0078367

SAF-RC-076
100-D/DR Burial Grounds & Remaining Sites – Aqueous Liquid Quick Turn
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 6/26/08
INITIAL/DATE

COMMENTS:

SDG J00181 SAF-RC-076

Rad only X Chem only Rad & Chem

X Complete Partial

Waste Site: Water from pipe, 100-D-31

RECEIVED
JUL 07 2008
EDMC

Analytical Data Package Prepared For

Washington Closure Hanford

RECEIVED
JUN 2008

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.: 39380

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.
J00181	RC-076	J172R2	J8F240123-1	KQF971AA	9KQF9710	8176209

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

June 25, 2008

Attention: Joan Kessner

SAF Number	:	RC-076
Date SDG Closed	:	June 24, 2008
Number of Samples	:	One (1)
Sample Type	:	Water
SDG Number	:	J00181
Data Deliverable	:	7 -Day / Summary

CASE NARRATIVE

I. Introduction

On June 24, 2008 one water 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
J172R2	KQF97	WATER	6/24/08

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

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 LCS, batch blank, sample, sample duplicate (J172R2), sample matrix spike (J172R2) and sample matrix spike duplicate (J172R2) 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: 25-Jun-08

TestAmerica TARL

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

Report No. : 39380

SDG No: J00181

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
8176209	7196_CR6								
	J172R2								
	KQF971AA	CHROMIUM	9.00E-03 +- 0.00E+00		mg/L	N/A	2.00E-03		
	KQF971AE	CHROMIUM	1.20E-02 +- 0.00E+00		mg/L	N/A	2.00E-03		28.6

No. of Results: 2

TestAmerica RPD - Relative Percent Difference.

rptSTLRchSaSum
mary2 V5.1.6
A2002

QC Results Summary

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Date: 25-Jun-08

Report No. : 39380

SDG No.: J00181

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
7196_CR6								
8176209 MATRIX SPIKE, J172R2								
KQF971AC	CHROMIUM	2.69E-01 +- 0.00E+00		mg/L	N/A	102%	0.0	2.00E-03
KQF971AD	CHROMIUM	2.71E-01 +- 0.00E+00		mg/L	N/A	103%	0.0	2.00E-03
8176209 LCS,								
KQGFQ1AC	CHROMIUM	5.07E-01 +- 0.00E+00		mg/L	N/A	101%	0.0	2.00E-03
8176209 BLANK QC,								
KQGFQ1AA	CHROMIUM	2.00E-03 +- 0.00E+00	U	mg/L	N/A			2.00E-03

No. of Results: 4

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: 25-Jun-08

Lab Name:	TestAmerica	**SDG:**	J00181	**Collection Date:**	6/23/2008 3:45:00 PM
Lot-Sample No.:	J8F240123-1	**Report No. :**	39380	**Received Date:**	6/24/2008 8:05:00 AM
Client Sample ID:	J172R2	**COC No. :**	RC-076-029	**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: 8176209	7196_CR6			**Work Order:** KQF971AA			**Report DB ID:** 9KQF9710					
CHROMIUM	***9.00E-03***			0.0E+00	2.00E-03	mg/L	N/A	*(4.5)*	6/24/08		100.0	
								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.

FORM II

Date: 25-Jun-08

DUPLICATE RESULTS

Lab Name:	**TestAmerica**	**SDG:**	J00181	**Collection Date:**	6/23/2008 3:45:00 PM
Lot-Sample No.:	**J8F240123-1**	**Report No. :**	39380	**Received Date:**	6/24/2008 8:05:00 AM
Client Sample ID:	**J172R2**	**COC No. :**	RC-076-029	**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: 8176209	7196_CR6			**Work Order:** KQF971AE		**Report DB ID:** KQF971ER			**Orig Sa DB ID:** 9KQF9710			
CHROMIUM	1.20E-02			0.0E+00	2.00E-03	mg/L	N/A	(6.)	6/24/08		100.0	
	9.00E-03		**RPD**	**28.6**				N/A			ML	

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.**

FORM II

BLANK RESULTS

Date: 25-Jun-08

Lab Name: TestAmerica

Matrix: WATER

SDG: J00181

Report No. : 39380

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: 8176209	7196_CR6			**Work Order:**	KQGFQ1AA		**Report DB ID:**	KQGFQ1AB				
CHROMIUM	2.00E-03	U		0.0E+00	2.00E-03	mg/L	N/A	1. N/A	6/24/08		100.0 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: 25-Jun-08

Lab Name: TestAmerica

Matrix: WATER

SDG: J00181

Report No. : 39380

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: 8176209	7196_CR6			Work Order:	KQGFQ1AC		Report DB ID:	KQGFQ1AS					
CHROMIUM	5.07E-01			0.0E+00	2.00E-03	mg/L	N/A	5.00E-01		101%	6/24/08	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

FORM II

MATRIX SPIKE RESULTS

Date: 25-Jun-08

Lab Name: TestAmerica **SDG:** J00181

Lot-Sample No.: J8F240123-1, J172R2 **Report No. :** 39380 **Matrix:** WATER

Parameter	SpikeResult, Orig Rst	Qual	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: 8176209	Work Order: KQF971AC			Report DB ID: KQF971CW			Orig Sa DB ID:						
CHROMIUM	2.69E-01			0.0E+00	2.00E-03	mg/L	N/A	102.28%	2.63E-01		6/24/08	100.0	7196_CR6
	0.00E+00											ML	
Batch: 8176209	Work Order: KQF971AD			Report DB ID: KQF971DW			Orig Sa DB ID:						
CHROMIUM	2.71E-01			0.0E+00	2.00E-03	mg/L	N/A	103.04%	2.63E-01		6/24/08	100.0	7196_CR6
	0.00E+00											ML	

Number of Results: 2

Comments:

TestAmerica
rptSTLRchMs
V5.1.6 A2002

RER - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.
Bias - (Result/Expected)-1 as defined by ANSI N13.30.

FORM II

Date: 25-Jun-08

MATRIX SPIKE DUPLICATE RESULTS

Lab Name: TestAmerica **SDG:** J00181

Lot-Sample No.: J8F240123-1, J172R2 **Report No. :** 39380 **Matrix:** WATER

Parameter	SpikeResult, Orig Rst	Qual	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	Primary Detector
Batch: 8176209	7196_CR6			Work Order: KQF971AC			Report DB ID: KQF971CW				Orig Sa DB ID: KQF971DW		
CHROMIUM	2.69E-01			0.0E+00	2.00E-03	mg/L	N/A	102.28%	2.63E-01		6/24/08	100.0	
	2.71E-01	*RPD*	0.7									ML	
Batch: 8176209	7196_CR6			Work Order: KQF971AD			Report DB ID: KQF971DW				Orig Sa DB ID: KQF971CW		
CHROMIUM	2.71E-01			0.0E+00	2.00E-03	mg/L	N/A	103.04%	2.63E-01		6/24/08	100.0	
	2.69E-01	*RPD*	0.7									ML	

No. of Results: 2 **Comments:**

TestAmerica RER - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.
rptSTLRchMsDup2 Bias - (Result/Expected)-1 as defined by ANSI N13.30.
V5.1.6 A2002

TestAmerica

Richland Laboratory
Data Review Check List
Hexavalent Chromium

Batch Number(s): **8176209**

Lab Sample Numbers or J8F240123 / J00181

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?	✓			✓
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: [signature] Date: 6/24/08

Second-Level Review: [signature] Date: 6/24/08

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-076-029	Page 1 of 1
Collector: D.W. Shea Subcontractor sampler	Company Contact: D.W.Shea	Telephone No.: 521-6014	Project Coordinator: KESSNER, JH	Price Code: 7J
Project Designation: 100-D DR Burial Grounds&Remaining Sites - Aqueous Liqui	Sampling Location: Water from pipe, 100-D-31		SAF No.: RC-076	Data Turnaround: 7days
Ice Chest No.: ERC-97-079	Field Logbook No.: EL-1607-4	COA: R00D312600	Method of Shipment: Company Vehicle	
Shipped To: TestAmerica Incorporated, Richland	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	Cool 4C										
Type of Container	G P										
No. of Container(s)	1										
Volume	250mL										
SAMPLE ANALYSIS	Chromium Hex - 7196										

Sample No.	Matrix *	Sample Date	Sample Time										
J172R2	WATER	6/23/08	1545	✓									

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By Removed From: [signature]	Date/Time: 6/23/08 1552	Received By Stored In: [signature] 3A	Date/Time: 6/23/08 1052
Relinquished By Removed From: 1060/3A	Date/Time: 0630 JUN 24 2008	Received By Stored In: WCH 0630 [signature] MSTANKOVICH	Date/Time: JUN 24 2008
Relinquished By Removed From: [signature] MSTANKOVICH WCH	Date/Time: 0805 JUN 24 2008	Received By Stored In: [signature] LJLANE TAL 62408	Date/Time: 0805
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

J8F240123
J00181
DUE 7108
KQF97

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

Matrix *
S Soil
SE Sediment
SO Solid
SL 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: 62408 0805 GM Screen Result 0.1K

