

0076403

**SAF-RC-030**  
**Remaining Sites Confirmation Sampling -**  
**Other Solid**  
**FINAL DATA PACKAGE**

**COMPLETE COPY OF DATA PACKAGE TO:**

Kathy Wendt H4-21

KW 2/28/2008  
INITIAL/DATE

**COMMENTS:**

**SDG J00162**

**SAF-RC-030**

Rad only

Chem only

Rad & Chem

Complete

Partial

**Waste Site: 100-F-44:4**

**RECEIVED**  
MAR 03 2008

**EDMC**

Analytical Data Package Prepared For  
**Washington Closure Hanford**



Radiochemical Analysis By

**TAL Richland**

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

Assigned Laboratory Code: STLRL

Data Package Contains 19 Pages

Report No.: 38462

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
J00162	RC-030	J169P6	J8B250156-1	KHLGM1AA	9KHLGM10	8057158

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## Certificate of Analysis

Washington Hanford Closure  
2620 Fermi Avenue  
Richland, WA 99354

February 28, 2008

Attention: Joan Kessner

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SAF Number	:	RC-030
Date SDG Closed	:	February 25, 2008
Number of Samples	:	One (1)
Sample Type	:	Other Solid
SDG Number	:	J00162
Data Deliverable	:	15 Day

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### CASE NARRATIVE

#### I. Introduction

On February 25, 2008 one water sample was received at STL Richland (STLR) for chemical analysis. Upon receipt, the sample was assigned the following laboratory ID number to correspond with the Washington Closure Hanford (WCH) specific ID:

<u>WCH ID#</u>	<u>STLR ID#</u>	<u>MATRIX</u>	<u>DATE OF RECEIPT</u>
J169P6	KHLGM	OTHER SOLID	2/25/08

#### I. Sample Receipt

The sample was 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

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**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**

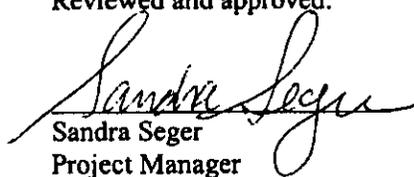
**Chemical Analysis**

Hexavalent Chromium by EPA method 7196A:

The MS recovered low at 15% and the PDMS recovered at 81%. On the other hand the insoluble MS recovered at 97.1%. This implies a possible small amount of reducing capacity in the sample, but not enough to exhaust the more copious insoluble MS. Except as noted, the LCS, batch blank, sample and sample duplicate (J169P6 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:

  
Sandra Seger  
Project Manager

## Drinking Water Method Cross References

DRINKING WATER ASTM METHOD CROSS REFERENCES		
Referenced Method	Isotope(s)	STL Richland's SOP number
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 00-02	Gross Alpha (Coprecipitation)	RICH-RC-5021
EPA 903.0	Total Alpha Radium (Ra-226)	RICH-RC-5027
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr-89/90	RICH-RC-5006
ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007

### Uncertainty Estimation

Test America 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

<b>Action Lev</b>	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.
<b>Batch</b>	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
<b>Bias</b>	Defined by the equation $(\text{Result}/\text{Expected})-1$ as defined by ANSI N13.30.
<b>COC No</b>	Chain of Custody Number assigned by the Client or STL Richland.
<b>Count Error (#s)</b>	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.
<b>Total Uncert (#s) <math>u_c</math> - Combined Uncertainty.</b>	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.
<b>(#s), Coverage Factor</b>	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
<b>CRDL (RL)</b>	Contractual Required Detection Limit as defined in the Client's Statement Of Work or STL Richland "default" nominal detection limit. Often referred to the reporting level (RL)
<b>Lc</b>	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.
<b>Lot-Sample No</b>	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.
<b>MDC MDA</b>	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.
<b>Primary Detector</b>	The instrument identifier associated with the analysis of the sample aliquot.
<b>Ratio U-234/U-238</b>	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.
<b>Rst/MDC</b>	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.
<b>Rst/TotUcert</b>	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.
<b>Report DB No</b>	Sample Identifier used by the report system. The number is based upon the first five digits of the Work Order Number.
<b>RER</b>	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.
<b>SDG</b>	Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt.
<b>Sum Rpt Alpha Spec Rst(s)</b>	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.
<b>Work Order</b>	The LIMS software assign test specific identifier.
<b>Yield</b>	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: 28-Feb-08

TAL Richland STLRL

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

Report No. : 38462

SDG No: J00162

Batch	Client Id Work Order	Parameter	Result +- Uncertainty ( 2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
8057158	7196_CR6								
	J169P6								
	KHLGM1AA	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A	3.50E-01	3.50E-01	
	KHLGM1AC	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A	3.50E-01		0.0
No. of Results: 2									

TAL Richland

RPD - Relative Percent Difference.

rptSTLRchSaSummary2 V5.1.5  
A2002

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

**QC Results Summary**  
**TAL Richland STLRL**  
 Ordered by Method, Batch No, QC Type,.

Date: 28-Feb-08

Report No. : 38462

SDG No.: J00162

Batch	Work Order	Parameter	Result +/- Uncertainty ( 2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC MDA
<b>7196_CR6</b>									
8057158	MATRIX SPIKE, J169P6								
	KHLM1AC	HEXCHROME	1.55E+00 +/- 0.00E+00		mg/kg	N/A	15%	-0.8	3.50E-01
8057158	LCS,								
	KHL0D1AC	HEXCHROME	1.60E+01 +/- 0.00E+00		mg/kg	N/A	80%	-0.2	3.50E-01
8057158	BLANK QC,								
	KHL0D1AA	HEXCHROME	3.50E-01 +/- 0.00E+00	U	mg/kg	N/A			3.50E-01
No. of Results: 3									

TAL Richland Bias - (Result/Expected)-1 as defined by ANSI N13.30.  
 rptSTLRchQcSummary V5.1.5 A2002 U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

Date: 28-Feb-08

SAMPLE RESULTS

Lab Name: TA Richland

SDG: J00162

Collection Date: 2/25/2008 9:10:00 AM

Lot-Sample No.: J8B250156-1

Report No.: 38462

Received Date: 2/25/2008 4:15:00 PM

Client Sample ID: J169P8

COC No.: RC-030-073

Matrix: OTHER SOLI OTHERSOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Count Qual	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: 8057158	7196_CR6			Work Order: KHLGM1AA			Report DB ID: 9KHLGM10					
HEXCHROME	3.50E-01	U		0.0E+00	3.50E-01	mg/kg	N/A	(1.)	2/26/08		2.5	
							3.50E-01	N/A			G	

No. of Results: 1      Comments:

FORM II

Date: 28-Feb-08

DUPLICATE RESULTS

Lab Name: TA Richland  
 Lot-Sample No.: J8B250156-1  
 Client Sample ID: J169P6

SDG: J00162  
 Report No.: 38462  
 COC No.: RC-030-073

Collection Date: 2/25/2008 9:10:00 AM  
 Received Date: 2/25/2008 4:15:00 PM  
 Matrix: OTHER SOLI OTHERSOLID

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert( 2 s)	MDC MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8057158	7196_CR6				Work Order: KHLGM1AC	Report DB ID: KHLGM1ER			Orig Sa DB ID: 9KHLGM10			
HEXCHROME	3.50E-01	U		0.0E+00	3.50E-01	mg/kg	N/A	(1.)	2/26/08		2.5	
	3.50E-01	U		RPD 0.0				N/A			G	

No. of Results: 1      Comments:

TAL Richland      RPD - Relative Percent Difference.  
 rptSTLRchDupV5.1      MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
 .5 A2002      U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II  
BLANK RESULTS

Date: 28-Feb-08

Lab Name: TA Richland  
Matrix: OTHER SOLID

SDG: J00162  
Report No. : 38462

Parameter	Result	Qual	Count Error ( 2 s)	Total Uncert( 2 s)	MDC MDA	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8057158	7196_CR6				Work Order: KHL0D1AA			Report DB ID: KHL0D1AB				
HEXCHROME	3.50E-01	U		0.0E+00	3.50E-01	mg/kg	N/A	(1.)	2/26/08		2.5	
						3.50E-01		N/A			G	

No. of Results: 1      Comments:

FORM II  
LCS RESULTS

Date: 28-Feb-08

Lab Name: TA Richland  
Matrix: OTHER SOLID

SDG: J00162  
Report No. : 38462

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: 8057158	7196_CR6					Work Order: KHL0D1AC		Report DB ID: KHL0D1AS					
HEXCHROME	1.60E+01			0.0E+00	3.50E-01	mg/kg	N/A	2.00E+01		80%	2/26/08	2.5	
							Rec Limits:	80	120	-0.2		G	

No. of Results: 1      Comments:

FORM II

Date: 28-Feb-08

MATRIX SPIKE RESULTS

Lab Name: TA Richland

SDG: J00162

Lot-Sample No.: J8B250156-1, J169P6

Report No.: 38462

Matrix: OTHER SOLI OTHERSOLID

Parameter	SpikeResult, Orig Rst	Count Qual Error (2 s)	Total Uncert( 2 s)	MDC MDA	Rpt Unit, CRDL	Yield	Rec- overy	Exp- ected	Exp Uncert	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 8057158	Work Order: KHLGM1AC	Report DB ID: KHLGM1CW	Orig Sa DB ID: 9KHLGM10									
HEXCHROME	1.55E+00		0.0E+00	3.50E-01	mg/kg	N/A	15.41%	1.01E+01		2/26/08	2.5	7196_CR6
	3.50E-01										G	

Number of Results: 1

Comments:

<b>Batch Number(s):</b> 8057158				
<b>Lab Sample Numbers or SDG:</b> J00162				
<b>Method/Test/Parameter:</b> Cr+6 in SOLID / RICH-WC-5005, Rev 8				
<b>Review Item</b>	<b>Yes (✓)</b>	<b>No (✓)</b>	<b>N/A (✓)</b>	<b>2<sup>nd</sup> Level Review (✓)</b>
<b>A. Initial Calibration</b>	✓			✓
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>B. Continuing Calibration</b>	✓			✓
1. CCV analyzed at required frequency and all parameters within QC limits?	✓			✓
2. CCB analyzed at required frequency and all results ≤ reporting limit?	✓			✓
<b>C. Sample Analysis</b>	✓			✓
1. Were any samples with concentrations above the linear range for any parameter diluted and reanalyzed?				✓
2. Were all sample holding times met?	✓			✓
<b>D. QC Samples</b>	✓			✓
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?			✓	✓
6. ICP only: CRDL standard (CRI or CRA) analyzed at required frequency?			✓	✓
7. ICP only: Interference check samples (ICSA, ICSAB) and HICAL analyzed at the required frequencies and within QC limits?			✓	✓

Review Item	Yes (✓)	No (✓)	N/A (✓)	2 <sup>nd</sup> Level Review (✓)
<b>E. Other</b>	✓			/
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: \_\_\_\_\_ The MS recovered low at 15.5%. The LCS and the insoluble MS recovered within limits. The PDMS recovered at only 81%. See NCM

Analyst: *Anna E. [Signature]*

Date: 2/27/08

Second-Level Review: *Sandra [Signature]*

Date: 2/28/08

# Clouseau Nonconformance Memo

**TestAmerica**

TEST AMERICA CORPORATION

NCM #: <b>10-11914</b> NCM Initiated By: <b>Steven Wheland</b> Date Opened: <b>02/27/2008</b> Date Closed:	Classification: <b>Anomaly</b> Status: <b>QAREVIEW</b> Production Area: <b>Classical Chemistry</b> Tests: <b>7196A</b> Lot # s (Sample #'s): <b>J8B250156 (1), J8B260000 (158),</b> QC Batches: <b>8057158,</b>
Nonconformance: <b>Other (describe in detail)</b> Subcategory: <b>Other (explanation required)</b>	

**Problem Description / Root Cause**

<u>Name</u>	<u>Date</u>	<u>Description</u>
Steven Wheland	02/27/2008	The MS recovered low at 15% and the PDMS recovered at 81%. On the other hand the insoluble MS recovered at 97.1%. This implies a possible small amount of reducing capacity in the sample, but no enough to exhaust the more copious insoluble MS.

