



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.: 31216

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
J00039	RC-048	J10VH4	J5L290283-2	HT0E81AA	9HT0E810	6010337
		J10VH5	J5L290283-1	HT0E51AA	9HT0E510	6010337

Certificate of Analysis

Washington Closure Hanford
3190 George Washington Way
Richland, WA 99354

January 31, 2005

Attention: Joan Kessner

SAF Number	:	RC-048
Date SDG Closed	:	December 29, 2005
Number of Samples	:	Two (2)
Sample Type	:	Water
SDG Number	:	J00039
Data Deliverable	:	45-Day / Summary

CASE NARRATIVE

I. Introduction

On December 29, 2005, two 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>
J10VH5	HT0E5	WATER	12/29/05
J10VH4	HT0E8	WATER	12/29/05

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

Washington Closure Hanford
January 31, 2006

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 (J10VH4), matrix spike duplicate (J10VH4) and sample duplicate (J10VH4) 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:



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

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

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

Report Definitions

Action Lev	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
Bias	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or 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: 27-Jan-06

STL Richland STLRL

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

Report No. : 31216

SDG No: J00039

Batch	Client Id Work Order	Parameter	Result +/- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RPD
6010337	7196_CR6								
	J10VH4								
	HT0E81AA	HEXCHROME	4.50E-03 +- 0.0E+00		mg/L	N/A	2.00E-03	2.00E-03	
	HT0E81AE	HEXCHROME	3.90E-03 +- 0.0E+00		mg/L	N/A	2.00E-03	2.00E-03	14.3
	J10VH5								
	HT0E51AA	HEXCHROME	3.00E-03 +- 0.0E+00		mg/L	N/A	2.00E-03	2.00E-03	
No. of Results: 3									

STL Richland RPD - Relative Percent Difference.

rptSTLRchSaSum
mary2 V4.14.4 A97

QC Results Summary
STL Richland STLRL
 Ordered by Method, Batch No, QC Type.

Date: 27-Jan-06

Report No. : 31216

SDG No.: J00039

Batch	Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC MDA
7196_CR6									
6010337 MATRIX SPIKE									
	HT0E81AC	HEXCHROME	2.78E-01 +- 0.0E+00		mg/L	N/A	106%	0.1	2.00E-03
	HT0E81AD	HEXCHROME	2.82E-01 +- 0.0E+00		mg/L	N/A	107%	0.1	2.00E-03
6010337 LCS									
	HVDWQ1AC	HEXCHROME	5.33E-01 +- 0.0E+00		mg/L	N/A	107%	0.1	2.00E-03
6010337 BLANK QC									
	HVDWQ1AA	HEXCHROME	2.00E-03 +- 0.0E+00	U	mg/L	N/A			2.00E-03
No. of Results: 4									

STL Richland Bias - (Result/Expected)-1 as defined by ANSI N13.30.
 rptSTLRchQcSummary V4.14.4 A97 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: 27-Jan-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: J00039

Collection Date: 12/29/2005 10:38:00 AM

Lot-Sample No.: J5L290283-2

Report No.: 31216

Received Date: 12/29/2005 2:30:00 PM

Client Sample ID: J10VH4

COC No.: RC-048-84

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/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6010337	7196_CR6				Work Order: HT0E81AA		Report DB ID: 9HT0E810					
HEXCHROME	4.50E-03			0.0E+00	2.00E-03	mg/L	N/A	(2.2)	12/29/06		100.0	
							2.00E-03	N/A			ML	

No. of Results: 1

Comments:

FORM I

Date: 27-Jan-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: J00039

Collection Date: 12/29/2005 12:01:00 PM

Lot-Sample No.: J5L290283-1

Report No. : 31216

Received Date: 12/29/2005 2:30:00 PM

Client Sample ID: J10VH5

COC No. : RC-048-85

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/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6010337	7196_CR6			Work Order: HT0E51AA			Report DB ID: 9HT0E510					
HEXCHROME	3.00E-03			0.0E+00	2.00E-03	mg/L	N/A	(1.5)	12/29/06		100.0	
							2.00E-03	N/A			ML	

No. of Results: 1

Comments:

FORM II

Date: 27-Jan-06

DUPLICATE RESULTS

Lab Name: STL Richland

SDG: J00039

Collection Date: 12/29/2005 10:38:00 AM

Lot-Sample No.: J5L290283-2

Report No.: 31216

Received Date: 12/29/2005 2:30:00 PM

Client Sample ID: J10VH4

COC No.: RC-048-84

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: 6010337	7196_CR6			Work Order: HT0E81AE		Report DB ID: HT0E81ER		Orig Sa DB ID: 9HT0E810				
HEXCHROME	3.90E-03			0.0E+00	2.00E-03	mg/L	N/A	(1.9)	12/29/06		100.0	
	4.50E-03		RPD 14.3			2.00E-03		N/A			ML	

No. of Results: 1 Comments:

STL Richland RPD - Relative Percent Difference.

rptSTLRchDupV4.1 MDC|MDA,Le - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
4.4 A97

FORM II
BLANK RESULTS

Date: 27-Jan-06

Lab Name: STL Richland

SDG: J00039

Matrix: WATER

Report No.: 31216

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: 6010337	7196_CR6				Work Order: HVDWQ1AA	Report DB ID: HVDW11AB						
HEXCHROME	2.00E-03	U		0.0E+00	2.00E-03	mg/L	N/A	1.	12/29/06		100.0	
						2.00E-03		N/A			ML	

No. of Results: 1

Comments:

FORM II
LCS RESULTS

Date: 27-Jan-06

Lab Name: STL Richland

SDG: J00039

Matrix: WATER

Report No.: 31216

Parameter	Result	Count Qual Error (2 s)	Total Uncert(2 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 6010337	7196_CR6				Work Order: HVDWQ1AC		Report DB ID: HVDW11AS					
HEXCHROME	5.33E-01		0.0E+00	2.00E-03	mg/L		N/A	5.00E-01	107%	12/29/06	100.0	
						Rec Limits:	85	115	0.1		ML	
No. of Results:	1	Comments:										

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

rptSTLRchLcs
V4.14.4 A97

FORM II

Date: 27-Jan-06

MATRIX SPIKE RESULTS

Lab Name: STL Richland

SDG: J00039

Lot-Sample No.: J5L290283-2

Report No. : 31216

Matrix: WATER

Parameter	SpikeResult, Orig Rst	Count Qual 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: 6010337 HEXCHROME	Work Order: HT0E81AC 2.78E-01 4.50E-03	Report DB ID: HT0E81CW	0.0E+00	2.00E-03	mg/L	Orig Sa DB ID: 9HT0E810 N/A	105.55%	2.63E-01		12/29/06	100.0 ML	7196_CR6
Batch: 6010337 HEXCHROME	Work Order: HT0E81AD 2.82E-01 2.78E-01	Report DB ID: HT0E81DW	0.0E+00	2.00E-03	mg/L	Orig Sa DB ID: HT0E81CW N/A	107.22%	2.63E-01		12/29/06	100.0 ML	7196_CR6

Number of Results: 2

Comments:

STL Richland RER - Replicate Error Ratio = $(S-D)/[\text{sqrt}(\text{sq}(\text{TPUs})+\text{sq}(\text{TPUd}))]$ as defined by ICPT BOA.
 rptSTLRchMs Bias - (Result/Expected)-1 as defined by ANSI N13.30.
 V4.14.4 A97

FORM II

Date: 27-Jan-06

MATRIX SPIKE DUPLICATE RESULTS

Lab Name: STL Richland

SDG: J00039

Lot-Sample No.: J5L290283-2

Report No.: 31216

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: 6010337	7196_CR6			Work Order: HT0E81AC		Report DB ID: HT0E81CW		Orig Sa DB ID: HT0E81DW					
HEXCHROME	2.78E-01			0.0E+00	2.00E-03	mg/L	N/A	105.55%	2.63E-01		12/29/06	100.0	
	2.82E-01	RPD	1.6									ML	
Batch: 6010337	7196_CR6			Work Order: HT0E81AD		Report DB ID: HT0E81DW		Orig Sa DB ID: HT0E81CW					
HEXCHROME	2.82E-01			0.0E+00	2.00E-03	mg/L	N/A	107.22%	2.63E-01		12/29/06	100.0	
	2.78E-01	RPD	1.6									ML	
No. of Results: 2	Comments:												

STL Richland RER - Replicate Error Ratio = $(S-D)/[\sqrt{(sq(TPU_s)+sq(TPU_d))}]$ as defined by ICPT BOA.
 rptSTLRchMsDup2 Bias - (Result/Expected)-1 as defined by ANSI N13.30.
 V4.14.4 A97

Work Order Number(s): HT0E5				
Lab Sample Numbers or SDG: J00039				
Method/Test/Parameter: Cr+6 in Water / RICH-WC-5003, Rev 7				
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: *Henry S. Oldland*

Date: *1/10/05*

Second-Level Review: *[Signature]*

Date: *1-15-05*

BHI 27013

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-048-85		Page 1 of 1	
Collector DURATEK F. M. HALL		Company Contact JOAN KESSNER		Telephone No. 375-4688		Project Coordinator KESSNER, JH		Price Code 7N Data Turnaround 45 Days	
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa		Sampling Location 399-4-1		SAF No. RC-048		Air Quality			
Ice Chest No.		Field Logbook No. EL-1592		COA BESRAS6520		Method of Shipment GOV. VEHICLE			
Shipped To Severn Trent Incorporated, Richland		Offsite Property No. N/A		Bill of Lading/Air Bill No. N/A					
POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE J00039 Special Handling and/or Storage COOL 4C JSL290283 Dec 02 13 06		Preservation		Cool 4C					
		Type of Container		G/P					
		No. of Container(s)		1					
		Volume		500mL					
		Chromium Hex - 7196							
SAMPLE ANALYSIS									
Sample No.	Matrix *	Sample Date	Sample Time						
J10VH5	HTOES	DEC 29 2005	1201	X					
CHAIN OF POSSESSION		Sign/Print Names				SPECIAL INSTRUCTIONS			
Relinquished By/Removed From DURATEK F. M. HALL		Date/Time DEC 29 2005 1230	Received By/Stored In Kevin Singley		Date/Time 12-29-05 1230	12.5 °C			
Relinquished By/Removed From Kevin Singley		Date/Time 12-29-05 1430	Received By/Stored In Jeff Jensen		Date/Time 12-29-05 1430				
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				
LABORATORY SECTION	Received By	Title				Date/Time			
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By				Date/Time			

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-048-84	Page 1 of 1
Collector DORATEK F. M. HALL	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 7N	Data Turnaround 45 Days		
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa	Sample Location 399-3-6		SAF No. RC-048	Air Quality <input type="checkbox"/>			
Ice Chest No.	Field Logbook No. EL-1592	COA BESRAS6520	Method of Shipment GOV. VEHICLE				
Shipped To Severn Trent Incorporated, Richland	Offsite Property No. N/A		Bill of Lading/Air Bill No. N/A				
POSSIBLE SAMPLE HAZARDS/REMARKS <i>POTENTIAL RADIOACTIVE</i>		Preservation Cool 4C					
Special Handling and/or Storage <i>COOL 4C</i>		Type of Container G/P					
		No. of Container(s) 1					
		Volume 500mL					
SAMPLE ANALYSIS		Chromium Hex - 7196					
Sample No.	Matrix *	Sample Date	Sample Time				
J10VH4 <i>HT 048</i>	WATER	12/29/05	1038	<i>λ</i>			
CHAIN OF POSSESSION				SPECIAL INSTRUCTIONS			Matrix *
Relinquished By/Removed From DORATEK F. M. HALL	Date/Time 1230 DEC 29 2005	Received By/Stored In <i>Kevin Singler</i>	Date/Time 1230 12-29-05	<i>10.5 °C</i>			S=Soil SE=Soil/Ext SO=Solid SI=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Trume WI=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From <i>Kevin Singler</i>	Date/Time 1430 12-29-05	Received By/Stored In <i>Jeff Jensen</i>	Date/Time 1430 12-29-05				
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				
LABORATORY SECTION	Received By	Title		Date/Time			
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By		Date/Time			

Sample Check-in List

Date/Time Received: 12 29 05 1110

Client: BHL SDG #: J00039 NA SAF #: RL-098 NA

Work Order Number: J5L290283 Chain of Custody # RL-098-85, 84

Shipping Container ID: NA 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? Yes No
4. Cooler temperature: 105^{12.5} NA 5. Vermiculite/packing materials is NA Wet Dry
6. Number of samples in shipping container: 2
7. Sample holding times exceeded? NA Yes No
8. Samples have:

<u> </u> tape	<u> </u> hazard labels
<input checked="" type="checkbox"/> custody seals	<input checked="" type="checkbox"/> appropriate samples labels
9. Samples are:

<u> </u> in good condition	<u> </u> leaking
<u> </u> broken	<u> </u> have air bubbles

 (Only for samples requiring head space)
10. Sample pH taken? NA pH<2 pH>2 adjusted pH
11. Sample Location, Sample Collector Listed? * Yes No
*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: 12 29 05

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

No action necessary; process as is.

Project Manager _____ Date _____

1/10/2006 1:14:13 PM

Sample Preparation/Analysis

Balance id:

127642, Bechtel Hanford, Inc., Bechtel Hanford, Inc.

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

Pipet #: _____

Report Due: 02/13/2006 *J06039*

Sep1 DT/Tm Tech:

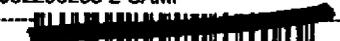
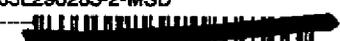
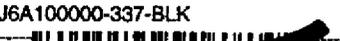
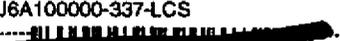
Batch: 6010337 WATER mg/L

PM, Quote: HC, 27023

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

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 HTOE5-1-AA J5L290283-1-SAMP 								
12/29/2005 12:01		AmtRec: 500P				Scr:	Alpha:	Beta:
2 HTOE8-1-AA J5L290283-2-SAMP 								
12/29/2005 10:38		AmtRec: 500P				Scr:	Alpha:	Beta:
3 HTOE8-1-AC-S J5L290283-2-MS 								
12/29/2005 10:38		AmtRec: 500P				Scr:	Alpha:	Beta:
4 HTOE8-1-AD-D J5L290283-2-MSD 								
12/29/2005 10:38		AmtRec: 500P				Scr:	Alpha:	Beta:
5 HTOE8-1-AE-X J5L290283-2-DUP 								
12/29/2005 10:38		AmtRec: 500P				Scr:	Alpha:	Beta:
6 HVDWQ-1-AA-B J6A100000-337-BLK 								
12/29/2005 10:38		AmtRec:				Scr:	Alpha:	Beta:
7 HVDWQ-1-AC-C J6A100000-337-LCS 								
12/29/2005 10:38		AmtRec:				Scr:	Alpha:	Beta:

3/10/2006 1:14:14 PM

Sample Preparation/Analysis

Balance Id: _____

88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

Pipet #: _____

EA Chromium, Hexavalent (7196A)

SI CLIENT: HANFORD

Sep1 DT/Tm Tech: _____

Report Due: 02/13/2006

Sep2 DT/Tm Tech: _____

Batch: 6010337

mg/L

Prep Tech: _____

SEQ Batch, Test: None

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, Bechtel Hanford, Inc.

Bechtel Hanford, Inc.

, HC , 27023

HT0E51AA-SAMP Constituent List:

HEXCHROME	RDL:0.002	mg/L	LCL:85	UCL:115	RPD:20
HT0E81AC-MS:					
HEXCHROME	RDL:0.002	mg/L	LCL:85	UCL:115	RPD:20
HT0E81AD-MSD:					
HEXCHROME	RDL:0.002	mg/L	LCL:85	UCL:115	RPD:20
HVDWQ1AA-BLK:					
HEXCHROME	RDL:0.002	mg/L	LCL:	UCL:	RPD:
HVDWQ1AC-LCS:					
HEXCHROME	RDL:0.002	mg/L	LCL:85	UCL:115	RPD:20

HT0E51AA-SAMP Calc Info:

Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
HT0E81AC-MS:				
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
HT0E81AD-MSD:				
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
HVDWQ1AA-BLK:				
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
HVDWQ1AC-LCS:				
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B

Approved By _____

Date: _____