0073872

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 9/4/07 INITIAL/DATE
Jeanette Duncan	H4-21	KW 9/4/07 INITIAL/DATE

COMMENTS:

SDG J00120 SAF-RC-032

Rad only Chem only X Rad & Chem

X Complete Partial

Waste Site: 118-F-2 Verification/Shallow Zone

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SEP 10 2007
EDMC

Analytical Data Package Prepared For

Washington Closure Hanford

RECEIVED
AUG 2007

Radiochemical Analysis By

TAL Richland

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

Assigned Laboratory Code: STLRL

Data Package Contains 60 ***Pages***

Report No.: 36381

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
J00120	RC-032	J152P4	J7H010291-2	J31TK1AD	9J31TK10	7215158
		J152P4	J7H010291-2	J31TK1AF	9J31TK10	7215168
		J152P4	J7H010291-2	J31TK1AA	9J31TK10	7215175
		J152P4	J7H010291-2	J31TK1AE	9J31TK10	7215179
		J152P4	J7H010291-2	J31TK1AC	9J31TK10	7215180
		J15791	J7H010291-1	J31TD1AD	9J31TD10	7215158
		J15791	J7H010291-1	J31TD1AA	9J31TD10	7215168
		J15791	J7H010291-1	J31TD1AF	9J31TD10	7215170
		J15791	J7H010291-1	J31TD1AG	9J31TD10	7215178
		J15791	J7H010291-1	J31TD1AE	9J31TD10	7215179
		J15791	J7H010291-1	J31TD1AC	9J31TD10	7215180

SEVERN TRENT STL

STL Richland
2800 George Washington Way
Richland, WA 99354

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

Certificate of Analysis

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

August 20, 2007

Attention: Joan Kessner

SAF Number	:	RC-032
Date SDG Closed	:	August 1, 2007
Number of Samples	:	One (1)
Sample Type	:	Soil
SDG Number	:	J00120
Data Deliverable	:	15 – Day / Summary

CASE NARRATIVE

I. Introduction

On August 1, 2007 one soil sample was received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the sample was assigned the following laboratory ID number to correspond with the Washington Closure Hanford (WCH) specific ID:

WCH ID#	STLR ID#	MATRIX	DATE OF RECEIPT
J15791	J31TD	SOIL	8/1/07

I. Sample Receipt

The sample was received in good condition. The COC requested a seven day turn around time but the client has instructed TestAmerica to log all RC-032 SAFs as a 15 day turn around time.

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:

Alpha Spectroscopy
Plutonium-238, -239/240 by method RICH-RC-5010
Uranium 234, 235 and 238 by method RICH-RC-5039
Gas Proportional Counting
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

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

Alpha Spectroscopy
Plutonium-238, -239/240 by method RICH-RC-5010:
The matrix spike (J35Q91EM) yield was 63% which is out of limits. The matrix blank (J35Q91DX) had a FWHM greater than 100. The reagent blank (J35Q91AB) and LCS (J35Q91CS) are acceptable. The sample activity is below the CRDL. The data is acceptable. Except as noted, the LCS, batch blank, sample and sample duplicate (J152P4) results are within contractual requirements.

Uranium 234, 235 and 238 by method RICH-RC-5039:
The LCS, batch blank, sample and sample duplicate (J152P4) results are within contractual requirements.

Gas Proportional Counting
Total Strontium by method RICH-RC-5006:
The LCS, batch blank, sample and sample duplicate (J152P4) results are within contractual requirements.

Gamma Spectroscopy
Gamma Spec by method RICH-RC-5017:
The LCS, batch blank, sample and sample duplicate (J15791) results are within contractual requirements.

Liquid Scintillation Counter
Carbon-14 by method RICH-RC-5022:
The LCS, batch blank, sample and sample duplicate (J15791) results are within contractual requirements.

Washington Closure Hanford
August 20, 2007

Nickel-63 by method RICH-RC-5069:
The LCS, batch blank, sample and sample duplicate (J15791) results are within contractual requirements.

Tritium by method RICH-RC-5007
The LCS, batch blank, sample and sample duplicate (J15791) results are within contractual requirements.

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

Reviewed and approved:

Sandra Seger
Project Manager

Drinking Water Method Cross References

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

Uncertainty Estimation

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, R = 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/vn), 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: 17-Aug-07

Report No. : 36381

SDG No: J00120

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
7215179 RICHRC5010									
J152P4									
	J31TK1AE	PU-238	0.00E+00 +- 1.95E-02	U	pCi/g	66%	4.57E-02	1.00E+00	
		PU239/40	-3.82E-03 +- 1.98E-02	U	pCi/g	66%	5.39E-02	1.00E+00	
J152P4 DUP									
	J31TK1AJ	PU-238	-2.36E-03 +- 2.40E-02	U	pCi/g	54%	5.65E-02	1.00E+00	-200.0
		PU239/40	-1.18E-02 +- 2.59E-02	U	pCi/g	54%	8.67E-02	1.00E+00	-102.2
J15791									
	J31TD1AE	PU-238	0.00E+00 +- 1.98E-02	U	pCi/g	66%	4.66E-02	1.00E+00	
		PU239/40	-3.89E-03 +- 2.02E-02	U	pCi/g	66%	5.50E-02	1.00E+00	
7215175 UISO_IE_PLATE_AEA									
J152P4									
	J31TK1AA	U-234	1.36E-01 +- 7.76E-02		pCi/g	63%	4.71E-02	1.00E+00	
		U-235	-1.97E-03 +- 2.01E-02	U	pCi/g	63%	4.71E-02	1.00E+00	
		U-238	1.04E-01 +- 6.80E-02		pCi/g	63%	5.56E-02	1.00E+00	
J152P4 DUP									
	J31TK1AH	U-234	8.22E-02 +- 6.41E-02		pCi/g	52%	7.56E-02	1.00E+00	49.1
		U-235	-2.05E-03 +- 2.10E-02	U	pCi/g	52%	4.92E-02	1.00E+00	-4.4
		U-238	6.17E-02 +- 5.17E-02		pCi/g	52%	4.92E-02	1.00E+00	51.4
7215168 GAMMA_GS									
J152P4									
	J31TK1AF	AG-108M	7.90E-04 +- 5.37E-03	U	pCi/g		9.24E-03		
		BA-133	6.36E-04 +- 8.45E-03	U	pCi/g		1.24E-02		
		CO-60	7.26E-03 +- 7.84E-03	U	pCi/g		1.46E-02	5.00E-02	
		CS-137	3.29E-02 +- 1.35E-02		pCi/g		1.27E-02	1.00E-01	
		EU-152	1.58E-02 +- 1.79E-02	U	pCi/g		3.06E-02	1.00E-01	
		EU-154	7.09E-04 +- 2.61E-02	U	pCi/g		4.47E-02	1.00E-01	
		EU-155	2.11E-02 +- 1.95E-02	U	pCi/g		3.29E-02	1.00E-01	
J15791									
	J31TD1AA	AG-108M	-1.85E-03 +- 6.29E-03	U	pCi/g		1.07E-02		
		BA-133	4.59E-03 +- 9.13E-03	U	pCi/g		1.41E-02		
		CO-60	1.42E-03 +- 9.58E-03	U	pCi/g		1.69E-02	5.00E-02	
		CS-137	7.61E-03 +- 8.80E-03	U	pCi/g		1.56E-02	1.00E-01	
		EU-152	-9.51E-03 +- 1.98E-02	U	pCi/g		3.30E-02	1.00E-01	
		EU-154	-3.73E-03 +- 3.27E-02	U	pCi/g		5.52E-02	1.00E-01	
		EU-155	3.97E-02 +- 2.59E-02	U	pCi/g		4.49E-02	1.00E-01	
J15791 DUP									
	J31TD1AK	AG-108M	-2.63E-03 +- 5.93E-03	U	pCi/g		9.93E-03		
		BA-133	-6.53E-04 +- 9.15E-03	U	pCi/g		1.34E-02		

TAL Richland

rptSTLRchSaSummary2 V5.1.3
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: 17-Aug-07

Report No. : 36381

SDG No: J00120

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
7215168 GAMMA_GS									
J15791 DUP									
	J31TD1AK	CO-60	1.60E-03 +- 8.02E-03	U	pCi/g		1.44E-02	5.00E-02	
		CS-137	3.27E-04 +- 8.23E-03	U	pCi/g		1.42E-02	1.00E-01	
		EU-152	-2.32E-02 +- 2.06E-02	U	pCi/g		3.18E-02	1.00E-01	
		EU-154	1.72E-02 +- 2.87E-02	U	pCi/g		5.05E-02	1.00E-01	
		EU-155	1.54E-02 +- 2.18E-02	U	pCi/g		3.66E-02	1.00E-01	
7215180 SRTOT_SEP_PRECIP_GPC									
J152P4									
	J31TK1AC	STRONTIUM	3.08E-01 +- 1.20E-01		pCi/g	76%	1.33E-01		
J152P4 DUP									
	J31TK1AK	STRONTIUM	3.86E-02 +- 6.87E-02	U	pCi/g	76%	1.51E-01		155.5
J15791									
	J31TD1AC	STRONTIUM	4.21E-02 +- 6.49E-02	U	pCi/g	81%	1.41E-01		
7215158 NI63_LSC									
J152P4									
	J31TK1AD	NI-63	2.76E+00 +- 4.02E+00	U	pCi/g	91%	5.35E+00	3.00E+01	
J15791									
	J31TD1AD	NI-63	3.31E+00 +- 4.45E+00	U	pCi/g	89%	5.88E+00	3.00E+01	
J15791 DUP									
	J31TD1AJ	NI-63	5.01E-01 +- 3.97E+00	U	pCi/g	89%	5.48E+00	3.00E+01	147.5
7215170 906.0_H3_LSC									
J15791									
	J31TD1AF	H-3	1.67E-03 +- 6.33E-03	U	pCi/g	100%	1.29E-02	4.00E+02	
J15791 DUP									
	J31TD1AL	H-3	-1.45E-03 +- 5.29E-03	U	pCi/g	100%	1.10E-02	4.00E+02	2746.2
7215178 C14_CHEM_LSC									
J15791									
	J31TD1AG	C-14	1.01E+00 +- 7.80E-01		pCi/g	100%	8.27E-01	5.00E+01	
J15791 DUP									
	J31TD1AM	C-14	1.04E-01 +- 6.93E-01	U	pCi/g	100%	8.28E-01	5.00E+01	162.6

No. of Results: 43

TAL Richland

rptSTLRchSaSummary2 V5.1.3
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: 17-Aug-07

Ordered by Method, Batch No, QC Type,.

Report No. : 36381 **SDG No.:** J00120

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
RICHRC5010								
7215179 BLANK QC,								
J35Q91AA	PU-238	-3.92E-03 +- 3.99E-02	U	pCi/g	35%			9.37E-02
	PU239/40	-7.83E-03 +- 4.07E-02	U	pCi/g	35%			1.11E-01
J35Q91AD	PU-238	-2.43E-03 +- 2.48E-02	U	pCi/g	56%			5.82E-02
	PU239/40	-7.29E-03 +- 2.57E-02	U	pCi/g	56%			7.67E-02
7215179 LCS,								
J35Q91AE	PU239/40	4.34E+00 +- 6.91E-01		pCi/g	89%	63%	-0.4	3.66E-02
J35Q91AC	PU239/40	7.01E+00 +- 1.38E+00		pCi/g	48%	101%	0.0	6.57E-02
UISO_IE_PLATE_AEA								
7215175 BLANK QC,								
J35Q01AA	U-234	2.29E-02 +- 2.60E-02	U	pCi/g	92%			3.60E-02
	U-235	1.15E-02 +- 1.83E-02	U	pCi/g	92%			3.05E-02
	U-238	2.29E-02 +- 2.60E-02	U	pCi/g	92%			3.60E-02
7215175 LCS,								
J35Q01AC	U-234	3.60E+00 +- 7.00E-01		pCi/g	88%	110%	0.1	3.58E-02
	U-238	3.34E+00 +- 6.54E-01		pCi/g	88%	98%	0.0	3.58E-02
GAMMA_GS								
7215168 BLANK QC,								
J35QH1AA	AG-108M	-6.30E-04 +- 3.35E-03	U	pCi/g				5.72E-03
	BA-133	-8.20E-04 +- 5.38E-03	U	pCi/g				7.91E-03
	CO-60	-2.23E-03 +- 4.22E-03	U	pCi/g				7.16E-03
	CS-137	-7.23E-04 +- 4.43E-03	U	pCi/g				7.82E-03
	EU-152	-5.19E-03 +- 1.06E-02	U	pCi/g				1.82E-02
	EU-154	-9.39E-03 +- 1.36E-02	U	pCi/g				2.25E-02
	EU-155	-3.53E-03 +- 8.88E-03	U	pCi/g				1.50E-02
7215168 LCS,								
J35QH1AC	CS-137	2.39E-01 +- 4.06E-02		pCi/g		93%	-0.1	2.77E-02
	K-40	1.77E+01 +- 2.22E+00		pCi/g		90%	-0.1	1.93E-01
	RA-226	9.50E-01 +- 1.32E-01		pCi/g		83%	-0.2	4.38E-02
	RA-228	1.73E+00 +- 2.53E-01		pCi/g		92%	-0.1	8.13E-02
	U-238	9.77E-01 +- 1.39E-01		pCi/g		93%	-0.1	4.43E-02
SRTOT_SEP_PRECIP_GPC								
7215180 BLANK QC,								
J35RH1AA	STRONTIUM	-4.55E-03 +- 5.45E-02	U	pCi/g	87%			1.32E-01
7215180 LCS,								
J35RH1AC	STRONTIUM	1.07E+00 +- 3.15E-01		pCi/g	82%	97%	0.0	1.40E-01
NI63_LSC								
7215158 BLANK QC,								
J35PQ1AA	NI-63	2.23E-01 +- 4.41E+00	U	pCi/g	86%			6.09E+00
7215158 LCS,								

TAL Richland
rptSTLRchQcSummary V5.1.3 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

Ordered by Method, Batch No, QC Type,.