Client: WCH SDG #: J00181 NA[ ] SAF #: RC-076 NA [ ]

Work Order Number: J8F240123 Chain of Custody # RC-076-029

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
   - ✓ 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: [signature] Date: 62408

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

TestAmerica

6/24/2008 10:22:19 AM

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AnalyDueDate: 07/01/2008

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:

Batch: 8176209 WATER mg/L **PM, Quote: SS , 27023**
SEQ Batch, Test: None All Tests: 8176209 88EA,

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 KQF97-1-AA J8F240123-1-SAMP 06/23/2008 15:45		AmtRec: 500G	#Containers: 1			Scr:	Alpha:	Beta
2 KQF97-1-AC-S J8F240123-1-MS 06/23/2008 15:45		AmtRec: 500G	#Containers: 1			Scr:	Alpha:	Beta:
3 KQF97-1-AD-D J8F240123-1-MSD 06/23/2008 15:45		AmtRec: 500G	#Containers: 1			Scr:	Alpha:	Beta:
4 KQF97-1-AE-X J8F240123-1-DUP 06/23/2008 15:45		AmtRec: 500G	#Containers: 1			Scr:	Alpha:	Beta:
5 KQGFQ-1-AA-B J8F240000-209-BLK 06/23/2008 15:45		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
6 KQGFQ-1-AC-C J8F240000-209-LCS 06/23/2008 15:45		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:

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: 07/01/2008

Batch: 8176209 mg/L
SEQ Batch, Test: None

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:

Comments:

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

KQF971AA-SAMP Constituent List:

KQF971AC-MS Constituent List:

KQF971AD-MSD:

KQGFQ1AA-BLK:

KQGFQ1AC-LCS:

KQF971AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KQF971AC-MS Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KQF971AD-MSD:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KQGFQ1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KQGFQ1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By Date:

TestAmerica

TestAmerica

TA Richland
Hexavalent Chromium - Water

Analyst:	L. Dinh	Calibration Curve Information				SOP Information		BATCH #	8176209
Start Date:	6/24/2008		Amount	Conc.(mg/L)	ABS.	RICH-WC-5003		SDG #	J00181
Start Time:		Blank	0.000	0.000	0.000	Revision 7		Matrix	Water
End Date:	6/24/2008	Std. 1	0.100	0.050	0.104				
End Time		Std. 2	0.500	0.250	0.490			Instrument Information	
		Std. 3	0.750	0.375	0.729	MDL (mg/L)	0.002	Instrument:	Hach DR2010
Analyst Signature:		Std. 4	1.500	0.750	1.435			Wavelength:	540
		Std 5	2.000	1.000	1.883			R Squared	0.99979
Date:	6/24/08	Standard Volume (mL):			100.000			Slope:	1.88394
		Date of Curve:			6/24/2008			Intercept:	0.01207

	Calibration Information:	ICV Information:		LCS Information:		Matrix Spike Information:	
Dilution ID #	Cr-08-00125	Cr-08-00126		Cr-08-00125		Cr-08-00125	
Prep Date:	06/24/08	06/24/08		06/24/08		06/24/08	
Concentration (mg/L)	50	50		50		50	
Expiration Date:	06/25/08	06/25/08		06/25/08		06/25/08	
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	0.961	0.000	0.961	1	0.5037	0.504	100.74%
n/a	n/a	ICB	100.000	0.000	0.000	0.000	1	<MDL	<MDL	
KQGFQ1AA	n/a	Prep Blank	100.000	0.004		0.004	1	-0.0043	<MDL	
KQGFQ1AC	n/a	LCS	100.000	0.968		0.968	1	0.5074	0.507	101.48%
KQF971AA	J172R2'	Sample	100.000	0.029		0.029	1	0.0090	0.009	
KQF971AC-S	J172R2'-MS	MS	100.000	0.536		0.536	1	0.2781	~~0.278~~ 0.28	102.26%
KQF971AD-D	J172R2'-MSD	MSD	100.000	0.539		0.539	1	0.2797	~~0.280~~ 0.28	102.87%
KQF971AE-X	J172R2'-DUP	Duplicate	100.000	0.035		0.035	1	0.0122	0.012	
			100.000				1			
			100.000				1			
			100.000				1			
			100.000				1			
n/a	n/a	CCV	100.000	0.959		0.959	1	0.5026	0.503	100.53%
n/a	n/a	CCB	100.000	0.000		0.000	1	<MDL	<MDL	
			100.000				1			
			100.000				1			
			100.000				1			
			100.000				1			
			100.000				1			

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