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
NITIAL/DATE

COMMENTS:

SDG J00176A **SAF-RC-103**

Rad only X Chem only Rad & Chem

X Complete Partial

Waste Site: 100-H-28:3

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 18 ***Pages***

Report No.: 39314

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.
J00176A	RC-103	J16VH6-A	J8F030154-1	KN9AC1AA	9KN9AC10	8155333

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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 Liquid
SDG Number	:	J00176A
Data Deliverable	:	15 -Day / Summary

CASE NARRATIVE

I. Introduction

On June 2, 2008 one other liquid 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:

WCH ID#	STLR ID#	MATRIX	DATE OF RECEIPT
J16VH6-A	KN9AC	OTHER LIQUID	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

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 and sample duplicate (J16VH6-A 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 = constants * f(x,y,z,...). The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties.. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

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

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

Report Definitions

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

Sample Results Summary

Date: 17-Jun-08

TestAmerica TARL

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

Report No. : 39314 **SDG No:** J00176A

Batch	Client Id / Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
8155333	7196_CR6								
	J16VH6-A								
	KN9AC1AA	HEXCHROME	2.00E-03 +- 0.00E+00	U	mg/L	N/A	2.00E-03	2.00E-03	
	KN9AC1AC	HEXCHROME	2.00E-03 +- 0.00E+00	U	mg/L	N/A	2.00E-03	2.00E-03	0.0

No. of Results: 2

TestAmerica

rptSTLRchSaSummary2 V5.1.6 A2002

RPD - Relative Percent Difference.

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: 17-Jun-08

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 39314 **SDG No.:** J00176A

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
7196_CR6								
8155333 LCS,								
KN9MN1AC	HEXCHROME	5.08E-01 +- 0.00E+00		mg/L	N/A	102%	0.0	2.00E-03
8155333 BLANK QC,								
KN9MN1AA	HEXCHROME	2.00E-03 +- 0.00E+00	U	mg/L	N/A			2.00E-03

No. of Results: 2

TestAmerica
rptSTLRchQcSummary V5.1.6 A2002

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

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

TESTAMERICA

FORM I

SAMPLE RESULTS

Date: 17-Jun-08

Lab Name: TestAmerica **SDG:** J00176A **Collection Date:** 6/2/2008 1:00:00 PM

Lot-Sample No.: J8F030154-1 **Report No. :** 39314 **Received Date:** 6/2/2008 2:55:00 PM

Client Sample ID: J16VH6-A **COC No. :** RC-103-83 **Matrix:** WATER

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: 8155333	7196_CR6			**Work Order:** KN9AC1AA			**Report DB ID:** 9KN9AC10					
HEXCHROME	***2.00E-03***	U		0.0E+00	2.00E-03	mg/L	N/A	*1.*	6/3/08		100.0	
							2.00E-03	*N/A*			ML	

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

TestAmerica
rptSTLRchSample
V5.1.6 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.

TESTAMERICA

FORM II

Date: 17-Jun-08

DUPLICATE RESULTS

Lab Name:	TestAmerica	**SDG:**	J00176A	**Collection Date:**	6/2/2008 1:00:00 PM
Lot-Sample No.:	J8F030154-1	**Report No. :**	39314	**Received Date:**	6/2/2008 2:55:00 PM
Client Sample ID:	J16VH6-A	**COC No. :**	RC-103-83	**Matrix:**	WATER

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: 8155333	7196_CR6			**Work Order:** KN9AC1AC		**Report DB ID:** KN9AC1ER			**Orig Sa DB ID:** 9KN9AC10			
HEXCHROME	2.00E-03	U		0.0E+00	2.00E-03	mg/L	N/A	1.	6/3/08		100.0	
	2.00E-03	U	**RPD** 0.0			2.00E-03		N/A			ML	

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

TESTAMERICA

FORM II

BLANK RESULTS

Date: 17-Jun-08

Lab Name: TestAmerica **SDG:** J00176A

Matrix: WATER **Report No. :** 39314

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: 8155333	7196_CR6			**Work Order:**	KN9MN1AA		**Report DB ID:**	KN9MN1AB				
HEXCHROME	2.00E-03	U		0.0E+00	2.00E-03	mg/L	N/A	1.	6/3/08		100.0	
						2.00E-03		N/A			ML	

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

TestAmerica
rptSTLRchBlank
V5.1.6 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

LCS RESULTS

Date: 17-Jun-08

Lab Name: TestAmerica **SDG:** J00176A

Matrix: WATER **Report No. :** 39314

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: 8155333	7196_CR6			**Work Order:** KN9MN1AC			**Report DB ID:** KN9MN1AS						
HEXCHROME	5.08E-01			0.0E+00	2.00E-03	mg/L	N/A	5.00E-01		102%	6/3/08	100.0	
							Rec Limits:	85	115	0.0		ML	

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

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

rptSTLRchLcs
V5.1.6 A2002

TestAmerica

Richland Laboratory
Data Review Check List
Hexavalent Chromium

Batch Number(s): **8155333** J8F030154 J001706A Due 6/17

Lab Sample Numbers or

Method/Test/Parameter: **Cr+6 in Water / RICH-WC-5003**

Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level Review (✓)
A. Initial Calibration 1. Performed at required frequency with required number of levels?	✓			✓
2. Correlation coefficient 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 (✓)	2nd Level Review (✓)
E. Other 1. Are all nonconformances included and noted?	✓			NO NCM ✓
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: 6/4/08

Second-Level Review: _____ Date: 6/10/08

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-~~030~~-083 BA 6/2/08	Page 1 of 2
Collector D. Rios	Company Contact Matt Perrott	Telephone No. 372-9088	Project Coordinator KESSNER, JH	Price Code 9C / Data Turnaround 15 Days
Project Designation Remaining Sites Confirmation Sampling - Other Solid	Sampling Location 100-H-28:3		SAF No. RC-~~030~~ 103 BA 6/2/08	
Ice Chest No.	Field Logbook No. EL-1601-2	COA C00H28A000	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~~ 500mL
SAMPLE ANALYSIS	Chromium Hex - 7196

J8F030154 J00176A

Sample No.	Matrix *	Sample Date	Sample Time	Chromium Hex - 7196								
~~J16VH5~~	~~OTHER SOLID~~	BH 6/2/08					~~KA9~~	~~EX~~	KN9AC			
J16VH6 - A other liquid	~~OTHER SOLID~~	® J16VH6	1300	X				SES	6/3/08			
~~J16VH7~~	~~OTHER SOLID~~											
~~J16VH8~~	~~OTHER SOLID~~											
~~J16VH9~~	~~OTHER SOLID~~	BHudson 6/2/08										

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From D. Rios	6-2-08 1415	Received By/Stored In BHudson BHudson	6/2/08 1415
Relinquished By/Removed From BILL HUDSON BHudson	6/2/08 1455	Received By/Stored In K LULANE TAL	6208 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

~~J8F030187~~

WATER FRACTION per Joan Kessner phone call on 6/3/08 at 9:47

SDG#: J00176A

Due: 6/17/08

® Confirmed with client the correct sample date is 6/2/08. The label on the sample bottle & the monitor's logbook was verified & both confirmed the correct date. RW 6/3/08

Matrix *: S=Soil, SE=Sediment, SO=Solid, SI=Sludge, W=Water, O=Oil, A=Air, DS=Drum Solids, DL=Drum Liquids, T=Tissue, WI=Wipe, L=Liquid, V=Vegetation, X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 6208 1455 GM Screen Result 0.2K

Client: WCH SDG #: J00176A NA[ ] SAF #: RC-103 NA [ ]

Work Order Number: JBF020187 SRS 6/3/08 Chain of Custody # RC-103-083

Shipping Container ID: N/A Air Bill # N/A

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
   - ✓ Custody Seals
   - _____ Hazard Lables
   - ✓ Appropriate Sample Lables
9. Samples are:
   - ✓ In Good Condition
   - _____ Broken
   - _____ Leaking
   - _____ Have Air Bubbles

   (Only for samples requiring no head space.)
10. Sample pH taken? NA [ ] pH<2 [ ] pH>2 [✓] pH>9 [ ] Amount HNO_3 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

6/3/2008 11:54:40 AM

Sample Preparation/Analysis

Balance Id:

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

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

Pipet #:

AnalyDueDate: 06/17/2008

Sep1 DT/Tm Tech:

Batch: 8155333 mg/L

PM, Quote: SS , 27023

Sep2 DT/Tm Tech:

SEQ Batch, Test: None All Tests: 8155333 88EA,

Prep Tech:

Work Order, Lot, Sample DateTime	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 KN9AC-1-AA

J8F030154-1-SAMP

06/02/2008 13:00 AmtRec: 200 ML #Containers: 1 Scr: Alpha: Beta:

2 KN9AC-1-AC-X

J8F030154-1-DUP

06/02/2008 13:00 AmtRec: 200 ML #Containers: 1 Scr: Alpha: Beta:

3 KN9MN-1-AA-B

J8F030000-333-BLK

06/02/2008 13:00 AmtRec: #Containers: 1 Scr: Alpha: Beta:

4 KN9MN-1-AC-C

J8F030000-333-LCS

06/02/2008 13:00 AmtRec: #Containers: 1 Scr: Alpha: Beta:

Comments:

All Clients for Batch:
127642, Washington Closure Hanford Bechtel Hanford, Inc. , SS , 27023

KN9AC1AA-SAMP Constituent List:

KN9MN1AA-BLK:

KN9MN1AC-LCS:

KN9AC1AA-SAMP Calc Info:

Sample Preparation/Analysis

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

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

AnalyDueDate: 06/17/2008

Batch: 8155333
SEQ Batch, Test: None

mg/L

Work Order, Lot, Sample DateTime	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:

Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KN9MN1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KN9MN1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

TestAmerica

TA Richland
Hexavalent Chromium - Water

Analyst:	L. Dinh	Calibration Curve Information				SOP Information		BATCH #	8155333
Start Date:	6/3/2008		Amount	Conc.(mg/L)	ABS.	RICH-WC-5003		SDG #	J00176A
Start Time:		Blank	0.000	0.000	0.000	Revision 7		Matrix	Water
End Date:	6/3/2008	Std. 1	0.100	0.050	0.100				
End Time		Std. 2	0.500	0.250	0.495			Instrument Information	
		Std. 3	0.750	0.375	0.731	MDL (mg/L)	0.002	Instrument:	Hach DR2010
Analyst Signature:		Std. 4	1.500	0.750	1.439			Wavelength:	540
		Std 5	2.000	1.000	1.888			R Squared	0.99976
Date:	6/4/08	Standard Volume (mL):			100.000			Slope:	1.89023
		Date of Curve:			6/3/2008			Intercept:	0.01153

	Calibration Information:	ICV Information:		LCS Information:		Matrix Spike Information:	
Dilution ID #	Cr-08-00115	Cr-08-00116		Cr-08-00115		Cr-08-00115	
Prep Date:	06/03/08	06/03/08		06/03/08		06/03/08	
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 (Expected Value		1.000	0.50000	1.00	0.50000	0.50	0.26316

Expected values are only amounts added in mg and not final concentrations

Sample ID	Client ID	Type	Sample Volume (mL)	Sample ABS.	Blank ABS.	Corrected ABS.	Dilution Factor	Curve Conc. (mg/L)	Final Conc. (mg/L)	% Rec.
n/a	n/a	ICV	100.000	0.982	0.000	0.982	1	0.5134	0.513	102.68%
n/a	n/a	ICB	100.000	0.000	0.000	0.000	1	<MDL	<MDL	
KN9MN1AA	n/a	Prep Blank	100.000	-0.001		-0.001	1	<MDL	<MDL	
KN9MN1AC	n/a	LCS	100.000	0.971		0.971	1	0.5076	0.508	101.52%
KN9AC1AA	J16VH6-A	Sample	100.000	0.054	0.072	-0.018	1	<MDL	<MDL	
KN9AC1AC-S	J16VH6-MS	MS	100.000				1			
KN9AC1AD-D	J16VH6-MSD	MSD	100.000				1			
KN9AC1AE-X	J16VH6-DUP	Duplicate	100.000	0.053	0.071	-0.018	1	<MDL	<MDL	
			100.000				1			
			100.000				1			
			100.000				1			
			100.000				1			
n/a	n/a	CCV	100.000	0.982		0.982	1	0.5134	0.513	102.68%
n/a	n/a	CCB	100.000	0.001		0.001	1	-0.0056	<MDL	
			100.000				1			
			100.000				1			
			100.000				1			
			100.000				1			
			100.000				1			