Date: 17-Aug-07

Report No. : 36381

SDG No.: J00120

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
J35PQ1AC	NI-63	4.69E+02 +- 4.73E+01		pCi/g	95%	77%	-0.2	5.55E+00
906.0_H3_LSC								
7215170 BLANK QC,								
J35QV1AA	H-3	-1.47E-02 +- 1.60E-01	U	pCi/g	100%			3.30E-01
7215170 LCS,								
J35QV1AC	H-3	2.68E+00 +- 2.71E-01		pCi/g	100%	99%	0.0	3.29E-01
C14_CHEM_LSC								
7215178 BLANK QC,								
J35Q31AA	C-14	-5.10E-02 +- 2.70E-01	U	pCi/g	100%			3.34E-01
7215178 LCS,								
J35Q31AC	C-14	7.11E+00 +- 1.01E+00		pCi/g	100%	98%	0.0	3.34E-01

No. of Results: 31

TAL Richland

rptSTLRchQcSummary V5.1.3 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: 17-Aug-07

Lab Name:	TA Richland	SDG:	J00120	Collection Date:	7/31/2007 8:50:00 AM
Lot-Sample No.:	J7H010291-2	Report No. :	36381	Received Date:	8/1/2007 1:25:00 PM
Client Sample ID:	J152P4	COC No. :	RC-032-115	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: 7215158	NI63_LSC			Work Order: J31TK1AD			Report DB ID: 9J31TK10					
NI-63	*2.76E+00*	U	2.3E+00	4.0E+00	5.35E+00	pCi/g	91%	*0.52*	8/8/07 11:43 p		0.27	LSC4
						2.60E+00	3.00E+01	*(1.4)*			G	
Batch: 7215168	GAMMA_GS			Work Order: J31TK1AF			Report DB ID: 9J31TK10					
AG-108M	*7.90E-04*	U	5.4E-03	5.4E-03	9.24E-03	pCi/g		*0.09*	8/8/07 08:34 a		949.8	GER5$1
								0.29			g	
BA-133	*6.36E-04*	U	8.4E-03	8.4E-03	1.24E-02	pCi/g		*0.05*	8/8/07 08:34 a		949.8	GER5$1
								0.15			g	
CO-60	*7.26E-03*	U	7.8E-03	7.8E-03	1.46E-02	pCi/g		*0.5*	8/8/07 08:34 a		949.8	GER5$1
							5.00E-02	*(1.9)*			g	
CS-137	*3.29E-02*		1.3E-02	1.3E-02	1.27E-02	pCi/g		*(2.6)*	8/8/07 08:34 a		949.8	GER5$1
							1.00E-01	*(4.9)*			g	
EU-152	*1.58E-02*	U	1.8E-02	1.8E-02	3.06E-02	pCi/g		*0.52*	8/8/07 08:34 a		949.8	GER5$1
							1.00E-01	*(1.8)*			g	
EU-154	*7.09E-04*	U	2.6E-02	2.6E-02	4.47E-02	pCi/g		*0.02*	8/8/07 08:34 a		949.8	GER5$1
							1.00E-01	*0.05*			g	
EU-155	*2.11E-02*	U	1.9E-02	1.9E-02	3.29E-02	pCi/g		*0.64*	8/8/07 08:34 a		949.8	GER5$1
							1.00E-01	*(2.2)*			g	
Batch: 7215175	UISO_IE_PLATE_AEA			Work Order: J31TK1AA			Report DB ID: 9J31TK10					
U-234	*1.36E-01*		7.4E-02	7.8E-02	4.71E-02	pCi/g	63%	*(2.9)*	8/12/07 10:41 a		1.01	ALP10
						1.02E-02	1.00E+00	*(3.5)*			G	

TAL Richland
rptSTLRchSample
V5.1.3 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: 17-Aug-07

Lab Name:	TA Richland	SDG:	J00120	Collection Date:	7/31/2007 8:50:00 AM
Lot-Sample No.:	J7H010291-2	Report No. :	36381	Received Date:	8/1/2007 1:25:00 PM
Client Sample ID:	J152P4	COC No. :	RC-032-115	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
U-235	*-1.97E-03*	U	2.0E-02	2.0E-02	4.71E-02	pCi/g	63%	*-0.04*	8/12/07 10:41 a		1.01	ALP10
						1.02E-02	1.00E+00	*-0.2*			G	
U-238	*1.04E-01*		6.5E-02	6.8E-02	5.56E-02	pCi/g	63%	*(1.9)*	8/12/07 10:41 a		1.01	ALP10
						1.45E-02	1.00E+00	*(3.1)*			G	
							Ratio U-234/238 = 1.3					
Batch: 7215179	RICHRC5010			Work Order: J31TK1AE			Report DB ID: 9J31TK10					
PU-238	*0.00E+00*	U	0.0E+00	1.9E-02	4.57E-02	pCi/g	66%	*0.*	8/14/07 07:17 p		1.04	ALP39
						9.93E-03	1.00E+00	*0.*			G	
PU239/40	*-3.82E-03*	U	2.0E-02	2.0E-02	5.39E-02	pCi/g	66%	*-0.07*	8/14/07 07:17 p		1.04	ALP39
						1.40E-02	1.00E+00	*-0.38*			G	
Batch: 7215180	SRTOT_SEP_PRECIP_GPC			Work Order: J31TK1AC			Report DB ID: 9J31TK10					
STRONTIUM	*3.08E-01*		8.8E-02	1.2E-01	1.33E-01	pCi/g	76%	*(2.3)*	8/10/07 01:51 p		6.01	GPC31B
						6.16E-02		*(5.2)*			G	

No. of Results: 14 Comments:

12

TAL Richland
rptSTLRchSample
V5.1.3 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: 17-Aug-07

Lab Name:	TA Richland	SDG:	J00120	Collection Date:	7/31/2007 1:30:00 PM
Lot-Sample No.:	J7H010291-1	Report No. :	36381	Received Date:	8/1/2007 1:25:00 PM
Client Sample ID:	J15791	COC No. :	RC-032-137	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: 7215158	NI63_LSC			Work Order: J31TD1AD			Report DB ID: 9J31TD10					
NI-63	3.31E+00	U	2.5E+00	4.5E+00	5.88E+00	pCi/g	89%	0.56	8/8/07 08:18 p		0.25	LSC4
						2.86E+00	3.00E+01	(1.5)			G	
Batch: 7215168	GAMMA_GS			Work Order: J31TD1AA			Report DB ID: 9J31TD10					
AG-108M	-1.85E-03	U	6.3E-03	6.3E-03	1.07E-02	pCi/g		-0.17	8/8/07 08:32 a		896.9	GER4$1
								-0.59			g	
BA-133	4.59E-03	U	9.1E-03	9.1E-03	1.41E-02	pCi/g		0.33	8/8/07 08:32 a		896.9	GER4$1
								(1.)			g	
CO-60	1.42E-03	U	9.6E-03	9.6E-03	1.69E-02	pCi/g		0.08	8/8/07 08:32 a		896.9	GER4$1
							5.00E-02	0.3			g	
CS-137	7.61E-03	U	8.8E-03	8.8E-03	1.56E-02	pCi/g		0.49	8/8/07 08:32 a		896.9	GER4$1
							1.00E-01	(1.7)			g	
EU-152	-9.51E-03	U	2.0E-02	2.0E-02	3.30E-02	pCi/g		-0.29	8/8/07 08:32 a		896.9	GER4$1
							1.00E-01	-0.96			g	
EU-154	-3.73E-03	U	3.3E-02	3.3E-02	5.52E-02	pCi/g		-0.07	8/8/07 08:32 a		896.9	GER4$1
							1.00E-01	-0.23			g	
EU-155	3.97E-02	U	2.6E-02	2.6E-02	4.49E-02	pCi/g		0.88	8/8/07 08:32 a		896.9	GER4$1
							1.00E-01	(3.1)			g	
Batch: 7215170	906.0_H3_LSC			Work Order: J31TD1AF			Report DB ID: 9J31TD10					
H-3	1.67E-03	U	5.3E-03	6.3E-03	1.29E-02	pCi/g	100%	0.13	8/16/07 09:27 p		150.3	LSC6
						6.13E-03	4.00E+02	0.53			G	
Batch: 7215178	C14_CHEM_LSC			Work Order: J31TD1AG			Report DB ID: 9J31TD10					

TAL Richland
rptSTLRchSample
V5.1.3 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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TESTAMERICA RICHLAND

FORM I

SAMPLE RESULTS

Date: 17-Aug-07

Lab Name:	TA Richland	SDG:	J00120	Collection Date:	7/31/2007 1:30:00 PM
Lot-Sample No.:	J7H010291-1	Report No. :	36381	Received Date:	8/1/2007 1:25:00 PM
Client Sample ID:	J15791	COC No. :	RC-032-137	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
C-14	*1.01E+00*		3.8E-01	7.8E-01	8.27E-01	pCi/g	100%	*(1.2)*	8/14/07 04:27 p		2.011	LSC4
						3.97E-01	5.00E+01	*(2.6)*			G	
Batch: 7215179	RICHRC5010			Work Order:	J31TD1AE		Report DB ID:	9J31TD10				
PU-238	*0.00E+00*	U	0.0E+00	2.0E-02	4.66E-02	pCi/g	66%	*0.*	8/14/07 07:17 p		1.04	ALP37
						1.01E-02	1.00E+00	*0.*			G	
PU239/40	*-3.89E-03*	U	2.0E-02	2.0E-02	5.50E-02	pCi/g	66%	*-0.07*	8/14/07 07:17 p		1.04	ALP37
						1.43E-02	1.00E+00	*-0.39*			G	
Batch: 7215180	SRTOT_SEP_PRECIP_GPC			Work Order:	J31TD1AC		Report DB ID:	9J31TD10				
STRONTIUM	*4.21E-02*	U	6.4E-02	6.5E-02	1.41E-01	pCi/g	81%	*0.3*	8/10/07 01:51 p		6.03	GPC31A
						6.55E-02		*(1.3)*			G	

No. of Results: 13 Comments:

TAL Richland
rptSTLRchSample
V5.1.3 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: 17-Aug-07

DUPLICATE RESULTS

Lab Name:	TA Richland	SDG:	J00120	Collection Date:	7/31/2007 8:50:00 AM
Lot-Sample No.:	J7H010291-2	Report No. :	36381	Received Date:	8/1/2007 1:25:00 PM
Client Sample ID:	J152P4 DUP	COC No. :	RC-032-115	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: 7215175	UISO_IE_PLATE_AEA			Work Order: J31TK1AH		Report DB ID: J31TK1HR			Orig Sa DB ID: 9J31TK10			
U-234	8.22E-02		6.2E-02	6.4E-02	7.56E-02	pCi/g	52%	(1.1)	8/12/07 10:42 a		1.03	ALP11
	1.36E-01		RPD	49.1		1.00E+00		(2.6)			G	
U-235	-2.05E-03	U	2.1E-02	2.1E-02	4.92E-02	pCi/g	52%	-0.04	8/12/07 10:42 a		1.03	ALP11
	-1.97E-03	U	RPD	-4.4		1.00E+00		-0.2			G	
U-238	6.17E-02		5.1E-02	5.2E-02	4.92E-02	pCi/g	52%	(1.3)	8/12/07 10:42 a		1.03	ALP11
	1.04E-01		RPD	51.4		1.00E+00		(2.4)			G	
						Ratio U-234/238 = 1.3			*Alpha Spec Result Sum = 1.4E-01*			
Batch: 7215179	RICHRC5010			Work Order: J31TK1AJ		Report DB ID: J31TK1JR			Orig Sa DB ID: 9J31TK10			
PU-238	-2.36E-03	U	2.4E-02	2.4E-02	5.65E-02	pCi/g	54%	-0.04	8/14/07 07:17 p		1.03	ALP40
	0.00E+00	U	RPD	-200.0		1.00E+00		-0.2			G	
PU239/40	-1.18E-02	U	2.6E-02	2.6E-02	8.67E-02	pCi/g	54%	-0.14	8/14/07 07:17 p		1.03	ALP40
	-3.82E-03	U	RPD	-102.2		1.00E+00		-0.91			G	
									Alpha Spec Result Sum = 1.3E-01			
Batch: 7215180	SRTOT_SEP_PRECIP_GPC			Work Order: J31TK1AK		Report DB ID: J31TK1KR			Orig Sa DB ID: 9J31TK10			
STRONTIUM	3.86E-02	U	6.8E-02	6.9E-02	1.51E-01	pCi/g	76%	0.26	8/10/07 01:51 p		6.01	GPC31C
	3.08E-01		RPD	155.5				(1.1)			G	
									Alpha Spec Result Sum = 1.3E-01			