**Corrective Action**

<u>Name</u>	<u>Date</u>	<u>Corrective Action</u>
Steven Wheland	02/27/2008	report data

**Client Notification Summary**

<u>Client</u>	<u>Project Manager</u>	<u>Notified</u>	<u>Response</u>	<u>How Notified</u>	<u>Note</u>
			<u>Response</u>		<u>Response Note</u>

**Quality Assurance Verification**

<u>Verified By</u>	<u>Due Date</u>	<u>Status</u>	<u>Notes</u>
			This section not yet completed by QA.

**Approval History**

<u>Date Approved</u>	<u>Approved By</u>	<u>Position</u>
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Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-030-073	Page 1 of 1	
Collector Welch-Koelling / <i>DeRigne</i>		Company Contact Matt Perrott		Telephone No. 372-9088		Project Coordinator KESSNER, JH		
Project Designation Remaining Sites Confirmation Sampling - Other Solid		Sampling Location 100-F-44.4		SAF No. RC-030		Price Code 9C Data Turnaround <b>15 Days</b>		
Ice Chest No.		Field Logbook No. EL-1601-2		COA C00F44A000		Method of Shipment		
Shipped To TestAmerica Incorporated, Richland		Offsite Property No.		Bill of Lading/Air Bill No.				
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation	CWAC			
Special Handling and/or Storage				Type of Container	G/P			
				No. of Container(s)	1			
				Volume	60mL			
SAMPLE ANALYSIS				Chromium Hex - 7196				
Sample No.	Matrix *	Sample Date	Sample Time					
J169P6	OTHER SOLID	2-25-08	0910	X				
<del>J169P7</del>	<del>OTHER SOLID</del>							
<del>J169P8</del>	<del>OTHER SOLID</del>							
<del>J169P9</del>	<del>OTHER SOLID</del>							
<del>J169P0</del>	<del>OTHER SOLID</del>							
CHAIN OF POSSESSION		Sign/Print Names		SPECIAL INSTRUCTIONS				Matrix *
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	J8B250156 J00162 DUE 3-12-08 KHLGM Pw 2/25/08				S=Soil SS=Sludgem SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum 5-gals DL=Drum Liquid T=Tissue W=Wipe L=Liquid V=Vegetate X=Other
<i>JP DeRigne</i>	2-25-08 1030	1060/2A	2-25-08					
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time					
1060/2A	2-25-08 1610	<i>WCH</i>	1610					
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time					
<i>WCH</i>	1615	<i>WCH</i>	1615					
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time					
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	Disposed By		Date/Time				

16  
2-25-08  
WCH



# Sample Check-in List DUE 3-12-08

Date/Time Received: 2-25-08 1615 GM Screen Result 0.3 K  
Client: WCH SDG #: J00162 NA [ ] SAF #: RC-030 NA [ ]  
Work Order Number: J8B250156 Chain of Custody # RC-030-073  
Shipping Container ID: \_\_\_\_\_ Air Bill # \_\_\_\_\_

- 1. Custody Seals on shipping container intact? NA [ ] Yes  No [ ]
- 2. Custody Seals dated and signed? NA [ ] Yes  No [ ]
- 3. Chain of Custody record present? NA [ ] Yes  No [ ]
- 4. Cooler Temperature: \_\_\_\_\_ NA  5. Vermiculite/packing materials is NA  Wet [ ] Dry [ ]
- 6. Number of samples in shipping container: 1
- 7. Sample holding times exceeded? NA  Yes [ ] No [ ]
- 8. Samples have:  
 Tape  Hazard Labels  
 Custody Seals  Appropriate Sample Labels
- 9. Samples are:  
 In Good Condition  Leaking  
 Broken  Have Air Bubbles  
(Only for samples requiring no head space.)
- 10. Sample pH taken? SOLID NA  pH<2 [ ] pH>2 [ ] pH>9 [ ] Amount HNO<sub>3</sub> Added \_\_\_\_\_
- 11. Sample Location, Sample Collector Listed? \*  
\*For documentation only. No corrective action needed.
- 12. Were any anomalies identified in sample receipt? Yes [ ] No
- 13. Description of anomalies (include sample numbers): \_\_\_\_\_

Sample Custodian:  Date: 2-25-08

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person Contacted \_\_\_\_\_  
 No action necessary; process as is.  
Project Manager \_\_\_\_\_ Date \_\_\_\_\_

TestAmerica Richland

2/26/2008 12:05:44 PM

Sample Preparation/Analysis

Balance Id:

127642, Washington Closure Hanford  
Bechtel Hanford, Inc.

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

**PRIORITY**

Pipet #:

AnalyDueDate: 03/11/2008 *Joolie 2*

Sep1 DT/Tm Tech:

Batch: 8057158 SOLID mg/kg  
SEQ Batch, Test: None All Tests: 8057158 DWEA,

PM, Quote: SS , 27038

Sep2 DT/Tm Tech:

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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1 KHLGM-1-AA

J8B250156-1 SAMP *2.6139*  
 02/25/2008 09:10 AmtRec: 60G #Containers: 1 Scr: Alpha: Beta:

2 KHLGM-1-AC-S

J8B250156-1 MS *2.6251*  
 02/25/2008 09:10 AmtRec: 60G #Containers: 1 Scr: Alpha: Beta:

3 KHLGM-1-AD-X

J8B250156-1 DUP *2.5996*  
 02/25/2008 09:10 AmtRec: 60G #Containers: 1 Scr: Alpha: Beta:

4 KHLGM-1-AE-S

J8B250156-1 MS *12.5* *2.6432*  
 02/25/2008 09:10 AmtRec: 60G #Containers: 1 Scr: Alpha: Beta:

5 KHL0D-1-AA-B

J8B260000-158 BLK  
 02/25/2008 09:10 AmtRec: #Containers: 1 Scr: Alpha: Beta:

6 KHL0D-1-AC-C

J8B260000-158 LCS  
 02/25/2008 09:10 AmtRec: #Containers: 1 Scr: Alpha: Beta:

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TestAmerica Richland

2/26/2008 12:05:44 PM

**Sample Preparation/Analysis**

Balance Id: \_\_\_\_\_

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

**PRIORITY**

Pipet #: \_\_\_\_\_

AnalyDueDate: 03/11/2008

Sep1 DT/Tm Tech: \_\_\_\_\_

Batch: 8057158

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                      Bechtel Hanford, Inc.                      , SS , 27038

KHLGM1AA-SAMP Constituent List:

KHLGM1AC-MS Constituent List:

KHLGM1AE-MS:

KHLOD1AA-BLK:

KHLOD1AC-LCS:

<b>KHLGM1AA-SAMP Calc Info:</b>									
Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.:	N	Sci.Not.:	Y	ODRs:	B
<b>KHLGM1AC-MS Calc Info:</b>									
Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.:	N	Sci.Not.:	Y	ODRs:	B
<b>KHLGM1AE-MS:</b>									
Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.:	N	Sci.Not.:	Y	ODRs:	B
<b>KHLOD1AA-BLK:</b>									
Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.:	N	Sci.Not.:	Y	ODRs:	B
<b>KHLOD1AC-LCS:</b>									
Uncert Level (#s):	2	Decay to SaDt:	Y	Blk Subt.:	N	Sci.Not.:	Y	ODRs:	B

Approved By \_\_\_\_\_ Date: \_\_\_\_\_

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