

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

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21

KW 6/17/08
INITIAL/DATE

COMMENTS:

SDG J00175

SAF-RC-030

Rad only

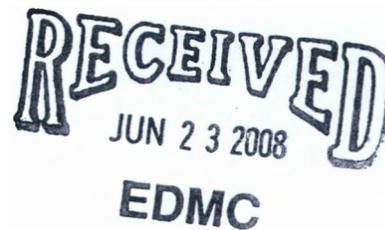
Chem only

Rad & Chem

Complete

Partial

Waste Site: 100-H-28:5



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 20 Pages

Report No.: 39311

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.
J00175	RC-030	J16VH5	J8F020171-1	KN78D1AA	9KN78D10	8154404

Certificate of Analysis

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

June 16, 2008

Attention: Joan Kessner

SAF Number	:	RC-030
Date SDG Closed	:	June 2, 2008
Number of Samples	:	One (1)
Sample Type	:	Other Solid
SDG Number	:	J00175
Data Deliverable	:	15 -Day / Summary

CASE NARRATIVE

I. Introduction

On June 2, 2008 one other solid sample was received at TestAmerica for chemistry 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>
J16VH5	KN78D	OTHER SOLID	6/02/08

II. 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

IV. Quality Control

Washington Closure Hanford
June 16, 2008

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

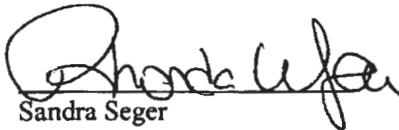
Chemical Analysis

Hexavalent Chromium by EPA method 7196A:

The MS recovery is low; the PDMS recovered at 123%. This implies a possible small amount of reducing capacity in the sample, but not enough to exhaust the more copious insoluble MS. The insoluble MS recovered at 79.6%. Data will be accepted. Except as noted, the LCS, batch blank, sample and sample duplicate (J16VH5) 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

for

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	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

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, $R = \text{constants} * f(x,y,z,\dots)$. 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%. $Lc = (1.645 * \text{Sqrt}(2 * (\text{BkgndCnt}/\text{BkgndCntMin}) / \text{SCntMin})) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$. 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: 16-Jun-08

TestAmerica TARL

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

Report No. : 39311

SDG No: J00175

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
8154404	7196_CR6								
	J16VH5								
	KN78D1AA	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A	3.50E-01	3.50E-01	
	KN78D1AE	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A	3.50E-01	3.50E-01	0.0
No. of Results:		2							

TestAmerica

RPD - Relative Percent Difference.

rptSTLRchSaSummary2 V5.1.6
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

Date: 16-Jun-08

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 39311

SDG No.: J00175

Batch	Work Order	Parameter	Result +/- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC MDA
7196_CR6									
8154404	MATRIX SPIKE, J16VH5								
	KN78D1AC	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A	3%	-1.0	3.50E-01
8154404	LCS,								
	KN79L1AC	HEXCHROME	1.75E+01 +- 0.00E+00		mg/kg	N/A	88%	-0.1	3.50E-01
8154404	BLANK QC,								
	KN79L1AA	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A			3.50E-01
No. of Results: 3									

TestAmerica Bias - (Result/Expected)-1 as defined by ANSI N13.30.
 rptSTLRchQcSummary V5.1.6 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: 16-Jun-08

SAMPLE RESULTS

Lab Name: TestAmerica

SDG: J00175

Collection Date: 6/2/2008 10:15:00 AM

Lot-Sample No.: J8F020171-1

Report No. : 39311

Received Date: 6/2/2008 12:45:00 PM

Client Sample ID: J16VH5

COC No. : RC-030-083

Matrix: OTHER SOLI OTHERSOLID

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: 8154404	7196_CR6				Work Order: KN78D1AA							
HEXCHROME	3.50E-01	U		0.0E+00	3.50E-01	mg/kg	N/A	(1.)	6/2/08		2.5	
							3.50E-01	N/A			G	

No. of Results: 1

Comments:

TestAmerica

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

rptSTLRchSample
V5.1.6 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

Date: 16-Jun-08

DUPLICATE RESULTS

Lab Name: TestAmerica

SDG: J00175

Collection Date: 6/2/2008 10:15:00 AM

Lot-Sample No.: J8F020171-1

Report No. : 39311

Received Date: 6/2/2008 12:45:00 PM

Client Sample ID: J16VH5

COC No. : RC-030-083

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: 8154404	7196_CR6			Work Order: KN78D1AE		Report DB ID: KN78D1ER		Orig Sa DB ID: 9KN78D10				
HEXCHROME	3.50E-01	U		0.0E+00	3.50E-01	mg/kg	N/A	(1.)	6/2/08		2.5	
	3.50E-01	U	RPD 0.0			3.50E-01		N/A			G	

No. of Results: 1 Comments:

TestAmerica

RPD - Relative Percent Difference.

rptSTLRchDupV5.1
.6 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 or Total Uncert or not identified by gamma scan software.