No. of Results: 6 Comments:

TAL Richland
rptSTLRchDupV5.1
.3 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: 17-Aug-07

DUPLICATE RESULTS

Lab Name:	TA Richland	SDG:	J00120	Collection Date:	7/31/2007 1:30:00 PM
Lot-Sample No.:	J7H010291-1	Report No. :	36381	Received Date:	8/1/2007 1:25:00 PM
Client Sample ID:	J15791 DUP	COC No. :	RC-032-137	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: 7215158	NI63_LSC			Work Order: J31TD1AJ		Report DB ID: J31TD1JR			Orig Sa DB ID: 9J31TD10			
NI-63	5.01E-01	U	2.3E+00	4.0E+00	5.48E+00	pCi/g	89%	0.09	8/8/07 10:01 p		0.27	LSC4
	3.31E+00	U	RPD	147.5		3.00E+01		0.25			G	
Batch: 7215168	GAMMA_GS			Work Order: J31TD1AK		Report DB ID: J31TD1KR			Orig Sa DB ID: 9J31TD10			
AG-108M	-2.63E-03	U	5.9E-03	5.9E-03	9.93E-03	pCi/g		-0.26	8/8/07 11:58 a		896.9	GER5$1
	-1.85E-03	U	RPD	-34.8				-0.89			g	
BA-133	-6.53E-04	U	9.1E-03	9.1E-03	1.34E-02	pCi/g		-0.05	8/8/07 11:58 a		896.9	GER5$1
	4.59E-03	U	RPD	266.3				-0.14			g	
CO-60	1.60E-03	U	8.0E-03	8.0E-03	1.44E-02	pCi/g		0.11	8/8/07 11:58 a		896.9	GER5$1
	1.42E-03	U	RPD	11.7		5.00E-02		0.4			g	
CS-137	3.27E-04	U	8.2E-03	8.2E-03	1.42E-02	pCi/g		0.02	8/8/07 11:58 a		896.9	GER5$1
	7.61E-03	U	RPD	183.5		1.00E-01		0.08			g	
EU-152	-2.32E-02	U	2.1E-02	2.1E-02	3.18E-02	pCi/g		-0.73	8/8/07 11:58 a		896.9	GER5$1
	-9.51E-03	U	RPD	-83.7		1.00E-01		-(2.3)			g	
EU-154	1.72E-02	U	2.9E-02	2.9E-02	5.05E-02	pCi/g		0.34	8/8/07 11:58 a		896.9	GER5$1
	-3.73E-03	U	RPD	310.2		1.00E-01		(1.2)			g	
EU-155	1.54E-02	U	2.2E-02	2.2E-02	3.66E-02	pCi/g		0.42	8/8/07 11:58 a		896.9	GER5$1
	3.97E-02	U	RPD	88.1		1.00E-01		(1.4)			g	
Batch: 7215170	906.0_H3_LSC			Work Order: J31TD1AL		Report DB ID: J31TD1LR			Orig Sa DB ID: 9J31TD10			
H-3	-1.45E-03	U	4.5E-03	5.3E-03	1.10E-02	pCi/g	100%	-0.13	8/16/07 10:49 p		150.8	LSC6
	1.67E-03	U	RPD	2746.2		4.00E+02		-0.55			G	

TAL Richland
rptSTLRchDupV5.1
.3 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.

FORM II

Date: 17-Aug-07

DUPLICATE RESULTS

Lab Name:	TA Richland	SDG:	J00120	Collection Date:	7/31/2007 1:30:00 PM
Lot-Sample No.:	J7H010291-1	Report No. :	36381	Received Date:	8/1/2007 1:25:00 PM
Client Sample ID:	J15791 DUP	COC No. :	RC-032-137	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: 7215178	C14_CHEM_LSC			Work Order: J31TD1AM		Report DB ID: J31TD1MR			Orig Sa DB ID: 9J31TD10			
C-14	1.04E-01	U	3.5E-01	6.9E-01	8.28E-01	pCi/g	100%	0.13	8/14/07 05:09 p		2.009	LSC4
	1.01E+00		RPD	162.6		5.00E+01		0.3			G	

No. of Results: 10 Comments:

TAL Richland
rptSTLRchDupV5.1
.3 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: 17-Aug-07

Lab Name: TA Richland

Matrix: SOIL

SDG: J00120

Report No. : 36381

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: 7215178	C14_CHEM_LSC			Work Order: J35Q31AA		Report DB ID: J35Q31AB						
C-14	-5.10E-02	U	1.4E-01	2.7E-01	3.34E-01	pCi/g	100%	-0.15	8/14/07 03:02 p		5.0	LSC4
					1.60E-01	5.00E+01		-0.38			G	
Batch: 7215179	RICHRC5010			Work Order: J35Q91AA		Report DB ID: J35Q91AB						
PU-238	-3.92E-03	U	4.0E-02	4.0E-02	9.37E-02	pCi/g	35%	-0.04	8/14/07 07:17 p		1.0	ALP42
					2.04E-02	1.00E+00		-0.2			G	
PU239/40	-7.83E-03	U	4.1E-02	4.1E-02	1.11E-01	pCi/g	35%	-0.07	8/14/07 07:17 p		1.0	ALP42
					2.88E-02	1.00E+00		-0.39			G	
Batch: 7215179	RICHRC5010			Work Order: J35Q91AD		Report DB ID: J35Q91DX						
PU-238	-2.43E-03	U	2.5E-02	2.5E-02	5.82E-02	pCi/g	56%	-0.04	8/14/07 07:18 p		1.02	ALP127
					1.26E-02	1.00E+00		-0.2			G	
PU239/40	-7.29E-03	U	2.6E-02	2.6E-02	7.67E-02	pCi/g	56%	-0.1	8/14/07 07:18 p		1.02	ALP127
					2.19E-02	1.00E+00		-0.57			G	
Batch: 7215175	UISO_IE_PLATE_AEA			Work Order: J35Q01AA		Report DB ID: J35Q01AB						
U-234	2.29E-02	U	2.6E-02	2.6E-02	3.60E-02	pCi/g	92%	0.64	8/12/07 10:42 a		1.0	ALP12
					9.37E-03	1.00E+00		(1.8)			G	
U-235	1.15E-02	U	1.8E-02	1.8E-02	3.05E-02	pCi/g	92%	0.38	8/12/07 10:42 a		1.0	ALP12
					6.63E-03	1.00E+00		(1.3)			G	
U-238	2.29E-02	U	2.6E-02	2.6E-02	3.60E-02	pCi/g	92%	0.64	8/12/07 10:42 a		1.0	ALP12
					9.37E-03	1.00E+00		(1.8)			G	
								Ratio U-234/238 = 1.0				
Batch: 7215158	NI63_LSC			Work Order: J35PQ1AA		Report DB ID: J35PQ1AB						
NI-63	2.23E-01	U	2.5E+00	4.4E+00	6.09E+00	pCi/g	86%	0.04	8/9/07 01:25 a		0.25	LSC4
					2.96E+00	3.00E+01		0.1			G	

TAL Richland
rptSTLRchBlank
V5.1.3 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

BLANK RESULTS

Date: 17-Aug-07

Lab Name: TA Richland

Matrix: SOIL

SDG: J00120

Report No. : 36381

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: 7215170	906.0_H3_LSC			Work Order: J35QV1AA		Report DB ID: J35QV1AB						
H-3	-1.47E-02	U	1.3E-01	1.6E-01	3.30E-01	pCi/g	100%	-0.04	8/16/07 06:42 p		5.0	LSC6
					1.58E-01	4.00E+02		-0.18			G	
Batch: 7215168	GAMMA_GS			Work Order: J35QH1AA		Report DB ID: J35QH1AB						
AG-108M	-6.30E-04	U	3.3E-03	3.3E-03	5.72E-03	pCi/g		-0.11	8/8/07 11:28 a		859.27	GER6$1
								-0.38			g	
BA-133	-8.20E-04	U	5.4E-03	5.4E-03	7.91E-03	pCi/g		-0.1	8/8/07 11:28 a		859.27	GER6$1
								-0.3			g	
CO-60	-2.23E-03	U	4.2E-03	4.2E-03	7.16E-03	pCi/g		-0.31	8/8/07 11:28 a		859.27	GER6$1
						5.00E-02		-(1.1)			g	
CS-137	-7.23E-04	U	4.4E-03	4.4E-03	7.82E-03	pCi/g		-0.09	8/8/07 11:28 a		859.27	GER6$1
						1.00E-01		-0.33			g	
EU-152	-5.19E-03	U	1.1E-02	1.1E-02	1.82E-02	pCi/g		-0.29	8/8/07 11:28 a		859.27	GER6$1
						1.00E-01		-0.98			g	
EU-154	-9.39E-03	U	1.4E-02	1.4E-02	2.25E-02	pCi/g		-0.42	8/8/07 11:28 a		859.27	GER6$1
						1.00E-01		-(1.4)			g	
EU-155	-3.53E-03	U	8.9E-03	8.9E-03	1.50E-02	pCi/g		-0.23	8/8/07 11:28 a		859.27	GER6$1
						1.00E-01		-0.8			g	
Batch: 7215180	SRTOT_SEP_PRECIP_GPC			Work Order: J35RH1AA		Report DB ID: J35RH1AB						
STRONTIUM	-4.55E-03	U	5.5E-02	5.5E-02	1.32E-01	pCi/g	87%	-0.03	8/10/07 01:51 p		6.0	GPC31D
					6.11E-02			-0.17			G	

No. of Results: 18 Comments:

TAL Richland
rptSTLRchBlank
V5.1.3 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

LCS RESULTS

Date: 17-Aug-07

Lab Name: TA Richland

Matrix: SOIL

SDG: J00120

Report No. : 36381

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: 7215178	C14_CHEM_LSC			Work Order:	J35Q31AC		Report DB ID:	J35Q31CS					
C-14	7.11E+00		3.0E-01	1.0E+00	3.34E-01	pCi/g	100%	7.23E+00	2.4E-01	98%	8/14/07 03:45 p	5.0	LSC4
							Rec Limits:	70	130	0.0		G	
Batch: 7215179	RICHRC5010			Work Order:	J35Q91AC		Report DB ID:	J35Q91CS					
PU239/40	7.01E+00		6.2E-01	1.4E+00	6.57E-02	pCi/g	48%	6.96E+00	2.3E-01	101%	8/14/07 07:18 p	1.0	ALP44
							Rec Limits:	70	130	0.0		G	
Batch: 7215179	RICHRC5010			Work Order:	J35Q91AE		Report DB ID:	J35Q91EM					
PU239/40	4.34E+00		3.6E-01	6.9E-01	3.66E-02	pCi/g	89%	6.89E+00	2.3E-01	63%	8/14/07 07:19 p	1.0	ALP128
							Rec Limits:	70	130	-0.4		G	
Batch: 7215175	UISO_IE_PLATE_AEA			Work Order:	J35Q01AC		Report DB ID:	J35Q01CS					
U-234	3.60E+00		3.3E-01	7.0E-01	3.58E-02	pCi/g	88%	3.26E+00	1.8E-02	110%	8/12/07 10:43 a	1.0	ALP88
							Rec Limits:	70	130	0.1		G	
U-238	3.34E+00		3.2E-01	6.5E-01	3.58E-02	pCi/g	88%	3.42E+00	1.9E-02	98%	8/12/07 10:43 a	1.0	ALP88
							Rec Limits:	70	130	0.0		G	
Batch: 7215158	NI63_LSC			Work Order:	J35PQ1AC		Report DB ID:	J35PQ1CS					
NI-63	4.69E+02		7.8E+00	4.7E+01	5.55E+00	pCi/g	95%	6.08E+02	1.7E+00	77%	8/9/07 03:08 a	0.25	LSC4
							Rec Limits:	70	130	-0.2		G	
Batch: 7215170	906.0_H3_LSC			Work Order:	J35QV1AC		Report DB ID:	J35QV1CS					
H-3	2.68E+00		2.2E-01	2.7E-01	3.29E-01	pCi/g	100%	2.71E+00	8.1E-02	99%	8/16/07 08:05 p	5.0	LSC6
							Rec Limits:	70	130	0.0		G	
Batch: 7215168	GAMMA_GS			Work Order:	J35QH1AC		Report DB ID:	J35QH1CS					
CS-137	2.39E-01		4.1E-02	4.1E-02	2.77E-02	pCi/g		2.58E-01	1.2E-02	93%	8/8/07 11:29 a	457.79	GER8$1
							Rec Limits:	70	130	-0.1		g	

