

SAF-RC-182
ARRA 100-F Remaining Sites
Remediation – Soil In-Process
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

No Distribution Required

COMMENTS:

SDG JP0224

SAF-RC-182

Rad only

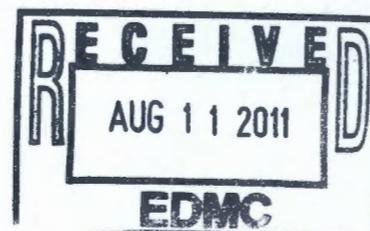
Chem only

Rad & Chem

Complete

Partial

Sample Location: 100-F-57 Below-slab Re-sampling



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 21 Pages

Report No.: 47455

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.
JP0224	RC-182	J1K4N1	J1G120509-1	MKVRW1AA	9MKVRW10	1194109
		J1K4V6	J1G120509-2	MKVRX1AA	9MKVRX10	1194109
		J1K4V7	J1G120509-3	MKVR01AA	9MKVR010	1194109

Certificate of Analysis

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

TestAmerica Laboratories, Inc.

July 18, 2011

Attention: Joan Kessner

SAF Number : RC-182
Date SDG Closed : July 12, 2011
Number of Samples : Three (3)
Sample Type : Soil
SDG Number : JP0224
Data Deliverable : 7- Day / Summary

CASE NARRATIVE

I. Introduction

On July 12, 2011, three soil samples were received at TestAmerica for radiochemical 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>
J1K4N1	MKVRW	SOIL	7/12/11
J1K4V6	MKVRX	SOIL	7/12/11
J1K4V7	MKVR0	SOIL	7/12/11

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

The analytical results for each analysis performed includes a minimum of one laboratory control sample

Washington Closure Hanford
July 18, 2011

(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

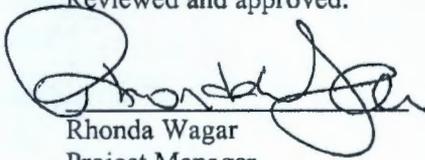
Chemical Analysis

Hexavalent Chromium by EPA method 7196A

The LCS, batch blank, samples, sample duplicate (J1K4N1) and the sample matrix spike (J1K4N1) 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 $(\text{Result}/\text{Expected})-1$ 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%. $Lc = (1.645 * \text{Sqrt}(2 * (\text{BkgndCnt}/\text{BkgndCntMin})/\text{SCntMin})) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol}) * \text{IngrFct})$. 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%. $MDC = (4.65 * \text{Sqrt}((\text{BkgndCnt}/\text{BkgndCntMin})/\text{SCntMin}) + 2.71/\text{SCntMin}) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol}) * \text{IngrFct})$. 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 = $(S-D)/[\text{sqrt}(\text{TPUs}^2 + \text{TPUd}^2)]$ 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: 18-Jul-11

TestAmerica TARL

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

Report No. : 47455

SDG No: JP0224

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
1194109	7196_CR6								
	J1K4N1								
	MKVRW1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
	MKVRW1AD	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	3.50E-01	0.0
	J1K4V6								
	MKVRX1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
	J1K4V7								
	MKVR01AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
No. of Results:		4							

TestAmerica

RPD - Relative Percent Difference.

rptSTLRchSaSummary2 V5.2.15
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.

QC Results Summary

Date: 18-Jul-11

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 47455

SDG No.: JP0224

Batch	Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC MDA
7196_CR6									
1194109	MATRIX SPIKE, J1K4N1								
	MKVRW1AC	HEXCHROME	8.63E+00 +- 0.0E+00		mg/kg	N/A	86%	-0.1	1.55E-01
1194109	LCS,								
	MKWDP1AC	HEXCHROME	1.84E+01 +- 0.0E+00		mg/kg	N/A	92%	-0.1	1.55E-01
1194109	BLANK QC,								
	MKWDP1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A			1.55E-01

