

SAF-RC-092
100-BC Groundwater
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Jeanette Duncan H4-21

KW 4/25/07
Initials/Date

COMMENTS:

SDG J00108

SAF-RC-092

Rad only

Chem only

Rad & Chem

Complete

Partial

Waste Site: 118-B-1 borehole

RECEIVED
APR 30 2007

EDMC

Analytical Data Package Prepared For
Washington Closure Hanford



Radiochemical Analysis By

STL Richland

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

Assigned Laboratory Code: **STLRL**

Data Package Contains 21 Pages

Report No.: 35080

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
J00108	RC-092-	J15031	J7D230198-1	JVG431AA	9JVG4310	7114296
		J15032	J7D230198-2	JVG461AA	9JVG4610	7114296
		J15033	J7D230198-3	JVG471AA	9JVG4710	7114296

STL Richland
2800 George Washington Way
Richland, WA 99354

Tel: 509 375 3131 Fax: 509 375 5590
www.stl-inc.com

Certificate of Analysis

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

April 24, 2007

Attention: Joan Kessner

SAF Number	:	RC-092
Date SDG Closed	:	April 23, 2007
Number of Samples	:	Three (3)
Sample Type	:	Water
SDG Number	:	J00108
Data Deliverable	:	24 Hour / Summary

CASE NARRATIVE

I. Introduction

On April 23, 2007, three water samples were received at STL Richland (STLR) for chemistry analysis. Upon receipt, the samples were 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>
J15031	JVG43	WATER	4/23/07
J15032	JVG46	WATER	4/23/07
J15033	JVG47	WATER	4/23/07

II. Sample Receipt

The samples were 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

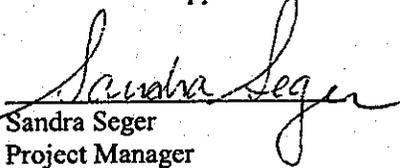
Chemical Analysis

Hexavalent Chromium by EPA method 7196A:

The LCS, batch blank, sample, sample matrix spike (J15031), sample matrix spike duplicate (J15031) and sample duplicate (J15031) results are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:


Sandra Seger
Project Manager

Drinking Water Method Cross References

DRINKING WATER ASTM METHOD CROSS REFERENCES		
Referenced Method	Isotope(s)	STL Richland's SOP number
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr89/90	RICH-RC-5006
ASTM D2460	Total Radium	RICH-RC-5027
Standard Method 7500-U-C & ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007
NOTE:		
The Gross Alpha LCS is prepared with Am-241 (unless otherwise specified in the case narrative)		
The Gross Beta LCS is prepared with Sr/Y-90 (unless otherwise specified in the case narrative)		

Uncertainty Estimation

STL 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 STL Richland.
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 STL Richland "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 STL Richland 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: 24-Apr-07

STL Richland STLRL

Ordered by Client Sample ID, Batch No.

Report No. : 35080

SDG No: J00108

Client ID	Work Order Number	Parameter	Result +/- Uncertainty (2s)	Qual	Units	Yield	MDC(MDA)	RPD
J15031	JVG431AA	HEXCHROME	2.00E-03 +- 0.00E+00	U	mg/L	N/A	2.00E-03	
	JVG431AE	HEXCHROME	2.00E-03 +- 0.00E+00	U	mg/L	N/A	2.00E-03	0.0
J15032	JVG461AA	HEXCHROME	2.00E-03 +- 0.00E+00	U	mg/L	N/A	2.00E-03	
J15033	JVG471AA	HEXCHROME	2.00E-03 +- 0.00E+00	U	mg/L	N/A	2.00E-03	

Number of Results: 4

STL Richland

RPD - Relative Percent Difference.

rptSTLRchSaSum
V5.1 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
STL Richland STLR
 Ordered by QC Type, Batch No.

Date: 24-Apr-07

Report No. : 35080

SDG No.: J00108

QC Type	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC MDA
MATRIX SPIK	JVG431AC	HEXCHROME	2.70E-01 +- 0.00E+00		mg/L	N/A	103%	0.0	2.00E-03
MATRIX SPIK	JVG431AD	HEXCHROME	2.66E-01 +- 0.00E+00		mg/L	N/A	102%	0.0	2.00E-03
LCS	JVJGF1AC	HEXCHROME	5.13E-01 +- 0.00E+00		mg/L	N/A	103%	0.0	2.00E-03
BLANK QC	JVJGF1AA	HEXCHROME	2.00E-03 +- 0.00E+00	U	mg/L	N/A			2.00E-03

Number of Results: 4

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

rptSTLRchQcSum V5.1 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: 24-Apr-07

SAMPLE RESULTS

Lab Name: STL Richland

SDG: J00108

Collection Date: 4/23/2007 12:30:00 PM

Lot-Sample No.: J7D230198-1

Report No.: 35080

Received Date: 4/23/2007 2:25:00 PM

Client Sample ID: J15031

COC No.: RC-092

Matrix: WATER

Ordered by Client Sample ID, Batch No.

