate: 01/17/2014

Batch: 4016019 SOIL mg/kg PM, Quote: RW2, 88144
SEQ Batch, Test: None

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

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 M2VFC-1-AA													
J4A160405-1-SAMP													
01/15/2014 11:00			AmtRec: 1X125MLG		#Containers: 1				Scr:		Alpha:		Beta:
2 M2VFC-1-AC-S													
J4A160405-1-MS													
01/15/2014 11:00			AmtRec: 1X125MLG		#Containers: 1				Scr:		Alpha:		Beta:
3 M2VFC-1-AD-X													
J4A160405-1-DUP													
01/15/2014 11:00			AmtRec: 1X125MLG		#Containers: 1				Scr:		Alpha:		Beta:
4 M2VFC-1-AE-S													
J4A160405-1-MS													
01/15/2014 11:00			AmtRec: 1X125MLG		#Containers: 1				Scr:		Alpha:		Beta:
5 M2VFD-1-AA													
J4A160405-2-SAMP													
01/15/2014 11:05			AmtRec: 1X125MLG		#Containers: 1				Scr:		Alpha:		Beta:
6 M2VFJ-1-AA-B													
J4A160000-19-BLK													
01/16/2014 12:03 pd			AmtRec:		#Containers: 1				Scr:		Alpha:		Beta:
7 M2VFJ-1-AC-C													
J4A160000-19-LCS													
01/16/2014 12:03 pd			AmtRec:		#Containers: 1				Scr:		Alpha:		Beta:

TestAmerica Richland Wa.
Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1
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

1/16/2014 12:03:41 PM

Sample Preparation/Analysis

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

Balance Id:

Pipet #: _____

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech:

AnalyDueDate: 01/17/2014

Batch: 4016019 **mg/kg**
SEQ Batch, Test: None

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:

Comments:

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

M2VFC1AA-SAMP Constituent List:

M2VFC1AC-MS Constituent List:

M2VFC1AE-MS:

M2VFJ1AA-BLK:

M2VFJ1AC-LCS:

M2VFC1AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
M2VFC1AC-MS Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
M2VFC1AE-MS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
M2VFJ1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
M2VFJ1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B