FORM II
BLANK RESULTS

Date: 16-Jun-08

Lab Name: TestAmerica
Matrix: OTHER SOLID

SDG: J00175
Report No. : 39311

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: 8154404	7196_CR6				Work Order: KN79L1AA	Report DB ID: KN79L1AB						
HEXCHROME	3.50E-01	U		0.0E+00	3.50E-01	mg/kg	N/A	(1.)	6/2/08		2.5	
						3.50E-01		N/A			G	
No. of Results: 1			Comments:									

FORM II
LCS RESULTS

Date: 16-Jun-08

Lab Name: TestAmerica
Matrix: OTHER SOLID

SDG: J00175
Report No.: 39311

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: 8154404	7196_CR6			Work Order: KN79L1AC				Report DB ID: KN79L1AS					
HEXCHROME	1.75E+01			0.0E+00	3.50E-01	mg/kg	N/A	2.00E+01		88%	6/2/08	2.5	
							Rec Limits:	80	120	-0.1		G	

No. of Results: 1 Comments:

FORM II

Date: 16-Jun-08

MATRIX SPIKE RESULTS

Lab Name: TestAmerica

SDG: J00175

Lot-Sample No.: J8F020171-1, J16VH5

Report No.: 39311

Matrix: OTHER SOLI OTHERSOLID

Parameter	SpikeResult, Orig Rst	Count 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: 8154404	Work Order: KN78D1AC	Report DB ID: KN78D1CW	Orig Sa DB ID: 9KN78D10									
HEXCHROME	3.50E-01 U		0.0E+00	3.50E-01	mg/kg	N/A	3.43%	1.02E+01		6/2/08	2.5	7196_CR6
	3.50E-01										G	

Number of Results: 1

Comments:

TestAmerica RER - Replicate Error Ratio = $(S-D)/[\text{sqrt}(\text{sq}(\text{TPUs})+\text{sq}(\text{TPUd}))]$ as defined by ICPT BOA.

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

V5.1.6 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.

Richland Laboratory Data Review Check List Hexavalent Chromium

Batch Number(s): 8154404 J8F020171 Due 6/17				
Lab Sample Numbers or SDG: W05414 J00175				
Method/Test/Parameter: Cr+6 in SOLID / RICH-WC-5005, Rev 8				
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?	✓			✓
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?			✓	N/A ✓
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?			✓	✓

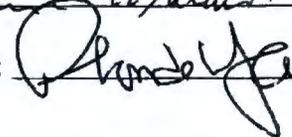
Review Item	Yes (✓)	No (✓)	N/A (✓)	2 nd Level Review (✓)
E. Other	✓			✓
1. Are all nonconformances included and noted?				✓
2. Is the correct date and time of analysis shown?	✓			✓
3. Did the analyst sign and date the front page of the analytical run?	✓			✓
4. Correct methodology used?	✓			✓
5. Transcriptions checked?	✓			✓
6. Calculations checked at minimum frequency?	✓			✓
7. Units checked?	✓			✓

Comments on any "No" response:

A small amount of the matrix spike was lost, suspect there was some reduction in the sample. Everything else recovered within limits. - See NCM

Analyst: 

Date: 6/2/08

Second-Level Review: 

Date: 6/16/08

Clouseau Nonconformance Memo



NCM #: 10-12452 NCM Initiated By: LIEM DINH Date Opened: 06/03/2008 Date Closed:	Classification: Anomaly Status: GLREVIEW Production Area: Classical Chemistry Tests: None Lot #'s (Sample #'s): , QC Batches: None.,
Nonconformance: Other (describe in detail) Subcategory: Other (explanation required)	

Problem Description / Root Cause

Name	Date	Description
LIEM DINH	06/03/2008	Batch Number: 8154404 SDG Number: J00175 A small amount of the matrix spike was lost, suspect there was some reduction in the sample. Everything else recovered within limits.
Liem Dinhl	06/03/2008	Batch Number: 8154404 SDG Number: J00175 A small amount of the matrix spike was lost, suspect there was some reduction in the sample. Everything else recovered within limits.

Corrective Action

Name	Date	Corrective Action
LIEM DINH	06/03/2008	Report Data
Liem Dinhl	06/03/2008	Report Data

Client Notification Summary

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

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position
---------------	-------------	----------

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-030-083		Page 1 of 2	
Collector D. Rios		Company Contact Matt Perrot		Telephone No. 372-9088		Project Coordinator KESSNER, JH		Price Code 9C	
Project Designation Remaining Sites Confirmation Sampling - Other Solid		Sampling Location 100-H-28.5		SAF No. RC-030		Data Turnaround 15 Days			
Ice Chest No.		Field Logbook No. EL-1601-2		COA COCH28.A000		Method of Shipment			
Shipped To TestAmerica Incorporated, Richland		Offsite Property No.		Bill of Lading/Air Bill No.					
POSSIBLE SAMPLE HAZARDS/REMARKS Special Handling and/or Storage			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						
J16VH5	OTHER SOLID	6/2/08	1015	X					
J16VH6	OTHER SOLID								
J16VH7	OTHER SOLID								
J16VH8	OTHER SOLID								
J16VH9	OTHER SOLID								
CHAIN OF POSSESSION				Sign/Print Names		SPECIAL INSTRUCTIONS			
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		J8F020171 J00175 DUE 6-18-08 KN78D <i>As of 6/10/08</i>	
<i>D. Rios</i>		6-2-08 1040		<i>B. Hudson</i>		6/2/08 1040			
<i>B. Hudson</i>		6/2/08 1055		<i>JR DeWine</i>		6-2-08 1055			
<i>JR DeWine</i>		6-2-08 1245		<i>L. Lane</i>		6-2-08 1245			
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		Matrix * Se=Soil SE=Seismic SO=Solid St=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue W/W=Wipe L=Liquid V=Vegetation X=Other	
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			



Sample Check-in List

Date/Time Received: 6208 1245 GM Screen Result 0.2K

Client: WCH SDG #: J00175 NA [] SAF #: RC-030 NA []

Work Order Number: J8F020171 Chain of Custody # RC-030-083

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? NA pH<2 [] pH>2 [] pH>9 [] Amount HNO₃ 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: 6208

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[] No action necessary, process as is.

Project Manager: _____ Date _____

TESTAMERICA

6/2/2008 3:51:35 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

Pipet #: _____

AnalyDueDate: 06/17/2008

Sep1 DT/Tm Tech:

Batch: 8154404 OTHER SOLID mg/kg

PM, Quote: SS , 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None All Tests: 8154404 DWEA,

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:
--------------------------------------	-------------------	-----------------------------	------------------------	--------------	--------------------	-------------------	----------------	---------------------------------	--------------------------	-----------

1 KN78D-1-AA										
J8F020171-1-SAMP										
06/02/2008 10:15			AmtRec: 60G							

2.5044g

2 KN78D-1-AC-S										
J8F020171-1-MS										
06/02/2008 10:15			AmtRec: 60G							

2.5049g

3 KN78D-1-AD-D										
J8F020171-1-MSD										
06/02/2008 10:15			AmtRec: 60G							

PbCrO₄

0.0098g

2.4986g

4 KN78D-1-AE-X										
J8F020171-1-DUP										
06/02/2008 10:15			AmtRec: 60G							

2.4984g

5 KN79L-1-AA-B										
J8F020000-404-BLK										
06/02/2008 10:15			AmtRec:							

6 KN79L-1-AC-C										
J8F020000-404-LCS										
06/02/2008 10:15			AmtRec:							

81

TESTAMERICA

6/2/2008 3:51:37 PM

Sample Preparation/Analysis

Balance Id: _____

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

Pipet #: _____

AnalyDueDate: 06/17/2008

Sep1 DT/Tm Tech: _____

Batch: 8154404 mg/kg
 SEQ Batch, Test: None

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:
-----------------------------------	----------------	--------------------------	---------------------	-----------	-----------------	----------------	-------------	------------------------------	-----------------------	-----------

Comments:

All Clients for Batch:
 127642, Washington Closure Hanford Bechtel Hanford, Inc. , SS , 27038

KN78D1AA-SAMP Constituent List:

KN78D1AC-MS Constituent List:

KN78D1AD-MSD:

KN79L1AA-BLK:

KN79L1AC-LCS:

KN78D1AA-SAMP Calc Info:					
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
KN78D1AC-MS Calc Info:					
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
KN78D1AD-MSD:					
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
KN79L1AA-BLK:					
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
KN79L1AC-LCS:					
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B

Approved By _____ Date: _____

Analyst: L. Dinh	Calibration Curve Information				SOP Information	BATCH # 8154404
Start Date: 6/2/2008		Amount	Conc.(mg/L)	ABS.	RICH-WC-5005	SDG # J00175
Start Time:	Blank	0.000	0.000	0.000	Revision 7	Matrix Soil
End Date: 6/2/2008	Std. 1	0.100	0.050	0.098		
End Time:	Std. 2	0.500	0.250	0.475		
	Std. 3	0.750	0.375	0.723	MDL (mg/kg) 0.35	Instrument Information
Analyst Signature: <i>L. Dinh</i>	Std. 4	1.500	0.750	1.417		Instrument: Hach DR2010
	Std 5	2.000	1.000	1.865		Wavelength: 540
Date: 6/4/08	Standard Volume (mL): 100.000					R Squared 0.99983
	Date of Curve: 6/2/2008					Slope: 1.86829
						Intercept: 0.00790

Dilution ID #	Calibration Information: Cr-08-00113	ICV Information: Cr-08-00114	LCS Information: Cr-08-00113	Matrix Spike Information: Cr-08-00113	PbCrO4 Information	
Prep Date: 06/02/08					Weight PbCrO4 9.8	
Concentration (mg/L) 50					PDMS Information	
Expiration Date: 06/03/08					Dilution ID Cr-08-00107	
Pipettor(s) 70, 190					Concentration 1000	
Volume Used (mL)		1.000	1.00	0.50	Pipettor 90	
Expected Value (mg)		0.500	0.50	0.25	Volume 0.05	
					Extract Volume 100	

Sample ID	Client ID	Type	Sample Weight (g)	Blank ABS.	Sample ABS.	PDMS ABS.	Dilution Factor	Volume (L)	Percent Solids	Wet Sample (mg/g)	Final Dry Sample (mg/kg)	%Recoveries Spike PDMS	MDL
n/a	n/a	ICV	2.5		0.948		1	0.1	100.000%	0.020127512	20.12751175	100.64%	
				Abs-Blank	0.948					Expected	20		
n/a	n/a	ICB	2.5		0		1	0.1	100.000%	-0.000169143	<MDL		
				Abs-Blank	0								
KN79L1AA	n/a	PB	2.5		0		1	0.1	100.000%	-0.000169143	<MDL		0.35
				Abs-Blank	0								
KN79L1AC	n/a	LCS	2.5		0.827		1	0.1	100.000%	0.017536905	17.53690496	87.68%	0.35
				Abs-Blank	0.827					Expected	20		
KN78D1AA	J16VH5'	Sample	2.5044		0.155	1.466	1	0.1	98.200%	-0.001579421	<MDL		0.349385
				Abs-Blank	-0.066	1.156						122.90%	
KN78D1AC-S	J16VH5'-MS	MS	2.5049		0.113	0.224	1	0.1	98.200%	-0.000211548	<MDL		0.349315
				Abs-Blank	-0.002					Expected	10.16337917		
KN78D1AD-D	J16VH5'-MSD	MSD					1	0.1	98.200%				
				Abs-Blank						Expected			
KN78D1AE-X	J16VH5'-DUPE	Duplicate	2.4984		0.141	0.245	1	0.1	98.200%	-0.000961928	<MDL		0.350224
				Abs-Blank	-0.037								
KN78D1APbCrO4	J16VH5'-PbCrO4	PbCrO4	2.4986		1.163		20	0.1	98.200%	0.494890259	503.9615673	79.64%	7.003922
				Abs-Blank	1.163					Expected	632.8236277		
				Abs-Blank			1	0.1	100.000%				
				Abs-Blank			1	0.1	100.000%				
n/a	n/a	CCV	2.5		0.946		1	0.1	100.000%	0.020084692	20.0846918	100.42%	0.35
				Abs-Blank	0.946					Expected	20		
n/a	n/a	CCB	2.5		0		1	0.1	100.000%	-0.000169143	<MDL		0.35
				Abs-Blank	0								
				Abs-Blank			1	0.1	100.000%				