

SAF-RC-103
Remaining Sites Confirmation Sampling -
Other Liquid
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21

KW 6/18/08
INITIAL/DATE

COMMENTS:

SDG J00176

SAF-RC-103

Rad only

Chem only

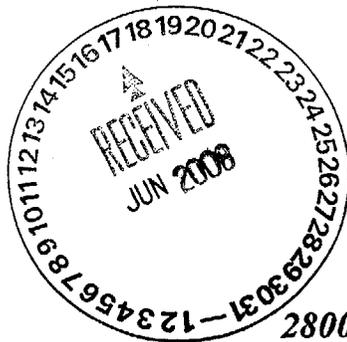
Rad & Chem

Complete

Partial

Waste Site: 100-H-28:3

RECEIVED
JUN 23 2008
EDMC



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 19 Pages

Report No.: 39313

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.
J00176	RC-103	J16VH6	J8F020187-1	KN8EX1AA	9KN8EX10	8155335

Certificate of Analysis

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

June 17, 2008

Attention: Joan Kessner

SAF Number	:	RC-103
Date SDG Closed	:	June 2, 2008
Number of Samples	:	One (1)
Sample Type	:	Other Solid
SDG Number	:	J00176
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>
J16VH6	KN8EX	OTHER SOLID	6/02/08

II. Sample Receipt

The sample was received in good condition. There was no sample date on the COC. The sample date was taken from the sample bottle label. The client was contacted and the monitor's logbook confirmed the sample label had the correct sample date. No other 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

Washington Closure Hanford
June 17, 2008

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:

Sample J16VH6 was approximately 75% other liquid and 25% other solid. The sample was centrifuged. The client was notified on 6/3/08. Instructions were as follows:

Liquid Fraction

Analyze the other liquid fraction as J16VH6-A in SDG J00176A. Use a 50 ml aliquot for the sample and sample duplicate. Do not analyze a matrix spike or matrix spike duplicate. Also include a blank and LCS.

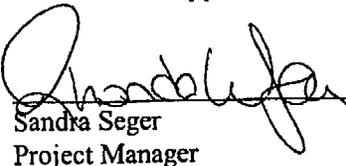
Soil Fraction

Analyze the other solid fraction as J16VH6 in SDG J00176. Use 2.5 gram aliquot for the sample, sample duplicate and matrix spike. Also include a blank and LCS. Analyze percent moisture after sample has been analyzed, if there is sufficient sample volume.

The LCS, batch blank, sample, sample duplicate (J16VH6) and sample matrix 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)	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 $(\text{Result}/\text{Expected})-1$ 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: 17-Jun-08

TestAmerica TARL

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

Report No. : 39313

SDG No: J00176

Batch	Client Id Work Order	Parameter	Result +/- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
8155335	7196_CR6								
	J16VH6								
	KN8EX1AA	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A	3.50E-01	2.00E-03	
	KN8EX1AE	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A	3.50E-01	2.00E-03	0.0
No. of Results: 2									

TestAmerica RPD - Relative Percent Difference.
 rptSTLRchSaSummary2 V5.1.6 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.
 A2002

QC Results Summary

Date: 17-Jun-08

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 39313

SDG No.: J00176

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC MDA
7196_CR6								
8155335 MATRIX SPIKE, J16VH6								
KN8EX1AC	HEXCHROME	1.52E+02 +- 0.00E+00		mg/kg	N/A	81%	-0.2	3.50E-01
8155335 LCS,								
KN9MR1AC	HEXCHROME	1.81E+01 +- 0.00E+00		mg/kg	N/A	91%	-0.1	3.50E-01
8155335 BLANK QC,								
KN9MR1AA	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
SAMPLE RESULTS

Date: 17-Jun-08

Lab Name: TestAmerica
 Lot-Sample No.: J8F020187-1
 Client Sample ID: J16VH6
 SDG: J00176
 Report No.: 39313
 COC No.: RC-103-083
 Matrix: SOIL
 Collection Date: 6/2/2008 1:00:00 PM
 Received Date: 6/2/2008 2:55:00 PM