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

rptSTLRchLcs
V5.1.3 A2002

TESTAMERICA RICHLAND

FORM II

LCS RESULTS

Date: 17-Aug-07

Lab Name: TA Richland

SDG: J00120

Matrix: SOIL

Report No. : 36381

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
K-40	1.77E+01		2.2E+00	2.2E+00	1.93E-01	pCi/g		1.95E+01	1.9E+00	90%	8/8/07 11:29 a	457.79	GER8$1
							Rec Limits:			-0.1		g	
RA-226	9.50E-01		1.3E-01	1.3E-01	4.38E-02	pCi/g		1.15E+00	5.2E-02	83%	8/8/07 11:29 a	457.79	GER8$1
							Rec Limits:			-0.2		g	
RA-228	1.73E+00		2.5E-01	2.5E-01	8.13E-02	pCi/g		1.87E+00	9.6E-02	92%	8/8/07 11:29 a	457.79	GER8$1
							Rec Limits:			-0.1		g	
U-238	9.77E-01		1.4E-01	1.4E-01	4.43E-02	pCi/g		1.05E+00	5.4E-02	93%	8/8/07 11:29 a	457.79	GER8$1
							Rec Limits:			-0.1		g	
Batch: 7215180	SRTOT_SEP_PRECIP_GPC			Work Order: J35RH1AC			Report DB ID: J35RH1CS						
STRONTIUM	1.07E+00		1.4E-01	3.1E-01	1.40E-01	pCi/g	82%	1.11E+00	2.2E-02	97%	8/10/07 01:51 p	6.0	GPC32A
							Rec Limits:	70	130	0.0		G	

No. of Results: 13 Comments:

21

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

rptSTLRchLcs
V5.1.3 A2002

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

8/16/2007 9:35:17 AM

Lot No., Due Date: J7H010291; 08/16/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7215179; RPUISO Pulso by ALP

SDG, Matrix: J00120; 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:
Please see NCM#10-10617

First Level Review John Norton **Date** 8-16-7

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 721579

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?	✓	✓ J.C. 8/16/07	
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: See NCM

Second Level Review: [signature] Date: 8/16/07

LS-038B, Rev. 10, 8/02

Clouseau
Nonconformance Memo

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

NCM #: 10-10617
NCM Initiated By: John Norton
Date Opened: 08/16/2007
Date Closed:

Classification: Anomaly
Status: GLREVIEW
Production Area: Environmental - Sep
Tests: Pulso by ALP
Lot #'s (Sample #'s): J7H010291 (1,2), J7H030000 (179),
QC Batches: 7215179,

Nonconformance: LCS result out of limits
Subcategory: Analyte was recovered low in the LCS

Problem Description / Root Cause

Name	Date	Description
John Norton	08/16/2007	The matrix spike yield was unacceptably low at 63%, and the matrix blank showed an FWHM that was greater than 100.

Corrective Action

Name	Date	Corrective Action
John Norton	08/16/2007	The reagent blank and LCS are acceptable, the sample activity appears to be below the CRDL, the data can be accepted.

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: 8/16/2007

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

8/14/2007 1:18:49 PM

Lot No., Due Date: J7H010291; 08/16/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7215175; RUISO Uiso by ALP

SDG, Matrix: J00120; 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 [signature] **Date** 8-14-7

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7215775

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: 8/16/07

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

8/15/2007 2:34:30 PM

Lot No., Due Date: J7H010291; 08/16/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7215180; RSRTOT SrTot by GPC

SDG, Matrix: J00120; 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 Autorson **Date** 8/15/07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7215780

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: 8/16/07

SEVERN STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

8/15/2007 1:15:47 PM

Lot No., Due Date: J7H010291; 08/16/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7215168; RGAMMA10 Gamma by GER 10D

SDG, Matrix: J00120; 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 Anderson **Date** 8/15/07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7215168

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: 8/16/07

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

8/15/2007 3:15:33 PM

Lot No., Due Date: J7H010291; 08/16/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7215178; RC14 C-14 by LSC

SDG, Matrix: J00120; 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 Matt Lardy **Date** 8-15-07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7215178

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: 8/16/07

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

8/16/2007 1:55:03 PM

Lot No., Due Date: J7H010291; 08/16/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7215158; RNI63 Ni-63 by LSC

SDG, Matrix: J00120; 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 Julia Norte **Date** 8-16-7

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 721558

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: 8/20/07

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

8/17/2007 9:59:22 AM

Lot No., Due Date: J7H010291; 08/16/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7215170; RTRITIUM H-3 by LSC

SDG, Matrix: J00120; 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 Austenson **Date** 8/17/07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 721570

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: 8/20/07

J7H010291 J00120 Due 08-17-07 [illegible]

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-137	Page 1 of 1

Collector: Clint Stuart	Company Contact: R.T. Coffman; Telephone No.: 528-6409	Project Coordinator: KESSNER, JH	Price Code: 8B; Data Turnaround: 7 DAY
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 118-F-5 Verification BCL	SAF No.: RC-032	
Ice Chest No.: AFS-04-039	Field Logbook No.: EFL-1174-3; COA: R118F52000	Method of Shipment: FED EX	
Shipped To: Severn Trent Incorporated, Richland	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS
NA

Special Handling and/or Storage
NA

Preservation	None	None	None	None								
Type of Container	P	P	P	P								
No. of Container(s)	1	1	1	1								
Volume	500mL	125mL	125mL	125mL								
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Carbon-14; Tritium - H3	Nickel-63; Strontium-89,90 -- Total Sr	Isotopic Plutonium								

Sample No.	Matrix *	Sample Date	Sample Time										
J15791	SOIL	7-31-07	12:00 pm	X	X	X	X						S
		J3ITD											

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From: [signature]	Date/Time: 7-31-07 240	Received By/Stored In: JR DeBruyn JR DeBruyn	Date/Time: 7-31-07 1440
Relinquished By/Removed From: JR DeBruyn JR DeBruyn	Date/Time: 7-31-07 1515	Received By/Stored In: 3728/3A	Date/Time: 7-31-07 1515
Relinquished By/Removed From: 3728 #3A	Date/Time: 8-1-07 1015	Received By/Stored In: JR Edmundson JR Edmundson	Date/Time: 8-1-07 1015
Relinquished By/Removed From: WCH JR Edmundson	Date/Time: 8-1-07 1325	Received By/Stored In: TAK [signature] WLANE	Date/Time: 8-1-07 1325
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) 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 #3A. 3728 Custodian removed samples for shipping on 8/1/07.

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

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

WCH-EE-011

J7H010291 J00120 Due 08.17.07

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-115	Page 1 of 1

Collector: Coffman/DeBuigne / Stuart	Company Contact: R.T. Coffman; Telephone No.: 528-6409	Project Coordinator: KESSNER, JH	Price Code: 8B; Data Turnaround: 7 Day
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 118-F-2 Verification/Shallow Zone	SAF No.: RC-032	
Ice Chest No.: AFS-04-039	Field Logbook No.: EFL-1174-23 JRD 7-31-07; COA: R118F22000	Method of Shipment: FED EX	
Shipped To: Severn Trent Incorporated, Richland	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS
NA

Special Handling and/or Storage
NA

Preservation	None	None	None	None	None					
Type of Container	P	P	P	P	P					
No. of Container(s)	1	1	1	1	1					
Volume	125mL	500mL	125mL	125mL	125mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	See item (2) in Special Instructions.	Nickel-63; Strontium-89,90 -- Total Sr	Isotopic Plutonium	Isotopic Uranium					

Sample No.	Matrix *	Sample Date	Sample Time										
J152P4	SOIL		[illegible]		X	X	X	X					
		J31TK											

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From: [signature]	Date/Time: 7-31-07 [illegible]	Received By/Stored In: JRDeBuigne [signature]	Date/Time: 7-31-07 1055
Relinquished By/Removed From: JRDeBuigne [signature]	Date/Time: 7-31-07 1515	Received By/Stored In: 3728/3A	Date/Time: 7-31-07 1515
Relinquished By/Removed From: 3728# 3A 8-1-07	Date/Time: 1018 TRE 8-1-07	Received By/Stored In: JR Edmundson [signature] 8-1-07	Date/Time: 1018
Relinquished By/Removed From: WCH JR Edmundson [signature] 8-1-07	Date/Time: 1325	Received By/Stored In: TAC [signature] WLANE	Date/Time: 8/1/07 1325
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(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 {Silver-108 metastable}

Sampler unavailable to relinquish samples from 3728 Ref # 3A.
3728 Custodian removed samples for shipping on 8/1/07.

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

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

WCH-EE-011

SEVERN TRENT STL

Sample Check-in List

Date/Time Received: 8/1/07 1325

Client: WCH SDG #: J00120 NA [ ] SAF #: RC-032 NA [ ]

Work Order Number: J7H010391 Chain of Custody # RC-032-115, 137

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: 2 (1-500MLP & 3-125MLP ea
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: RJR Date: 8/1/07

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

TESTAMERICA RICHLAND

8/7/2007 8:30:02 PM

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AnalyDueDate: 08/16/2007

Sample Preparation/Analysis

6A Pu PrpRC5013/~~RC5010~~, SepRC~~5010~~(5039) 5007 LMA 3/8/07
SO Plutonium-238,239/40 by Alpha Spec
5I CLIENT: HANFORD

Balance Id:1120373922

Pipet #: _____

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: WoodT

Batch: 7215179 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 J31TD-1-AE J7H010291-1-SAMP 37 07/31/2007 13:30		1.04g,in AmtRec: 3X120ML,500MLP	PUTC10834 08/01/07,pd 03/13/07,r #Containers: 4	200		Scr:	Alpha:	Beta:
2 J31TK-1-AE J7H010291-2-SAMP 39 07/31/2007 08:50		1.04g,in AmtRec: 3X120ML,500MLP	PUTC10835 08/01/07,pd 03/13/07,r #Containers: 4			Scr:	Alpha:	Beta:
3 J31TK-1-AJ-X J7H010291-2-DUP 40 07/31/2007 08:50		1.03g,in AmtRec: 3X120ML,500MLP	PUTC10836 08/01/07,pd 03/13/07,r #Containers: 4			Scr:	Alpha:	Beta:
4 J35Q9-1-AA-B J7H030000-179-BLK 42 07/31/2007 08:50		1.00g,in AmtRec:	PUTC10837 08/01/07,pd 03/13/07,r #Containers: 1			Scr:	Alpha:	Beta:
5 J35Q9-1-AC-C J7H030000-179-LCS 44 07/31/2007 08:50		1.00g,in AmtRec:	PUSK0710 08/07/07,pd 03/13/07,r #Containers: 1			Scr:	Alpha:	Beta:
6 J35Q9-1-AD-BX J7H030000-179-MBLK 127 07/31/2007 08:50		1.02g,in AmtRec:	PUTC10808 07/24/07,pd 03/13/07,r #Containers: 1			Scr:	Alpha:	Beta:
7 J35Q9-1-AE-CM J7H030000-179-MLCS 128 07/31/2007 08:50		1.00g,in AmtRec:	PUSK0711 08/07/07,pd 03/13/07,r #Containers: 1			Scr:	Alpha:	Beta:

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1 ISV - Insufficient Volume for Analysis WO Cnt: 7
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep_SamplePrep v4.8.26

40

TESTAMERICA RICHLAND

8/7/2007 8:30:05 PM

Sample Preparation/Analysis

6A Pu PrpRC5013/RC5019, SepRC5010(5039)
SO Plutonium-238,239/40 by Alpha Spec
5I CLIENT: HANFORD

Balance Id:1120373922

Pipet #: _____

AnalyDueDate: 08/16/2007

Sep1 DT/Tm Tech:

Batch: 7215179 pCi/g

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	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:

Comments: Samples have been muffled 8/1/07 JJW

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

J31TD1AE-SAMP Constituent List:

PU-238	RDL:1	pCi/g	LCL:	UCL:	RPD:	PU-239	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35
Pu-242	RDL:	pCi/g	LCL:20	UCL:105	RPD:35						

J35Q91AA-BLK:

PU-238	RDL:1	pCi/g	LCL:	UCL:	RPD:	PU-239	RDL:1	pCi/g	LCL:	UCL:	RPD:
Pu-242	RDL:	pCi/g	LCL:20	UCL:105	RPD:35						

J35Q91AC-LCS:

PU-239	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	Pu-242	RDL:	pCi/g	LCL:20	UCL:105	RPD:35

J35Q91AD-MBLK:

PU-238	RDL:1	pCi/g	LCL:	UCL:	RPD:	PU-239	RDL:1	pCi/g	LCL:	UCL:	RPD:
Pu-242	RDL:	pCi/g	LCL:20	UCL:105	RPD:35						

J35Q91AE-MLCS:

PU-239	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	Pu-242	RDL:	pCi/g	LCL:20	UCL:105	RPD:35

J31TD1AE-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

J35Q91AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

J35Q91AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

J35Q91AD-MBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

J35Q91AE-MLCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

41

8/16/2007 9:27:30 AM

ICOC Fraction Transfer/Status Report

ByDate: 8/16/2006, 8/21/2007, Batch: '7215179', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7215179						
AC		CalcC	WoodT	8/7/2007 6:56:24 AM		
SC			antonsonl	IsBatched	8/3/2007 8:46:11 AM	ICOC_RADCALC v4.8.26
SC			WoodT	InPrep	8/7/2007 6:56:24 AM	RICH-RC-5013 Revision 7
SC			WoodT	Prep1C	8/7/2007 8:29:06 PM	RICH-RC-5013 REVISION 7
SC			HarveyK	Sep1C	8/14/2007 8:54:01 AM	RICH-RC-5087 REV1
SC			HarveyK	Sep2C	8/14/2007 5:25:03 PM	RICH-RC-5039 REV5
SC			DAWKINSO	InCnt1	8/14/2007 5:35:59 PM	RICH-RD-0008 REVISION 4
SC			BlackCL	CalcC	8/15/2007 5:23:55 AM	RICH-RD-0008 REVISION 4
AC			WoodT	8/7/2007 8:29:06 PM		
AC			HarveyK	8/14/2007 8:54:01		
AC			HarveyK	8/14/2007 5:25:03 PM		
AC			DAWKINSO	8/14/2007 5:35:59 PM		
AC			BlackCL	8/15/2007 5:23:55		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 6

ICOCFractions v4.8.27

TESTAMERICA RICHLAND

8/7/2007 6:49:32 PM

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AnalyDueDate: 08/16/2007

Sample Preparation/Analysis

7S Uiso PrpRC5013/~~RC5019, SepRC5079~~(5039) 5067 KLH 8/4/07
SR Uranium-234,235,238 by Alpha Spec
5I CLIENT: HANFORD

Balance Id:1120373922

Pipet #: _____

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: ,WoodT

Batch: 7215175 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 J31TK-1-AA J7H010291-2-SAMP 07/31/2007 08:50		1.01g,in AmtRec: 3X120ML,500MLP	UITC17894 07/23/07,pd 01/20/04,r #Containers: 4	200		Scr:	Alpha:	Beta:
2 J31TK-1-AH-X J7H010291-2-DUP 07/31/2007 08:50		1.03g,in AmtRec: 3X120ML,500MLP	UITC17895 07/23/07,pd 01/20/04,r #Containers: 4			Scr:	Alpha:	Beta:
3 J35Q0-1-AA-B J7H030000-175-BLK 07/31/2007 08:50		1.00g,in AmtRec:	UITC17896 07/23/07,pd 01/20/04,r #Containers: 1			Scr:	Alpha:	Beta:
4 J35Q0-1-AC-C J7H030000-175-LCS 07/31/2007 08:50		1.00g,in AmtRec:	UISH0506 07/03/07,pd 01/20/04,r #Containers: 1			Scr:	Alpha:	Beta:

Comments: Samples have been muffled 8/7/07 JGW

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

J31TK1AA-SAMP Constituent List:

U-232	RDL:	pCi/g	LCL:20	UCL:105	RPD:35	U-234	RDL:1	pCi/g	LCL:	UCL:	RPD:
U-235	RDL:1	pCi/g	LCL:	UCL:	RPD:	U-238	RDL:1	pCi/g	LCL:	UCL:	RPD:

J35Q01AA-BLK:

U-232	RDL:	pCi/g	LCL:20	UCL:105	RPD:35	U-234	RDL:1	pCi/g	LCL:	UCL:	RPD:
U-235	RDL:1	pCi/g	LCL:	UCL:	RPD:	U-238	RDL:1	pCi/g	LCL:	UCL:	RPD:

8/7/2007 6:49:34 PM

Sample Preparation/Analysis

7S Uiso PrpRC5013/RC5019, SepRC5079(5039)
SR Uranium-234,235,238 by Alpha Spec
5I CLIENT: HANFORD

Balance Id:1120373922
Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech: ,WoodT

AnalyDueDate: 08/16/2007

Batch: 7215175 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:

J35Q01AC-LCS:
U-232 RDL: pCi/g LCL:20 UCL:105 RPD:35 Uranium RDL: pCi/g LCL:70 UCL:130 RPD:35

J31TK1AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J35Q01AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J35Q01AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

8/14/2007 1:17:45 PM

ICOC Fraction Transfer/Status Report

ByDate: 8/14/2006, 8/19/2007, Batch: '7215175', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7215175						
AC		Rev1C	WoodT	8/6/2007 6:40:09 PM		
SC			antonsonl	IsBatched	8/3/2007 8:46:11 AM	ICOC_RADCALC v4.8.26
SC			WoodT	InPrep	8/6/2007 6:40:09 PM	RICH-RC-5013 Revision 7
SC			WoodT	Prep1C	8/7/2007 6:47:36 PM	RICH-RC-5013 REVISION 7
SC			WoodT	InPrep2	8/7/2007 6:47:47 PM	RICH-RC-5086 REVISION 3
SC			WoodT	Prep2C	8/7/2007 6:48:00 PM	RICH-RC-5086 REVISION 3
SC			HarveyK	Sep1C	8/10/2007 7:31:40 AM	RICH-RC-5067 REV8
SC			HarveyK	Sep2C	8/10/2007 7:41:47 PM	RICH-RC-5039 REV5
SC			StringerR	InCnt1	8/10/2007 7:52:59 PM	RICH-RD-0008 REVISION 4
SC			BlackCL	CalcC	8/13/2007 8:17:18 AM	RICH-RD-0008 REVISION 4
SC			NortonJ	Rev1C	8/14/2007 1:11:52 PM	RICHRC0002 REV7
AC			WoodT	8/7/2007 6:47:36 PM		
AC			WoodT	8/7/2007 6:47:47 PM		
AC			WoodT	8/7/2007 6:48:00 PM		
AC			HarveyK	8/10/2007 7:31:40		
AC			HarveyK	8/10/2007 7:41:47 PM		
AC			StringerR	8/10/2007 7:52:59 PM		
AC			BlackCL	8/13/2007 8:17:18		
AC			NortonJ	8/14/2007 1:11:52 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 9

ICOCFractions v4.8.27

TESTAMERICA RICHLAND

8/7/2007 9:11:55 AM

Sample Preparation/Analysis

Balance Id:1120373922

127642, Washington Closure Hanford , Bechtel Hanford, Inc.

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

Pipet #: DRM

Sep1 DT/Tm Tech: 8/9/07 6:09:31 PM

AnalyDueDate: 08/16/2007

Batch: 7215180 SOIL pCi/g PM, Quote: SS , 27038

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:
1 J31TD-1-AC J7H010291-1-SAMP 07/31/2007 13:30		6.03g,in AmtRec: 3X120ML,500MLP	SRTA16903 05/31/07,pd 05/22/07,r #Containers: 4	1.5"	81.4	50	31a Scr:	1416 Alpha:	8/10/07 R Beta:	
2 J31TK-1-AC J7H010291-2-SAMP 07/31/2007 08:50		6.01g,in AmtRec: 3X120ML,500MLP	SRTA16904 05/31/07,pd 05/22/07,r #Containers: 4		96.0		31b Scr:	Alpha:	Beta:	
3 J31TK-1-AK-X J7H010291-2-DUP 07/31/2007 08:50		6.01g,in AmtRec: 3X120ML,500MLP	SRTA16905 05/31/07,pd 05/22/07,r #Containers: 4		95.5		31c Scr:	Alpha:	Beta:	
4 J35RH-1-AA-B J7H030000-180-BLK 07/31/2007 08:50		6.00g,in AmtRec:	SRTA16906 05/31/07,pd 05/22/07,r #Containers: 1		87.3		31d Scr:	Alpha:	Beta:	
5 J35RH-1-AC-C J7H030000-180-LCS 07/31/2007 08:50		6.00g,in AmtRec:	STSB1228 07/24/07,pd 05/22/07,r #Containers: 1		81.6		32A Scr:	Alpha:	Beta:	

Comments:

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

J31TD1AC-SAMP Constituent List:
Sr-90 RDL:1 pCi/g LCL:70 UCL:130 RPD:35

STL Richland Key: In - Initial Amt, fi - Final Amt, di - 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

8/7/2007 9:11:59 AM

Sample Preparation/Analysis

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

Balance Id:1120373922
Pipet #: _____

AnalyDueDate: 08/16/2007

Sep1 DT/Tm Tech:

Batch: 7215180 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:

```
J35RH1AA-BLK:
  Sr-90        RDL:1          pCi/g     LCL:        UCL:        RPD:
J35RH1AC-LCS:
  Sr-90        RDL:1          pCi/g     LCL:70      UCL:130     RPD:35
J31TD1AC-SAMP Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
J35RH1AA-BLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
J35RH1AC-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

Approved By _____ Date: _____

8/15/2007 2:33:53 PM

ICOC Fraction Transfer/Status Report

ByDate: 8/15/2006, 8/20/2007, Batch: '7215180', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7215180						
AC		CalcC	WoodT	8/7/2007 9:10:59 AM		
SC			antonsonl	IsBatched	8/3/2007 8:47:24 AM	ICOC_RADCALC v4.8.26
SC			WoodT	InPrep	8/7/2007 9:10:59 AM	RICH-RC-5013 REVISION 7
SC			WoodT	Prep1C	8/7/2007 9:11:13 AM	RICH-RC-5013 REVISION 7
SC			ManisD	InSep1	8/7/2007 9:15:27 AM	RICH-RC-5006 REVISION 7
SC			ManisD	Sep1C	8/10/2007 11:12:04 AM	RICH-RC-5006 REVISION 7
SC			BlackCL	InCnt1	8/10/2007 11:15:53 AM	RICH-RD-0003 REVISION 5
SC			StringerR	CalcC	8/10/2007 3:39:52 PM	RICH-RD-0003 REVISION 5
AC			WoodT	8/7/2007 9:11:13 AM		
AC			ManisD	8/7/2007 9:15:27 AM		
AC			ManisD	8/10/2007 11:12:04		
AC			BlackCL	8/10/2007 11:15:53		
AC			StringerR	8/10/2007 3:39:52 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt:6

ICOCFractions v4.8.27

TESTAMERICA RICHLAND

8/8/2007 8:16:17 AM

Sample Preparation/Analysis

Balance Id:n/a

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AW Gamma PrpRC5017
T9 Gamma by HPGE 10 day ingrowth
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 08/16/2007

Sep1 DT/Tm Tech:

Batch: 7215168 SOIL pCi/g PM, Quote: SS , 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: WoodT Barcot I

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 J31TD-1-AA J7H010291-1-SAMP 07/31/2007 13:30		896.90g,in AmtRec: 3X120ML,500MLP	#Containers: 4		SMA	200		GH	1152	8/8/07 R Scr: Alpha: Beta:
2 J31TD-1-AK-X * J7H010291-1-DUP 07/31/2007 13:30		not enough sample IB 8-8-07 AmtRec: 3X120ML,500MLP	#Containers: 4					G5	1518	8/8/07 R Scr: Alpha: Beta:
3 J31TK-1-AF J7H010291-2-SAMP 07/31/2007 08:50		949.80g,in AmtRec: 3X120ML,500MLP	#Containers: 4		SMA			G5	1154	8/8/07 R Scr: Alpha: Beta:
4 J35QH-1-AA-B J7H030000-168-BLK 07/31/2007 13:30		859.27g,in AmtRec:	CAL827 #Containers: 1		SMA			G6	1448	8/8/07 R Scr: Alpha: Beta:
5 J35QH-1-AC-C J7H030000-168-LCS 07/31/2007 13:30		457.79g,in AmtRec:	CAL816 01/01/03,pd 01/01/02,r #Containers: 1		MA			G8	1449	8/8/07 R Scr: Alpha: Beta:

Comments: J31TD not enough smaple for Dup please recount on special Detector 8-8-07 IB

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

J31TD1AA-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

49

8/8/2007 8:16:21 AM

Sample Preparation/Analysis

AW Gamma PrpRC5017
T9 Gamma by HPGE 10 day ingrowth
5I CLIENT: HANFORD

Balance Id:n/a
Pipet #: _____
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech: ,WoodT

AnalyDueDate: 08/16/2007

Batch: 7215168 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:
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:
Ra-226	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:	RA-228	RDL:2.00E-01	pCi/g	LCL:	UCL:	RPD:
RA-228DA	RDL:2.00E-01	pCi/g	LCL:	UCL:	RPD:						
J35QH1AA-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:
Eu-154	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:	Eu-155	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:
Ra-226	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:	RA-228	RDL:2.00E-01	pCi/g	LCL:	UCL:	RPD:
RA-228DA	RDL:2.00E-01	pCi/g	LCL:	UCL:	RPD:						
J35QH1AC-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

J31TD1AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J35QH1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J35QH1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

8/15/2007 1:16:01 PM

ICOC Fraction Transfer/Status Report

ByDate: 8/15/2006, 8/20/2007, Batch: '7215168', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7215168						
AC		CalcC	Barcotl	8/8/2007 7:26:33 AM		
SC			antonsonl	IsBatched	8/3/2007 8:46:11 AM	ICOC_RADCALC v4.8.26
SC			Barcotl	InPrep	8/8/2007 7:26:33 AM	RICH-RC-5017 REVISION 6
SC			WoodT	InPrep	8/8/2007 8:08:57 AM	RICH-RC-5013 Revision 7
SC			StringerR	InCnt1	8/8/2007 8:21:34 AM	RICH-RD-0007 REVISION 6
SC			DAWKINSO	CalcC	8/8/2007 3:53:15 PM	RICH-RD-0007 REVISION 6
AC			WoodT	8/8/2007 8:08:57 AM		
AC			StringerR	8/8/2007 8:21:34 AM		
AC			DAWKINSO	8/8/2007 3:53:15 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 4

ICOCFractions v4.8.27

8/3/2007 8:46:18 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

Balance Id: 12430
Pipet #:
Sep1 DT/Tm Tech: 8-13-07
Sep2 DT/Tm Tech:
Prep Tech:

AnalyDueDate: 08/16/2007

Batch: 7215178 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 J31TD-1-AG J7H010291-1-SAMP 07/31/2007 13:30	AmtRec: 3X120ML,500MLP	#Containers: 4				Scr:	Alpha:	Beta:
2 J31TD-1-AM-X J7H010291-1-DUP 07/31/2007 13:30	AmtRec: 3X120ML,500MLP	#Containers: 4				Scr:	Alpha:	Beta:
3 J35Q3-1-AA-B J7H030000-178-BLK 07/31/2007 13:30	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:
4 J35Q3-1-AC-C J7H030000-178-LCS 07/31/2007 13:30	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:
5 J35Q3-1-AD-BN J7H030000-178-IBLK 07/31/2007 13:30	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:

Comments:

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

J31TD1AG-SAMP Constituent List:
C-14 RDL:50 pCi/g LCL:70 UCL:130 RPD:35

8/3/2007 8:46:19 AM

Sample Preparation/Analysis

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

Balance Id: 14430
Pipet #:
Sep1 DT/Tm Tech: 8-13-07 Tm
Sep2 DT/Tm Tech:
Prep Tech:

AnalyDueDate: 08/16/2007

Batch: 7215178 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:

J35Q31AA-BLK:
C-14 RDL:50 pCi/g LCL: UCL: RPD:
J35Q31AC-LCS:
C-14 RDL:50 pCi/g LCL:70 UCL:130 RPD:35
J35Q31AD-IBLK:
C-14 RDL:50 pCi/g LCL: UCL: RPD:

J31TD1AG-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J35Q31AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J35Q31AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J35Q31AD-IBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

TESTAMERICA RICHLAND

53

8/15/2007 3:14:34 PM

ICOC Fraction Transfer/Status Report

ByDate: 8/15/2006, 8/20/2007, Batch: '7215178', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7215178						
AC		CalcC	McDowellD	8/13/2007 2:54:10 PM		
SC			antonsonl	IsBatched	8/3/2007 8:46:11 AM	ICOC_RADCALC v4.8.26
SC			McDowellD	Sep1C	8/13/2007 2:54:10 PM	RICH-RC-5022 REVISION 3
SC			DAWKINSO	InCnt1	8/13/2007 3:35:33 PM	RICH-RD-0001 REVISION 4
SC			BlackCL	CalcC	8/15/2007 10:26:05 AM	RICH-RD-0001 REVISION 4
AC			DAWKINSO	8/13/2007 3:35:33 PM		
AC			BlackCL	8/15/2007 10:26:05		

AC: Accepting Entry; SC: Status Change

8/7/2007 10:21:26 AM

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AnalyDueDate: 08/16/2007

Batch: 7215158 SOIL pCi/g
SEQ Batch, Test: None

Sample Preparation/Analysis

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

PM, Quote: SS , 27038

Balance Id:1120373922
Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech: WoodT

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 J31TD-1-AD J7H010291-1-SAMP 07/31/2007 13:30			0.25g,in	0.25g	NITA2450 07/10/07	100				
	AmtRec: 3X120ML,500MLP		#Containers: 4					Scr:	Alpha:	Beta:
2 J31TD-1-AJ-X J7H010291-1-DUP 07/31/2007 13:30			0.27g,in	0.27g	NITA2451 07/10/07					
	AmtRec: 3X120ML,500MLP		#Containers: 4					Scr:	Alpha:	Beta:
3 J31TK-1-AD J7H010291-2-SAMP 07/31/2007 08:50			0.27g,in	0.27g	NITA2452 07/10/07					
	AmtRec: 3X120ML,500MLP		#Containers: 4					Scr:	Alpha:	Beta:
4 J35PQ-1-AA-B J7H030000-158-BLK 07/31/2007 13:30			0.25g,in	0.25g	NITA2453 07/10/07					
	AmtRec:		#Containers: 1					Scr:	Alpha:	Beta:
5 J35PQ-1-AC-C J7H030000-158-LCS 07/31/2007 13:30			0.25g,in	0.25g	NISA0770 07/10/07					
	AmtRec:		#Containers: 1					Scr:	Alpha:	Beta:
6 J35PQ-1-AD-BN J7H030000-158-IBLK 07/31/2007 13:30										
	AmtRec:		#Containers: 1					Scr:	Alpha:	Beta:

TESTAMERICA RICHLAND

TESTAMERICA RICHLAND

8/7/2007 10:21:27 AM

Sample Preparation/Analysis

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

AnalyDueDate: 08/16/2007

Batch: 7215158
SEQ Batch, Test: None

pCi/g

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

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:

Comments: Samples have been muffled 8/7/07 JRW

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

J31TD1AD-SAMP Constituent List:
Ni-63 RDL:30 pCi/g LCL:70 UCL:130 RPD:35
J35PQ1AA-BLK:
Ni-63 RDL:30 pCi/g LCL: UCL: RPD:
J35PQ1AC-LCS:
Ni-63 RDL:30 pCi/g LCL:70 UCL:130 RPD:35
J35PQ1AD-IBLK:
Ni-63 RDL:30 pCi/g LCL: UCL: RPD:

J31TD1AD-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J35PQ1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J35PQ1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J35PQ1AD-IBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

8/16/2007 1:53:58 PM

ICOC Fraction Transfer/Status Report

ByDate: 8/16/2006, 8/21/2007, Batch: '7215158', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7215158						
AC		CalcC	WoodT	8/7/2007 7:09:59 AM		
SC			antonsonl	IsBatched	8/3/2007 8:46:10 AM	ICOC_RADCALC v4.8.26
SC			WoodT	InPrep	8/7/2007 7:09:59 AM	RICH-RC-5013 Revision 7
SC			WoodT	Prep1C	8/7/2007 7:12:05 AM	RICH-RC-5013 REVISION 7
SC			FABREM	Sep1C	8/8/2007 12:11:56 PM	RICH-RC-5069 REVISION 6
SC			BlackCL	InCnt1	8/8/2007 12:23:54 PM	RICH-RD-0001 REVISION 4
SC			BlackCL	CalcC	8/9/2007 7:36:00 AM	RICH-RD-0001 REVISION 4
AC			WoodT	8/7/2007 7:12:05 AM		
AC			FABREM	8/8/2007 12:11:56 PM		
AC			BlackCL	8/8/2007 12:23:54 PM		
AC			BlackCL	8/9/2007 7:36:00 AM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 5

ICOCFractions v4.8.27

8/3/2007 8:46:16 AM

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AnalyDueDate: 08/16/2007

Batch: 7215170 SOIL pCi/g
SEQ Batch. Test: None

Sample Preparation/Analysis

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

PM, Quote: SS , 27038

Balance Id: 15445
Pipet #:
Sep1 DT/Tm Tech: 8-13-07 am
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 J31TD-1-AF J7H010291-1-SAMP 07/31/2007 13:30	AmtRec: 3X120ML,500MLP	#Containers: 4				Scr:	Alpha:	Beta:
2 J31TD-1-AL-X J7H010291-1-DUP 07/31/2007 13:30	AmtRec: 3X120ML,500MLP	#Containers: 4				Scr:	Alpha:	Beta:
3 J35QV-1-AA-B J7H030000-170-BLK 07/31/2007 13:30	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:
4 J35QV-1-AC-C J7H030000-170-LCS 07/31/2007 13:30	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:
5 J35QV-1-AD-BN J7H030000-170-IBLK 07/31/2007 13:30	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:

Comments:

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

J31TD1AF-SAMP Constituent List:
H-3 RDL:400 pCi/g LCL:70 UCL:130 RPD:35

STL Richland Key: In - Initial Amt, fi - Final Amt, di - 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 ICOC v4.8.26

TESTAMERICA RICHLAND

8/3/2007 8:46:17 AM

Sample Preparation/Analysis

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

AnalyDueDate: 08/16/2007

Batch: 7215170 pCi/g
SEQ Batch, Test: None

Balance Id: 12445
Pipet #:
Sep1 DT/Tm Tech: 8-13-07am
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:

```
J35QV1AA-BLK:
 H-3        RDL:400      pCi/g    LCL:      UCL:      RPD:
J35QV1AC-LCS:
 H-3        RDL:400      pCi/g    LCL:70    UCL:130   RPD:35
J35QV1AD-IBLK:
 H-3        RDL:400      pCi/g    LCL:      UCL:      RPD:
J31TD1AF-SAMP Calc Info:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
J35QV1AA-BLK:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
J35QV1AC-LCS:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
J35QV1AD-IBLK:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
```

Approved By _____ Date: _____

TESTAMERICA RICHLAND

8/17/2007 9:58:43 AM

ICOC Fraction Transfer/Status Report

ByDate: 8/17/2006, 8/22/2007, Batch: '7215170', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7215170						
AC		InCnt1	McDowellD	8/13/2007 10:09:09		
SC			antonsonl	IsBatched	8/3/2007 8:46:11 AM	ICOC_RADCALC v4.8.26
SC			McDowellD	InSep1	8/13/2007 10:09:09 AM	RICH-RC-5037 REVISION 3
SC			McDowellD	Sep1C	8/13/2007 3:32:45 PM	RICH-RC-5037 REVISION 3
SC			DAWKINSO	InCnt1	8/13/2007 3:35:41 PM	RICH-RD-0001 REVISION 4
SC			BlackCL	CalcC	8/15/2007 9:17:18 AM	RICH-RD-0001 REVISION 4
SC			BlackCL	InCnt1	8/16/2007 8:17:49 AM	RICH-RD-0001 REVISION 4
AC			McDowellD	8/13/2007 3:32:45 PM		
AC			DAWKINSO	8/13/2007 3:35:41 PM		
AC			BlackCL	8/15/2007 9:17:18		
AC			BlackCL	8/16/2007 8:17:49		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 5

ICOCFractions v4.8.27

Kessner, Joan H

From: Seger, Sandra [Sandra.Seger@testamericainc.com]
Sent: Monday, August 20, 2007 10:08 AM
To: Kessner, Joan H
Subject: RE: Reports for MA00102, 103, 104, 105
Attachments: MA00103 AMENDED.pdf

Joan,

The results are correct for MA00100 & MA00103. The SDG did not get changed on the cover sheet for MA00103, the amended report is attached.

Sorry,
Sandra

From: Kessner, Joan H [mailto:jhkessne@wch-rcc.com]
Sent: Monday, August 20, 2007 9:20 AM
To: Seger, Sandra
Subject: FW: Reports for MA00102, 103, 104, 105

Sandra--
Would you please see if you can double check this out for Gwen??
Thanks,
Joan

From: Whatley, Zona G (Gwen)
Sent: Monday, August 20, 2007 7:40 AM
To: Kessner, Joan H
Subject: FW: Reports for MA00102, 103, 104, 105

Joan -
the attached file of MA00103 has MA00100 recorded as the SDG number on the cover page; I am pretty sure the cover page is incorrect because MA00100 was assigned to STL Batch ID 7227368, I have attached this file as well.

Please have the lab check into both MA00100 & MA00103 to make sure the right data is with the right samples.

Thanks,
Gwen

From: Seger, Sandra [mailto:Sandra.Seger@testamericainc.com]
Sent: Friday, August 17, 2007 2:57 PM
To: Whatley, Zona G (Gwen); Brasker, William L; Brounstein, Robert A; Knutson, Garrett E; Kessner, Joan H
Subject: Reports for MA00102, 103, 104, 105

<<MA00102.pdf>> <<MA00103.pdf>> <<MA00104.pdf>> <<MA00105.pdf>>

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STL

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Earth City, MO 63045

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www.stl-inc.com

ANALYTICAL REPORT

RECEIVED
SEP 2007

RC-032

Lot #: F7H020369
SDG #: J00120

Joan Kessner

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

TESTAMERICA LABORATORIES, INC.

Michael C. Franks
Project Manager

August 29, 2007

Case Narrative
LOT NUMBER: **F7H020369**
SDG: **J00120**

This report contains the analytical results for the sample received under chain of custody by STL St. Louis on August 2, 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 recoveries for Aluminum, Iron, and Manganese in batch 7215042 are outside the established QC limits. The analyte concentrations in the original sample are greater than four times the amount spiked, making percent recovery information ineffective. Method performance is demonstrated by acceptable LCS recovery.

The MS/MSD recoveries for Antimony, Calcium, Chromium, Potassium, Silicon, Silver, and Zinc are 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 Iron, Calcium, Magnesium, Cadmium, Manganese, Lead, Antimony, Selenium, Zinc, Boron, and Silicon due to high concentrations of the target analytes Iron, Calcium and Magnesium. The reporting limit has been adjusted only for those targets reported from the dilution run.

Affected Samples:
F7H020369 (1): J152P4

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

Mercury by SW846 7471A

METHODS SUMMARY

F7H020369

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

F7H020369

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
J344A	001	J152P4	07/31/07	08:50

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.

J00120

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-115	Page 1 of 1

Collector: Coffman/DeBuigne /Stuart	Company Contact: R.T. Coffman; Telephone No.: 528-6409	Project Coordinator: KESSNER, JH	Price Code: JRD 7-31-07 ~~8B~~ 86; Data Turnaround: 15 DAY ~~7DAY~~ JRD 7-31-07
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 118-F-2 Verification/Shallow Zone	SAF No.: RC-032	
Ice Chest No.: ERC-01-020	Field Logbook No.: EFL-1174-23 JRD 7-31-07; COA: R118F22000	Method of Shipment: FED EX	
Shipped To: Severn Trent Incorporated, ~~Richland~~ St. Louis JRD 5-14-07	Offsite Property No.: A070311	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	None	None	None	None						
Type of Container	P	P	P	P	P						
No. of Container(s)	1	1	1	1	1						
Volume	125mL	500mL	125mL	125mL	125mL						
SAMPLE ANALYSIS	See item (1) in Special Instructions.	See item (2) in Special Instructions.	Nickel-63, Strontium-89,90 -- Total Sr	Isotopic Plutonium	Isotopic Uranium						

5-14-07

Sample No.	Matrix *	Sample Date	Sample Time										
J152P4	SOIL	7-31-07	8:58 AM	X									

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From: Clinton D. Stuart	Date/Time: 7-31-07 1055 AM	Received By/Stored In: JRDeBuigne JRDeBuigne	Date/Time: 1055 7-31-07
Relinquished By/Removed From: JRDeBuigne JRDeBuigne	Date/Time: 1515 7-31-07	Received By/Stored In: 3728/3A	Date/Time: 1515 7-31-07
Relinquished By/Removed From: 3728#3A 8-1-07	Date/Time: 1000	Received By/Stored In: JR Edmundson JR Edmundson 8-1-07	Date/Time: 1000
Relinquished By/Removed From: JR Edmundson WCH JR Edmundson 8-1-07	Date/Time: 1500	Received By/Stored In: Fed Ex	Date/Time:
Relinquished By/Removed From: FED Ex	Date/Time: 8-2-07	Received By/Stored In: RR	Date/Time: 8/2/07
Relinquished By/Removed From:	Date/Time:	Received By/Stored In:	Date/Time:

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 (Silver-108 metastable)

Sampler unavailable to relinquish samples from 3728 Ref # 3A. 3728 Custodian removed samples for shipping on 8/1/07.

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

STL ST. LOUIS

STL

Lot #(s): F7H020367
3L6
3L9

- 2117 -

Condition Upon Receipt Form

Client: Hanford
Quote No: 76995, 76337, 71491
COC/RFA No: S07-007-334 cont Below
Initiated By: RE
Date: 8/8/07
Time: 9:00

Shipping Information

Shipper Name: FE

Shipping # (s):*

1. 7907 9670 2093
2. 7907 9626 3426
3.
4.
5.
6.
7.
8.
9.
10.

Multiple Packages (Y) N

Sample Temperature (s):**

1. 3.4
2. Ambient
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)	Was sample received broken?	8.	(Y) N	Sample received with Chain of Custody?
2.	(Y) N N/A	Was sample received with proper pH[1]? (If not, make note below)	9.	Y N	Chain of Custody matches sample ID's on container(s)?
3.	Y N	If N/A-Was pH taken by original STL Lab?	10.	(Y) N	Are there custody seals present on cooler?
4.	(Y) N	Sample received in proper containers?	11.	Y (N) N/A	Do custody seals on cooler appear to be tampered with?
5.	(Y) N	Sample volume sufficient for analysis?	12.	(Y) N	Are there custody seals present on bottles?
6.	Y (N) N/A	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)	13.	Y (N) N/A	Do custody seals on bottles appear to be tampered with?
7.	(Y) N	Were contents of cooler frisked after opening, but before unpacking?	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: S07-008-36, S07-007-246, S07-007-254, S07-007-238
RC-032-115
Sample 215294 recieved 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: 08-03-07

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: J152P4

TOTAL Metals

Lot-Sample #...: F7H020369-001 **Matrix.....:** SOLID
Date Sampled...: 07/31/07 **Date Received..:** 08/02/07
% Moisture.....: 0.43

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 7215042						
Silver	ND	1.0	mg/kg	SW846 6010B	08/06-08/27/07	J344A1A1
		Dilution Factor: 1		MDL.....: 0.37		
Aluminum	**5690**	**20.1**	**mg/kg**	**SW846 6010B**	**08/06-08/15/07**	**J344A1AD**
		Dilution Factor: 1		MDL.....: 5.1		
Arsenic	**1.5**	**1.0**	**mg/kg**	**SW846 6010B**	**08/06-08/27/07**	**J344A1AF**
		Dilution Factor: 1		MDL.....: 0.24		
Barium	**70.5**	**5.0**	**mg/kg**	**SW846 6010B**	**08/06-08/27/07**	**J344A1AG**
		Dilution Factor: 1		MDL.....: 0.23		
Beryllium	**0.18 B**	**0.50**	**mg/kg**	**SW846 6010B**	**08/06-08/27/07**	**J344A1AH**
		Dilution Factor: 1		MDL.....: 0.070		
Boron	**8.9 B,C**	**20.1**	**mg/kg**	**SW846 6010B**	**08/06-08/15/07**	**J344A1AJ**
		Dilution Factor: 2		MDL.....: 3.0		
Calcium	**4750**	**1260**	**mg/kg**	**SW846 6010B**	**08/06-08/27/07**	**J344A1AL**
		Dilution Factor: 5		MDL.....: 151		
Cadmium	ND	2.5	mg/kg	SW846 6010B	08/06-08/27/07	J344A1AK
		Dilution Factor: 5		MDL.....: 0.31		
Cobalt	**10.7**	**5.0**	**mg/kg**	**SW846 6010B**	**08/06-08/27/07**	**J344A1AM**
		Dilution Factor: 1		MDL.....: 0.23		
Chromium	**12.0**	**1.0**	**mg/kg**	**SW846 6010B**	**08/06-08/27/07**	**J344A1A5**
		Dilution Factor: 1		MDL.....: 0.23		
Copper	**10.8**	**2.5**	**mg/kg**	**SW846 6010B**	**08/06-08/27/07**	**J344A1AN**
		Dilution Factor: 1		MDL.....: 0.40		
Iron	**18500**	**20.1**	**mg/kg**	**SW846 6010B**	**08/06-08/15/07**	**J344A1AP**
		Dilution Factor: 2		MDL.....: 7.5		
Potassium	**1900**	**1000**	**mg/kg**	**SW846 6010B**	**08/06-08/15/07**	**J344A1AW**
		Dilution Factor: 2		MDL.....: 301		
Magnesium	**4550**	**502**	**mg/kg**	**SW846 6010B**	**08/06-08/27/07**	**J344A1AR**
		Dilution Factor: 5		MDL.....: 45.0		

(Continued on next page)

Washington Closure Hanford

Client Sample ID: J152P4

TOTAL Metals

Lot-Sample #...: F7H020369-001 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Manganese	**266**	**5.0**	**mg/kg**	**SW846 6010B**	**08/06-08/27/07**	**J344A1AT**
		Dilution Factor: 5		MDL.....: 2.0		
Molybdenum	ND	4.0	mg/kg	SW846 6010B	08/06-08/27/07	J344A1AU
		Dilution Factor: 1		MDL.....: 0.90		
Sodium	**182 B**	**201**	**mg/kg**	**SW846 6010B**	**08/06-08/15/07**	**J344A1A2**
		Dilution Factor: 2		MDL.....: 24.1		
Nickel	**11.6**	**4.0**	**mg/kg**	**SW846 6010B**	**08/06-08/27/07**	**J344A1AV**
		Dilution Factor: 1		MDL.....: 1.1		
Lead	**2.6 B**	**5.0**	**mg/kg**	**SW846 6010B**	**08/06-08/27/07**	**J344A1AQ**
		Dilution Factor: 5		MDL.....: 1.5		
Antimony	ND	5.0	mg/kg	SW846 6010B	08/06-08/27/07	J344A1AE
		Dilution Factor: 5		MDL.....: 2.6		
Selenium	ND	7.5	mg/kg	SW846 6010B	08/06-08/27/07	J344A1AX
		Dilution Factor: 5		MDL.....: 2.2		
Silicon	**811**	**201**	**mg/kg**	**SW846 6010B**	**08/06-08/17/07**	**J344A1A0**
		Dilution Factor: 5		MDL.....: 45.2		