Parameter	Result	Count Qual Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7114296	Work Order: JVG431AA		Report DB ID: 9JVG4310								
HEXCHROME	2.00E-03	U	0.0E+00	2.00E-03	mg/L	N/A 2.00E-03	1. N/A	4/24/07		100.0 ML	7196_CR6

Number of Results: 1

Comments:

FORM I

Date: 24-Apr-07

SAMPLE RESULTS

Lab Name: STL Richland

SDG: J00108

Collection Date: 4/23/2007 12:45:00 PM

Lot-Sample No.: J7D230198-2

Report No.: 35080

Received Date: 4/23/2007 2:25:00 PM

Client Sample ID: J15032

COC No.: RC-092

Matrix: WATER

Ordered by Client Sample ID, Batch No.

Parameter	Result	Count Qual Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7114296	Work Order: JVG461AA		Report DB ID: 9JVG4610								
HEXCHROME	2.00E-03	U	0.0E+00	2.00E-03	mg/L	N/A	1.	4/24/07		100.0	7196_CR6
						2.00E-03	N/A			ML	

Number of Results: 1

Comments:

STL Richland

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

rptSTLRchSample
V5.1 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: 24-Apr-07

SAMPLE RESULTS

Lab Name: STL Richland

SDG: J00108

Collection Date: 4/23/2007 1:00:00 PM

Lot-Sample No.: J7D230198-3

Report No.: 35080

Received Date: 4/23/2007 2:25:00 PM

Client Sample ID: J15033

COC No.: RC-092

Matrix: WATER

Ordered by Client Sample ID, Batch No.

Parameter	Result	Count Qual Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7114296	Work Order: JVG471AA		Report DB ID: 9JVG4710								
HEXCHROME	2.00E-03	U	0.0E+00	2.00E-03	mg/L	N/A	1.	4/24/07		100.0	7196_CR6
						2.00E-03	N/A			ML	

Number of Results: 1

Comments:

STL Richland

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

rptSTLRchSample
V5.1 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: 24-Apr-07

SAMPLE RESULTS

Lab Name: STL Richland

SDG: J00108

Collection Date: 4/23/2007 1:00:00 PM

Lot-Sample No.: J7D230198-3

Report No.: 35080

Received Date: 4/23/2007 2:25:00 PM

Client Sample ID: J15033

COC No.: RC-092

Matrix: WATER

Ordered by Client Sample ID, Batch No.

Parameter	Result	Count 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	Analy Method, Primary Detector
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STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample 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 A2002

FORM II

Date: 24-Apr-07

DUPLICATE RESULTS

Lab Name: STL Richland

SDG: J00108

Collection Date: 4/23/2007 12:30:00 PM

Lot-Sample No.: J7D230198-1

Report No.: 35080

Received Date: 4/23/2007 2:25:00 PM

Client Sample ID: J15031

COC No.: RC-092

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	Analy Method, Primary Detector
Batch: 7114296	Work Order: JVG431AE		Report DB ID: JVG431ER		Orig Sa DB ID: 9JVG4310							
HEXCHROME	2.00E-03	U		0.0E+00	2.00E-03	mg/L	N/A	1.	4/24/07		100.0	7196_CR6
	2.00E-03	U RPD	0.0			2.00E-03		N/A			ML	

Number of Results: 1

Comments:

STL Richland RPD - Relative Percent Difference.

rptSTLRchDupV5.1 MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

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: 24-Apr-07

Lab Name: STL Richland

SDG: J00108

Lot-Sample No.:

Report No.: 35080

Matrix: WATER

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	Analy Method, Primary Detector
Batch: 7114296	Work Order: JVJGF1AA			Report DB ID: JVJGF1AB								
HEXCHROME	2.00E-03	U		0.0E+00	2.00E-03	mg/L	N/A	1.	4/24/07		100.0	7196_CR6
						2.00E-03		N/A			ML	

Number of Results: 1

Comments:

FORM II
LCS RESULTS

Date: 24-Apr-07

Lab Name: STL Richland

SDG: J00108

Lot-Sample No.:

Report No.: 35080

Matrix: WATER

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	Analy Method, Primary Detector
Batch: 7114296	Work Order: JVJGF1AC		Report DB ID: JVJGF1AS									
HEXCHROME	5.13E-01		0.0E+00	2.00E-03	mg/L	N/A	5.00E-01		103%	4/24/07	100.0	7196_CR6
						Rec Limits:	85.	115.	0.0		ML	

Number of Results: 1

Comments:

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

rptSTLRchLcs
V5.1 A2002

FORM II

Date: 24-Apr-07

MATRIX SPIKE RESULTS

Lab Name: STL Richland

SDG: J00108

Lot-Sample No.: J7D230198-1

Report No.: 35080

Matrix: WATER

Parameter	SpikeResult, Orig Rst	Qual	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
Batch: 7114296	Work Order: JVG431AC			Report DB ID: JVG431CW		Orig Sa DB ID: 9JVG4310							
HEXCHROME	2.70E-01			0.0E+00	2.00E-03	mg/L	N/A	102.66%	2.63E-01		4/24/07	100.0	7196_CR6
	2.00E-03											ML	

Number of Results: 1

Comments:

STL Richland RER - Replicate Error Ratio = $(S-D)/[\text{sqrt}(\text{sq}(TPUs)+\text{sq}(TPUd))]$ as defined by ICPT BOA.
 rptSTLRchMs V5.1 Bias - (Result/Expected)-1 as defined by ANSI N13.30.
 A2002

Work Order Number(s): JVJGF, JVG43, JVG46, JVG47				
Lab Sample Numbers or SDG: J00108				
Method/Test/Parameter: Cr+6 in Water / RICH-WC-5003				
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			✓	
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: Alan E. Alkhalil

Date: 4/24/07

Second-Level Review: Jodie Co

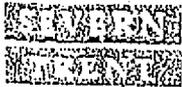
Date: 4/24/07

J70230148

J00108

Rec 04-24-07

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-092-004	Page 1 of 1
Collector C. Martinez <i>lope</i>	Company Contact C. Martinez	Telephone No. 509-551-2816	Project Coordinator KESSNER, JI		Price Code	Data Turnaround	
Project Designation 100-BC Groundwater		Sampling Location 118-B-1 borehole		SAF No. RC-092	24 hrs.		
Ice Chest No. ERC-02-1001	Field Logbook No. EFL1173-12	COA 0118B18100	Method of Shipment Government Vehicle				
Shipped To Severn Trent Incorporated, Richland		Offsite Property No. N/A		Bill of Lading/Air Bill No. N/A			
POSSIBLE SAMPLE HAZARDS/REMARKS None		Preservation	Cool-4C				
Special Handling and/or Storage Cool. 4 degrees centigrade		Type of Container	G/P				
		No. of Container(s)	1				
		Volume	500mL				
SAMPLE ANALYSIS		Chromium Hex - 7196					
Sample No.	Matrix *	Sample Date	Sample Time				
J15031	WATER	04/23/07	1230	✓	JVG	43	
J15032	WATER	04/23/07	1245	✓	JVG	46	
J15033	WATER	04/23/07	1300	✓	JVG	47	
CHAIN OF POSSESSION		Sign/Print Names		SPECIAL INSTRUCTIONS			Matrix *
Relinquished By	Removed From	Date/Time	Received By	Stored In	Date/Time	None	
<i>J.S.lope</i>	<i>ASW</i>	4/22/07 1320	<i>C. Martinez</i>	<i>C. Martinez</i>	04/23/07 1320	S Sediment SO Solid Sl Sludge W Water O Oil A Air DS-Dry Solid DL-Dry Liquid T Toxic W1-Wipe L Liquid V-Vapor X Other	
Relinquished By	Removed From	Date/Time	Received By	Stored In	Date/Time		
<i>C. Martinez</i>	<i>C. Martinez</i>	04/23/07 1425	<i>E. Lopez</i>	<i>E. Lopez</i>	4/23/07 1425		
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	



STL

Sample Check-in List

Date/Time Received: 4/23/07 @ 1425

Client: WCH (BHI) SDG # J00108 NA II SAF # RC-092

Work Order Number: JTD230198 RC-092-004

- 1 Custody Seats dated and signed? Yes No
- 2 Chain of Custody record present? Yes No
- 3 Cooler temperature NA II Verified Not Verified
- 4 Number of samples in shipping container 3 Yes No
- 5 Sample container 3x500ml Yes No
- 6 Samples have tape custody seals hazard labels appropriate sample labels
- 7 Samples are in good condition broken leaking have air bubbles (Only for samples that will be analyzed)
- 8 Sample lid lock: Yes No
- 9 Sample container is sealed and labeled with date and time of receipt. No contents should be added. Yes No
- 10 Were any anomalies identified in sample receipt? Yes No
- 11 Description of anomalies (include sample numbers) Yes No

Sample Custodian: En Darby Date: 4/23/07 1425

Spec Sample ID: ALC-0101-001

Client Informed on _____ by _____ Person contacted _____

() No action necessary; process as is.

Project Manager _____ Date _____

STL RICHLAND

4/24/2007 11:35:30 AM

Sample Preparation/Analysis

Balance Id:

127642, Washington Closure Hanford
Bechtel Hanford, Inc.88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
EA Chromium, Hexavalent (7196A)
SI CLIENT: HANFORD

Pipet #:

AnalyseDueDate: 04/24/2007

Sep1 DT/Tm Tech:

Batch: 7114296 WATER mg/L PM, Quote: SS , 27023
SEQ Batch, Test: None All Tests: 88EA, 7114296 88EA,

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 JVG43-1-AA J7D230198-1-SAMP [REDACTED] 04/23/2007 12:30								
		AmtRec: 500G	#Containers: 1			Scr:	Alpha:	Beta:
2 JVG43-1-AC-S J7D230198-1-MS [REDACTED] 04/23/2007 12:30								
		AmtRec: 500G	#Containers: 1			Scr:	Alpha:	Beta:
3 JVG43-1-AD-D J7D230198-1-MSD [REDACTED] 04/23/2007 12:30								
		AmtRec: 500G	#Containers: 1			Scr:	Alpha:	Beta:
4 JVG43-1-AE-X J7D230198-1-DUP [REDACTED] 04/23/2007 12:30								
		AmtRec: 500G	#Containers: 1			Scr:	Alpha:	Beta:
5 JVG46-1-AA J7D230198-2-SAMP [REDACTED] 04/23/2007 12:45								
		AmtRec: 500G	#Containers: 1			Scr:	Alpha:	Beta:
6 JVG47-1-AA J7D230198-3-SAMP [REDACTED] 04/23/2007 13:00								
		AmtRec: 500G	#Containers: 1			Scr:	Alpha:	Beta:
7 JVJGF-1-AA-B J7D240000-296-BLK [REDACTED] 04/23/2007 12:30								
		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1
Richland Wa. pd - Prep DI, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis

WO Cnt: 7

ICOC v4.8.26

20

STL RICHLAND

4/24/2007 11:35:35 AM

Sample Preparation/Analysis

Balance Id:

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

Pipet #:

AnalyDueDate: 04/24/2007

Sep1 DT/Tm Tech:

Batch: 7114296 mg/L
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	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
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8 JVJGF-1-AC-C

J7D240000-296-LCS

04/23/2007 12:30

AmtRec:

#Containers: 1

Scr:

Alpha:

Beta:

Comments:

All Clients for Batch:

127642, Washington Closure Hanford

Bechtel Hanford, Inc.

, SS , 27023

JVJG431AA-SAMP Constituent List:

HEXCHROME RDL:0.002 mg/L LCL:85 UCL:115 RPD:20

JVJG431AC-MS Constituent List:

HEXCHROME RDL:0.002 mg/L LCL:85 UCL:115 RPD:20

JVJG431AD-MSD:

HEXCHROME RDL:0.002 mg/L LCL:85 UCL:115 RPD:20

JVJG431AA-BLK:

HEXCHROME RDL:0.002 mg/L LCL: UCL: RPD:

JVJG431AC-LCS:

HEXCHROME RDL:0.002 mg/L LCL:85 UCL:115 RPD:20

JVJG431AA-SAMP Calc Info:

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

JVJG431AC-MS Calc Info:

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

JVJG431AD-MSD:

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

JVJG431AA-BLK:

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

JVJG431AC-LCS:

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

Approved By _____

Date: _____

STL Richland Key: In - Initial Amt, fi - Final Amt, dl - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis

WO Cnt: 8

ICOC v4.8.26