No. of Results: 3

FORM I

Date: 18-Jul-11

SAMPLE RESULTS

Lab Name: TestAmerica

SDG: JP0224

Collection Date: 7/12/2011 1:00:00 PM

Lot-Sample No.: J1G120509-1

Report No. : 47455

Received Date: 7/12/2011 4:05:00 PM

Client Sample ID: J1K4N1

COC No. : RC-182-081

Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Count Qual	Total Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 1194109	7196_CR6			Work Order: MKVRW1AA		Report DB ID: 9MKVRW10						
HEXCHROME	1.55E-01	U		0.0E+00	1.55E-01	mg/kg	N/A	1.	7/13/11 12:00 p		2.5066	
							1.55E-01	N/A			g	

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 18-Jul-11

Lab Name: TestAmerica

SDG: JP0224

Collection Date: 7/12/2011 1:05:00 PM

Lot-Sample No.: J1G120509-2

Report No. : 47455

Received Date: 7/12/2011 4:05:00 PM

Client Sample ID: J1K4V6

COC No. : RC-182-081

Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 1194109	7196_CR6			Work Order: MKVRX1AA		Report DB ID: 9MKVRX10					
HEXCHROME	1.55E-01 U		0.0E+00	1.55E-01	mg/kg	N/A	1.	7/13/11 12:00 p		2.51	
						1.55E-01	N/A			9	

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 18-Jul-11

Lab Name: TestAmerica
 Lot-Sample No.: J1G120509-3
 Client Sample ID: J1K4V7

SDG: JP0224
 Report No.: 47455
 COC No.: RC-182-081

Collection Date: 7/12/2011 1:10:00 PM
 Received Date: 7/12/2011 4:05:00 PM
 Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 1194109	7196_CR6				Work Order: MKVR01AA		Report DB ID: 9MKVR010					
HEXCHROME	1.55E-01	U		0.0E+00	1.55E-01	mg/kg	N/A	1.	7/13/11 12:00 p		2.5046	
							1.55E-01	N/A			g	

No. of Results: 1 Comments:

FORM II

Date: 18-Jul-11

DUPLICATE RESULTS

Lab Name: TestAmerica

SDG: JP0224

Collection Date: 7/12/2011 1:00:00 PM

Lot-Sample No.: J1G120509-1

Report No. : 47455

Received Date: 7/12/2011 4:05:00 PM

Client Sample ID: J1K4N1

COC No. : RC-182-081

Matrix: SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 1194109	7196_CR6				Work Order: MKVRW1AD	Report DB ID: MKVRW1ER			Orig Sa DB ID: 9MKVRW10			
HEXCHROME	1.55E-01	U		0.0E+00	1.55E-01	mg/kg	N/A	1.	7/13/11 12:00 p		2.5025	
	1.55E-01	U	RPD 0.0			3.50E-01		N/A			g	

No. of Results: 1 Comments:

TestAmerica RPD - Relative Percent Difference.
 rptSTLRchDupV5.2 MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 .15 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: 18-Jul-11

Lab Name: TestAmerica

SDG: JP0224

Matrix: SOIL

Report No. : 47455

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 1194109	7196_CR6				Work Order: MKWDP1AA	Report DB ID: MKWDP1AB						
HEXCHROME	1.55E-01	U		0.0E+00	1.55E-01	mg/kg	N/A	1.	7/13/11 12:00 p		2.5	
						1.55E-01		N/A			g	

No. of Results: 1 Comments:

FORM II
LCS RESULTS

Date: 18-Jul-11

Lab Name: TestAmerica

SDG: JP0224

Matrix: SOIL

Report No. : 47455

Parameter	Result	Count Qual	Error (2 s)	Total Uncert(2 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 1194109	7196_CR6												
				Work Order: MKWDP1AC				Report DB ID: MKWDP1AS					
HEXCHROME	1.84E+01			0.0E+00	1.55E-01	mg/kg	N/A	2.00E+01		92%	7/13/11 12:00 p	25	
							Rec Limits:	80	120	-0.1		g	

No. of Results: 1 Comments:

FORM II
 MATRIX SPIKE RESULTS

Date: 18-Jul-11

Lab Name: TestAmerica

SDG: JP0224

Lot-Sample No.: J1G120509-1, J1K4N1

Report No. : 47455

Matrix: SOIL

Parameter	SpikeResult, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA	Rpt Unit, CRDL	Yield	Rec- overy	Expected, Uncert	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 1194109	Work Order: MKVRW1AC			Report DB ID: MKVRW1CW		Orig Sa DB ID: 9MKVRW10						
HEXCHROME	8.63E+00			0.0E+00	1.55E-01	mg/kg	N/A	86.17%	1.00E+01	7/13/11 12:00 p	2.5087	7196_CR6
	1.55E-01										g	

Number of Results: 1

Comments:

Batch Number(s): 1194109				
Lab Sample Numbers or SDG: JP0224				
Method/Test/Parameter: Cr+6 in SOLID / RL-WC-004				
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 within QC limits?	✓			✓
3. Initial calibration verification (ICV) analyzed immediately after calibration and results within QC limits?	✓			✓
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 QC limits?	✓			✓
2. CCB analyzed at required frequency and all results ≤ reporting limit?	✓			✓
C. Sample Analysis			✓	
1. Were any samples with concentrations above the linear range for any parameter diluted and reanalyzed?				N/A
2. Were all sample holding times met?	✓			✓
D. QC Samples	✓			✓
1. All results for the preparation blank below limits?				✓
2. MS or MS/MSD recoveries within QC limits and %RPD (for MSD) acceptable?	✓			✓
3. LCS percent recovery within QC limits and %RPD (for LCSD) acceptable?	✓			✓
4. Analytical spikes within QC limits where applicable?	✓			✓
5. ICP only: One serial dilution performed per SDG?			✓	N/A
6. ICP only: CRDL standard (CRI or CRA) analyzed at required frequency?			✓	N/A
7. ICP only: Interference check samples (ICSA, ICSAB) and HICAL analyzed at the required frequencies and within QC limits?			✓	N/A

Review Item	Yes (✓)	No (✓)	N/A (✓)	2 nd Level Review (✓)
E. Other			✓	N/A
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:

Analyst: H.R.

Date: 7-14-11

Second-Level Review:

Date: 7-14-11

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-182-081	Page 1 of 1	
Collector Rice, DD		Company Contact JL Russell		Telephone No. 509-540-6502		Project Coordinator KESSNER, JH		
Project Designation ARRA 100F Remaining Sites Remediation - Soil In-Process		Sampling Location 100-F-57 Below-slab Re-sampling				SAF No. RC-182		
Ice Chest No. NA		Field Logbook No. EL-1651-01		COA S00F578100		Method of Shipment FedEx Hand Deliver JR 7/12/11		
Shipped To TestAmerica Incorporated, Richland		Offsite Property No. NA				Bill of Lading/Air Bill No. NA		
POSSIBLE SAMPLE HAZARDS/REMARKS None Special Handling and/or Storage Cool 4 degrees C					Preservation		Cool 4C	
					Type of Container		G/P	
					No. of Container(s)		1	
					Volume		60mL	
SAMPLE ANALYSIS					Chromium Hex - 7196			
Sample No.	Matrix *	Sample Date	Sample Time					
J1K4N1	SOIL	7-12-11	1300	X	MKV/BW		1	
J1K4V6	SOIL	7-12-11	1305	X	MKV/RX		2	
J1K4V7	SOIL	7-12-11	1310	X	MKV/RO	 J1G120509	3	
CHAIN OF POSSESSION					SPECIAL INSTRUCTIONS		Matrix * S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WJ=Wipe L=Liquid V=Vegetation X=Other	
Relinquished By/Removed From <i>David D. Rice</i>		Date/Time 7-12-11 1320		Received By/Stored In <i>JL Russell</i>		Date/Time 7-12-11 1320		
Relinquished By/Removed From <i>JL Russell</i>		Date/Time 7-12-11 1545		Received By/Stored In <i>A. Freier</i>		Date/Time 7-12-11 1545		
Relinquished By/Removed From <i>WCH</i>		Date/Time 7-12-11 1605		Received By/Stored In <i>Ryan Retana</i>		Date/Time 7-12-11 1605		
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				Date/Time		
FINAL SAMPLE DISPOSITION		Disposal Method				Disposed By		

SDG JP0224
Due 7-19-11



JP0224

Sample Check-in List

Date/Time Received: 7/12/11 @ 1605 GM Screen Result: (Airlock) NA Initials HE
(Sample Receiving) .09 Initials HE

Client: WCH SDG #: JPO224 NA SAF #: RC-182 NA

Lot Number: JIG 120509

Chain of Custody # RC-182-081

Shipping Container ID: Hand delivered NA

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

Item 5 through 16 for samples. Initial appropriate response.

- 5. Chain of Custody record present? Yes HE No
- 6. Number of samples received (Each sample may contain multiple bottles): 3 samples @ 1x bomlag
- 7. Containers received: 3x bomlag

8. Sample holding times exceeded? NA Yes No HE

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

10. Matrix: HE A (FLT, Wipe, Solid, Soil) HE I (Water) JIG120509
S (Air, Niosh 7400) HE T (Biological, Ni-63)

11. Samples: HE are in good condition HE are leaking
HE are broken HE have air bubbles (Only for samples requiring no head space)
HE Other

12. Sample pH appropriate for analysis requested Yes No NA HE
(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: _____

13. Were any anomalies identified in sample receipt? Yes No HE

14. Description of anomalies (include sample numbers): NA HE

7/13/2011 12:40:58 PM

Sample Preparation/Analysis

Balance Id: 8091

27642, Washington Closure Hanford LLC
Bechtel Hanford, Inc.

DW Alkaline Digestion by method 3060A
EA Chromium, Hexavalent (7196A)

Pipet #: JP0224

AnalyDueDate: 07/19/2011

SI CLIENT: HANFORD

Sep1 DT/Tm Tech:

Batch: 1194109 SOIL mg/kg
SEQ Batch, Test: None All Tests: 1194109 DWEA,

PM, Quote: RW2, 27038

Sep2 DT/Tm Tech:

Prep Tech:



Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
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1 MKVRW-1-AA

J1G120509-1-SAMP

07/12/2011 13:00										Scr: Alpha: Beta:
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2 MKVRW-1-AC-S

J1G120509-1-MS

07/12/2011 13:00										Scr: Alpha: Beta:
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3 MKVRW-1-AD-X

J1G120509-1-DUP

07/12/2011 13:00										Scr: Alpha: Beta:
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4 MKVRX-1-AA

J1G120509-2-SAMP

07/12/2011 13:05										Scr: Alpha: Beta:
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5 MKVR0-1-AA

J1G120509-3-SAMP

07/12/2011 13:10										Scr: Alpha: Beta:
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6 MKWDP-1-AA-B

J1G130000-109-BLK

07/13/2011 12:40 pd										Scr: Alpha: Beta:
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7 MKWDP-1-AC-C

J1G130000-109-LCS

07/13/2011 12:40 pd										Scr: Alpha: Beta:
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7/13/2011 12:40:59 PM

Sample Preparation/Analysis

Balance Id: _____

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

Pipet #: _____

AnalyDueDate: 07/19/2011

Sep1 DT/Tm Tech: _____

Batch: 1194109

mg/kg

Sep2 DT/Tm Tech: _____

SEQ Batch, Test: None

Prep Tech: _____



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

All Clients for Batch:

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

MKVRW1AA-SAMP Constituent List:

HEXCHROME RDL:0.1548 mg/kg LCL:80 UCL:120 RPD:20

MKVRW1AC-MS Constituent List:

MKWDP1AA-BLK:

MKWDP1AC-LCS:

MKVRW1AA-SAMP Calc Info:

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

MKVRW1AC-MS Calc Info:

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

MKWDP1AA-BLK:

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

MKWDP1AC-LCS:

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