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: 8155335	7196_CR6											
HEXCHROME	3.50E-01	U		0.0E+00	3.50E-01	mg/kg	N/A	(1.)	6/3/08		2.5	G
Work Order: KN8EX1AA Report DB ID: 9KN8EX10												
2.00E-03 N/A												

No. of Results: 1 Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rpt\$TLRchSample 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.
 V5.1.6 A2002

FORM II

Date: 17-Jun-08

DUPLICATE RESULTS

Lab Name: TestAmerica
 Lot-Sample No.: J8F020187-1
 Client Sample ID: J16VH6
 SDG: J00176
 Report No.: 39313
 COC No.: RC-103-083
 Matrix: SOIL
 Collection Date: 6/2/2008 1:00:00 PM
 Received Date: 6/2/2008 2:55:00 PM

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/Tot/Ucert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8155335	7196_CR6											
Work Order: KN8EX1AE Report DB ID: KN8EX1ER Orig Sa DB ID: 9KN8EX10												
HEXCHROME	3.50E-01	U		0.0E+00	3.50E-01	mg/kg	N/A	(1.)	6/3/08		2.5	
	3.50E-01	U	RPD 0.0		2.00E-03			N/A			G	

No. of Results: 1 Comments:

TestAmerica RPD - Relative Percent Difference.
 rp|STLRchDupV5.1 MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 .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
BLANK RESULTS

Date: 17-Jun-08

Lab Name: TestAmerica SDG: J00176
 Matrix: SOIL Report No.: 39313

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: 8155335	7196_CR6						Report DB ID: KN9MR1AB					
HEXCHROME	3.50E-01	U		0.0E+00	3.50E-01	mg/kg	N/A	(1.)	6/3/08		2.5	G
						2.00E-03		N/A				

No. of Results: 1 Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rp\STLRchBlank 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.
 V5.1.6 A2002

FORM II
LCS RESULTS

Date: 17-Jun-08

Lab Name: TestAmerica
Matrix: SOIL

SDG: J00176
Report No.: 39313

Parameter	Result	Qual	Count 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: 8155335	7196_CR6					Work Order: KN9MR1AC		Report DB ID: KN9MR1AS					
HEXCHROME	1.81E+01			0.0E+00	3.50E-01	mg/kg	N/A	2.00E+01		91%	6/3/08	2.5	
							Rec Limits:	85	115	-0.1		G	

No. of Results: 1 Comments:

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

rptSTLRchLcs
V5.1.6 A2002

FORM II

Date: 17-Jun-08

MATRIX SPIKE RESULTS

Lab Name: TestAmerica SDG: J00176 Matrix: SOIL
 Lot-Sample No.: J8F020187-1, J16VH6 Report No.: 39313

Parameter	Spike Result, Orig Rst	Work Order	Count Qual Error (2 s)	Total Uncert(2 s)	MDC MDA	Rpt Unit, CRDL	Yield	Recovery	Expected	Exp Uncert	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 8155335	HEXCHROME	1.52E+02	3.50E-01	0.0E+00	3.50E-01	mg/kg	N/A	81.15%	1.87E+02	6/3/08	2.5	7196_CR6	
		Work Order: KN8EX1AC	Count Error (2 s)	Total Uncert(2 s)	MDC MDA	Rpt Unit, CRDL	Yield	Recovery	Expected	Exp Uncert	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
		Report DB ID: KN8EX1CW	0.0E+00	3.50E-01	N/A	9KN8EX10							

Number of Results: 1

Comments:

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

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

V5.1.6 A2002

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

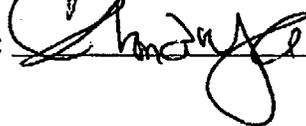
Batch Number(s): 8155335 J 00176 J8F 020187 Due 7/17				
Lab Sample Numbers or SDG: W05414				
Method/Test/Parameter: Cr+6 in SOLID / RICH-WC-5005, Rev 8				
Review Item	Yes (✓)	No (✓)	N/A (✓)	2 nd Level Review (✓)
A. Initial Calibration	✓			✓
1. Performed at required frequency with required number of 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?			✓	✓
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	✓			No NCM ✓
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: 

Date: 6/3/08

Second-Level Review: 

Date: 6/14/08

Washington Closure Hanford
 Collector **D. Rios**
 Project Designation: Remaining Sites Confirmation Sampling - Other Solid
 Ice Chest No. [Blank]
 Shipped To: TestAmerica Incorporated, Richland
 POSSIBLE SAMPLE HAZARDS/REMARKS
 Special Handling and/or Storage

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
 Company Contact: Matt Perrott, Telephone No. 372-9088
 Project Coordinator: KESSNER, JH
 Sampling Location: 100-A-283
 Field Logbook No. EL-1601-2
 Offsite Property No. [Blank]
 SAF No. 8421298
 RC-090 103
 Method of Shipment: COA C00H28A000
 Bill of Lading/Air Bill No. [Blank]

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	Preservation	Cool AC
J16VH6	OTHER SOLID	18A 6/2/08		GP	
J16VH6	OTHER LIQ	0 316YH6	1300	1	
J16VH7	OTHER SOLID			1	
J16VH8	OTHER SOLID			1	
J16VH9	OTHER SOLID			1	

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Bill Hudson	6/2/08 1415	Bill Hudson	6/2/08 1415
Bill Hudson	6/2/08 1455	Bill Hudson	6/2/08 1455
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
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS
 J8F020187
 SDG#: J00770
 Due: 6/17/08
 Confirmed with client the correct sample date is 6/13/08. The label on the sample bottle & the monitor's logbook was verified & both confirmed the correct date. Per 6/13/08
 Solid Portion per J. Kessner phone call 9/147 on 6/13/08

LABORATORY SECTION
 Received By: [Blank]
 Disposal Method: [Blank]
FINAL SAMPLE DISPOSITION
 Disposed By: [Blank]
 Date/Time: [Blank]

6/3/2008 11:54:41 AM

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

Sample Preparation/Analysis

88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
EA Chromium, Hexavalent (7196A)
5I CLIENT: HANFORD

Balance Id:
Pipet #:

AnalYdueDate: 06/17/2008

Batch: 8155335 SOIL mg/L
SEQ Batch, Test: None All Tests: 8155335 88EA,

PM, Quote: SS, 27023

Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:

Prep Tech:

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 KN8EX-1-AA J8F020187-1-SAMP 06/02/2008 13:00		2.5560						
AmiRec: 500G #Containers: 1 Alpha: Beta:								
2 KN8EX-1-AC-S J8F020187-1-MS 06/02/2008 13:00		2.6775						
AmiRec: 500G #Containers: 1 Alpha: Beta:								
3 KN8EX-1-AD-D J8F020187-1-MSD 06/02/2008 13:00		2.6414				10.8ug		
AmiRec: 500G #Containers: 1 Alpha: Beta:								
4 KN8EX-1-AE-X J8F020187-1-DUP 06/02/2008 13:00		2.5442						
AmiRec: 500G #Containers: 1 Alpha: Beta:								
5 KN9MR-1-AA-B J8F030000-335-BLK 06/02/2008 13:00								
AmiRec: #Containers: 1 Alpha: Beta:								
6 KN9MR-1-AC-C J8F030000-335-LCS 06/02/2008 13:00								
AmiRec: #Containers: 1 Alpha: Beta:								

6/3/2008 11:54:42 AM

Sample Preparation/Analysis

Balance Id:

88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
EA Chromium, Hexavalent (7196A)
51 CLIENT: HANFORD

Pipet #:

AnalyseDate: 06/17/2008

Sep1 DT/Tm Tech:

Batch: 8155335

Sep2 DT/Tm Tech:

SEO Batch, Test: None

mg/L

Prep Tech:



Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	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 , 27023

KN8EX1AA-SAMP Constituent List:

KN8EX1AC-MS Constituent List:

KN8EX1AD-MSD:

KN9MR1AA-BLK:

KN9MR1AC-LCS:

KN8EX1AA-SAMP Calc Info:

Uncert Level (#s): 2

KN8EX1AC-MS Calc Info:

Uncert Level (#s): 2

KN8EX1AD-MSD:

Uncert Level (#s): 2

KN9MR1AA-BLK:

Uncert Level (#s): 2

KN9MR1AC-LCS:

Uncert Level (#s): 2

Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B

Approved By _____ Date: _____

TAI Richland
Richland Wa.

Key: In - Initial Amt. fi - Final Amt. di - Diluted Amt. s1 - Sep1, s2 - Sep2
pd - Prep Dt. r - Reference Dt. ec - Enrichment Cell. ct - Cocktailed Added

ISV - Insufficient Volume for Analysis

WO Cnt: 6

ICOC v4.8.32

Analyst:	D. Petty	BATCH #	8155335
Start Date:	6/3/2008	SOP Information	RICH-WC-5005
Start Time:		SDG #	Revision 7
End Date:	6/3/2008	Matrix	Soil
End Time		Instrument Information	
Analyst Signature:		Instrument:	Hach DR2010
Date:	6-4-08	Wavelength:	540
		R Squared	0.99976
		Slope:	1.89023
		Intercept:	0.01153
		MDL (mg/kg)	0.35
		Standard Volume (mL):	100.000
		Date of Curve:	6/3/2008

Dilution ID #	Cr-08-00115	ICV Information:	Cr-08-00116	LCS Information:	Cr-08-00115	Matrix Spike Information:	Cr-08-00115	PbCrO4 Information	Weight PbCrO4
Prep Date:	06/03/08		06/03/08		06/03/08		06/03/08		10.8
Concentration (mg/L)	50		50		50		50		
Expiration Date:	06/04/08		06/04/08		06/04/08		06/04/08		
Pipettor(s)	70, 190		190		190		190		
Volume Used (mL)			1.000		1.00		0.50		
Expected Value (mg)			0.500		0.50		0.25		

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	Abs-Blank	0.986		1	0.1	100.000%	Expected	20.62116037	103.11%	
n/a	n/a	ICB	2.5	Abs-Blank	0.002		1	0.1	100.000%	-0.000201746	<MDL		
KN9MR1AA	n/a	PB	2.5	Abs-Blank	0.007		1	0.1	100.000%	-9.59386E-05	<MDL		0.35
KN9MR1AC	n/a	LCS	2.5	Abs-Blank	0.867		1	0.1	100.000%	0.018102943	18.10294303	90.51%	0.35
KN8EX1AA	H6-SOIL FRAC	Sample	2.556	Abs-Blank	0.015		1	0.1	5.000%	7.17462E-05	<MDL		0.342332
KN8EX1AC-S	H6-SOIL FRAC	MS	2.6775	Abs-Blank	0.395		1	0.1	5.000%	0.007576769	151.5353803	81.15%	0.326797
KN8EX1AD-D	H6-SOIL FRAC	MSD		Abs-Blank			1	0.1	5.000%	Expected	186.7413632		
KN8EX1AE-X	H6-SOIL FRAC	Duplicate	2.5442	Abs-Blank	0.024		1	0.1	5.000%	0.000259224	<MDL		0.34392
KN8EX1APC-O4	H6-SOIL FRAC	PbCrO4	10.8	Abs-Blank	1.283		20	0.1	5.000%	0.124565384	2491.307684	78.62%	1.62037
				Abs-Blank	1.283		1	0.1	100.000%	Expected	3168.8		
				Abs-Blank			1	0.1	100.000%				
n/a	n/a	CCV	2.5	Abs-Blank	0.969		1	0.1	100.000%	0.020261415	20.26141504	101.31%	0.35
n/a	n/a	CCB	2.5	Abs-Blank	0		1	0.1	100.000%	Expected	<MDL		0.35
				Abs-Blank	0		1	0.1	100.000%	-0.000244069	<MDL		