Vanadium	**58.9**	**1.0**	**mg/kg**	**SW846 6010B**	**08/06-08/27/07**	**J344A1A3**
		Dilution Factor: 1		MDL.....: 0.54		
Zinc	**40.1**	**25.1**	**mg/kg**	**SW846 6010B**	**08/06-08/27/07**	**J344A1A4**
		Dilution Factor: 5		MDL.....: 7.5		

Prep Batch #...: 7219056

Mercury	ND	0.033	mg/kg	SW846 7471A	08/07/07	J344A1A6
		Dilution Factor: 1		MDL.....: 0.0067		

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 #...: F7H020369 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: F7H030000-042 **Prep Batch #...:** 7215042						
Aluminum	ND	20.0	mg/kg	SW846 6010B	08/06-08/15/07	J35A41AA
		Dilution Factor: 1				
Antimony	ND	1.0	mg/kg	SW846 6010B	08/06-08/27/07	J35A41AC
		Dilution Factor: 1				
Arsenic	ND	1.0	mg/kg	SW846 6010B	08/06-08/27/07	J35A41AD
		Dilution Factor: 1				
Barium	ND	5.0	mg/kg	SW846 6010B	08/06-08/27/07	J35A41AE
		Dilution Factor: 1				
Beryllium	ND	0.50	mg/kg	SW846 6010B	08/06-08/27/07	J35A41AF
		Dilution Factor: 1				
Boron	**1.6 B**	**10.0**	**mg/kg**	**SW846 6010B**	**08/06-08/15/07**	**J35A41AG**
		Dilution Factor: 1				
Cadmium	ND	0.50	mg/kg	SW846 6010B	08/06-08/27/07	J35A41AH
		Dilution Factor: 1				
Calcium	ND	250	mg/kg	SW846 6010B	08/06-08/27/07	J35A41AJ
		Dilution Factor: 1				
Chromium	ND	1.0	mg/kg	SW846 6010B	08/06-08/27/07	J35A41A3
		Dilution Factor: 1				
Cobalt	ND	5.0	mg/kg	SW846 6010B	08/06-08/27/07	J35A41AK
		Dilution Factor: 1				
Copper	ND	2.5	mg/kg	SW846 6010B	08/06-08/27/07	J35A41AL
		Dilution Factor: 1				
Iron	ND	10.0	mg/kg	SW846 6010B	08/06-08/15/07	J35A41AM
		Dilution Factor: 1				
Lead	ND	1.0	mg/kg	SW846 6010B	08/06-08/27/07	J35A41AN
		Dilution Factor: 1				
Magnesium	ND	100	mg/kg	SW846 6010B	08/06-08/27/07	J35A41AP
		Dilution Factor: 1				
Manganese	ND	1.0	mg/kg	SW846 6010B	08/06-08/27/07	J35A41AQ
		Dilution Factor: 1				

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METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F7H020369 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Molybdenum	ND	4.0	mg/kg	SW846 6010B	08/06-08/27/07	J35A41AR
		Dilution Factor: 1				
Nickel	ND	4.0	mg/kg	SW846 6010B	08/06-08/27/07	J35A41AT
		Dilution Factor: 1				
Potassium	ND	500	mg/kg	SW846 6010B	08/06-08/15/07	J35A41AU
		Dilution Factor: 1				
Selenium	ND	1.5	mg/kg	SW846 6010B	08/06-08/27/07	J35A41AV
		Dilution Factor: 1				
Silicon	ND	40.0	mg/kg	SW846 6010B	08/06-08/16/07	J35A41AW
		Dilution Factor: 1				
Silver	ND	1.0	mg/kg	SW846 6010B	08/06-08/27/07	J35A41AX
		Dilution Factor: 1				
Sodium	ND	100	mg/kg	SW846 6010B	08/06-08/15/07	J35A41A0
		Dilution Factor: 1				
Vanadium	ND	1.0	mg/kg	SW846 6010B	08/06-08/27/07	J35A41A1
		Dilution Factor: 1				
Zinc	ND	5.0	mg/kg	SW846 6010B	08/06-08/27/07	J35A41A2
		Dilution Factor: 1				

MB Lot-Sample #: F7H070000-056 **Prep Batch #...:** 7219056

Mercury	ND	0.033	mg/kg	SW846 7471A	08/07/07	J4AG71AA
		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 #...: F7H020369 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: F7H030000-042 **Prep Batch #...:** 7215042							
Aluminum	6320	6710	mg/kg	106	SW846 6010B	08/06-08/15/07	J35A41A4
			Dilution Factor: 1				
Antimony	60.9	48.0	mg/kg	79	SW846 6010B	08/06-08/27/07	J35A41A5
			Dilution Factor: 1				
Arsenic	161	174	mg/kg	108	SW846 6010B	08/06-08/27/07	J35A41A6
			Dilution Factor: 1				
Barium	252	267	mg/kg	106	SW846 6010B	08/06-08/27/07	J35A41A7
			Dilution Factor: 1				
Beryllium	94.4	104	mg/kg	110	SW846 6010B	08/06-08/27/07	J35A41A8
			Dilution Factor: 1				
Boron	97.4	106	mg/kg	109	SW846 6010B	08/06-08/15/07	J35A41A9
			Dilution Factor: 1				
Cadmium	128	133	mg/kg	104	SW846 6010B	08/06-08/27/07	J35A41CA
			Dilution Factor: 1				
Calcium	3320	3420	mg/kg	103	SW846 6010B	08/06-08/27/07	J35A41CC
			Dilution Factor: 1				
Cobalt	35.2	36.9	mg/kg	105	SW846 6010B	08/06-08/27/07	J35A41CD
			Dilution Factor: 1				
Copper	148	154	mg/kg	104	SW846 6010B	08/06-08/27/07	J35A41CE
			Dilution Factor: 1				
Iron	11200	12800	mg/kg	114	SW846 6010B	08/06-08/15/07	J35A41CF
			Dilution Factor: 1				
Lead	142	151	mg/kg	106	SW846 6010B	08/06-08/27/07	J35A41CG
			Dilution Factor: 1				
Magnesium	2040	2250	mg/kg	110	SW846 6010B	08/06-08/27/07	J35A41CH
			Dilution Factor: 1				
Manganese	408	433	mg/kg	106	SW846 6010B	08/06-08/27/07	J35A41CJ
			Dilution Factor: 1				

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LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F7H020369 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Molybdenum	84.1	90.4	mg/kg	107	SW846 6010B	08/06-08/27/07	J35A41CK
			Dilution Factor: 1				
Nickel	147	152	mg/kg	104	SW846 6010B	08/06-08/27/07	J35A41CL
			Dilution Factor: 1				
Potassium	1920	2150	mg/kg	112	SW846 6010B	08/06-08/15/07	J35A41CM
			Dilution Factor: 1				
Selenium	64.2	69.3	mg/kg	108	SW846 6010B	08/06-08/27/07	J35A41CN
			Dilution Factor: 1				
Silicon	754	1010	mg/kg	134	SW846 6010B	08/06-08/16/07	J35A41CP
			Dilution Factor: 1				
Silver	130	141	mg/kg	108	SW846 6010B	08/06-08/27/07	J35A41CQ
			Dilution Factor: 1				
Sodium	445	428	mg/kg	96	SW846 6010B	08/06-08/15/07	J35A41CR
			Dilution Factor: 1				
Vanadium	97.3	106	mg/kg	109	SW846 6010B	08/06-08/27/07	J35A41CT
			Dilution Factor: 1				
Zinc	165	188	mg/kg	114	SW846 6010B	08/06-08/27/07	J35A41CU
			Dilution Factor: 1				
Chromium	69.5	73.3	mg/kg	106	SW846 6010B	08/06-08/27/07	J35A41CV
			Dilution Factor: 1				

LCS Lot-Sample#: F7H070000-056 **Prep Batch #...:** 7219056

Mercury	16.9	15.7	mg/kg	93	SW846 7471A	08/07/07	J4AG71AC
			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 #...: F7H020369 **Matrix.....:** SOLID
Date Sampled...: 07/31/07 **Date Received..:** 08/02/07

MS Lot-Sample #: F7H020369-001 **Prep Batch #...:** 7215042
% Moisture.....: 0.43

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Aluminum									
	5690	100	6380 N	mg/kg	692		SW846 6010B	08/06-08/15/07	J344A1CN
	5690	100	6250 N	mg/kg	560	2.1	SW846 6010B	08/06-08/15/07	J344A1CP
			Dilution Factor: 1						
Antimony									
	ND	25.1	10.0 N	mg/kg	40		SW846 6010B	08/06-08/27/07	J344A1CQ
	ND	25.1	10.5 N	mg/kg	42	4.6	SW846 6010B	08/06-08/27/07	J344A1CR
			Dilution Factor: 5						
Arsenic									
	1.5	100	97.5	mg/kg	96		SW846 6010B	08/06-08/27/07	J344A1CT
	1.5	100	103	mg/kg	101	5.4	SW846 6010B	08/06-08/27/07	J344A1CU
			Dilution Factor: 1						
Barium									
	70.5	100	158	mg/kg	87		SW846 6010B	08/06-08/27/07	J344A1CV
	70.5	100	172	mg/kg	102	9.0	SW846 6010B	08/06-08/27/07	J344A1CW
			Dilution Factor: 1						
Beryllium									
	0.18	2.51	2.72	mg/kg	101		SW846 6010B	08/06-08/27/07	J344A1CX
	0.18	2.51	2.91	mg/kg	109	6.8	SW846 6010B	08/06-08/27/07	J344A1C0
			Dilution Factor: 1						
Boron									
	8.9	100	110	mg/kg	101		SW846 6010B	08/06-08/15/07	J344A1C1
	8.9	100	112	mg/kg	103	1.4	SW846 6010B	08/06-08/15/07	J344A1C2
			Dilution Factor: 2						
Cadmium									
	ND	2.51	2.48	mg/kg	99		SW846 6010B	08/06-08/27/07	J344A1C3
	ND	2.51	2.41	mg/kg	96	3.1	SW846 6010B	08/06-08/27/07	J344A1C4
			Dilution Factor: 5						
Calcium									
	4750	2510	7600	mg/kg	114		SW846 6010B	08/06-08/27/07	J344A1C5
	4750	2510	8360 N	mg/kg	144	9.5	SW846 6010B	08/06-08/27/07	J344A1C6
			Dilution Factor: 5						

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MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F7H020369 **Matrix.....:** SOLID
Date Sampled...: 07/31/07 **Date Received..:** 08/02/07

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Chromium									
	12.0	10.0	18.6 N	mg/kg	66		SW846 6010B	08/06-08/27/07	J344A1CJ
	12.0	10.0	19.6	mg/kg	75	4.9	SW846 6010B	08/06-08/27/07	J344A1CK
			Dilution Factor: 1						
Cobalt									
	10.7	25.1	33.7	mg/kg	92		SW846 6010B	08/06-08/27/07	J344A1C7
	10.7	25.1	37.0	mg/kg	105	9.2	SW846 6010B	08/06-08/27/07	J344A1C8
			Dilution Factor: 1						
Copper									
	10.8	12.6	23.1	mg/kg	99		SW846 6010B	08/06-08/27/07	J344A1C9
	10.8	12.6	25.1	mg/kg	114	8.0	SW846 6010B	08/06-08/27/07	J344A1DA
			Dilution Factor: 1						
Iron									
	18500	50.2	18500 N	mg/kg	0.0		SW846 6010B	08/06-08/15/07	J344A1DC
	18500	50.2	19000 N	mg/kg	887	0.0	SW846 6010B	08/06-08/15/07	J344A1DD
			Dilution Factor: 2						
Lead									
	2.6	25.1	25.5	mg/kg	91		SW846 6010B	08/06-08/27/07	J344A1DE
	2.6	25.1	28.3	mg/kg	102	10	SW846 6010B	08/06-08/27/07	J344A1DF
			Dilution Factor: 5						
Magnesium									
	4550	2510	7000	mg/kg	98		SW846 6010B	08/06-08/27/07	J344A1DG
	4550	2510	7650	mg/kg	123	8.8	SW846 6010B	08/06-08/27/07	J344A1DH
			Dilution Factor: 5						
Manganese									
	266	25.1	302 N	mg/kg	143		SW846 6010B	08/06-08/27/07	J344A1DJ
	266	25.1	334 N	mg/kg	269	9.9	SW846 6010B	08/06-08/27/07	J344A1DK
			Dilution Factor: 5						
Molybdenum									
	ND	50.2	47.5	mg/kg	95		SW846 6010B	08/06-08/27/07	J344A1DL
	ND	50.2	51.1	mg/kg	102	7.3	SW846 6010B	08/06-08/27/07	J344A1DM
			Dilution Factor: 1						
Nickel									
	11.6	25.1	33.8	mg/kg	88		SW846 6010B	08/06-08/27/07	J344A1DN
	11.6	25.1	34.7	mg/kg	92	2.7	SW846 6010B	08/06-08/27/07	J344A1DP
			Dilution Factor: 1						

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MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F7H020369 **Matrix.....:** SOLID
Date Sampled...: 07/31/07 **Date Received..:** 08/02/07

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Potassium									
	1900	2510	3440 N	mg/kg	61		SW846 6010B	08/06-08/15/07	J344A1DQ
	1900	2510	3630 N	mg/kg	69	5.2	SW846 6010B	08/06-08/15/07	J344A1DR
			Dilution Factor: 2						
Selenium									
	ND	100	81.5	mg/kg	80		SW846 6010B	08/06-08/27/07	J344A1DT
	ND	100	87.0	mg/kg	86	6.5	SW846 6010B	08/06-08/27/07	J344A1DU
			Dilution Factor: 5						
Silicon									
	811	502	642 N	mg/kg	0.0		SW846 6010B	08/06-08/17/07	J344A1A7
	811	502	703 N	mg/kg	0.0	0.0	SW846 6010B	08/06-08/17/07	J344A1A8
			Dilution Factor: 5						
Silver									
	ND	2.51	2.98	mg/kg	119		SW846 6010B	08/06-08/27/07	J344A1A9
	ND	2.51	3.52 N	mg/kg	140	17	SW846 6010B	08/06-08/27/07	J344A1CA
			Dilution Factor: 1						
Sodium									
	182	2510	2810	mg/kg	105		SW846 6010B	08/06-08/15/07	J344A1CC
	182	2510	2860	mg/kg	107	1.8	SW846 6010B	08/06-08/15/07	J344A1CD
			Dilution Factor: 2						
Vanadium									
	58.9	25.1	82.5	mg/kg	94		SW846 6010B	08/06-08/27/07	J344A1CE
	58.9	25.1	89.8	mg/kg	123	8.4	SW846 6010B	08/06-08/27/07	J344A1CF
			Dilution Factor: 1						
Zinc									
	40.1	25.1	65.4	mg/kg	101		SW846 6010B	08/06-08/27/07	J344A1CG
	40.1	25.1	74.1 N	mg/kg	135	12	SW846 6010B	08/06-08/27/07	J344A1CH
			Dilution Factor: 5						

MS Lot-Sample #: F7H020369-001 **Prep Batch #...:** 7219056
% Moisture.....: 0.43

Mercury									
	ND	0.167	0.166	mg/kg	99		SW846 7471A	08/07/07	J344A1CL
	ND	0.167	0.163	mg/kg	97	1.8	SW846 7471A	08/07/07	J344A1CM
			Dilution Factor: 1						

NOTE(S):

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

N Spiked analyte recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

WET CHEMISTRY

Washington Closure Hanford

Client Sample ID: J152P4

General Chemistry

Lot-Sample #...: F7H020369-001 **Work Order #...:** J344A **Matrix.....:** SOLID
Date Sampled...: 07/31/07 **Date Received..:** 08/02/07
% Moisture.....: 0.43

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	0.43	0.10	%	MCAWW 160.3 MOD	08/05-08/06/07	7217010

Dilution Factor: 1 MDL.....: