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EDMC

SAF-RC-032
100-F Remaining Sites Burial Grounds - Soil Full Protocol
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Randy Coffman	X9-07	KW 9/27/07 INITIAL/DATE
Jeanette Duncan	H4-21	KW 9/27/07 INITIAL/DATE

COMMENTS:

SDG J00128 **SAF-RC-032**

Rad only Chem only X Rad & Chem

X Complete Partial

Waste Site: **100-F-26:12 BCL Soil/Verification**

Analytical Data Package Prepared For

Washington Closure Hanford

RECEIVED
SEP 2007

Radiochemical Analysis By

TAL Richland

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

Assigned Laboratory Code: STLRL

Data Package Contains 61 ***Pages***

Report No.: 36829

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
J00128	RC-032	J15HB8	J7I060212-1	J6AA51AK	9J6AA510	7254219
		J15HB8	J7I060212-1	J6AA51AD	9J6AA510	7254220
		J15HB8	J7I060212-1	J6AA51AE	9J6AA510	7254222
		J15HB8	J7I060212-1	J6AA51AF	9J6AA510	7254223
		J15HB8	J7I060212-1	J6AA51AC	9J6AA510	7254224
		J15HB8	J7I060212-1	J6AA51AG	9J6AA510	7254225
		J15HB8	J7I060212-1	J6AA51AH	9J6AA510	7254227
		J15HB8	J7I060212-1	J6AA51AA	9J6AA510	7254230

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

September 26, 2007

Attention: Joan Kessner

SAF Number	:	RC-032
Date SDG Closed	:	September 6, 2007
Number of Samples	:	One (1)
Sample Type	:	Soil
SDG Number	:	J00128
Data Deliverable	:	15 Day / Summary

CASE NARRATIVE

I. Introduction

On September 6, 2007one soil sample was received at TestAmerica Richland (TARL) for radiochemical and 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#	TARL ID#	MATRIX	DATE OF RECEIPT
J15HB8	J6AA5	SOIL	9/6/07

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:

Gas Proportional Counting
Gross Alpha by method RICH-RC-5014
Gross Beta by method RICH-RC-5014
Total Strontium by method RICH-RC-5006
Gamma Spectroscopy
Gamma Spec by method RICH-RC-5017
Liquid Scintillation Counter
Carbon-14 by method RICH-RC-5022
Nickel-63 by method RICH-RC-5069
Tritium by method RICH-RC-5007
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

Gas Proportional Counting
Gross Alpha by method RICH-RC-5014:
The LCS, batch blank, samples and sample duplicate (J15HB8) results are within contractual requirements.

Gross Beta by method RICH-RC-5014:
The LCS, batch blank, samples and sample duplicate (J15HB8) results are within contractual requirements.

Total Strontium by method RICH-RC-5006:
The LCS, batch blank, sample and sample duplicate (J15HB8) results are within contractual requirements.

Gamma Spectroscopy
Gamma Spec by method RICH-RC-5017:
The LCS, batch blank, sample and sample duplicate (J15HB8) results are within contractual requirements.

Liquid Scintillation Counter
Carbon-14 by method RICH-RC-5022:
The LCS, batch blank, sample and sample duplicate (J15HB8) results are within contractual requirements.

Nickel-63 by method RICH-RC-5069:
The LCS, batch blank, sample and sample duplicate (J15HB8) results are within contractual requirements.

Tritium by method RICH-RC-5007
The LCS, batch blank, sample and sample duplicate (J15HB8) results are within contractual requirements.

Chemical Analysis
Hexavalent Chromium by EPA method 7196A:
The matrix spike recovery was low. An insoluble matrix spike was analyzed and was acceptable. Except as noted, the LCS, batch blank, sample, sample duplicate (J15HB8) and sample matrix spike (J15HB8) 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:

for 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 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

Uncertainty Estimation

Test America 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 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) ***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 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 * 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 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

TAL Richland STLRL

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

Date: 27-Sep-07

Report No. : 36829

SDG No: J00128

Batch	Client Id / Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
7254219 GAMMA_GS									
J15HB8									
	J6AA51AK	AG-108M	-5.30E-03 +- 6.86E-03	U	pCi/g		1.13E-02		
		BA-133	7.70E-03 +- 1.09E-02	U	pCi/g		1.60E-02		
		CO-60	-1.77E-03 +- 1.00E-02	U	pCi/g		1.70E-02	5.00E-02	
		CS-137	8.75E-03 +- 9.70E-03	U	pCi/g		1.71E-02	1.00E-01	
		EU-152	-7.93E-03 +- 2.29E-02	U	pCi/g		3.68E-02	1.00E-01	
		EU-154	6.54E-03 +- 3.47E-02	U	pCi/g		5.96E-02	1.00E-01	
		EU-155	4.81E-02 +- 2.62E-02	U	pCi/g		4.39E-02	1.00E-01	
J15HB8 DUP									
	J6AA51AL	AG-108M	-3.29E-03 +- 6.02E-03	U	pCi/g		9.90E-03		
		BA-133	2.04E-03 +- 9.87E-03	U	pCi/g		1.44E-02		
		CO-60	2.69E-03 +- 9.17E-03	U	pCi/g		1.61E-02	5.00E-02	
		CS-137	-1.09E-02 +- 9.03E-03	U	pCi/g		1.42E-02	1.00E-01	
		EU-152	-1.55E-02 +- 2.10E-02	U	pCi/g		3.48E-02	1.00E-01	
		EU-154	-1.17E-02 +- 3.05E-02	U	pCi/g		5.13E-02	1.00E-01	
		EU-155	2.86E-02 +- 2.59E-02	U	pCi/g		4.28E-02	1.00E-01	
7254222 9310_ALPHABETA_GPC									
J15HB8									
	J6AA51AE	ALPHA	4.35E+00 +- 5.57E+00	U	pCi/g	100%	7.78E+00	1.00E+01	
J15HB8 DUP									
	J6AA51AN	ALPHA	-4.38E-01 +- 1.91E+00	U	pCi/g	100%	7.37E+00	1.00E+01	244.8
7254223 9310_ALPHABETA_GPC									
J15HB8									
	J6AA51AF	BETA	2.25E+01 +- 6.06E+00		pCi/g	100%	4.52E+00	1.50E+01	
J15HB8 DUP									
	J6AA51AP	BETA	2.06E+01 +- 4.61E+00		pCi/g	100%	4.44E+00	1.50E+01	8.8
7254224 SRTOT_SEP_PRECIP_GPC									
J15HB8									
	J6AA51AC	STRONTIUM	2.24E-02 +- 6.66E-02	U	pCi/g	78%	1.51E-01		
J15HB8 DUP									
	J6AA51AQ	STRONTIUM	8.16E-02 +- 6.92E-02	U	pCi/g	80%	1.35E-01		113.7
7254220 NI63_LSC									
J15HB8									
	J6AA51AD	NI-63	1.36E-01 +- 4.48E+00	U	pCi/g	92%	6.03E+00	3.00E+01	
J15HB8 DUP									
	J6AA51AM	NI-63	-2.81E-01 +- 4.72E+00	U	pCi/g	87%	6.40E+00	3.00E+01	-575.4
7254225 906.0_H3_LSC									
J15HB8									
	J6AA51AG	H-3	3.45E-03 +- 1.01E-02	U	pCi/g	100%	2.09E-02	4.00E+02	

TAL Richland

rptSTLRchSaSummary2 V5.1.4
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.

Sample Results Summary

TAL Richland STLRL

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

Date: 27-Sep-07

Report No. : 36829

SDG No: J00128

Batch	Client Id / Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
7254225 906.0_H3_LSC									
J15HB8 DUP									
	J6AA51AR	H-3	7.87E-03 +- 1.04E-02	U	pCi/g	100%	2.07E-02	4.00E+02	78.0
7254227 C14_CHEM_LSC									
J15HB8									
	J6AA51AH	C-14	2.50E-02 +- 7.05E-01	U	pCi/g	100%	8.45E-01	5.00E+01	
J15HB8 DUP									
	J6AA51AT	C-14	3.47E-02 +- 7.05E-01	U	pCi/g	100%	8.43E-01	5.00E+01	32.5
7254230 7196_CR6									
J15HB8									
	J6AA51AA	HEXCHROME	8.30E-01 +- 0.00E+00		mg/kg	N/A		3.50E-01	
J15HB8 DUP									
	J6AA51AE	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A			81.4

No. of Results: 28

TAL Richland

rptSTLRchSaSummary2 V5.1.4 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
TAL Richland STLRL

Date: 27-Sep-07

Ordered by Method, Batch No, QC Type,.

Report No. : 36829 **SDG No.:** J00128

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
GAMMA_GS								
7254219 BLANK QC,								
J6H6T1AA	AG-108M	9.40E-05 +- 2.85E-03	U	pCi/g				5.11E-03
	BA-133	2.86E-03 +- 4.53E-03	U	pCi/g				7.12E-03
	CO-60	1.12E-03 +- 3.52E-03	U	pCi/g				6.99E-03
	CS-137	-6.81E-04 +- 3.51E-03	U	pCi/g				6.14E-03
	EU-152	3.42E-03 +- 9.97E-03	U	pCi/g				1.74E-02
	EU-154	-7.93E-03 +- 1.15E-02	U	pCi/g				1.88E-02
	EU-155	-6.57E-03 +- 9.86E-03	U	pCi/g				1.61E-02
7254219 LCS,								
J6H6T1AC	CS-137	2.41E-01 +- 4.52E-02		pCi/g		94%	-0.1	2.75E-02
	K-40	1.75E+01 +- 2.19E+00		pCi/g		90%	-0.1	2.04E-01
	RA-226	9.92E-01 +- 1.44E-01		pCi/g		86%	-0.1	4.52E-02
	RA-228	1.83E+00 +- 2.67E-01		pCi/g		98%	0.0	8.53E-02
	U-238	1.03E+00 +- 1.39E-01		pCi/g		98%	0.0	4.60E-02
9310_ALPHABETA_GPC								
7254222 BLANK QC,								
J6H621AA	ALPHA	2.02E-01 +- 1.46E+00	U	pCi/g	100%			4.06E+00
7254222 LCS,								
J6H621AC	ALPHA	8.74E+01 +- 6.50E+01		pCi/g	100%	96%	0.0	3.76E+00
9310_ALPHABETA_GPC								
7254223 BLANK QC,								
J6H641AA	BETA	2.59E-01 +- 1.71E+00	U	pCi/g	100%			3.99E+00
7254223 LCS,								
J6H641AC	BETA	6.07E+01 +- 1.02E+01		pCi/g	100%	90%	-0.1	4.12E+00
SRTOT_SEP_PRECIP_GPC								
7254224 BLANK QC,								
J6H651AA	STRONTIUM	-1.62E-02 +- 5.55E-02	U	pCi/g	82%			1.37E-01
7254224 LCS,								
J6H651AC	STRONTIUM	1.09E+00 +- 3.12E-01		pCi/g	85%	96%	0.0	1.29E-01
NI63_LSC								
7254220 BLANK QC,								
J6H6X1AA	NI-63	-3.66E+00 +- 3.96E+00	U	pCi/g	99%			5.61E+00
7254220 LCS,								
J6H6X1AC	NI-63	4.78E+02 +- 4.84E+01		pCi/g	95%	78%	-0.2	5.82E+00
906.0_H3_LSC								
7254225 BLANK QC,								
J6H661AA	H-3	1.06E-01 +- 1.55E-01	U	pCi/g	100%			3.10E-01
7254225 LCS,								
J6H661AC	H-3	2.50E+00 +- 2.53E-01		pCi/g	100%	92%	-0.1	3.10E-01
C14_CHEM_LSC								
7254227 BLANK QC,								

TAL Richland

rptSTLRchQcSummary V5.1.4 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.

QC Results Summary
TAL Richland STLRL

Date: 27-Sep-07

Ordered by Method, Batch No, QC Type,.

Report No. : 36829 **SDG No.:** J00128

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
J6H691AA	C-14	-8.70E-02 +- 2.73E-01	U	pCi/g	100%			3.39E-01
7254227 LCS,								
J6H691AC	C-14	7.28E+00 +- 1.04E+00		pCi/g	100%	100%	0.0	3.40E-01
7196_CR6								
7254230 BLANK QC,								
J6H7D1AA	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A			
7254230 LCS,								
J6H7D1AC	HEXCHROME	1.97E+01 +- 0.00E+00		mg/kg	N/A	99%	0.0	
7254230 MATRIX SPIKE, J15HB8 DUP								
J6AA51AC	HEXCHROME	3.39E+00 +- 0.00E+00		mg/kg	N/A	35%	-0.7	

No. of Results: 27

TAL Richland
rptSTLRchQcSummary V5.1.4 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 RICHLAND

FORM I

SAMPLE RESULTS

Date: 27-Sep-07

Lab Name:	TA Richland	SDG:	J00128	Collection Date:	9/5/2007 9:30:00 AM
Lot-Sample No.:	J7I060212-1	Report No. :	36829	Received Date:	9/6/2007 10:05:00 AM
Client Sample ID:	J15HB8	COC No. :		Matrix:	SOIL

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: 7254219	GAMMA_GS			Work Order: J6AA51AK			Report DB ID: 9J6AA510					
AG-108M	-5.30E-03	U	6.9E-03	6.9E-03	1.13E-02	pCi/g		-0.47	9/12/07 05:35 a		950.6	GER6$1
								-(1.5)			g	
BA-133	7.70E-03	U	1.1E-02	1.1E-02	1.60E-02	pCi/g		0.48	9/12/07 05:35 a		950.6	GER6$1
								(1.4)			g	
CO-60	-1.77E-03	U	1.0E-02	1.0E-02	1.70E-02	pCi/g		-0.1	9/12/07 05:35 a		950.6	GER6$1
							5.00E-02	-0.35			g	
CS-137	8.75E-03	U	9.7E-03	9.7E-03	1.71E-02	pCi/g		0.51	9/12/07 05:35 a		950.6	GER6$1
							1.00E-01	(1.8)			g	
EU-152	-7.93E-03	U	2.3E-02	2.3E-02	3.68E-02	pCi/g		-0.22	9/12/07 05:35 a		950.6	GER6$1
							1.00E-01	-0.69			g	
EU-154	6.54E-03	U	3.5E-02	3.5E-02	5.96E-02	pCi/g		0.11	9/12/07 05:35 a		950.6	GER6$1
							1.00E-01	0.38			g	
EU-155	4.81E-02	U	2.6E-02	2.6E-02	4.39E-02	pCi/g		(1.1)	9/12/07 05:35 a		950.6	GER6$1
							1.00E-01	(3.7)			g	
Batch: 7254220	NI63_LSC			Work Order: J6AA51AD			Report DB ID: 9J6AA510					
NI-63	1.36E-01	U	2.5E+00	4.5E+00	6.03E+00	pCi/g	92%	0.02	9/13/07 04:29 a		0.25	LSC4
						2.93E+00	3.00E+01	0.06			G	
Batch: 7254222	9310_ALPHABETA_GPC			Work Order: J6AA51AE			Report DB ID: 9J6AA510					
ALPHA	4.35E+00	U	4.6E+00	5.6E+00	7.78E+00	pCi/g	100%	0.56	9/12/07 08:23 p		0.0503	GPC10A
						2.74E+00	1.00E+01	(1.6)			G	
Batch: 7254223	9310_ALPHABETA_GPC			Work Order: J6AA51AF			Report DB ID: 9J6AA510					

TAL Richland
rptSTLRchSample
V5.1.4 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 RICHLAND

FORM I

SAMPLE RESULTS

Date: 27-Sep-07

Lab Name:	TA Richland	**SDG:**	J00128	**Collection Date:**	9/5/2007 9:30:00 AM
Lot-Sample No.:	J7I060212-1	**Report No. :**	36829	**Received Date:**	9/6/2007 10:05:00 AM
Client Sample ID:	J15HB8	**COC No. :**		**Matrix:**	SOIL

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
BETA	***2.25E+01***		3.8E+00	6.1E+00	4.52E+00	pCi/g	100%	*(5.)*	9/13/07 05:51 a		0.2005	GPC28A
						2.10E+00	1.50E+01	*(7.4)*			G	
Batch: 7254224	SRTOT_SEP_PRECIP_GPC			**Work Order:**	J6AA51AC		**Report DB ID:**	9J6AA510				
STRONTIUM	***2.24E-02***	U	6.6E-02	6.7E-02	1.51E-01	pCi/g	78%	*0.15*	9/14/07 12:49 p		6.05	GPC26A
						7.09E-02		*0.67*			G	
Batch: 7254225	906.0_H3_LSC			**Work Order:**	J6AA51AG		**Report DB ID:**	9J6AA510				
H-3	***3.45E-03***	U	8.6E-03	1.0E-02	2.09E-02	pCi/g	100%	*0.17*	9/12/07 03:45 a		100.6	LSC8
						9.96E-03	4.00E+02	*0.68*			G	
Batch: 7254227	C14_CHEM_LSC			**Work Order:**	J6AA51AH		**Report DB ID:**	9J6AA510				
C-14	***2.50E-02***	U	3.5E-01	7.0E-01	8.45E-01	pCi/g	100%	*0.03*	9/14/07 02:35 a		2.003	LSC4
						4.06E-01	5.00E+01	*0.07*			G	
Batch: 7254230	7196_CR6			**Work Order:**	J6AA51AA		**Report DB ID:**	9J6AA510				
HEXCHROME	***8.30E-01***			0.0E+00		mg/kg	N/A	*N/A*	9/12/07		2.58	
							3.50E-01	*N/A*			G	

No. of Results: 14 **Comments:**

TAL Richland
rptSTLRchSample
V5.1.4 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 RICHLAND

FORM II

Date: 27-Sep-07

DUPLICATE RESULTS

Lab Name:	TA Richland	SDG:	J00128	Collection Date:	9/5/2007 9:30:00 AM
Lot-Sample No.:	J7I060212-1	Report No. :	36829	Received Date:	9/6/2007 10:05:00 AM
Client Sample ID:	J15HB8 DUP	COC No. :		Matrix:	SOIL

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: 7254219	GAMMA_GS			Work Order: J6AA51AL		Report DB ID: J6AA51LR			Orig Sa DB ID: 9J6AA510			
AG-108M	-3.29E-03	U	6.0E-03	6.0E-03	9.90E-03	pCi/g		-0.33	9/12/07 10:48 a		950.6	GER7$1
	-5.30E-03	U	RPD	-46.9				-(1.1)			g	
BA-133	2.04E-03	U	9.9E-03	9.9E-03	1.44E-02	pCi/g		0.14	9/12/07 10:48 a		950.6	GER7$1
	7.70E-03	U	RPD	116.2				0.41			g	
CO-60	2.69E-03	U	9.2E-03	9.2E-03	1.61E-02	pCi/g		0.17	9/12/07 10:48 a		950.6	GER7$1
	-1.77E-03	U	RPD	969.5		5.00E-02		0.59			g	
CS-137	-1.09E-02	U	9.0E-03	9.0E-03	1.42E-02	pCi/g		-0.76	9/12/07 10:48 a		950.6	GER7$1
	8.75E-03	U	RPD	-1868.6		1.00E-01		-(2.4)			g	
EU-152	-1.55E-02	U	2.1E-02	2.1E-02	3.48E-02	pCi/g		-0.45	9/12/07 10:48 a		950.6	GER7$1
	-7.93E-03	U	RPD	-64.5		1.00E-01		-(1.5)			g	
EU-154	-1.17E-02	U	3.1E-02	3.1E-02	5.13E-02	pCi/g		-0.23	9/12/07 10:48 a		950.6	GER7$1
	6.54E-03	U	RPD	-706.6		1.00E-01		-0.77			g	
EU-155	2.86E-02	U	2.6E-02	2.6E-02	4.28E-02	pCi/g		0.67	9/12/07 10:48 a		950.6	GER7$1
	4.81E-02	U	RPD	50.7		1.00E-01		(2.2)			g	
Batch: 7254220	NI63_LSC			Work Order: J6AA51AM		Report DB ID: J6AA51MR			Orig Sa DB ID: 9J6AA510			
NI-63	-2.81E-01	U	2.7E+00	4.7E+00	6.40E+00	pCi/g	87%	-0.04	9/13/07 06:11 a		0.25	LSC4
	1.36E-01	U	RPD	-575.4		3.00E+01		-0.12			G	
Batch: 7254222	9310_ALPHABETA_GPC			Work Order: J6AA51AN		Report DB ID: J6AA51NR			Orig Sa DB ID: 9J6AA510			
ALPHA	-4.38E-01	U	1.9E+00	1.9E+00	7.37E+00	pCi/g	100%	-0.06	9/12/07 08:23 p		0.0505	GPC10B
	4.35E+00	U	RPD	244.8		1.00E+01		-0.46			G	

TAL Richland
rptSTLRchDupV5.1
.4 A2002

RPD - Relative Percent Difference.
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 RICHLAND

FORM II

Date: 27-Sep-07

DUPLICATE RESULTS

Lab Name:	TA Richland	SDG:	J00128	Collection Date:	9/5/2007 9:30:00 AM
Lot-Sample No.:	J7I060212-1	Report No. :	36829	Received Date:	9/6/2007 10:05:00 AM
Client Sample ID:	J15HB8 DUP	COC No. :		Matrix:	SOIL

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: 7254223	9310_ALPHABETA_GPC			Work Order: J6AA51AP		Report DB ID: J6AA51PR			Orig Sa DB ID: 9J6AA510			
BETA	2.06E+01		3.6E+00	4.6E+00	4.44E+00	pCi/g	100%	(4.6)	9/13/07 05:51 a		0.2003	GPC28B
	2.25E+01		RPD	8.8		1.50E+01		(8.9)			G	
Batch: 7254224	SRTOT_SEP_PRECIP_GPC			Work Order: J6AA51AQ		Report DB ID: J6AA51QR			Orig Sa DB ID: 9J6AA510			
STRONTIUM	8.16E-02	U	6.6E-02	6.9E-02	1.35E-01	pCi/g	80%	0.6	9/14/07 12:49 p		6.04	GPC26B
	2.24E-02	U	RPD	113.7				(2.4)			G	
Batch: 7254225	906.0_H3_LSC			Work Order: J6AA51AR		Report DB ID: J6AA51RR			Orig Sa DB ID: 9J6AA510			
H-3	7.87E-03	U	8.8E-03	1.0E-02	2.07E-02	pCi/g	100%	0.38	9/12/07 05:07 a		100.6	LSC8
	3.45E-03	U	RPD	78.0		4.00E+02		(1.5)			G	
Batch: 7254227	C14_CHEM_LSC			Work Order: J6AA51AT		Report DB ID: J6AA51TR			Orig Sa DB ID: 9J6AA510			
C-14	3.47E-02	U	3.5E-01	7.0E-01	8.43E-01	pCi/g	100%	0.04	9/14/07 03:17 a		2.006	LSC4
	2.50E-02	U	RPD	32.5		5.00E+01		0.1			G	
Batch: 7254230	7196_CR6			Work Order: J6AA51AE		Report DB ID: J6AA51LR			Orig Sa DB ID: 9J6AA510			
HEXCHROME	3.50E-01	U		0.0E+00		mg/kg	N/A	N/A	9/12/07		2.7	
	8.30E-01		RPD	81.4				N/A			G	

No. of Results: 14 Comments:

TAL Richland
rptSTLRchDupV5.1.4 A2002

RPD - Relative Percent Difference.
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 RICHLAND

FORM II

BLANK RESULTS

Date: 27-Sep-07

Lab Name: TA Richland

Matrix: SOIL

SDG: J00128

Report No. : 36829

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: 7254230	7196_CR6			**Work Order:**	J6H7D1AA		**Report DB ID:**	J6H7D1AB				
HEXCHROME	3.50E-01	U		0.0E+00		mg/kg	N/A	N/A	9/12/07		2.5	
						3.50E-01		N/A			G	
Batch: 7254227	C14_CHEM_LSC			**Work Order:**	J6H691AA		**Report DB ID:**	J6H691AB				
C-14	-8.70E-02	U	1.4E-01	2.7E-01	3.39E-01	pCi/g	100%	-0.26	9/14/07 01:10 a		5.0	LSC4
					1.63E-01	5.00E+01		-0.64			G	
Batch: 7254220	NI63_LSC			**Work Order:**	J6H6X1AA		**Report DB ID:**	J6H6X1AB				
NI-63	-3.66E+00	U	2.2E+00	4.0E+00	5.61E+00	pCi/g	99%	-0.65	9/13/07 07:54 a		0.25	LSC4
					2.73E+00	3.00E+01		-(1.8)			G	
Batch: 7254225	906.0_H3_LSC			**Work Order:**	J6H661AA		**Report DB ID:**	J6H661AB				
H-3	1.06E-01	U	1.3E-01	1.6E-01	3.10E-01	pCi/g	100%	0.34	9/12/07 01:02 a		5.0	LSC8
					1.48E-01	4.00E+02		(1.4)			G	
Batch: 7254219	GAMMA_GS			**Work Order:**	J6H6T1AA		**Report DB ID:**	J6H6T1AB				
AG-108M	9.40E-05	U	2.9E-03	2.9E-03	5.11E-03	pCi/g		0.02	9/12/07 05:35 a		859.27	GER8$1
								0.07			g	
BA-133	2.86E-03	U	4.5E-03	4.5E-03	7.12E-03	pCi/g		0.4	9/12/07 05:35 a		859.27	GER8$1
								(1.3)			g	
CO-60	1.12E-03	U	3.5E-03	3.5E-03	6.99E-03	pCi/g		0.16	9/12/07 05:35 a		859.27	GER8$1
						5.00E-02		0.64			g	
CS-137	-6.81E-04	U	3.5E-03	3.5E-03	6.14E-03	pCi/g		-0.11	9/12/07 05:35 a		859.27	GER8$1
						1.00E-01		-0.39			g	
EU-152	3.42E-03	U	1.0E-02	1.0E-02	1.74E-02	pCi/g		0.2	9/12/07 05:35 a		859.27	GER8$1
						1.00E-01		0.68			g	

TAL Richland
rptSTLRchBlank
V5.1.4 A2002

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

BLANK RESULTS

Date: 27-Sep-07

Lab Name: TA Richland

Matrix: SOIL

SDG: J00128

Report No. : 36829

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
EU-154	-7.93E-03	U	1.1E-02	1.1E-02	1.88E-02	pCi/g		-0.42	9/12/07 05:35 a		859.27	GER8$1
						1.00E-01		-(1.4)			g	
EU-155	-6.57E-03	U	9.9E-03	9.9E-03	1.61E-02	pCi/g		-0.41	9/12/07 05:35 a		859.27	GER8$1
						1.00E-01		-(1.3)			g	
Batch: 7254222	9310_ALPHABETA_GPC			**Work Order:**	J6H621AA		**Report DB ID:**	J6H621AB				
ALPHA	2.02E-01	U	1.5E+00	1.5E+00	4.06E+00	pCi/g	100%	0.05	9/12/07 08:23 p		0.05	GPC10C
					1.49E+00	1.00E+01		0.28			G	
Batch: 7254223	9310_ALPHABETA_GPC			**Work Order:**	J6H641AA		**Report DB ID:**	J6H641AB				
BETA	2.59E-01	U	1.7E+00	1.7E+00	3.99E+00	pCi/g	100%	0.06	9/13/07 05:51 a		0.2	GPC28C
					1.86E+00	1.50E+01		0.3			G	
Batch: 7254224	SRTOT_SEP_PRECIP_GPC			**Work Order:**	J6H651AA		**Report DB ID:**	J6H651AB				
STRONTIUM	-1.62E-02	U	5.5E-02	5.5E-02	1.37E-01	pCi/g	82%	-0.12	9/14/07 12:49 p		6.0	GPC26C
					6.36E-02			-0.59			G	

No. of Results: 14 **Comments:**

TAL Richland
rptSTLRchBlank
V5.1.4 A2002

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TESTAMERICA RICHLAND

FORM II

LCS RESULTS

Date: 27-Sep-07

Lab Name: TA Richland

Matrix: SOIL

SDG: J00128

Report No. : 36829

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: 7254230	7196_CR6			**Work Order:** J6H7D1AC			**Report DB ID:** J6H7D1CS						
HEXCHROME	1.97E+01			0.0E+00		mg/kg	N/A	2.00E+01		99%	9/12/07	2.5	
							Rec Limits:	80	120	0.0		G	
Batch: 7254227	C14_CHEM_LSC			**Work Order:** J6H691AC			**Report DB ID:** J6H691CS						
C-14	7.28E+00		3.0E-01	1.0E+00	3.40E-01	pCi/g	100%	7.26E+00	2.4E-01	100%	9/14/07 01:53 a	5.0	LSC4
							Rec Limits:	70	130	0.0		G	
Batch: 7254220	NI63_LSC			**Work Order:** J6H6X1AC			**Report DB ID:** J6H6X1CS						
NI-63	4.78E+02		7.9E+00	4.8E+01	5.82E+00	pCi/g	95%	6.14E+02	1.7E+00	78%	9/13/07 09:36 a	0.25	LSC4
							Rec Limits:	70	130	-0.2		G	
Batch: 7254225	906.0_H3_LSC			**Work Order:** J6H661AC			**Report DB ID:** J6H661CS						
H-3	2.50E+00		2.1E-01	2.5E-01	3.10E-01	pCi/g	100%	2.71E+00	8.1E-02	92%	9/12/07 02:23 a	5.0	LSC8
							Rec Limits:	70	130	-0.1		G	
Batch: 7254219	GAMMA_GS			**Work Order:** J6H6T1AC			**Report DB ID:** J6H6T1CS						
CS-137	2.41E-01		4.5E-02	4.5E-02	2.75E-02	pCi/g		2.57E-01	1.2E-02	94%	9/12/07 05:36 a	457.79	GER5$1
							Rec Limits:	70	130	-0.1		g	
K-40	1.75E+01		2.2E+00	2.2E+00	2.04E-01	pCi/g		1.95E+01	1.9E+00	90%	9/12/07 05:36 a	457.79	GER5$1
							Rec Limits:	70	130	-0.1		g	
RA-226	9.92E-01		1.4E-01	1.4E-01	4.52E-02	pCi/g		1.15E+00	5.2E-02	86%	9/12/07 05:36 a	457.79	GER5$1
							Rec Limits:	70	130	-0.1		g	
RA-228	1.83E+00		2.7E-01	2.7E-01	8.53E-02	pCi/g		1.87E+00	9.6E-02	98%	9/12/07 05:36 a	457.79	GER5$1
							Rec Limits:	70	130	0.0		g	
U-238	1.03E+00		1.4E-01	1.4E-01	4.60E-02	pCi/g		1.05E+00	5.4E-02	98%	9/12/07 05:36 a	457.79	GER5$1
							Rec Limits:	70	130	0.0		g	

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

rptSTLRchLcs
V5.1.4 A2002

TESTAMERICA RICHLAND

FORM II

LCS RESULTS

Date: 27-Sep-07

Lab Name: TA Richland

Matrix: SOIL

SDG: J00128

Report No. : 36829

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: 7254222	9310_ALPHABETA_GPC			**Work Order:** J6H621AC			**Report DB ID:** J6H621CS						
ALPHA	8.74E+01		1.2E+01	6.5E+01	3.76E+00	pCi/g	100%	9.11E+01	1.4E+00	96%	9/12/07 08:23 p	0.05	GPC10D
							Rec Limits:	70	130	0.0		G	
Batch: 7254223	9310_ALPHABETA_GPC			**Work Order:** J6H641AC			**Report DB ID:** J6H641CS						
BETA	6.07E+01		5.3E+00	1.0E+01	4.12E+00	pCi/g	100%	6.73E+01	1.3E+00	90%	9/13/07 05:51 a	0.2	GPC28D
							Rec Limits:	70	130	-0.1		G	
Batch: 7254224	SRTOT_SEP_PRECIP_GPC			**Work Order:** J6H651AC			**Report DB ID:** J6H651CS						
STRONTIUM	1.09E+00		1.3E-01	3.1E-01	1.29E-01	pCi/g	85%	1.14E+00	2.2E-02	96%	9/14/07 12:49 p	6.0	GPC26D
							Rec Limits:	70	130	0.0		G	

No. of Results: 12 **Comments:**

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

rptSTLRchLcs
V5.1.4 A2002

FORM II

MATRIX SPIKE RESULTS

Date: 27-Sep-07

Lab Name: TA Richland **SDG:** J00128

Lot-Sample No.: J7I060212-1, J15HB8 DUP **Report No. :** 36829 **Matrix:** SOIL

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: 7254230	Work Order: J6AA51AC			Report DB ID: J6AA51AC			Orig Sa DB ID: 9J6AA510						
HEXCHROME	3.39E+00			0.0E+00		mg/kg	N/A	34.98%	9.69E+00		9/12/07	2.58	7196_CR6
	8.30E-01											G	

Number of Results: 1

Comments:

TAL Richland
rptSTLRchMs
V5.1.4 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.

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

9/13/2007 10:45:51 AM

Lot No., Due Date: J7I060212; 09/21/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7254222; RALPHA-A Alpha by GPC-Am

SDG, Matrix: J00128; SOIL

1.0 COC

	Yes	No	N/A
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓		

2.0 QC Batch

	Yes	No	N/A
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2.2 Are the QC appropriate for the analysis included in the batch?	✓		
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓		
2.4 Does the Worksheets include a Tracer Vial label for each sample?			✓

3.0 QC & Samples

	Yes	No	N/A
3.1 Is the blank results, yield, and MDA within contract limits?	✓		
3.2 Is the LCS result, yield, and MDA within contract limits?	✓		
3.3 Are the MS/MSD results, yields, and MDA within contract limits?			✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?	✓		
3.5 Are the sample yields and MDAs within contract limits?	✓		

4.0 Raw Data

	Yes	No	N/A
4.1 Were results calculated in the correct units?	✓		
4.2 Were analysis volumes entered correctly?	✓		
4.3 Were Yields entered correctly?			✓
4.4 Were spectra reviewed/meet contractual requirements?			✓
4.5 Were raw counts reviewed for anomalies?	✓		

5.0 Other

	Yes	No	N/A
5.1 Are all nonconformances included and noted?			✓
5.2 Are all required forms filled out?	✓		
5.3 Was the correct methodology used?	✓		
5.4 Was transcription checked?	✓		
5.5 Were all calculations checked at a minimum frequency?	✓		
5.6 Are worksheet entries complete and correct?	✓		

6.0 Comments on any No response:

First Level Review Tina Chutonson **Date** 9/13/07

SEVERN TRENT **STL**

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7254222

Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis 1. Are the sample yields within acceptance criteria?			✓
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other 1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: _____

Second Level Review: Jodie G Date: 9/26/07

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

9/13/2007 10:36:13 AM

Lot No., Due Date: J7I060212; 09/21/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7254223; RBETA-SR Beta by GPC-Sr/Y

SDG, Matrix: J00128; SOIL

1.0 COC

	Yes	No	N/A
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓		

2.0 QC Batch

	Yes	No	N/A
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2.2 Are the QC appropriate for the analysis included in the batch?	✓		
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓		
2.4 Does the Worksheets include a Tracer Vial label for each sample?			✓

3.0 QC & Samples

	Yes	No	N/A
3.1 Is the blank results, yield, and MDA within contract limits?	✓		
3.2 Is the LCS result, yield, and MDA within contract limits?	✓		
3.3 Are the MS/MSD results, yields, and MDA within contract limits?			✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?	✓		
3.5 Are the sample yields and MDAs within contract limits?	✓		

4.0 Raw Data

	Yes	No	N/A
4.1 Were results calculated in the correct units?	✓		
4.2 Were analysis volumes entered correctly?	✓		
4.3 Were Yields entered correctly?			✓
4.4 Were spectra reviewed/meet contractual requirements?			✓
4.5 Were raw counts reviewed for anomalies?			

5.0 Other

	Yes	No	N/A
5.1 Are all nonconformances included and noted?			✓
5.2 Are all required forms filled out?	✓		
5.3 Was the correct methodology used?	✓		
5.4 Was transcription checked?	✓		
5.5 Were all calculations checked at a minimum frequency?	✓		
5.6 Are worksheet entries complete and correct?	✓		

6.0 Comments on any No response:

First Level Review Lisa Anderson **Date** 9/13/07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7254223

Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis 1. Are the sample yields within acceptance criteria?			✓
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other 1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: _____

Second Level Review: Jodie C Date: 9/26/07

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

9/15/2007 9:21:22 AM

Lot No., Due Date: J7I060212; 09/21/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7254224; RSRTOT SrTot by GPC

SDG, Matrix: J00128; SOIL

1.0 COC

	Yes	No	N/A
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓		

2.0 QC Batch

	Yes	No	N/A
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2.2 Are the QC appropriate for the analysis included in the batch?	✓		
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓		
2.4 Does the Worksheets include a Tracer Vial label for each sample?	✓		

3.0 QC & Samples

	Yes	No	N/A
3.1 Is the blank results, yield, and MDA within contract limits?	✓		
3.2 Is the LCS result, yield, and MDA within contract limits?	✓		
3.3 Are the MS/MSD results, yields, and MDA within contract limits?			✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?	✓		
3.5 Are the sample yields and MDAs within contract limits?	✓		

4.0 Raw Data

	Yes	No	N/A
4.1 Were results calculated in the correct units?	✓		
4.2 Were analysis volumes entered correctly?	✓		
4.3 Were Yields entered correctly?			✓
4.4 Were spectra reviewed/meet contractual requirements?			✓
4.5 Were raw counts reviewed for anomalies?	✓		

5.0 Other

	Yes	No	N/A
5.1 Are all nonconformances included and noted?			✓
5.2 Are all required forms filled out?	✓		
5.3 Was the correct methodology used?	✓		
5.4 Was transcription checked?	✓		
5.5 Were all calculations checked at a minimum frequency?	✓		
5.6 Are worksheet entries complete and correct?	✓		

6.0 Comments on any No response:

First Level Review Tina Anderson **Date** 9/15/07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7254224

Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis 1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other 1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: _____

Second Level Review: Jodie G Date: 9/26/07

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

9/13/2007 9:30:18 AM

Lot No., Due Date: J7I060212; 09/21/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7254219; RGAMMA Gamma by GER

SDG, Matrix: J00128; SOIL

	Yes	No	N/A
1.0 COC			
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓		
2.0 QC Batch			
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2.2 Are the QC appropriate for the analysis included in the batch?	✓		
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓		
2.4 Does the Worksheets include a Tracer Vial label for each sample?			✓
3.0 QC & Samples			
3.1 Is the blank results, yield, and MDA within contract limits?	✓		
3.2 Is the LCS result, yield, and MDA within contract limits?	✓		
3.3 Are the MS/MSD results, yields, and MDA within contract limits?			✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?	✓		
3.5 Are the sample yields and MDAs within contract limits?	✓		
4.0 Raw Data			
4.1 Were results calculated in the correct units?	✓		
4.2 Were analysis volumes entered correctly?	✓		
4.3 Were Yields entered correctly?			✓
4.4 Were spectra reviewed/meet contractual requirements?	✓		
4.5 Were raw counts reviewed for anomalies?	✓		
5.0 Other			
5.1 Are all nonconformances included and noted?			✓
5.2 Are all required forms filled out?	✓		
5.3 Was the correct methodology used?	✓		
5.4 Was transcription checked?	✓		
5.5 Were all calculations checked at a minimum frequency?	✓		
5.6 Are worksheet entries complete and correct?	✓		

6.0 Comments on any No response:

First Level Review Lisa Gustafson **Date** 9/13/07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7254219

Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis 1. Are the sample yields within acceptance criteria?			✓
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other 1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: _____

Second Level Review: Jodie G Date: 9/26/07

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

9/18/2007 8:41:03 AM

Lot No.. Due Date: J7I060212; 09/21/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7254227; RC14 C-14 by LSC

SDG, Matrix: J00128; SOIL

1.0 COC			
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	Yes ✓	No	N/A
2.0 QC Batch			
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yes ✓	No	N/A
2.2 Are the QC appropriate for the analysis included in the batch?	Yes ✓	No	N/A
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes ✓	No	N/A
2.4 Does the Worksheets include a Tracer Vial label for each sample?	Yes	No	N/A ✓
3.0 QC & Samples			
3.1 Is the blank results, yield, and MDA within contract limits?	Yes ✓	No	N/A
3.2 Is the LCS result, yield, and MDA within contract limits?	Yes ✓	No	N/A
3.3 Are the MS/MSD results, yields, and MDA within contract limits?	Yes	No	N/A ✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?	Yes ✓	No	N/A
3.5 Are the sample yields and MDAs within contract limits?	Yes ✓	No	N/A
4.0 Raw Data			
4.1 Were results calculated in the correct units?	Yes ✓	No	N/A
4.2 Were analysis volumes entered correctly?	Yes ✓	No	N/A
4.3 Were Yields entered correctly?	Yes	No	N/A ✓
4.4 Were spectra reviewed/meet contractual requirements?	Yes	No	N/A ✓
4.5 Were raw counts reviewed for anomalies?	Yes ✓	No	N/A
5.0 Other			
5.1 Are all nonconformances included and noted?	Yes	No	N/A ✓
5.2 Are all required forms filled out?	Yes ✓	No	N/A
5.3 Was the correct methodology used?	Yes ✓	No	N/A
5.4 Was transcription checked?	Yes ✓	No	N/A
5.5 Were all calculations checked at a minimum frequency?	Yes ✓	No	N/A
5.6 Are worksheet entries complete and correct?	Yes ✓	No	N/A

6.0 Comments on any No response:

First Level Review Lisa Cuthonson **Date** 9/18/07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7254227

Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis 1. Are the sample yields within acceptance criteria?			✓
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other 1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: _____

Second Level Review: Jodie G Date: 9/26/07

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

9/25/2007 2:30:50 PM

Lot No., Due Date: J7I060212; 09/21/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7254220; RNI63 Ni-63 by LSC

SDG, Matrix: J00128; SOIL

1.0 COC			
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	Yes ✓	No	N/A
2.0 QC Batch			
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yes ✓	No	N/A
2.2 Are the QC appropriate for the analysis included in the batch?	Yes ✓	No	N/A
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes ✓	No	N/A
2.4 Does the Worksheets include a Tracer Vial label for each sample?	Yes ✓	No	N/A
3.0 QC & Samples			
3.1 Is the blank results, yield, and MDA within contract limits?	Yes ✓	No	N/A
3.2 Is the LCS result, yield, and MDA within contract limits?	Yes ✓	No	N/A
3.3 Are the MS/MSD results, yields, and MDA within contract limits?	Yes	No	N/A ✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?	Yes ✓	No	N/A
3.5 Are the sample yields and MDAs within contract limits?	Yes ✓	No	N/A
4.0 Raw Data			
4.1 Were results calculated in the correct units?	Yes ✓	No	N/A
4.2 Were analysis volumes entered correctly?	Yes ✓	No	N/A
4.3 Were Yields entered correctly?	Yes ✓	No	N/A
4.4 Were spectra reviewed/meet contractual requirements?	Yes	No	N/A ✓
4.5 Were raw counts reviewed for anomalies?	Yes ✓	No	N/A
5.0 Other			
5.1 Are all nonconformances included and noted?	Yes	No	N/A ✓
5.2 Are all required forms filled out?	Yes ✓	No	N/A
5.3 Was the correct methodology used?	Yes ✓	No	N/A
5.4 Was transcription checked?	Yes ✓	No	N/A
5.5 Were all calculations checked at a minimum frequency?	Yes	No	N/A ✓
5.6 Are worksheet entries complete and correct?	Yes ✓	No	N/A

6.0 Comments on any No response:

First Level Review John Northcutt **Date** 9-25-7

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7254220

Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis 1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other 1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: _____

Second Level Review: Jodie G Date: 9/26/07

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

9/12/2007 1:42:14 PM

Lot No., Due Date: J7I060212; 09/21/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7254225; RTRITIUM H-3 by LSC

SDG, Matrix: J00128; SOIL

1.0 COC			
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓ Yes	No	N/A
2.0 QC Batch			
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓ Yes	No	N/A
2.2 Are the QC appropriate for the analysis included in the batch?	✓ Yes	No	N/A
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓ Yes	No	N/A
2.4 Does the Worksheets include a Tracer Vial label for each sample?	Yes	No	✓ N/A
3.0 QC & Samples			
3.1 Is the blank results, yield, and MDA within contract limits?	✓ Yes	No	N/A
3.2 Is the LCS result, yield, and MDA within contract limits?	✓ Yes	No	N/A
3.3 Are the MS/MSD results, yields, and MDA within contract limits?	Yes	No	✓ N/A
3.4 Are the duplicate result, yields, and MDAs within contract limits?	✓ Yes	No	N/A
3.5 Are the sample yields and MDAs within contract limits?	✓ Yes	No	N/A
4.0 Raw Data			
4.1 Were results calculated in the correct units?	✓ Yes	No	N/A
4.2 Were analysis volumes entered correctly?	✓ Yes	No	N/A
4.3 Were Yields entered correctly?	✓ Yes	No	N/A
4.4 Were spectra reviewed/meet contractual requirements?	Yes	No	✓ N/A
4.5 Were raw counts reviewed for anomalies?	✓ Yes	No	N/A
5.0 Other			
5.1 Are all nonconformances included and noted?	Yes	No	✓ N/A
5.2 Are all required forms filled out?	✓ Yes	No	N/A
5.3 Was the correct methodology used?	✓ Yes	No	N/A
5.4 Was transcription checked?	✓ Yes	No	N/A
5.5 Were all calculations checked at a minimum frequency?	Yes	No	✓ N/A
5.6 Are worksheet entries complete and correct?	✓ Yes	No	N/A

5.0 Comments on any No response:

First Level Review John North **Date** 9-12-7

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7254225

Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis 1. Are the sample yields within acceptance criteria?			✓
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other 1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: _____

Second Level Review: Joanie G Date: 9/12/07

SEVERN TRENT STL

Richland Laboratory
Data Review Check List
Hexavalent Chromium

Batch Number(s): **7254230**

Lab Sample Numbers or SDG: **J00128**

Method/Test/Parameter: **Cr+6 in SOLID / RICH-WC-5005, Rev 8**

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?	✓			
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: Low MS and PDMS, Insoluble MS OK NCM

Analyst: Steven E. Gilchrist Date: 9/17//07

Second-Level Review: [illegible] Date: 9/26/07

Clouseau
Nonconformance Memo

TestAmerica
THE PARTNER IN ENVIRONMENTAL TESTING

NCM #: **10-10854**
NCM Initiated By: Steven Wheland
Date Opened: 09/17/2007
Date Closed:

Classification: **Anomaly**
Status: **GLREVIEW**
Production Area: Classical Chemistry
Tests: 7196A
Lot #'s (Sample #'s): J7I120164 (1), J7I140000 (518),
QC Batches: 7257518,

Nonconformance: QC data exceeded criteria
Subcategory: Other (explanation required)

Problem Description / Root Cause

Name	Date	Description
Steven Wheland	09/17/2007	The MS recovered low and the PDMS was depressed as well. The LCS and the insoluble MS recovered within limits. Uncertain as to the reason for this occurance.

Corrective Action

Name	Date	Corrective Action
Steven Wheland	09/17/2007	Report data

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

Date Printed: 9/17/2007

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-157	Page 1 of 1

Collector T. Welch-Koelling	Company Contact R.T. Coffman	Telephone No. 528-6409	Project Coordinator KESSNER, JH
Price Code 8B	Data Turnaround 7DAY		
Project Designation 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location 100-F-26:12 BCL Soil/Verification		SAF No. RC-032
Ice Chest No. AFS-04-024	Field Logbook No. EFL-1174-3	COA R10F262000	Method of Shipment FEDEX 9-6-07 GOV TRUCK
Shipped To Severn Trent Incorporated, Richland	Offsite Property No. NA		Bill of Lading/Air Bill No. NA

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	None	None	None	None					
Type of Container	P	P	P	P	P	P					
No. of Container(s)	1	1	1	1	1	1					
Volume	125mL	125mL	500mL	125mL	125mL	125mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	See item (2) in Special Instructions.	Carbon-14; Tritium - H3	Nickel-63; Strontium-89,90 -- Total Sr	Gross Alpha; Gross Beta					

Sample No.	Matrix *	Sample Date	Sample Time										
J15HB8	SOIL	9-5-07	0930		X	X	X	X	X				5

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[signature]	9/5/07 1400	JR DeBrigne JR DeBrigne	9-5-07 1400
JR DeBrigne JR DeBrigne	9-5-07 1530	3728/20	9-5-07 1530
3728 DB	9-6-07 0930	KM Singleton	9-6-07 0930
KM Singleton	9-6-07 1005	LLANETAL-R	9-6-07 1005

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)
(2) Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Barium-133, Silver-108 metastable}

Sampler unavailable to relinquish samples from 3728 Ref # 2B.
3728 Custodian removed samples for shipping on 9 6 07.

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

SEVERN TRENT STL

Sample Check-in List

DUE 9-14-07

Date/Time Received: 9-6-07 1005

Client: WCH SDG #: J00128 NA [ ] SAF #: RC-032 NA [ ]

Work Order Number: J7I060212 Chain of Custody # RC-032-157

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? 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 labels
   - ✓ appropriate samples labels

9. Samples are:
   - ✓ in good condition
   - ___ broken
   - ___ leaking
   - ___ have air bubbles
   - (Only for samples requiring head space)

10. Sample pH taken? SOIL NA [✓] pH<2 [ ] pH>2 [ ] pH>9 [ ]

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: 9-6-07

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

LS-023, 9/03, Rev. 5

9/12/2007 7:31:50 PM

Sample Preparation/Analysis

Balance Id:1120373922

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AY Gross Alpha PrpRC5013/5020
S7 Gross Alpha by GPC using Am-241 curve
5I CLIENT: HANFORD

PRIORITY

Pipet #: _____

AnalyDueDate: 09/13/2007

Sep1 DT/Tm Tech:

Batch: 7254222 SOIL pCi/g PM, Quote: SS , 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,WoodT

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 J6AA5-1-AE J7I060212-1-SAMP 09/05/2007 09:30		0.0503g,in AmtRec: 4X125MLP,500MLP	#Containers: 5		50.3	50	10A	2049	9/12/07 OD Scr: Alpha: Beta:	
2 J6AA5-1-AN-X J7I060212-1-DUP 09/05/2007 09:30		0.0505g,in AmtRec: 4X125MLP,500MLP	#Containers: 5		50.5		10B	2049	Scr: Alpha: Beta:	
3 J6H62-1-AA-B J7I110000-222-BLK 09/05/2007 09:30		0.05g,in AmtRec:	#Containers: 1		0.3		10C		Scr: Alpha: Beta:	
4 J6H62-1-AC-C J7I110000-222-LCS 09/05/2007 09:30		0.05g,in AmtRec:	ASD4278 08/23/07,pd 06/01/01,r #Containers: 1		0.7		10D		Scr: Alpha: Beta:	

Comments:

All Clients for Batch:
127642, Washington Closure Hanford Bechtel Hanford, Inc. , SS , 27038

J6AA51AE-SAMP Constituent List:

ALPHA	RDL:1.00E+01	pCi/g	LCL:	UCL:	RPD:
J6H621AA-BLK:					
ALPHA	RDL:1.00E+01	pCi/g	LCL:	UCL:	RPD:
J6H621AC-LCS:					
Am-241	RDL:	pCi/g	LCL:70	UCL:130	RPD:35

J6AA51AE-SAMP Calc Info:

TESTAMERICA RICHLAND

9/12/2007 7:31:57 PM

Sample Preparation/Analysis

AY Gross Alpha PrpRC5013/5020
S7 Gross Alpha by GPC using Am-241 c
5I CLIENT: HANFORD

PRIORITY

Balance Id:1120373922

Pipet #: ____

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: ,WoodT

AnalyDueDate: 09/13/2007

Batch: 7254222 pCi/g

SEQ Batch, Test: None

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	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

J6H621AA-BLK:

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

J6H621AC-LCS:

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

Approved By _____ Date: _____

9/13/2007 10:44:46 AM

ICOC Fraction Transfer/Status Report

ByDate: 9/13/2006, 9/18/2007, Batch: '7254222', User: 'ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7254222						
AC		CalcC	WoodT	9/12/2007 7:32:12 PM		
SC			wagarr	IsBatched	9/11/2007 9:18:20 AM	ICOC_RADCALC v4.8.26
SC			WoodT	InPrep	9/12/2007 7:32:12 PM	RICH-RC-5013 REVISION 7
SC			WoodT	Prep1C	9/12/2007 7:32:29 PM	RICH-RC-5013 REVISION 7
SC			WoodT	InPrep2	9/12/2007 7:32:43 PM	RICH-RC-5020 REVISION 3
SC			WoodT	Prep2C	9/12/2007 7:33:00 PM	RICH-RC-5020 REVISION 3
SC			DAWKINSO	InCnt1	9/12/2007 8:26:43 PM	RICH-RD-0003 REVISION 5
SC			DAWKINSO	CalcC	9/12/2007 9:20:38 PM	RICH-RD-0003 REVISION 5
AC			WoodT	9/12/2007 7:32:29 PM		
AC			WoodT	9/12/2007 7:32:43 PM		
AC			WoodT	9/12/2007 7:33:00 PM		
AC			DAWKINSO	9/12/2007 8:26:43 PM		
AC			DAWKINSO	9/12/2007 9:20:38 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 6

ICOCFractions v4.8.27

9/12/2007 7:28:55 PM

Sample Preparation/Analysis

Balance Id:1120373922

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

BB Gross Beta PrpRC5013/5020
S8 Gross Beta by GPC using Sr/Y-90 curve
5I CLIENT: HANFORD

PRIORITY

Pipet #: _____

AnalyDueDate: 09/13/2007

Sep1 DT/Tm Tech:

Batch: 7254223 SOIL pCi/g PM, Quote: SS , 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,WoodT

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 J6AA5-1-AF J7I060212-1-SAMP 09/05/2007 09:30		0.2005g,in AmtRec: 4X125MLP,500MLP	#Containers: 5		200.5	50	2B1 Scr:	Off Alpha:	9/13/07 Beta:	
2 J6AA5-1-AP-X J7I060212-1-DUP 09/05/2007 09:30		0.2003g,in AmtRec: 4X125MLP,500MLP	#Containers: 5		200.3		2B3 Scr:	Alpha:	Beta:	
3 J6H64-1-AA-B J7I110000-223-BLK 09/05/2007 09:30		0.20g,in AmtRec:	#Containers: 1		0.2		2C Scr:	Alpha:	Beta:	
4 J6H64-1-AC-C J7I110000-223-LCS 09/05/2007 09:30		0.20g,in AmtRec:	BESD0889 08/06/07,pd 10/11/06,r #Containers: 1		0.8		2D Scr:	Alpha:	Beta:	

Comments:

All Clients for Batch:
127642, Washington Closure Hanford Bechtel Hanford, Inc. , SS , 27038

J6AA51AF-SAMP Constituent List:

BETA	RDL:1.50E+01	pCi/g	LCL:	UCL:	RPD:
J6H641AA-BLK:					
BETA	RDL:1.50E+01	pCi/g	LCL:	UCL:	RPD:
J6H641AC-LCS:					
Sr-90	RDL:	pCi/g	LCL:70	UCL:130	RPD:35

J6AA51AF-SAMP Calc Info:

TESTAMERICA RICHLAND

Sample Preparation/Analysis

Balance Id:1120373922

BB Gross Beta PrpRC5013/5020
S8 Gross Beta by GPC using Sr/Y-90 curve
5I CLIENT: HANFORD

PRIORITY

Pipet #: _____

AnalyDueDate: 09/13/2007

Sep1 DT/Tm Tech:

Batch: 7254223 pCi/g

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,WoodT

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	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

J6H641AA-BLK:

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

J6H641AC-LCS:

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

Approved By _____ Date: _____

TESTAMERICA RICHLAND

9/13/2007 10:35:34 AM

ICOC Fraction Transfer/Status Report

ByDate: 9/13/2006, 9/18/2007, Batch: '7254223', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7254223						
AC		CalcC	**WoodT**	9/12/2007 7:29:09 PM		
SC			wagarr	IsBatched	9/11/2007 9:18:20 AM	ICOC_RADCALC v4.8.26
SC			WoodT	InPrep	9/12/2007 7:29:09 PM	RICH-RC-5013 REVISION 7
SC			WoodT	Prep1C	9/12/2007 7:29:28 PM	RICH-RC-5013 REVISION 7
SC			WoodT	InPrep2	9/12/2007 7:29:39 PM	RICH-RC-5020 REVISION 3
SC			WoodT	Prep2C	9/12/2007 7:29:54 PM	RICH-RC-5020 REVISION 3
SC			DAWKINSO	InCnt1	9/12/2007 8:26:53 PM	RICH-RD-0003 REVISION 5
SC			BlackCL	CalcC	9/13/2007 7:35:46 AM	RICH-RD-0003 REVISION 5
AC			**WoodT**	9/12/2007 7:29:28 PM		
AC			**WoodT**	9/12/2007 7:29:39 PM		
AC			**WoodT**	9/12/2007 7:29:54 PM		
AC			**DAWKINSO**	9/12/2007 8:26:53 PM		
AC			**BlackCL**	9/13/2007 7:35:46		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Page 1

Grp Rec Cnt:6

ICOCFractions v4.8.27

TESTAMERICA RICHLAND

9/14/2007 8:37:30 AM

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AnalyDueDate: 09/13/2007

Sample Preparation/Analysis

CH Sr-Total PrpRC5013, SepRC5006
TH Total Strontium by GPC
5I CLIENT: HANFORD

Priority

Balance Id:1120373922

Pipet #: _____

Sep1 DT/Tm Tech: 09/13/2007 16:54,ManisD

Sep2 DT/Tm Tech:

Prep Tech: ,WoodT

Batch: 7254224 **SOIL** **pCi/g** **PM, Quote: SS , 27038**

SEQ Batch, Test: None

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 J6AA5-1-AC J7I060212-1-SAMP 09/05/2007 09:30		6.05g,in AmtRec: 4X125MLP,500MLP	SRTA17082 08/14/07,pd 05/22/07,r #Containers: 5	1.5	78.3 09/13/2007 16:54,s1	50	26a Scr:	1312 Alpha:	9/14/07 R	Beta:
2 J6AA5-1-AQ-X J7I060212-1-DUP 09/05/2007 09:30		6.04g,in AmtRec: 4X125MLP,500MLP	SRTA17083 08/14/07,pd 05/22/07,r #Containers: 5	1.5	80.2 09/13/2007 16:54,s1	50	26b Scr:	Alpha:		Beta:
3 J6H65-1-AA-B J7I110000-224-BLK 09/05/2007 09:30		6.00g,in AmtRec:	SRTA17084 08/14/07,pd 05/22/07,r #Containers: 1	1.5	82 09/13/2007 16:54,s1	50	26c Scr:	Alpha:		Beta:
4 J6H65-1-AC-C J7I110000-224-LCS 09/05/2007 09:30		6.00g,in AmtRec:	STSB1231 07/24/07,pd 05/22/07,r #Containers: 1	1.5	84.8 09/13/2007 16:54,s1	50	26d Scr:	Alpha:		Beta:

Comments:

```
All Clients for Batch:
   127642, Washington Closure Hanford          Bechtel Hanford, Inc.        , SS , 27038

J6AA51AC-SAMP Constituent List:
  Sr-90       RDL:1          pCi/g     LCL:70      UCL:130     RPD:35
J6H651AA-BLK:
  Sr-90       RDL:1          pCi/g     LCL:        UCL:        RPD:
J6H651AC-LCS:
  Sr-90       RDL:1          pCi/g     LCL:70      UCL:130     RPD:35
J6AA51AC-SAMP Calc Info:
```


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9/14/2007 8:37:32 AM

Sample Preparation/Analysis

CH Sr-Total PrpRC5013, SepRC5006
TH Total Strontium by GPC
5I CLIENT: HANFORD

Balance Id:1120373922
Pipet #: _____

AnalyDueDate: 09/13/2007

Sep1 DT/Tm Tech: 09/13/2007 16:54,ManisD

Batch: 7254224 pCi/g
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,WoodT

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	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
J6H651AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J6H651AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

9/15/2007 9:20:37 AM

ICOC Fraction Transfer/Status Report

ByDate: 9/15/2006, 9/20/2007, Batch: '7254224', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7254224						
AC		CalcC	WoodT	9/12/2007 11:54:44		
SC			wagarr	IsBatched	9/11/2007 9:18:20 AM	ICOC_RADCALC v4.8.26
SC			WoodT	InPrep	9/12/2007 11:54:44 AM	RICH-RC-5013 REVISION 7
SC			WoodT	Prep1C	9/12/2007 11:55:10 AM	RICH-RC-5013 REVISION 7
SC			ManisD	Sep1C	9/14/2007 8:37:37 AM	RICH-RC-5006 REV 7
SC			StringerR	InCnt1	9/14/2007 8:41:56 AM	RICH-RD-0003 REVISION 5
SC			StringerR	CalcC	9/14/2007 1:56:50 PM	RICH-RD-0003 REVISION 5
AC			WoodT	9/12/2007 11:55:10		
AC			ManisD	9/14/2007 8:37:37		
AC			StringerR	9/14/2007 8:41:56		
AC			StringerR	9/14/2007 1:56:50 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 5

ICOCFractions v4.8.27

TESTAMERICA RICHLAND

9/11/2007 12:17:44 PM

Sample Preparation/Analysis

Balance Id:1120421763

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AX Gamma PrpRC5013/5017
TA Gamma by HPGE
5I CLIENT: HANFORD

PRIORITY

Pipet #: _____

AnalyDueDate: 09/13/2007

Sep1 DT/Tm Tech:

Batch: 7254219 SOIL pCi/g PM, Quote: SS , 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,Barcotl

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 J6AA5-1-AK J7I060212-1-SAMP 09/05/2007 09:30		950.60g,in AmtRec: 4X125MLP,500MLP	#Containers: 5		5mA	200	66	0855	9/12/07 Scr: Alpha: Beta:	
2 J6AA5-1-AL-X J7I060212-1-DUP 09/05/2007 09:30		Not enough sample AmtRec: 4X125MLP,500MLP	#Containers: 5				67	1405	Scr: Alpha: Beta:	
3 J6H6T-1-AA-B J7I110000-219-BLK 09/05/2007 09:30		859.27g,in AmtRec:	CAL827 #Containers: 1		5mA	200	68	0855	9/12/07 Scr: Alpha: Beta:	
4 J6H6T-1-AC-C J7I110000-219-LCS 09/05/2007 09:30		457.79g,in AmtRec:	CAL816 01/01/03,pd 01/01/02,r #Containers: 1		ma	200	65	0852	Scr: Alpha: Beta:	

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Comments: Not enough Sample for Dup please recount on sperate Detector

All Clients for Batch:
127642, Washington Closure Hanford Bechtel Hanford, Inc. , SS , 27038

J6AA51AK-SAMP Constituent List:

Co-60	RDL:5.00E-02	pCi/g	LCL:	UCL:	RPD:	Cs-137	RDL:1.00E-01	pCi/g	LCL:70	UCL:130	RPD:35
Cs-137DA	RDL:1.00E-01	pCi/g	LCL:70	UCL:130	RPD:35	Eu-152	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:
Eu-154	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:	Eu-155	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:

J6H6T1AA-BLK:

Co-60	RDL:5.00E-02	pCi/g	LCL:	UCL:	RPD:	Cs-137	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:
Cs-137DA	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:	Eu-152	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:

Sample Preparation/Analysis

AX Gamma PrpRC5013/5017
TA Gamma by HPGE
5I CLIENT: HANFORD

PRIORITY

Balance Id:1120421763
Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech: ,Barcotl

AnalyDueDate: 09/13/2007

Batch: 7254219 pCi/g
SEQ Batch, Test: None

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:

```
Eu-154      RDL:1.00E-01   pCi/g   LCL:      UCL:      RPD:      Eu-155      RDL:1.00E-01   pCi/g   LCL:      UCL:      RPD:
J6H6T1AC-LCS:
Cs-137      RDL:0.1        pCi/g   LCL:70    UCL:130   RPD:35    Cs-137DA    RDL:0.1        pCi/g   LCL:70    UCL:130   RPD:35
K-40        RDL:--         pCi/g   LCL:70    UCL:130   RPD:35    Ra-226      RDL:0.1        pCi/g   LCL:70    UCL:130   RPD:35
RA-228      RDL:0.2        pCi/g   LCL:70    UCL:130   RPD:35    RA-228DA    RDL:0.2        pCi/g   LCL:70    UCL:130   RPD:35
U-238       RDL:           pCi/g   LCL:70    UCL:130   RPD:35
J6AA51AK-SAMP Calc Info:
    Uncert Level (#s).: 2   Decay to SaDt: Y   Blk Subt.: N   Sci.Not.: Y   ODRs: B
J6H6T1AA-BLK:
    Uncert Level (#s).: 2   Decay to SaDt: Y   Blk Subt.: N   Sci.Not.: Y   ODRs: B
J6H6T1AC-LCS:
    Uncert Level (#s).: 2   Decay to SaDt: Y   Blk Subt.: N   Sci.Not.: Y   ODRs: B
```

Approved By _____ Date: _____

9/13/2007 9:29:31 AM

ICOC Fraction Transfer/Status Report

ByDate: 9/13/2006, 9/18/2007, Batch: '7254219', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7254219						
AC		CalcC	**Barcotl**	9/11/2007 12:13:48		
SC			wagarr	IsBatched	9/11/2007 9:18:20 AM	ICOC_RADCALC v4.8.26
SC			Barcotl	Prep1C	9/11/2007 12:13:48 PM	RICH-RC-5013 REVISION 7
SC			Barcotl	InPrep2	9/11/2007 12:14:16 PM	RICH-RC-5017 REVISION 6
SC			Barcotl	Prep2C	9/11/2007 12:14:42 PM	RICH-RC-5017 REVISION 6
SC			StringerR	InCnt1	9/11/2007 12:28:52 PM	RICH-RD-0007 REVISION 6
SC			BlackCL	CalcC	9/12/2007 2:42:37 PM	RICH-RD-0007 REVISION 6
AC			**Barcotl**	9/11/2007 12:14:16		
AC			**Barcotl**	9/11/2007 12:14:42		
AC			**StringerR**	9/11/2007 12:28:52		
AC			**BlackCL**	9/12/2007 2:42:37 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 5

ICOCFractions v4.8.27

9/11/2007 9:17:15 AM

Sample Preparation/Analysis

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

5S C-14 Prp/SepRC5022
S3 Carbon-14 by Liquid Scint
5I CLIENT: HANFORD

PRIORITY

Balance Id: 12445
Pipet #:
Sep1 DT/Tm Tech: 9-11-07 [illegible]
Sep2 DT/Tm Tech:
Prep Tech:

AnalyDueDate: 09/13/2007 J0028

Batch: 7254227 SOIL pCi/g PM, Quote: SS , 27038
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:
1 J6AA5-1-AH J7I060212-1-SAMP 09/05/2007 09:30		AmtRec: 4X125MLP,500MLP	#Containers: 5			Scr:	Alpha:	Beta:
2 J6AA5-1-AT-X J7I060212-1-DUP 09/05/2007 09:30		AmtRec: 4X125MLP,500MLP	#Containers: 5			Scr:	Alpha:	Beta:
3 J6H69-1-AA-B J7I110000-227-BLK 09/05/2007 09:30		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
4 J6H69-1-AC-C J7I110000-227-LCS 09/05/2007 09:30		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
5 J6H69-1-AD-BN J7I110000-227-IBLK 09/05/2007 09:30		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:

Comments:

All Clients for Batch:
127642, Washington Closure Hanford Bechtel Hanford, Inc. , SS , 27038

J6AA51AH-SAMP Constituent List:
C-14 RDL:50 pCi/g LCL:70 UCL:130 RPD:35

TESTAMERICA RICHLAND

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Sample Preparation/Analysis

5S C-14 Prp/SepRC5022
S3 Carbon-14 by Liquid Scint
5I CLIENT: HANFORD

Balance Id: 17445
Pipet #:
Sep1 DT/Tm Tech: 9-11-07
Sep2 DT/Tm Tech:
Prep Tech:

AnalyDueDate: 09/13/2007

Batch: 7254227 pCi/g
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:

J6H691AA-BLK:
C-14 RDL:50 pCi/g LCL: UCL: RPD:
J6H691AC-LCS:
C-14 RDL:50 pCi/g LCL:70 UCL:130 RPD:35
J6H691AD-IBLK:
C-14 RDL:50 pCi/g LCL: UCL: RPD:

J6AA51AH-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J6H691AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J6H691AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J6H691AD-IBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

9/18/2007 8:37:07 AM

ICOC Fraction Transfer/Status Report

ByDate: 9/18/2006, 9/23/2007, Batch: '7254227', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7254227						
AC		CalcC	McDowellD	9/11/2007 9:54:26		
SC			wagarr	IsBatched	9/11/2007 9:18:20 AM	ICOC_RADCALC v4.8.26
SC			McDowellD	InSep1	9/11/2007 9:54:26 AM	RICH-RC-5037 REVISION 3
SC			McDowellD	InSep1	9/11/2007 9:54:39 AM	RICH-RC-5022 REVISION 3
SC			McDowellD	Sep1C	9/13/2007 3:34:52 PM	RICH-RC-5022 REVISION 3
SC			DAWKINSO	InCnt1	9/13/2007 6:17:31 PM	RICH-RD-0001 REVISION 4
SC			BlackCL	CalcC	9/14/2007 6:45:09 AM	RICH-RD-0001 REVISION 4
AC			McDowellD	9/11/2007 9:54:39		
AC			McDowellD	9/13/2007 3:34:52 PM		
AC			DAWKINSO	9/13/2007 6:17:31 PM		
AC			BlackCL	9/14/2007 6:45:09		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt:5

ICOCFractions v4.8.27

9/12/2007 9:09:10 AM

Sample Preparation/Analysis

Balance Id:1120373922

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AF Ni-63 PrpRC5013/5019, SepRC5069
S4 Nickel by ICP and Nickel-63 by Liquid Scint
5I CLIENT: HANFORD

PRIORITY

Pipet #: _____

AnalyDueDate: 09/13/2007

Sep1 DT/Tm Tech:

Batch: 7254220 SOIL pCi/g PM, Quote: SS , 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,Barcotl Wood 9/12/2007

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 J6AA5-1-AD J7I060212-1-SAMP 09/05/2007 09:30	AmtRec: 4X125MLP,500MLP	#Containers: 5	0.25g,in	0.25g	NITA2463 07/10/07	100	Scr:	Alpha:	Beta:	
2 J6AA5-1-AM-X J7I060212-1-DUP 09/05/2007 09:30	AmtRec: 4X125MLP,500MLP	#Containers: 5	0.25g,in	0.25g	NITA2464 08/15/07		Scr:	Alpha:	Beta:	
3 J6H6X-1-AA-B J7I110000-220-BLK 09/05/2007 09:30	AmtRec:	#Containers: 1	0.25g,in	0.25g	NITA2465 08/15/07		Scr:	Alpha:	Beta:	
4 J6H6X-1-AC-C J7I110000-220-LCS 09/05/2007 09:30	AmtRec:	#Containers: 1	0.25g,in	0.25g	NISA0774 08/15/07		Scr:	Alpha:	Beta:	
5 J6H6X-1-AD-BN J7I110000-220-IBLK 09/05/2007 09:30	AmtRec:	#Containers: 1					Scr:	Alpha:	Beta:	

Comments:

All Clients for Batch:
127642, Washington Closure Hanford Bechtel Hanford, Inc. , SS , 27038

J6AA51AD-SAMP Constituent List:
Ni-63 RDL:30 pCi/g LCL:70 UCL:130 RPD:35

STL Richland Key: In - Initial Amt. fi - Final Amt, dl - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1 ISV - Insufficient Volume for Analysis WO Cnt: 5
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep SamplePrep v4.8.26

TESTAMERICA RICHLAND

Sample Preparation/Analysis

AF Ni-63 PrpRC5013/5019, SepRC5069
S4 Nickel by ICP and Nickel-63 by Liquid Scint
5I CLIENT: HANFORD

PRIORITY

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

AnalyDueDate: 09/13/2007

Batch: 7254220 pCi/g
SEQ Batch, Test: None

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:

```
J6H6X1AA-BLK:
  Ni-63        RDL:30          pCi/g     LCL:        UCL:        RPD:
J6H6X1AC-LCS:
  Ni-63        RDL:30          pCi/g     LCL:70      UCL:130     RPD:35
J6H6X1AD-IBLK:
  Ni-63        RDL:30          pCi/g     LCL:        UCL:        RPD:
J6AA51AD-SAMP Calc Info:
     Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
J6H6X1AA-BLK:
     Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
J6H6X1AC-LCS:
     Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
J6H6X1AD-IBLK:
     Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
```

Approved By _____ Date: _____

TESTAMERICA RICHLAND

9/25/2007 2:30:31 PM

ICOC Fraction Transfer/Status Report

ByDate: 9/25/2006, 9/30/2007, Batch: '7254220', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7254220						
AC		CalcC	WoodT	9/12/2007 9:08:38		
SC			wagarr	IsBatched	9/11/2007 9:18:20 AM	ICOC_RADCALC v4.8.26
SC			WoodT	InPrep	9/12/2007 9:08:38 AM	RICH-RC-5013 REVISION 7
SC			WoodT	Prep1C	9/12/2007 9:08:55 AM	RICH-RC-5013 REVISION 7
SC			FABREM	Sep1C	9/12/2007 8:09:01 PM	RICH-RC-5069 REVISION 6
SC			DAWKINSO	InCnt1	9/12/2007 8:26:35 PM	RICH-RD-0001 REVISION 4
SC			BlackCL	CalcC	9/19/2007 11:49:29 AM	RICH-RD-0001 REVISION 4
AC			WoodT	9/12/2007 9:08:55		
AC			FABREM	9/12/2007 8:09:01 PM		
AC			DAWKINSO	9/12/2007 8:26:35 PM		
AC			BlackCL	9/19/2007 11:49:29		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 5

ICOCFractions v4.8.27

9/11/2007 9:17:13 AM

Sample Preparation/Analysis

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AT H-3 Prp/SepRC5037
S6 Tritium by Liquid Scint
5I CLIENT: HANFORD

PRIORITY

AnalyDueDate: 09/13/2007 J00128

Batch: 7254225 SOIL pCi/g PM, Quote: SS , 27038
SEQ Batch, Test: None

Balance Id: 12495
Pipet #:
Sep1 DT/Tm Tech: 9-11-07 tm
Sep2 DT/Tm Tech:
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 J6AA5-1-AG J7I060212-1-SAMP 09/05/2007 09:30	AmtRec: 4X125MLP,500MLP	#Containers: 5				Scr:	Alpha:	Beta:
2 J6AA5-1-AR-X J7I060212-1-DUP 09/05/2007 09:30	AmtRec: 4X125MLP,500MLP	#Containers: 5				Scr:	Alpha:	Beta:
3 J6H66-1-AA-B J7I110000-225-BLK 09/05/2007 09:30	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:
4 J6H66-1-AC-C J7I110000-225-LCS 09/05/2007 09:30	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:
5 J6H66-1-AD-BN J7I110000-225-IBLK 09/05/2007 09:30	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:

Comments:

All Clients for Batch:
127642, Washington Closure Hanford Bechtel Hanford, Inc. , SS , 27038

J6AA51AG-SAMP Constituent List:
H-3 RDL:400 pCi/g LCL:70 UCL:130 RPD:35

TESTAMERICA RICHLAND

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9/11/2007 9:17:15 AM

Sample Preparation/Analysis

AT H-3 Prp/SepRC5037
S6 Tritium by Liquid Scint
5I CLIENT: HANFORD

PRIORITY

Balance Id: 12445
Pipet #:
Sep1 DT/Tm Tech: 9-11-07 DM
Sep2 DT/Tm Tech:
Prep Tech:

AnalyDueDate: 09/13/2007

Batch: 7254225 pCi/g
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:

J6H661AA-BLK:
H-3 RDL:400 pCi/g LCL: UCL: RPD:
J6H661AC-LCS:
H-3 RDL:400 pCi/g LCL:70 UCL:130 RPD:35
J6H661AD-IBLK:
H-3 RDL:400 pCi/g LCL: UCL: RPD:

J6AA51AG-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J6H661AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J6H661AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J6H661AD-IBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

TESTAMERICA RICHLAND

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9/12/2007 1:41:08 PM

ICOC Fraction Transfer/Status Report

ByDate: 9/12/2006, 9/17/2007, Batch: '7254225', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7254225						
AC		**CalcC**	**McDowellD**	9/11/2007 9:54:57		
SC			wagarr	IsBatched	9/11/2007 9:18:20 AM	ICOC_RADCALC v4.8.26
SC			McDowellD	InSep1	9/11/2007 9:54:57 AM	RICH-RC-5037 REVISION 3
SC			McDowellD	Sep1C	9/11/2007 3:32:09 PM	RICH-RC-5037 REVISION 3
SC			DAWKINSO	InCnt1	9/11/2007 3:58:27 PM	RICH-RD-0001 REVISION 4
SC			BlackCL	CalcC	9/12/2007 8:38:25 AM	RICH-RD-0001 REVISION 4
AC			**McDowellD**	9/11/2007 3:32:09 PM		
AC			**DAWKINSO**	9/11/2007 3:58:27 PM		
AC			**BlackCL**	9/12/2007 8:38:25		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Page 1

Grp Rec Cnt: 4

ICOCFractions v4.8.27

9/11/2007 9:17:10 AM

Sample Preparation/Analysis

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AnalyDueDate: 09/13/2007 J00128

DW Alkaline Digestion by method 3060A
EA Chromium, Hexavalent (7196A)
5I CLIENT: HANFORD

Batch: 7254230 **SOIL** **mg/kg** **PM, Quote: SS , 27038**
SEQ Batch, Test: None

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

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 J6AA5-1-AA J7I060212-1-SAMP 09/05/2007 09:30	2.5793	AmtRec: 4X125MLP,500MLP		#Containers: 5				Scr:	Alpha:	Beta:
2 J6AA5-1-AU-S J7I060212-1-MS 09/05/2007 09:30	2.5803	AmtRec: 4X125MLP,500MLP		#Containers: 5				Scr:	Alpha:	Beta:
3 J6AA5-1-AV-X J7I060212-1-DUP 09/05/2007 09:30	2.7012	AmtRec: 4X125MLP,500MLP		#Containers: 5				Scr:	Alpha:	Beta:
4 J6AA5-1-AW-S J7I060212-1-MS 09/05/2007 09:30	2.5321	AmtRec: 4X125MLP,500MLP		~~0.00120~~ 0.0120		#Containers: 5		Scr:	Alpha:	Beta:
5 J6H7D-1-AA-B J7I110000-230-BLK 09/05/2007 09:30		AmtRec:		#Containers: 1				Scr:	Alpha:	Beta:
6 J6H7D-1-AC-C J7I110000-230-LCS 09/05/2007 09:30		AmtRec:		#Containers: 1				Scr:	Alpha:	Beta:

TESTAMERICA RICHLAND

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Sample Preparation/Analysis

DW Alkaline Digestion by method 3060A
EA Chromium, Hexavalent (7196A)
5I CLIENT: HANFORD

AnalyDueDate: 09/13/2007

Batch: 7254230 mg/kg
SEQ Batch, Test: None

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

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	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 , 27038

J6AA51AA-SAMP Constituent List:
HEXCHROME RDL:0.35 mg/kg LCL:80 UCL:120 RPD:20
J6AA51AU-MS Constituent List:
HEXCHROME RDL:0.35 mg/kg LCL:75 UCL:125 RPD:20
J6AA51AW-MS:
HEXCHROME RDL:0.35 mg/kg LCL:75 UCL:125 RPD:20
J6H7D1AA-BLK:
HEXCHROME RDL:0.35 mg/kg LCL: UCL: RPD:
J6H7D1AC-LCS:
HEXCHROME RDL:0.35 mg/kg LCL:80 UCL:120 RPD:20

J6AA51AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J6AA51AU-MS Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J6AA51AW-MS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J6H7D1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J6H7D1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

TESTAMERICA RICHLAND

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

RECEIVED
SEP 2007

ANALYTICAL REPORT

RC-032

Lot #: F7I070318
SDG #: J00128

Joan Kessner

Washington Closure Hanford
2620 Fermi Avenue
MSIN H4-21
Richland, WA 99354

TESTAMERICA LABORATORIES, INC.

Michael C. Franks
Project Manager

September 19, 2007

Case Narrative
LOT NUMBER: **F7I070318**
SDG: **J00128**

This report contains the analytical results for the sample received under chain of custody by STL St. Louis on September 7, 2007. This sample is associated with your RC-032 project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted on the following page.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by STL St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of this report.

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances
Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

ICP Metals by SW846 6010B

The MS/MSD recovery for Aluminum, Iron, and Manganese is outside the established QC limits. The said analyte concentration in the original sample is greater than four times the amount spiked, making percent recovery information ineffective. Method performance is demonstrated by acceptable LCS recovery.

The MS/MSD recovery for Zinc, Chromium, Antimony, Potassium, and Silicon is outside the established QC limits. The RPD is within method acceptance criteria indicating a possible matrix interference. Method performance is demonstrated by acceptable LCS recovery.

The sample was analyzed at a dilution for all elements due to high concentrations of salts. The reporting limit has been adjusted only for those targets reported from the dilution run.

Beryllium and cadmium were observed in the CCB above 3 times the MDL. Associated samples which are either non-detect for the contaminant or exhibit concentrations greater than ten (10) times the concentrations observed in the method blank, do not require re-analysis.
Affected Samples:
F7I070318 (1): J15HB8

There were no observations or nonconformances to report for the following analyses:

Mercury by SW846 7471A

METHODS SUMMARY

F7I070318

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Mercury in Solid Waste (Manual Cold-Vapor)	SW846 7471A	SW846 7471A
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B	

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F7I070318

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
J6EP5	001	J15HB8	09/05/07	09:30

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-157	Page 1 of 1
Collector: T. Welch-Koelling	Company Contact: R.T. Coffman; Telephone No.: 528-6409	Project Coordinator: KESSNER, JH	Price Code: 8G; Data Turnaround: 15 DAY
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 100-F-26:12 BCL Soil/Verification	SAF No.: RC-032	
Ice Chest No.: EBC-99-003	Field Logbook No.: EFL-1174-3; COA: R10F262000	Method of Shipment: FED EX	
Shipped To: Severn Trent Incorporated, ~~Richland~~ St. Louis JRD 8-16-07	Offsite Property No.: A070314	Bill of Lading/Air Bill No.: 8 OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	None	None	None	None					
Type of Container	P	P	P	P	P	P					
No. of Container(s)	1	1	1	1	1	1					
Volume	125mL	125mL	500mL	125mL	125mL	125mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	See item (2) in Special Instructions.	Carbon-14; Tritium - H3	Nickel-63; Strontium-89,90 -- Total Sr	Gross Alpha; Gross Beta					
Sample No. / Matrix * / Sample Date / Sample Time											
15HB8 / SOIL / 9-5-07 / 0930	X										5

9-16-07

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	T.W. Welch-Koelling	9-5-07 1400	Received By/Stored In: JR DeBrigue	9-5-07 1400
Relinquished By/Removed From: JR DeBrigue	JR DeBrigue	9-5-07 1530	Received By/Stored In: 3728/12B	9-5-07 1530
Relinquished By/Removed From: 3728/12B		9-6-07 0900	Received By/Stored In	9-6-07 0900
Relinquished By/Removed From: WCH		9-6-07 1500	Received By/Stored In: FED EX	
Relinquished By/Removed From: FED EX		9-7-07 09:30	Received By/Stored In	9/7/07 0930
Relinquished By/Removed From			Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)
(2) Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Barium-133, Silver-108 metastable}

Sampler unavailable to relinquish samples from 3728 Ref #2B. 3728 Custodian removed samples for shipping on 9 16 07

Matrix *: S=Soil; SE=Sediment; SO=Solid; St=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

OD# 7170018
SDG# 7T0012B
PAGE 18

TESTAMERICA ST. LOUIS

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): F7I070318

Condition Upon Receipt Form

Client: Hanford
Quote No: 711197
COC/RFA No: RC-032-157
Initiated By: BJ
Date: 9/7/07
Time: 0930

Shipping Information

Shipper Name: FE
Shipping # (s):*
1. 7924 1255 3311
2.
3.
4.
5.
6.
7.
8.
9.
10.

Multiple Packages Y (N)
Sample Temperature (s):**
1. ambient
2.
3.
4.
5.
6.
7.
8.
9.
10.

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1.	(Y) N	Are there custody seals present on the cooler?	8.	(Y) N	Are there custody seals present on bottles?
2.	Y (N) N/A	Do custody seals on cooler appear to be tampered with?	9.	Y (N) N/A	Do custody seals on bottles appear to be tampered with?
3.	(Y) N	Were contents of cooler frisked after opening, but before unpacking?	10.	Y N (N/A)	Was sample received with proper pH[1]? (If not, make note below)
4.	(Y) N	Sample received with Chain of Custody?	11.	Y N	If N/A- Was pH taken by original TestAmerica lab?
5.	(Y) N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	(Y) N	Sample received in proper containers?
6.	Y (N)	Was sample received broken?	13.	Y N (N/A)	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7.	(Y) N	Is sample volume sufficient for analysis?	14.	Y N	Was Internal COC/Workshare received?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes: Received samples out of temp.

Corrective Action:
- ☐ Client Contact Name: _____ Informed by: _____
- ☐ Sample(s) processed "as is"
- ☐ Sample(s) on hold until: _____ If released, notify: _____

Project Management Review: [signature] Date: 09-08-07

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

METALS

Washington Closure Hanford

Client Sample ID: J15HB8

TOTAL Metals

Lot-Sample #...: F7I070318-001 **Matrix.....:** SOLID
Date Sampled...: 09/05/07 **Date Received..:** 09/07/07
% Moisture.....: 1.6

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 7253055						
Silver	ND	2.0	mg/kg	SW846 6010B	09/10-09/14/07	J6EP51A0
		Dilution Factor: 2		MDL.....: 0.74		
Aluminum	**8070**	**40.7**	**mg/kg**	**SW846 6010B**	**09/10-09/17/07**	**J6EP51AC**
		Dilution Factor: 2		MDL.....: 10.3		
Arsenic	**4.7**	**2.0**	**mg/kg**	**SW846 6010B**	**09/10-09/14/07**	**J6EP51AE**
		Dilution Factor: 2		MDL.....: 0.49		
Barium	**79.2**	**10.2**	**mg/kg**	**SW846 6010B**	**09/10-09/14/07**	**J6EP51AF**
		Dilution Factor: 2		MDL.....: 0.47		
Beryllium	**0.32 B**	**1.0**	**mg/kg**	**SW846 6010B**	**09/10-09/14/07**	**J6EP51AG**
		Dilution Factor: 2		MDL.....: 0.14		
Boron	**13.1 B**	**20.3**	**mg/kg**	**SW846 6010B**	**09/10-09/13/07**	**J6EP51AH**
		Dilution Factor: 2		MDL.....: 3.0		
Calcium	**5450**	**508**	**mg/kg**	**SW846 6010B**	**09/10-09/14/07**	**J6EP51AK**
		Dilution Factor: 2		MDL.....: 61.0		
Cadmium	**0.30 B**	**1.0**	**mg/kg**	**SW846 6010B**	**09/10-09/14/07**	**J6EP51AJ**
		Dilution Factor: 2		MDL.....: 0.12		
Cobalt	**8.1 B**	**10.2**	**mg/kg**	**SW846 6010B**	**09/10-09/14/07**	**J6EP51AL**
		Dilution Factor: 2		MDL.....: 0.47		
Chromium	**12.6 C**	**2.0**	**mg/kg**	**SW846 6010B**	**09/10-09/17/07**	**J6EP51A4**
		Dilution Factor: 2		MDL.....: 0.46		
Copper	**14.0**	**5.1**	**mg/kg**	**SW846 6010B**	**09/10-09/14/07**	**J6EP51AM**
		Dilution Factor: 2		MDL.....: 0.81		
Iron	**17900**	**20.3**	**mg/kg**	**SW846 6010B**	**09/10-09/13/07**	**J6EP51AN**
		Dilution Factor: 2		MDL.....: 7.6		
Potassium	**1540**	**1020**	**mg/kg**	**SW846 6010B**	**09/10-09/13/07**	**J6EP51AV**
		Dilution Factor: 2		MDL.....: 305		
Magnesium	**4340**	**203**	**mg/kg**	**SW846 6010B**	**09/10-09/14/07**	**J6EP51AQ**
		Dilution Factor: 2		MDL.....: 18.2		

(Continued on next page)

Washington Closure Hanford

Client Sample ID: J15HB8

TOTAL Metals

Lot-Sample #...: F7I070318-001 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Manganese	**309**	**2.0**	**mg/kg**	**SW846 6010B**	**09/10-09/14/07**	**J6EP51AR**
		Dilution Factor: 2		MDL.....: 0.81		
Molybdenum	ND	8.1	mg/kg	SW846 6010B	09/10-09/14/07	J6EP51AT
		Dilution Factor: 2		MDL.....: 1.8		
Sodium	**261**	**203**	**mg/kg**	**SW846 6010B**	**09/10-09/13/07**	**J6EP51A1**
		Dilution Factor: 2		MDL.....: 24.4		
Nickel	**11.1**	**8.1**	**mg/kg**	**SW846 6010B**	**09/10-09/14/07**	**J6EP51AU**
		Dilution Factor: 2		MDL.....: 2.3		
Lead	**12.7**	**2.0**	**mg/kg**	**SW846 6010B**	**09/10-09/17/07**	**J6EP51AP**
		Dilution Factor: 2		MDL.....: 0.61		
Antimony	**1.2 B**	**2.0**	**mg/kg**	**SW846 6010B**	**09/10-09/14/07**	**J6EP51AD**
		Dilution Factor: 2		MDL.....: 1.0		
Selenium	ND	3.0	mg/kg	SW846 6010B	09/10-09/14/07	J6EP51AW
		Dilution Factor: 2		MDL.....: 0.90		
Silicon	**529**	**81.3**	**mg/kg**	**SW846 6010B**	**09/10-09/13/07**	**J6EP51AX**
		Dilution Factor: 2		MDL.....: 18.3		
Vanadium	**37.6**	**2.0**	**mg/kg**	**SW846 6010B**	**09/10-09/14/07**	**J6EP51A2**
		Dilution Factor: 2		MDL.....: 1.1		
Zinc	**47.2 C**	**10.2**	**mg/kg**	**SW846 6010B**	**09/10-09/14/07**	**J6EP51A3**
		Dilution Factor: 2		MDL.....: 3.0		

Prep Batch #...: 7254064

Mercury	ND	0.034	mg/kg	SW846 7471A	09/11/07	J6EP51A5
		Dilution Factor: 1		MDL.....: 0.0068		

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

B Estimated result. Result is less than RL.

C Method blank contamination. The associated method blank contains the target analyte at a reportable level.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F7I070318 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: F7I100000-055 **Prep Batch #...:** 7253055						
Aluminum	ND	20.0	mg/kg	SW846 6010B	09/10-09/17/07	J6GFN1AA
		Dilution Factor: 1				
Antimony	ND	1.0	mg/kg	SW846 6010B	09/10-09/14/07	J6GFN1AC
		Dilution Factor: 1				
Arsenic	ND	1.0	mg/kg	SW846 6010B	09/10-09/14/07	J6GFN1AD
		Dilution Factor: 1				
Barium	ND	5.0	mg/kg	SW846 6010B	09/10-09/14/07	J6GFN1AE
		Dilution Factor: 1				
Beryllium	ND	0.50	mg/kg	SW846 6010B	09/10-09/14/07	J6GFN1AF
		Dilution Factor: 1				
Boron	ND	10.0	mg/kg	SW846 6010B	09/10-09/13/07	J6GFN1AG
		Dilution Factor: 1				
Cadmium	ND	0.50	mg/kg	SW846 6010B	09/10-09/14/07	J6GFN1AH
		Dilution Factor: 1				
Calcium	ND	250	mg/kg	SW846 6010B	09/10-09/14/07	J6GFN1AJ
		Dilution Factor: 1				
Chromium	**0.43 B**	**1.0**	**mg/kg**	**SW846 6010B**	**09/10-09/17/07**	**J6GFN1A3**
		Dilution Factor: 1				
Cobalt	ND	5.0	mg/kg	SW846 6010B	09/10-09/14/07	J6GFN1AK
		Dilution Factor: 1				
Copper	ND	2.5	mg/kg	SW846 6010B	09/10-09/14/07	J6GFN1AL
		Dilution Factor: 1				
Iron	ND	10.0	mg/kg	SW846 6010B	09/10-09/13/07	J6GFN1AM
		Dilution Factor: 1				
Lead	ND	1.0	mg/kg	SW846 6010B	09/10-09/17/07	J6GFN1AN
		Dilution Factor: 1				
Magnesium	ND	100	mg/kg	SW846 6010B	09/10-09/14/07	J6GFN1AP
		Dilution Factor: 1				
Manganese	ND	1.0	mg/kg	SW846 6010B	09/10-09/14/07	J6GFN1AQ
		Dilution Factor: 1				

(Continued on next page)

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F7I070318 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Molybdenum	ND	4.0	mg/kg	SW846 6010B	09/10-09/14/07	J6GFN1AR
		Dilution Factor: 1				
Nickel	ND	4.0	mg/kg	SW846 6010B	09/10-09/14/07	J6GFN1AT
		Dilution Factor: 1				
Potassium	ND	500	mg/kg	SW846 6010B	09/10-09/13/07	J6GFN1AU
		Dilution Factor: 1				
Selenium	ND	1.5	mg/kg	SW846 6010B	09/10-09/14/07	J6GFN1AV
		Dilution Factor: 1				
Silicon	ND	40.0	mg/kg	SW846 6010B	09/10-09/13/07	J6GFN1AW
		Dilution Factor: 1				
Silver	ND	1.0	mg/kg	SW846 6010B	09/10-09/14/07	J6GFN1AX
		Dilution Factor: 1				
Sodium	ND	100	mg/kg	SW846 6010B	09/10-09/13/07	J6GFN1A0
		Dilution Factor: 1				
Vanadium	ND	1.0	mg/kg	SW846 6010B	09/10-09/14/07	J6GFN1A1
		Dilution Factor: 1				
Zinc	**2.0 B**	**5.0**	**mg/kg**	**SW846 6010B**	**09/10-09/14/07**	**J6GFN1A2**
		Dilution Factor: 1				

MB Lot-Sample #: F7I110000-064 **Prep Batch #...:** 7254064

Mercury	ND	0.033	mg/kg	SW846 7471A	09/11/07	J6HT71AA
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F7I070318 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: F7I100000-055 **Prep Batch #...:** 7253055							
Aluminum	6320	6360	mg/kg	101	SW846 6010B	09/10-09/17/07	J6GFN1A4
			Dilution Factor: 1				
Antimony	60.9	39.5	mg/kg	65	SW846 6010B	09/10-09/14/07	J6GFN1A5
			Dilution Factor: 1				
Arsenic	161	170	mg/kg	106	SW846 6010B	09/10-09/14/07	J6GFN1A6
			Dilution Factor: 1				
Barium	252	259	mg/kg	103	SW846 6010B	09/10-09/14/07	J6GFN1A7
			Dilution Factor: 1				
Beryllium	94.4	104	mg/kg	111	SW846 6010B	09/10-09/14/07	J6GFN1A8
			Dilution Factor: 1				
Boron	97.4	106	mg/kg	109	SW846 6010B	09/10-09/13/07	J6GFN1A9
			Dilution Factor: 1				
Cadmium	128	136	mg/kg	106	SW846 6010B	09/10-09/14/07	J6GFN1CA
			Dilution Factor: 1				
Calcium	3320	3260	mg/kg	98	SW846 6010B	09/10-09/14/07	J6GFN1CC
			Dilution Factor: 1				
Cobalt	35.2	35.9	mg/kg	102	SW846 6010B	09/10-09/14/07	J6GFN1CD
			Dilution Factor: 1				
Copper	148	155	mg/kg	105	SW846 6010B	09/10-09/14/07	J6GFN1CE
			Dilution Factor: 1				
Iron	11200	10800	mg/kg	96	SW846 6010B	09/10-09/13/07	J6GFN1CF
			Dilution Factor: 1				
Lead	142	155	mg/kg	109	SW846 6010B	09/10-09/18/07	J6GFN1CG
			Dilution Factor: 1				
Magnesium	2040	1960	mg/kg	96	SW846 6010B	09/10-09/14/07	J6GFN1CH
			Dilution Factor: 1				
Manganese	408	415	mg/kg	102	SW846 6010B	09/10-09/14/07	J6GFN1CJ
			Dilution Factor: 1				

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LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F7I070318 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Molybdenum	84.1	86.6	mg/kg	103	SW846 6010B	09/10-09/14/07	J6GFN1CK
			Dilution Factor: 1				
Nickel	147	153	mg/kg	104	SW846 6010B	09/10-09/14/07	J6GFN1CL
			Dilution Factor: 1				
Potassium	1920	1920	mg/kg	100	SW846 6010B	09/10-09/13/07	J6GFN1CM
			Dilution Factor: 1				
Selenium	64.2	67.9	mg/kg	106	SW846 6010B	09/10-09/14/07	J6GFN1CN
			Dilution Factor: 1				
Silicon	100	85.1	mg/kg	85	SW846 6010B	09/10-09/13/07	J6GFN1CP
			Dilution Factor: 1				
Silver	130	147	mg/kg	113	SW846 6010B	09/10-09/14/07	J6GFN1CQ
			Dilution Factor: 1				
Sodium	445	445	mg/kg	100	SW846 6010B	09/10-09/13/07	J6GFN1CR
			Dilution Factor: 1				
Vanadium	97.3	95.1	mg/kg	98	SW846 6010B	09/10-09/14/07	J6GFN1CT
			Dilution Factor: 1				
Zinc	165	199	mg/kg	121	SW846 6010B	09/10-09/14/07	J6GFN1CU
			Dilution Factor: 1				
Chromium	69.5	71.6	mg/kg	103	SW846 6010B	09/10-09/18/07	J6GFN1CV
			Dilution Factor: 1				

LCS Lot-Sample#: F7I110000-064 **Prep Batch #...:** 7254064

Mercury	16.9	13.9	mg/kg	82	SW846 7471A	09/11/07	J6HT71AC
			Dilution Factor: 20				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F7I070318 **Matrix.....:** SOLID
Date Sampled...: 09/05/07 **Date Received..:** 09/07/07

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: F7I070318-001 **Prep Batch #...:** 7253055									
								% Moisture.....: 1.6	
Aluminum									
	8070	102	7960 N	mg/kg	0.0		SW846 6010B	09/10-09/17/07	J6EP51CL
	8070	102	8660 N	mg/kg	579	0.0	SW846 6010B	09/10-09/17/07	J6EP51CM
			Dilution Factor: 2						
Antimony									
	1.2	25.4	11.4 N	mg/kg	40		SW846 6010B	09/10-09/14/07	J6EP51CN
	1.2	25.4	9.68 N	mg/kg	34	16	SW846 6010B	09/10-09/14/07	J6EP51CP
			Dilution Factor: 2						
Arsenic									
	4.7	102	108	mg/kg	101		SW846 6010B	09/10-09/14/07	J6EP51CQ
	4.7	102	110	mg/kg	103	1.6	SW846 6010B	09/10-09/14/07	J6EP51CR
			Dilution Factor: 2						
Barium									
	79.2	102	193	mg/kg	112		SW846 6010B	09/10-09/14/07	J6EP51CT
	79.2	102	189	mg/kg	108	2.1	SW846 6010B	09/10-09/14/07	J6EP51CU
			Dilution Factor: 2						
Beryllium									
	0.32	2.54	2.98	mg/kg	105		SW846 6010B	09/10-09/14/07	J6EP51CV
	0.32	2.54	3.11	mg/kg	110	4.1	SW846 6010B	09/10-09/14/07	J6EP51CW
			Dilution Factor: 2						
Boron									
	13.1	102	126	mg/kg	111		SW846 6010B	09/10-09/13/07	J6EP51CX
	13.1	102	127	mg/kg	112	0.52	SW846 6010B	09/10-09/13/07	J6EP51C0
			Dilution Factor: 2						
Cadmium									
	0.30	2.54	2.97	mg/kg	105		SW846 6010B	09/10-09/14/07	J6EP51C1
	0.30	2.54	2.82	mg/kg	99	5.1	SW846 6010B	09/10-09/14/07	J6EP51C2
			Dilution Factor: 2						
Calcium									
	5450	2540	8150	mg/kg	106		SW846 6010B	09/10-09/14/07	J6EP51C3
	5450	2540	8230	mg/kg	110	1.0	SW846 6010B	09/10-09/14/07	J6EP51C4
			Dilution Factor: 2						

(Continued on next page)

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F7I070318 **Matrix.....:** SOLID
Date Sampled...: 09/05/07 **Date Received..:** 09/07/07

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Chromium									
	12.6	10.2	26.2 N	mg/kg	133		SW846 6010B	09/10-09/17/07	J6EP51CG
	12.6	10.2	23.0	mg/kg	102	13	SW846 6010B	09/10-09/17/07	J6EP51CH
			Dilution Factor: 2						
Cobalt									
	8.1	25.4	33.6	mg/kg	100		SW846 6010B	09/10-09/14/07	J6EP51C5
	8.1	25.4	33.1	mg/kg	98	1.5	SW846 6010B	09/10-09/14/07	J6EP51C6
			Dilution Factor: 2						
Copper									
	14.0	12.7	26.4	mg/kg	98		SW846 6010B	09/10-09/14/07	J6EP51C7
	14.0	12.7	26.7	mg/kg	100	1.1	SW846 6010B	09/10-09/14/07	J6EP51C8
			Dilution Factor: 2						
Iron									
	17900	50.8	18600 N	mg/kg	1370		SW846 6010B	09/10-09/13/07	J6EP51C9
	17900	50.8	19200 N	mg/kg	2530	3.1	SW846 6010B	09/10-09/13/07	J6EP51DA
			Dilution Factor: 2						
Lead									
	12.7	25.4	38.2	mg/kg	100		SW846 6010B	09/10-09/17/07	J6EP51DC
	12.7	25.4	39.4	mg/kg	105	3.1	SW846 6010B	09/10-09/17/07	J6EP51DD
			Dilution Factor: 2						
Magnesium									
	4340	2540	7210	mg/kg	113		SW846 6010B	09/10-09/14/07	J6EP51DE
	4340	2540	6960	mg/kg	103	3.4	SW846 6010B	09/10-09/14/07	J6EP51DF
			Dilution Factor: 2						
Manganese									
	309	25.4	327 N	mg/kg	70		SW846 6010B	09/10-09/14/07	J6EP51DG
	309	25.4	360 N	mg/kg	202	9.8	SW846 6010B	09/10-09/14/07	J6EP51DH
			Dilution Factor: 2						
Molybdenum									
	ND	50.8	49.5	mg/kg	97		SW846 6010B	09/10-09/14/07	J6EP51DJ
	ND	50.8	50.1	mg/kg	98	1.1	SW846 6010B	09/10-09/14/07	J6EP51DK
			Dilution Factor: 2						
Nickel									
	11.1	25.4	38.3	mg/kg	107		SW846 6010B	09/10-09/14/07	J6EP51DL
	11.1	25.4	36.4	mg/kg	100	4.9	SW846 6010B	09/10-09/14/07	J6EP51DM
			Dilution Factor: 2						

(Continued on next page)

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F7I070318 **Matrix.....:** SOLID
Date Sampled...: 09/05/07 **Date Received..:** 09/07/07

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Potassium									
	1540	2540	4080	mg/kg	100		SW846 6010B	09/10-09/13/07	J6EP51DN
	1540	2540	3180 N	mg/kg	64	25	SW846 6010B	09/10-09/13/07	J6EP51DP
			Dilution Factor: 2						
Selenium									
	ND	102	104	mg/kg	101		SW846 6010B	09/10-09/14/07	J6EP51DQ
	ND	102	103	mg/kg	101	0.63	SW846 6010B	09/10-09/14/07	J6EP51DR
			Dilution Factor: 2						
Silicon									
	529	508	609 N	mg/kg	16		SW846 6010B	09/10-09/13/07	J6EP51DT
	529	508	565 N	mg/kg	7.1	7.4	SW846 6010B	09/10-09/13/07	J6EP51DU
			Dilution Factor: 2						
Silver									
	ND	2.54	2.83	mg/kg	111		SW846 6010B	09/10-09/14/07	J6EP51A7
	ND	2.54	1.94 *	mg/kg	76	37	SW846 6010B	09/10-09/14/07	J6EP51A8
			Dilution Factor: 2						
Sodium									
	261	2540	2920	mg/kg	104		SW846 6010B	09/10-09/13/07	J6EP51A9
	261	2540	2980	mg/kg	107	2.0	SW846 6010B	09/10-09/13/07	J6EP51CA
			Dilution Factor: 2						
Vanadium									
	37.6	25.4	63.7	mg/kg	103		SW846 6010B	09/10-09/14/07	J6EP51CC
	37.6	25.4	62.9	mg/kg	100	1.2	SW846 6010B	09/10-09/14/07	J6EP51CD
			Dilution Factor: 2						
Zinc									
	47.2	25.4	79.1 N	mg/kg	126		SW846 6010B	09/10-09/14/07	J6EP51CE
	47.2	25.4	81.0 N	mg/kg	133	2.5	SW846 6010B	09/10-09/14/07	J6EP51CF
			Dilution Factor: 2						

MS Lot-Sample #: F7I070318-001 **Prep Batch #...:** 7254064
% Moisture.....: 1.6

Mercury									
	ND	0.169	0.173	mg/kg	102		SW846 7471A	09/11/07	J6EP51CJ
	ND	0.169	0.169	mg/kg	100	2.0	SW846 7471A	09/11/07	J6EP51CK
			Dilution Factor: 1						

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

* Relative percent difference (RPD) is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

N Spiked analyte recovery is outside stated control limits.

WET CHEMISTRY

Washington Closure Hanford

Client Sample ID: J15HB8

General Chemistry

Lot-Sample #...: F7I070318-001 **Work Order #...:** J6EP5 **Matrix.....:** SOLID
Date Sampled...: 09/05/07 **Date Received..:** 09/07/07
% Moisture.....: 1.6

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	**1.6**	**0.10**	**%**	**MCANW 160.3 MOD**	**09/10-09/11/07**	**7253046**

Dilution Factor: 1 MDL.....: