0073419

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 7/19/07 INITIAL/DATE
Jeanette Duncan	H4-21	KW 7/19/07 INITIAL/DATE

COMMENTS:

SDG J00115 SAF-RC-032

Rad only Chem only X Rad & Chem

X Complete Partial

Waste Site: 118-F-8:4 FSB Verification/Shallow Zone

RECEIVED
JUL 30 2007
EDMC

Analytical Data Package Prepared For

Washington Closure Hanford

Radiochemical Analysis By

TAL Richland

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

Assigned Laboratory Code: STLRL

Data Package Contains 93 *Pages*

Report No.: 35953

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
J00115	RC-032	J15520	J7F140354-1	J02P11AN	9J02P110	7166489
		J15520	J7F140354-1	J02P11AE	9J02P110	7166494
		J15520	J7F140354-1	J02P11AA	9J02P110	7166496
		J15520	J7F140354-1	J02P11AJ	9J02P110	7166497
		J15520	J7F140354-1	J02P11AK	9J02P110	7166498
		J15520	J7F140354-1	J02P12AD	9J02P120	7178189
		J15520	J7F140354-1	J02P12AC	9J02P120	7179563
		J15520	J7F140354-1	J02P12AQ	9J02P120	7179566
		J15520	J7F140354-1	J02P12AP	9J02P120	7179567

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JUL 2007

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

July 19, 2007

Attention: Joan Kessner

SAF Number	:	RC-032
Date SDG Closed	:	June 14, 2007
Number of Samples	:	One (1)
Sample Type	:	Soil
SDG Number	:	J00115
Data Deliverable	:	15 – Day / Summary

CASE NARRATIVE

I. Introduction

On June 14, 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
J15520	J02P1	SOIL	6/14/07

I. Sample Receipt

The sample was received in good condition and no anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Alpha Spectroscopy
Plutonium-238, -239/240 by method RICH-RC-5010
Uranium 234, 235 and 238 by method RICH-RC-5039
Americium 241/Curium 244 by method RICH-RC-5087
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
Chemical Analysis
Hexavalent Chromium by EPA method 7196A

IV. Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

Alpha Spectroscopy

Plutonium-238, -239/240 by method RICH-RC-5010:
The original analysis had no tracer recovery in the sample (J15520). The batch was reanalyzed and was acceptable. Except as noted, the LCS, batch blank, sample and sample duplicate (J15520) results are within contractual requirements.

Uranium 234, 235 and 238 by method RICH-RC-5039:
The original analysis had no tracer recovery in the sample (J15520). The batch was reanalyzed. The duplicate (J15520 DUP) in the reanalysis batch had a tracer yield of 19%. The sample results are below the CRDL. The client was contacted and will accept the 19% recovery on the duplicate. Except as noted, the LCS, batch blank, sample and sample duplicate (J15520) results are within contractual requirements.

Americium 241/Curium 244 by method RICH-RC-5087:
The original analysis had no tracer recovery in the sample (J15520). The batch was reanalyzed and was acceptable. Except as noted, the LCS, batch blank, sample and sample duplicate (J15520) results are within contractual requirements.

Washington Closure Hanford
July 19, 2007

Gas Proportional Counting

Total Strontium by method RICH-RC-5006:

During processing, the centrifuge malfunctioned, causing the samples inside to spill. The client was notified of the situation on June 27, 2007. The reanalysis was started immediately and the centrifuge was taken out of service until it can be repaired. Except as noted, the LCS, batch blank, sample and sample duplicate (J15520) results are within contractual requirements

Gamma Spectroscopy

Gamma Spec by method RICH-RC-5017:

There was not enough sample for a duplicate. Sample J15520 was recounted on a different detector for a duplicate. Except as noted, the LCS, batch blank, sample and sample duplicate (J15520) results are within contractual requirements.

Liquid Scintillation Counter

Carbon-14 by method RICH-RC-5022:

The LCS, batch blank, sample and sample duplicate (J15520) results are within contractual requirements.

Nickel-63 by method RICH-RC-5069:

The LCS recovery was low, 74%, on the first count. A recount confirmed the 74%. The client was contacted and will accept the data. Except as noted, the LCS, batch blank, sample and sample duplicate (J15520) results are within contractual requirements.

Tritium by method RICH-RC-5007

The LCS, batch blank, sample and sample duplicate (J15520) results are within contractual requirements.

Chemical Analysis

Hexavalent Chromium by EPA method 7196A:

The LCS, batch blank, sample, sample duplicate (J15520) and sample matrix spike (J15520) 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

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 Client Sample ID, Batch No.

Date: 19-Jul-07

Report No. : 35953

SDG No: J00115

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RPD
J15520	J02P11AN	AG-108M	-1.15E-02 +- 8.53E-03	U	pCi/g		1.34E-02	
		BA-133	3.76E-03 +- 1.27E-02	U	pCi/g		1.86E-02	
		CO-60	8.50E-03 +- 1.14E-02	U	pCi/g		2.04E-02	
		CS-137	2.52E-01 +- 3.91E-02		pCi/g		1.93E-02	
		EU-152	1.29E-01 +- 4.62E-02	U	pCi/g		5.33E-02	
		EU-154	2.14E-02 +- 3.79E-02	U	pCi/g		6.66E-02	
		EU-155	5.00E-02 +- 2.85E-02	U	pCi/g		4.76E-02	
J15520	J02P11AE	NI-63	5.10E+00 +- 4.07E+00	U	pCi/g	99%	5.45E+00	
J15520	J02P11AA	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A	3.50E-01	
J15520	J02P11AJ	H-3	3.01E-03 +- 8.60E-03	U	pCi/g	100%	1.76E-02	
J15520	J02P11AK	C-14	4.14E-02 +- 6.16E-01	U	pCi/g	100%	7.71E-01	
J15520	J02P12AD	STRONTIUM	1.51E-01 +- 9.07E-02	U	pCi/g	72%	1.55E-01	
J15520	J02P12AC	U-234	7.18E-01 +- 1.86E-01		pCi/g	84%	3.31E-02	
		U-235	1.38E-02 +- 1.98E-02	U	pCi/g	84%	3.31E-02	
		U-238	7.71E-01 +- 1.96E-01		pCi/g	84%	3.31E-02	
J15520	J02P12AQ	PU-238	0.00E+00 +- 3.17E-02	U	pCi/g	41%	7.44E-02	
		PU239/40	3.42E-02 +- 5.56E-02	U	pCi/g	41%	1.07E-01	
J15520	J02P12AP	AM-241	2.20E-02 +- 3.16E-02	U	pCi/g	72%	5.26E-02	
		CM-243/244	0.00E+00 +- 2.25E-02	U	pCi/g	72%	5.27E-02	
J15520 DUP	J02P11AR	AG-108M	4.49E-04 +- 7.15E-03	U	pCi/g		1.20E-02	-216.3
		BA-133	5.16E-03 +- 1.12E-02	U	pCi/g		1.62E-02	31.6
		CO-60	3.01E-03 +- 9.79E-03	U	pCi/g		1.71E-02	95.4
		CS-137	2.36E-01 +- 3.44E-02		pCi/g		1.60E-02	6.5
		EU-152	1.29E-01 +- 4.07E-02	U	pCi/g		4.75E-02	0.0
		EU-154	-5.53E-03 +- 3.09E-02	U	pCi/g		5.22E-02	339.8
		EU-155	3.16E-02 +- 2.57E-02	U	pCi/g		4.31E-02	45.3
J15520 DUP	J02P11AW	NI-63	5.72E+00 +- 3.91E+00		pCi/g	97%	5.16E+00	11.4
J15520 DUP	J02P11AX	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A	3.50E-01	0.0
J15520 DUP	J02P11A3	H-3	1.44E-03 +- 9.09E-03	U	pCi/g	100%	1.88E-02	70.6
J15520 DUP	J02P11A4	C-14	4.98E-01 +- 6.62E-01	U	pCi/g	100%	7.68E-01	169.3
J15520 DUP	J02P12AX	STRONTIUM	2.19E-01 +- 1.04E-01		pCi/g	73%	1.50E-01	36.9

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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 Client Sample ID, Batch No.

Date: 19-Jul-07

Report No. : 35953

SDG No: J00115

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RPD
J15520 DUP	J02P12AV	U-234	8.41E-01 +- 3.82E-01		pCi/g	19%	1.55E-01	15.8
		U-235	2.59E-02 +- 6.62E-02	U	pCi/g	19%	1.55E-01	60.9
		U-238	6.47E-01 +- 3.25E-01		pCi/g	19%	1.55E-01	17.5
J15520 DUP	J02P12AT	PU-238	0.00E+00 +- 2.46E-02	U	pCi/g	54%	5.78E-02	
		PU239/40	2.90E-02 +- 4.29E-02	U	pCi/g	54%	7.62E-02	16.5
J15520 DUP	J02P12AU	AM-241	0.00E+00 +- 2.73E-02	U	pCi/g	62%	6.42E-02	200.0
		CM-243/244	6.71E-02 +- 6.15E-02		pCi/g	62%	6.43E-02	200.0

Number of Results: 38

TAL Richland

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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
Ordered by QC Type, Batch No.

Date: 19-Jul-07

Report No. : 35953

SDG No.: J00115

QC Type	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
BLANK QC	J06JN1AA	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A			3.50E-01
BLANK QC	J06HT1AA	AG-108M	2.62E-03 +- 3.15E-03	U	pCi/g				5.78E-03
		BA-133	-2.46E-04 +- 4.60E-03	U	pCi/g				6.73E-03
		CO-60	6.51E-04 +- 4.08E-03	U	pCi/g				7.63E-03
		CS-137	-2.67E-03 +- 3.79E-03	U	pCi/g				6.25E-03
		EU-152	4.53E-03 +- 1.01E-02	U	pCi/g				1.80E-02
		EU-154	-9.95E-03 +- 9.99E-03	U	pCi/g				1.53E-02
		EU-155	8.96E-04 +- 9.56E-03	U	pCi/g				1.63E-02
BLANK QC	J06JK1AA	NI-63	3.32E+00 +- 3.88E+00	U	pCi/g	101%			5.38E+00
BLANK QC	J06JX1AA	H-3	5.16E-02 +- 1.46E-01	U	pCi/g	100%			2.96E-01
BLANK QC	J06J21AA	C-14	1.89E-01 +- 2.67E-01	U	pCi/g	100%			3.12E-01
BLANK QC	J06JL2AA	STRONTIUM	2.31E-03 +- 7.24E-02	U	pCi/g	63%			1.72E-01
BLANK QC	J12QD1AA	U-234	-3.52E-03 +- 1.24E-02	U	pCi/g	94%			3.71E-02
		U-235	-1.17E-03 +- 1.20E-02	U	pCi/g	94%			2.81E-02
		U-238	0.00E+00 +- 1.20E-02	U	pCi/g	94%			2.81E-02
BLANK QC	J12RD1AA	PU-238	0.00E+00 +- 2.03E-02	U	pCi/g	69%			4.77E-02
		PU239/40	1.79E-02 +- 2.86E-02	U	pCi/g	69%			4.77E-02
BLANK QC	J12RD1AD	PU-238	-2.61E-03 +- 2.66E-02	U	pCi/g	52%			6.26E-02
		PU239/40	1.31E-02 +- 2.67E-02	U	pCi/g	52%			6.25E-02
BLANK QC	J12RK1AA	AM-241	0.00E+00 +- 1.76E-02	U	pCi/g	106%			4.13E-02
		CM-243/244	6.91E-02 +- 5.04E-02		pCi/g	106%			4.14E-02
BLANK QC	J12RK1AD	AM-241	2.34E-02 +- 3.47E-02	U	pCi/g	89%			6.17E-02
		CM-243/244	3.92E-02 +- 3.98E-02	U	pCi/g	89%			4.69E-02
LCS	J06HT1AC	CS-137	2.29E-01 +- 3.96E-02		pCi/g		88%	-0.1	2.86E-02
		K-40	1.81E+01 +- 2.26E+00		pCi/g		93%	-0.1	2.07E-01
		RA-226	9.66E-01 +- 1.38E-01		pCi/g		84%	-0.2	4.34E-02
		RA-228	1.99E+00 +- 2.91E-01		pCi/g		106%	0.1	8.70E-02
		U-238	1.02E+00 +- 1.42E-01		pCi/g		97%	0.0	4.51E-02
LCS	J06JK1AC	NI-63	4.48E+02 +- 4.53E+01		pCi/g	101%	74%	-0.3	5.36E+00

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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 QC Type, Batch No.

Date: 19-Jul-07

Report No. : 35953

SDG No.: J00115

QC Type	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
LCS	J06JX1AC	H-3	2.63E+00 +- 2.52E-01		pCi/g	100%	97%	0.0	2.96E-01
LCS	J06J21AC	C-14	7.63E+00 +- 1.09E+00		pCi/g	100%	105%	0.0	3.12E-01
LCS	J06JL2AC	STRONTIUM	1.09E+00 +- 3.22E-01		pCi/g	67%	95%	0.0	1.66E-01
LCS	J12QD1AC	U-234	3.49E+00 +- 6.56E-01		pCi/g	95%	107%	0.1	2.95E-02
		U-238	3.41E+00 +- 6.42E-01		pCi/g	95%	100%	0.0	2.95E-02
LCS	J12RD1AC	PU239/40	6.63E+00 +- 1.22E+00		pCi/g	64%	96%	0.0	4.97E-02
LCS	J12RD1AE	PU239/40	6.03E+00 +- 1.01E+00		pCi/g	63%	91%	-0.1	5.87E-02
LCS	J12RK1AC	AM-241	1.06E+01 +- 1.89E+00		pCi/g	116%	116%	0.2	4.10E-02
LCS	J12RK1AE	AM-241	8.05E+00 +- 1.31E+00		pCi/g	101%	92%	-0.1	3.89E-02
MATRIX SPIK	J02P11A0	HEXCHROME	8.00E+00 +- 0.00E+00		mg/kg	N/A	79%	-0.2	3.50E-01
LCS	J06JN1AC	HEXCHROME	1.68E+01 +- 0.00E+00		mg/kg	N/A	84%	-0.2	3.50E-01

Number of Results: 40

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

rptSTLRchQcSum
V5.1.3 A2002

STL RICHLAND

FORM I
SAMPLE RESULTS

Date: 19-Jul-07

Lab Name: TA Richland
Lot-Sample No.: J7F140354-1
Client Sample ID: J15520

SDG: J00115
Report No. : 35953
COC No. : RC-032-119

Collection Date: 6/13/2007 8:50:00 AM
Received Date: 6/14/2007 2:40:00 PM
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	Analy Method, Primary Detector
Batch: 7166489	Work Order: J02P11AN			Report DB ID: 9J02P110								
AG-108M	-1.15E-02	U	8.5E-03	8.5E-03	1.34E-02	pCi/g		-0.86	6/19/07 11:47 a		806.2	GAMMA_GS
						6.71E-03		-(2.7)			g	GER6$1
BA-133	3.76E-03	U	1.3E-02	1.3E-02	1.86E-02	pCi/g		0.2	6/19/07 11:47 a		806.2	GAMMA_GS
						9.30E-03		0.59			g	GER6$1
CO-60	8.50E-03	U	1.1E-02	1.1E-02	2.04E-02	pCi/g		0.42	6/19/07 11:47 a		806.2	GAMMA_GS
							5.00E-02	(1.5)			g	GER6$1
CS-137	2.52E-01		3.9E-02	3.9E-02	1.93E-02	pCi/g		(13.)	6/19/07 11:47 a		806.2	GAMMA_GS
							1.00E-01	(12.9)			g	GER6$1
EU-152	1.29E-01	U	4.6E-02	4.6E-02	5.33E-02	pCi/g		(2.4)	6/19/07 11:47 a		806.2	GAMMA_GS
							1.00E-01	(5.6)			g	GER6$1
EU-154	2.14E-02	U	3.8E-02	3.8E-02	6.66E-02	pCi/g		0.32	6/19/07 11:47 a		806.2	GAMMA_GS
							1.00E-01	(1.1)			g	GER6$1
EU-155	5.00E-02	U	2.8E-02	2.8E-02	4.76E-02	pCi/g		(1.1)	6/19/07 11:47 a		806.2	GAMMA_GS
							1.00E-01	(3.5)			g	GER6$1
Batch: 7166494	Work Order: J02P11AE			Report DB ID: 9J02P110								
NI-63	5.10E+00	U	2.4E+00	4.1E+00	5.45E+00	pCi/g	99%	0.94	6/26/07 11:15 a		0.25	NI63_LSC
						2.64E+00	3.00E+01	(2.5)			G	LSC3
Batch: 7166496	Work Order: J02P11AA			Report DB ID: 9J02P110								
HEXCHROME	3.50E-01	U		0.0E+00	3.50E-01	mg/kg	N/A	(1.)	7/2/07		2.5	7196_CR6
							3.50E-01	N/A			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.
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FORM I

SAMPLE RESULTS

Date: 19-Jul-07

Lab Name:	TA Richland	SDG:	J00115	Collection Date:	6/13/2007 8:50:00 AM
Lot-Sample No.:	J7F140354-1	Report No. :	35953	Received Date:	6/14/2007 2:40:00 PM
Client Sample ID:	J15520	COC No. :	RC-032-119	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	Analy Method, Primary Detector
Batch: 7166497	Work Order: J02P11AJ			Report DB ID: 9J02P110								
H-3	***3.01E-03***	U	7.3E-03	8.6E-03	1.76E-02	pCi/g	100%	*0.17*	6/20/07 12:47 a		85.5	906.0_H3_LSC
						8.37E-03	4.00E+02	*0.7*			G	LSC8
Batch: 7166498	Work Order: J02P11AK			Report DB ID: 9J02P110								
C-14	***4.14E-02***	U	3.2E-01	6.2E-01	7.71E-01	pCi/g	100%	*0.05*	6/19/07 07:22 p		2.023	C14_CHEM_LSC
						3.69E-01	5.00E+01	*0.13*			G	LSC3
Batch: 7178189	Work Order: J02P12AD			Report DB ID: 9J02P120								
STRONTIUM	***1.51E-01***	U	8.2E-02	9.1E-02	1.55E-01	pCi/g	72%	*0.97*	6/29/07 08:49 a		6.01	SRTOT_SEP_PRECIP
						7.17E-02		*(3.3)*			G	GPC27A
Batch: 7179563	Work Order: J02P12AC			Report DB ID: 9J02P120								
U-234	***7.18E-01***		1.4E-01	1.9E-01	3.31E-02	pCi/g	84%	*(21.7)*	7/3/07 03:03 p		1.03	UISO_IE_PLATE_AE
						7.18E-03	1.00E+00	*(7.7)*			G	ALP9
U-235	***1.38E-02***	U	2.0E-02	2.0E-02	3.31E-02	pCi/g	84%	*0.42*	7/3/07 03:03 p		1.03	UISO_IE_PLATE_AE
						7.18E-03	1.00E+00	*(1.4)*			G	ALP9
U-238	***7.71E-01***		1.5E-01	2.0E-01	3.31E-02	pCi/g	84%	*(23.3)*	7/3/07 03:03 p		1.03	UISO_IE_PLATE_AE
						7.18E-03	1.00E+00	*(7.9)*			G	ALP9
								Ratio U-234/238 = 0.9				
Batch: 7179566	Work Order: J02P12AQ			Report DB ID: 9J02P120								
PU-238	***0.00E+00***	U	0.0E+00	3.2E-02	7.44E-02	pCi/g	41%	*0.*	7/3/07 02:51 p		1.02	PUISO_IE_PLATE_A
						1.62E-02	1.00E+00	*0.*			G	ALP39
PU239/40	***3.42E-02***	U	5.5E-02	5.6E-02	1.07E-01	pCi/g	41%	*0.32*	7/3/07 02:51 p		1.02	PUISO_IE_PLATE_A
						3.23E-02	1.00E+00	*(1.2)*			G	ALP39

TAL Richland
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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.

STL RICHLAND

FORM I

SAMPLE RESULTS

Date: 19-Jul-07

Lab Name: TA Richland
Lot-Sample No.: J7F140354-1
Client Sample ID: J15520

SDG: J00115
Report No. : 35953
COC No. : RC-032-119

Collection Date: 6/13/2007 8:50:00 AM
Received Date: 6/14/2007 2:40:00 PM
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	Analy Method, Primary Detector
Batch: 7179567	Work Order: J02P12AP			Report DB ID: 9J02P120								
AM-241	***2.20E-02***	U	3.1E-02	3.2E-02	5.26E-02	pCi/g	72%	*0.42*	7/3/07 10:14 p		1.02	AMCMISO_IE_PLATE
						1.14E-02	1.00E+00	*(1.4)*			G	ALP39
CM-243/244	***0.00E+00***	U	0.0E+00	2.2E-02	5.27E-02	pCi/g	72%	*0.*	7/3/07 10:14 p		1.02	AMCMISO_IE_PLATE
						1.15E-02	1.00E+00	*0.*			G	ALP39

Number of Results: 19

Comments:

TAL Richland
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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.

FORM II

Date: 19-Jul-07

DUPLICATE RESULTS

Lab Name:	TA Richland	SDG:	J00115	Collection Date:	6/13/2007 8:50:00 AM
Lot-Sample No.:	J7F140354-1	Report No. :	35953	Received Date:	6/14/2007 2:40:00 PM
Client Sample ID:	J15520 DUP	COC No. :	RC-032-119	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	Analy Method, Primary Detector
Batch: 7166489	Work Order: J02P11AR				Report DB ID: J02P11RR		Orig Sa DB ID: 9J02P110						
AG-108M	4.49E-04	U		7.2E-03	7.2E-03	1.20E-02	pCi/g		0.04	6/19/07 03:17 p		806.2	GAMMA_GS
	-1.15E-02	U	RPD	-216.3					0.13			g	GER8$1
BA-133	5.16E-03	U		1.1E-02	1.1E-02	1.62E-02	pCi/g		0.32	6/19/07 03:17 p		806.2	GAMMA_GS
	3.76E-03	U	RPD	31.6					0.93			g	GER8$1
CO-60	3.01E-03	U		9.8E-03	9.8E-03	1.71E-02	pCi/g		0.18	6/19/07 03:17 p		806.2	GAMMA_GS
	8.50E-03	U	RPD	95.4			5.00E-02		0.61			g	GER8$1
CS-137	2.36E-01			3.4E-02	3.4E-02	1.60E-02	pCi/g		(14.8)	6/19/07 03:17 p		806.2	GAMMA_GS
	2.52E-01		RPD	6.5			1.00E-01		(13.8)			g	GER8$1
EU-152	1.29E-01	U		4.1E-02	4.1E-02	4.75E-02	pCi/g		(2.7)	6/19/07 03:17 p		806.2	GAMMA_GS
	1.29E-01	U	RPD	0.0			1.00E-01		(6.3)			g	GER8$1
EU-154	-5.53E-03	U		3.1E-02	3.1E-02	5.22E-02	pCi/g		-0.11	6/19/07 03:17 p		806.2	GAMMA_GS
	2.14E-02	U	RPD	339.8			1.00E-01		-0.36			g	GER8$1
EU-155	3.16E-02	U		2.6E-02	2.6E-02	4.31E-02	pCi/g		0.73	6/19/07 03:17 p		806.2	GAMMA_GS
	5.00E-02	U	RPD	45.3			1.00E-01		(2.5)			g	GER8$1
Batch: 7166494	Work Order: J02P11AW				Report DB ID: J02P11WR		Orig Sa DB ID: 9J02P110						
NI-63	5.72E+00			2.3E+00	3.9E+00	5.16E+00	pCi/g	97%	(1.1)	6/26/07 12:57 p		0.27	NI63_LSC
	5.10E+00	U	RPD	11.4			3.00E+01		(2.9)			G	LSC3
Batch: 7166496	Work Order: J02P11AX				Report DB ID: J02P11AX		Orig Sa DB ID: 9J02P110						
HEXCHROME	3.50E-01	U			0.0E+00	3.50E-01	mg/kg	N/A	(1.)	7/2/07		2.5	7196_CR6
	3.50E-01	U	RPD	0.0					N/A			G	
Batch: 7166497	Work Order: J02P11A3				Report DB ID: J02P113R		Orig Sa DB ID: 9J02P110						

TAL Richland
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.3 A2002

RPD - Relative Percent Difference.
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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.

STL RICHLAND

FORM II

DUPLICATE RESULTS

Date: 19-Jul-07

Lab Name: TA Richland | SDG: J00115 | Collection Date: 6/13/2007 8:50:00 AM

Lot-Sample No.: J7F140354-1 | Report No. : 35953 | Received Date: 6/14/2007 2:40:00 PM

Client Sample ID: J15520 DUP | COC No. : RC-032-119 | 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	Analy Method, Primary Detector
H-3	1.44E-03	U		7.7E-03	9.1E-03	1.88E-02	pCi/g	100%	0.08	6/20/07 02:09 a		85.6	906.0-H3_LSC
	3.01E-03	U	RPD	70.6			4.00E+02		0.32			G	LSC8
Batch: 7166498	Work Order: J02P11A4				Report DB ID: J02P114R		Orig Sa DB ID: 9J02P110						
C-14	4.98E-01	U		3.3E-01	6.6E-01	7.68E-01	pCi/g	100%	0.65	6/19/07 08:05 p		2.03	C14_CHEM_LSC
	4.14E-02	U	RPD	169.3			5.00E+01		(1.5)			G	LSC3
Batch: 7178189	Work Order: J02P12AX				Report DB ID: J02P12XR		Orig Sa DB ID: 9J02P120						
STRONTIUM	2.19E-01			8.7E-02	1.0E-01	1.50E-01	pCi/g	73%	(1.5)	6/29/07 08:49 a		6.0	SRTOT_SEP_PRECIP
	1.51E-01	U	RPD	36.9			-		(4.2)			G	GPC27B
Batch: 7179563	Work Order: J02P12AV				Report DB ID: J02P12VR		Orig Sa DB ID: 9J02P120						
U-234	8.41E-01			3.3E-01	3.8E-01	1.55E-01	pCi/g	19%	(5.4)	7/3/07 03:03 p		1.04	UISO_IE_PLATE_AE
	7.18E-01		RPD	15.8			1.00E+00		(4.4)			G	ALP10
U-235	2.59E-02	U		6.6E-02	6.6E-02	1.55E-01	pCi/g	19%	0.17	7/3/07 03:03 p		1.04	UISO_IE_PLATE_AE
	1.38E-02	U	RPD	60.9			1.00E+00		0.78			G	ALP10
U-238	6.47E-01			2.9E-01	3.3E-01	1.55E-01	pCi/g	19%	(4.2)	7/3/07 03:03 p		1.04	UISO_IE_PLATE_AE
	7.71E-01		RPD	17.5			1.00E+00		(4.)			G	ALP10
									Ratio U-234/238 = 1.3		*Alpha Spec Result Sum = 1.5E+00*		
Batch: 7179566	Work Order: J02P12AT				Report DB ID: J02P12TR		Orig Sa DB ID: 9J02P120						
PU-238	0.00E+00	U		0.0E+00	2.5E-02	5.78E-02	pCi/g	54%	0.	7/3/07 02:51 p		1.0	PUISO_IE_PLATE_A
	0.00E+00	U	RPD				1.00E+00		0.			G	ALP40
PU239/40	2.90E-02	U		4.3E-02	4.3E-02	7.62E-02	pCi/g	54%	0.38	7/3/07 02:51 p		1.0	PUISO_IE_PLATE_A
	3.42E-02	U	RPD	16.5			1.00E+00		(1.3)			G	ALP40
											Alpha Spec Result Sum = 1.5E+00		
Batch: 7179567	Work Order: J02P12AU				Report DB ID: J02P12UR		Orig Sa DB ID: 9J02P120						

TAL Richland
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.3 A2002

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FORM II

Date: 19-Jul-07

DUPLICATE RESULTS

Lab Name:	TA Richland	SDG:	J00115	Collection Date:	6/13/2007 8:50:00 AM
Lot-Sample No.:	J7F140354-1	Report No. :	35953	Received Date:	6/14/2007 2:40:00 PM
Client Sample ID:	J15520 DUP	COC No. :	RC-032-119	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	Analy Method, Primary Detector
AM-241	0.00E+00	U		0.0E+00	2.7E-02	6.42E-02	pCi/g	62%	0.	7/3/07 10:14 p		1.0	AMCMISO_IE_PLATE
	2.20E-02	U	RPD	200.0			1.00E+00		0.			G	ALP40
CM-243/244	6.71E-02			6.0E-02	6.2E-02	6.43E-02	pCi/g	62%	(1.)	7/3/07 10:14 p		1.0	AMCMISO_IE_PLATE
	0.00E+00	U	RPD	200.0			1.00E+00		(2.2)			G	ALP40

Alpha Spec Result Sum = 6.7E-02

Number of Results: 19

Comments:

TAL Richland
rptSTLRchDupV5.1
.3 A2002

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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.

STL RICHLAND

FORM II
BLANK RESULTS

Date: 19-Jul-07

Lab Name: TA Richland SDG: J00115

Lot-Sample No.: #Error Report No. : 35953 Matrix: SOIL

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7166496	Work Order: J06JN1AA			Report DB ID: J06JN1AB								
HEXCHROME	3.50E-01	U		0.0E+00	3.50E-01	mg/kg	N/A	(1.)	7/2/07		2.5	7196_CR6
						3.50E-01		N/A			G	

Number of Results: 1

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.

FORM II
BLANK RESULTS

Date: 19-Jul-07

Lab Name: TA Richland SDG: J00115

Lot-Sample No.: J7F150000-489 Report No. : 35953 Matrix: SOIL

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7166489	Work Order: J06HT1AA			Report DB ID: J06HT1AB								
AG-108M	2.62E-03	U	3.2E-03	3.2E-03	5.78E-03	pCi/g		0.45	6/19/07 11:48 a		859.27	GAMMA_GS
					2.90E-03			(1.7)			g	GER8$1
BA-133	-2.46E-04	U	4.6E-03	4.6E-03	6.73E-03	pCi/g		-0.04	6/19/07 11:48 a		859.27	GAMMA_GS
					3.37E-03			-0.11			g	GER8$1
CO-60	6.51E-04	U	4.1E-03	4.1E-03	7.63E-03	pCi/g		0.09	6/19/07 11:48 a		859.27	GAMMA_GS
						5.00E-02		0.32			g	GER8$1
CS-137	-2.67E-03	U	3.8E-03	3.8E-03	6.25E-03	pCi/g		-0.43	6/19/07 11:48 a		859.27	GAMMA_GS
						1.00E-01		-(1.4)			g	GER8$1
EU-152	4.53E-03	U	1.0E-02	1.0E-02	1.80E-02	pCi/g		0.25	6/19/07 11:48 a		859.27	GAMMA_GS
						1.00E-01		0.9			g	GER8$1
EU-154	-9.95E-03	U	1.0E-02	1.0E-02	1.53E-02	pCi/g		-0.65	6/19/07 11:48 a		859.27	GAMMA_GS
						1.00E-01		-(2.)			g	GER8$1
EU-155	8.96E-04	U	9.6E-03	9.6E-03	1.63E-02	pCi/g		0.05	6/19/07 11:48 a		859.27	GAMMA_GS
						1.00E-01		0.19			g	GER8$1

Number of Results: 7

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.

STL RICHLAND

FORM II

BLANK RESULTS

Date: 19-Jul-07

Lab Name: TA Richland

SDG: J00115

Lot-Sample No.: J7F150000-494

Report No. : 35953

Matrix: SOIL

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7166494	Work Order: J06JK1AA			Report DB ID: J06JK1AB								
NI-63	3.32E+00	U	2.3E+00	3.9E+00	5.38E+00	pCi/g	101%	0.62	6/26/07 02:40 p		0.25	NI63_LSC
					2.60E+00	3.00E+01		(1.7)			G	LSC3

Number of Results: 1

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.

STL RICHLAND

FORM II

BLANK RESULTS

Date: 19-Jul-07

Lab Name: TA Richland

SDG: J00115

Lot-Sample No.: J7F150000-495

Report No. : 35953

Matrix: SOIL

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7178189	Work Order: J06JL2AA			Report DB ID: J06JL2AB								
STRONTIUM	2.31E-03	U	7.2E-02	7.2E-02	1.72E-01	pCi/g	63%	0.01	6/29/07 08:49 a		6.0	SRTOT_SEP_PRECIP
					7.99E-02			0.06			G	GPC27C

Number of Results: 1

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.

FORM II
BLANK RESULTS

Date: 19-Jul-07

Lab Name: TA Richland SDG: J00115

Lot-Sample No.: J7F150000-497 Report No. : 35953 Matrix: SOIL

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7166497	Work Order: J06JX1AA			Report DB ID: J06JX1AB								
H-3	5.16E-02	U	1.2E-01	1.5E-01	2.96E-01	pCi/g	100%	0.17	6/19/07 10:04 p		5.0	906.0_H3_LSC
					1.41E-01	4.00E+02		0.7			G	LSC8

Number of Results: 1

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.

FORM II

BLANK RESULTS

Date: 19-Jul-07

Lab Name: TA Richland

SDG: J00115

Lot-Sample No.: J7F150000-498

Report No.: 35953

Matrix: SOIL

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7166498	Work Order: J06J21AA			Report DB ID: J06J21AB								
C-14	1.89E-01	U	1.4E-01	2.7E-01	3.12E-01	pCi/g	100%	0.6	6/19/07 05:57 p		5.0	C14_CHEM_LSC
					1.49E-01	5.00E+01		(1.4)			G	LSC3

Number of Results: 1

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.

FORM II
BLANK RESULTS

Date: 19-Jul-07

Lab Name: TA Richland SDG: J00115

Lot-Sample No.: J7F280000-563 Report No. : 35953 Matrix: SOIL

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7179563	Work Order: J12QD1AA			Report DB ID: J12QD1AB								
U-234	-3.52E-03	U	1.2E-02	1.2E-02	3.71E-02	pCi/g	94%	-0.1	7/3/07 03:03 p		1.0	UISO_IE_PLATE_AE
					1.06E-02	1.00E+00		-0.57			G	ALP11
U-235	-1.17E-03	U	1.2E-02	1.2E-02	2.81E-02	pCi/g	94%	-0.04	7/3/07 03:03 p		1.0	UISO_IE_PLATE_AE
					6.11E-03	1.00E+00		-0.2			G	ALP11
U-238	0.00E+00	U	0.0E+00	1.2E-02	2.81E-02	pCi/g	94%	0.	7/3/07 03:03 p		1.0	UISO_IE_PLATE_AE
					6.11E-03	1.00E+00		0.			G	ALP11

Number of Results: 3

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.

STL RICHLAND

FORM II
BLANK RESULTS

Date: 19-Jul-07

Lab Name: TA Richland

SDG: J00115

Lot-Sample No.: J7F280000-566

Report No. : 35953

Matrix: SOIL

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7179566	Work Order: J12RD1AA			Report DB ID: J12RD1AB								
PU-238	0.00E+00	U	0.0E+00	2.0E-02	4.77E-02	pCi/g	69%	0.	7/3/07 02:51 p		1.0	PUISO_IE_PLATE_A
					1.04E-02	1.00E+00		0.			G	ALP42
PU239/40	1.79E-02	U	2.8E-02	2.9E-02	4.77E-02	pCi/g	69%	0.38	7/3/07 02:51 p		1.0	PUISO_IE_PLATE_A
					1.04E-02	1.00E+00		(1.3)			G	ALP42
Batch: 7179566	Work Order: J12RD1AD			Report DB ID: J12RD1DX								
PU-238	-2.61E-03	U	2.7E-02	2.7E-02	6.26E-02	pCi/g	52%	-0.04	7/3/07 02:54 p		1.03	PUISO_IE_PLATE_A
					1.36E-02	1.00E+00		-0.2			G	ALP127
PU239/40	1.31E-02	U	2.7E-02	2.7E-02	6.25E-02	pCi/g	52%	0.21	7/3/07 02:54 p		1.03	PUISO_IE_PLATE_A
					1.36E-02	1.00E+00		0.98			G	ALP127

Number of Results: 4

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.

FORM II

BLANK RESULTS

Date: 19-Jul-07

Lab Name: TA Richland

SDG: J00115

Lot-Sample No.: J7F280000-567

Report No.: 35953

Matrix: SOIL

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7179567	Work Order: J12RK1AA			Report DB ID: J12RK1AB								
AM-241	0.00E+00	U	0.0E+00	1.8E-02	4.13E-02	pCi/g	106%	0.	7/3/07 10:15 p		1.0	AMCMISO_IE_PLATE
					8.97E-03	1.00E+00		0.			G	ALP42
CM-243/244	6.91E-02		4.9E-02	5.0E-02	4.14E-02	pCi/g	106%	(1.7)	7/3/07 10:15 p		1.0	AMCMISO_IE_PLATE
					8.99E-03	1.00E+00		(2.7)	-		G	ALP42
Batch: 7179567	Work Order: J12RK1AD			Report DB ID: J12RK1DX								
AM-241	2.34E-02	U	3.5E-02	3.5E-02	6.17E-02	pCi/g	89%	0.38	7/3/07 10:18 p		1.03	AMCMISO_IE_PLATE
					1.76E-02	1.00E+00		(1.4)			G	ALP127
CM-243/244	3.92E-02	U	3.9E-02	4.0E-02	4.69E-02	pCi/g	89%	0.83	7/3/07 10:18 p		1.03	AMCMISO_IE_PLATE
					1.02E-02	1.00E+00		(2.)			G	ALP127

Number of Results: 4

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.

STL RICHLAND

FORM II

LCS RESULTS

Date: 19-Jul-07

Lab Name: TA Richland

SDG: J00115

Lot-Sample No.: #Error

Report No. : 35953

Matrix: SOIL

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	Analy Method, Primary Detector
Batch: 7166496	Work Order: J06JN1AC			Report DB ID: J06JN1AS									
HEXCHROME	1.68E+01			0.0E+00	3.50E-01	mg/kg	N/A	2.00E+01		84%	7/2/07	2.5	7196_CR6
							Rec Limits:	80.	120.	-0.2		G	

Number of Results: 1

Comments:

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

rptSTLRchLcs
V5.1.3 A2002

STL RICHLAND

FORM II

LCS RESULTS

Date: 19-Jul-07

Lab Name: TA Richland

SDG: J00115

Lot-Sample No.: J7F150000-489

Report No. : 35953

Matrix: SOIL

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	Analy Method, Primary Detector
Batch: 7166489	Work Order: J06HT1AC			Report DB ID: J06HT1CS									
CS-137	2.29E-01		4.0E-02	4.0E-02	2.86E-02	pCi/g		2.59E-01	1.2E-02	88%	6/19/07 11:48 a	457.79	GAMMA_GS
							Rec Limits:	70.	130.	-0.1		g	GER7$1
K-40	1.81E+01		2.3E+00	2.3E+00	2.07E-01	pCi/g		1.95E+01	1.9E+00	93%	6/19/07 11:48 a	457.79	GAMMA_GS
							Rec Limits:	70.	130.	-0.1		g	GER7$1
RA-226	9.66E-01		1.4E-01	1.4E-01	4.34E-02	pCi/g		1.15E+00	5.2E-02	84%	6/19/07 11:48 a	457.79	GAMMA_GS
							Rec Limits:	70.	130.	-0.2		g	GER7$1
RA-228	1.99E+00		2.9E-01	2.9E-01	8.70E-02	pCi/g		1.87E+00	9.6E-02	106%	6/19/07 11:48 a	457.79	GAMMA_GS
							Rec Limits:	70.	130.	0.1		g	GER7$1
U-238	1.02E+00		1.4E-01	1.4E-01	4.51E-02	pCi/g		1.05E+00	5.4E-02	97%	6/19/07 11:48 a	457.79	GAMMA_GS
							Rec Limits:	70.	130.	0.0		g	GER7$1

Number of Results: 5

Comments:

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

rptSTLRchLcs
V5.1.3 A2002

STL RICHLAND

FORM II

LCS RESULTS

Date: 19-Jul-07

Lab Name: TA Richland

SDG: J00115

Lot-Sample No.: J7F150000-494

Report No. : 35953

Matrix: SOIL

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	Analy Method, Primary Detector
Batch: 7166494	Work Order: J06JK1AC			Report DB ID: J06JK1CS									
NI-63	4.48E+02		7.7E+00	4.5E+01	5.36E+00	pCi/g	100.82%	6.05E+02	1.7E+00	74%	6/26/07 04:23 p	0.25	NI63_LSC
							Rec Limits:	70.	130.	-0.3		G	LSC3

Number of Results: 1

Comments:

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

rptSTLRchLcs
V5.1.3 A2002

STL RICHLAND

FORM II

LCS RESULTS

Date: 19-Jul-07

Lab Name: TA Richland

SDG: J00115

Lot-Sample No.: J7F150000-495

Report No. : 35953

Matrix: SOIL

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	Analy Method, Primary Detector
Batch: 7178189	Work Order: J06JL2AC			Report DB ID: J06JL2CS									
STRONTIUM	1.09E+00		1.5E-01	3.2E-01	1.66E-01	pCi/g	66.50%	1.15E+00	2.3E-02	95%	6/29/07 08:49 a	6.0	SRTOT_SEP_PRECIP
							Rec Limits:	70.	130.	0.0		G	GPC27D

Number of Results: 1

Comments:

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

rptSTLRchLcs
V5.1.3 A2002

STL RICHLAND

FORM II

LCS RESULTS

Date: 19-Jul-07

Lab Name: TA Richland **SDG:** J00115

Lot-Sample No.: J7F150000-497 **Report No. :** 35953 **Matrix:** SOIL

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	Analy Method, Primary Detector
Batch: 7166497	Work Order: J06JX1AC			Report DB ID: J06JX1CS									
H-3	2.63E+00		2.0E-01	2.5E-01	2.96E-01	pCi/g	100.00%	2.71E+00	8.1E-02	97%	6/19/07 11:26 p	5.0	906.0_H3_LSC
							Rec Limits:	70.	130.	0.0		G	LSC8

Number of Results: 1

Comments:

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

rptSTLRchLcs
V5.1.3 A2002

STL RICHLAND

FORM II

LCS RESULTS

Date: 19-Jul-07

Lab Name: TA Richland

SDG: J00115

Lot-Sample No.: J7F150000-498

Report No.: 35953

Matrix: SOIL

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	Analy Method, Primary Detector
Batch: 7166498	Work Order: J06J21AC			Report DB ID: J06J21CS									
C-14	7.63E+00		3.1E-01	1.1E+00	3.12E-01	pCi/g	100.00%	7.27E+00	2.4E-01	105%	6/19/07 06:40 p	5.0	C14_CHEM_LSC
							Rec Limits:	70.	-130.	0.0		G	LSC3

Number of Results: 1

Comments:

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

rptSTLRchLcs
V5.1.3 A2002

STL RICHLAND

FORM II

LCS RESULTS

Date: 19-Jul-07

Lab Name: TA Richland

SDG: J00115

Lot-Sample No.: J7F280000-563

Report No. : 35953

Matrix: SOIL

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	Analy Method, Primary Detector
Batch: 7179563	Work Order: J12QD1AC			Report DB ID: J12QD1CS									
U-234	3.49E+00		2.9E-01	6.6E-01	2.95E-02	pCi/g	95.32%	3.27E+00	1.8E-02	107%	7/3/07 03:03 p	1.0	UISO_IE_PLATE_AE
							Rec Limits:	70.	130.	0.1		G	ALP12
U-238	3.41E+00		2.9E-01	6.4E-01	2.95E-02	pCi/g	95.32%	3.42E+00	1.9E-02	100%	7/3/07 03:03 p	1.0	UISO_IE_PLATE_AE
							Rec Limits:	70.	130.	0.0		G	ALP12

Number of Results: 2

Comments:

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

rptSTLRchLcs
V5.1.3 A2002

STL RICHLAND

FORM II

LCS RESULTS

Date: 19-Jul-07

Lab Name: TA Richland

SDG: J00115

Lot-Sample No.: J7F280000-566

Report No. : 35953

Matrix: SOIL

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	Analy Method, Primary Detector
Batch: 7179566	Work Order: J12RD1AC			Report DB ID: J12RD1CS									
PU239/40	6.63E+00		5.2E-01	1.2E+00	4.97E-02	pCi/g	64.30%	6.87E+00	2.3E-01	96%	7/3/07 02:51 p	1.0	PUISO_IE_PLATE_A
							Rec Limits:	70.	130.	0.0		G	ALP44
Batch: 7179566	Work Order: J12RD1AE			Report DB ID: J12RD1EM									
PU239/40	6.03E+00		5.0E-01	1.0E+00	5.87E-02	pCi/g	63.02%	6.60E+00	2.2E-01	91%	7/3/07 02:54 p	1.04	PUISO_IE_PLATE_A
							Rec Limits:	70.	130.	-0.1		G	ALP128

Number of Results: 2

Comments:

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

rptSTLRchLcs
V5.1.3 A2002

STL RICHLAND

FORM II

LCS RESULTS

Date: 19-Jul-07

Lab Name: TA Richland

SDG: J00115

Lot-Sample No.: J7F280000-567

Report No. : 35953

Matrix: SOIL

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	Analy Method, Primary Detector
Batch: 7179567	Work Order: J12RK1AC			Report DB ID: J12RK1CS									
AM-241	1.06E+01		6.0E-01	1.9E+00	4.10E-02	pCi/g	115.59%	9.14E+00	2.9E-01	116%	7/3/07 10:15 p	1.0	AMCMISO_IE_PLATE
							Rec Limits:	70.	130.	0.2		G	ALP44
Batch: 7179567	Work Order: J12RK1AE			Report DB ID: J12RK1EM									
AM-241	8.05E+00		5.1E-01	1.3E+00	3.89E-02	pCi/g	101.43%	8.71E+00	2.7E-01	92%	7/3/07 10:18 p	1.04	AMCMISO_IE_PLATE
							Rec Limits:	70.	130.	-0.1		G	ALP128

Number of Results: 2

Comments:

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

rptSTLRchLcs
V5.1.3 A2002

STL RICHLAND

FORM II

MATRIX SPIKE RESULTS

Date: 19-Jul-07

Lab Name: TA Richland SDG: J00115

Lot-Sample No.: J7F140354-1, J15520 MS Report No. : 35953 Matrix: SOIL

Parameter	SpikeResult, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Rpt Unit, CRDL	Yield	Rec-overy	Exp-ected	Exp Uncert	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 7166496	Work Order: J02P11A0			Report DB ID: J02P11A0			Orig Sa DB ID: 9J02P110						
HEXCHROME	8.00E+00			0.0E+00	3.50E-01	mg/kg	N/A	78.97%	1.01E+01		7/2/07	2.5	7196_CR6
	3.50E-01											G	

Number of Results: 1

Comments:

TAL Richland
rptSTLRchMs
V5.1.3 A2002

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

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

7/6/2007 4:01:23 PM

Lot No., Due Date: J7F140354; 06/29/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7179566; RPUISO Pulso by ALP

SDG, Matrix: J00115; 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
6.6 Are worksheet entries complete and correct?	Yes ✓	No	N/A

.0 Comments on any No response:
NCM 10-10314

First Level Review [signature] Date 7/6/07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7179566

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: See NCM

Second Level Review: Cheryl A Adam Date: 7-9-07

Clouseau
Nonconformance Memo

STL

NCM #: 10-10314
NCM Initiated By: Lisa Antonson
Date Opened: 07/06/2007
Date Closed:

Classification: **Anomaly**
Status: **GLREVIEW**
Production Area: Environmental - Prep
Tests: Pulso by ALP
Lot #'s (Sample #'s): J7F140354 (1), J7F280000 (566),
QC Batches: 7179566,

Nonconformance: Other (describe in detail)
Subcategory: Other (explanation required)

Problem Description / Root Cause

Name	Date	Description
Lisa Antonson	07/06/2007	In this Pu batch, the sample had no recovery.

Corrective Action

Name	Date	Corrective Action
Lisa Antonson	07/06/2007	The batch was rerun with good results.

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

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

7/10/2007 10:43:36 AM

Lot No., Due Date: J7F140354; 06/29/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7179563; RUISO Also by ALP

SDG, Matrix: J00115; SOIL

1.0 COC

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

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet? Yes ✓ No N/A

2.2 Are the QC appropriate for the analysis included in the batch? Yes ✓ No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc? Yes ✓ No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample? Yes ✓ No N/A

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits? Yes ✓ No N/A

3.2 Is the LCS result, yield, and MDA within contract limits? Yes ✓ No N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits? Yes No N/A ✓

3.4 Are the duplicate result, yields, and MDAs within contract limits? Yes No ✓ N/A

3.5 Are the sample yields and MDAs within contract limits? Yes ✓ No N/A

4.0 Raw Data

4.1 Were results calculated in the correct units? Yes ✓ No N/A

4.2 Were analysis volumes entered correctly? Yes ✓ No N/A

4.3 Were Yields entered correctly? Yes No N/A ✓

4.4 Were spectra reviewed/meet contractual requirements? Yes ✓ No N/A

4.5 Were raw counts reviewed for anomalies? Yes ✓ No N/A

5.0 Other

5.1 Are all nonconformances included and noted? Yes ✓ No N/A

5.2 Are all required forms filled out? Yes ✓ No N/A

5.3 Was the correct methodology used? Yes ✓ No N/A

5.4 Was transcription checked? Yes ✓ No N/A

5.5 Were all calculations checked at a minimum frequency? Yes ✓ No N/A

5.6 Are worksheet entries complete and correct? Yes ✓ No N/A

5.0 Comments on any No response:
NCM 10-10336

First Level Review Ben Antonson Date 7/10/07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7179S63

Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis 1. Are the sample yields within acceptance criteria?	√	√ 7/1/7	
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: See NCR

Second Level Review: Erika Ford Date: 7/1/7

Clouseau
Nonconformance Memo

STL

NCM #: **10-10336**
NCM Initiated By: Lisa Antonson
Date Opened: 07/10/2007
Date Closed:

Classification: **Deficiency**
Status: **GLREVIEW**
Production Area: Environmental - Prep
Tests: Uiso by ALP
Lot #'s (Sample #'s): J7F140354 (1), J7F280000 (563),
QC Batches: 7179563,

Nonconformance: Other (describe in detail)
Subcategory: Other (explanation required)

Problem Description / Root Cause

Name	Date	Description
Lisa Antonson	07/10/2007	This is a rerun of Uiso batch 7166493. The original batch had no tracer recovery in the sample. The dup on the rerun batch has a tracer recovery of 19%. The sample results are below CRDL. The client was contacted and will accept the 19%.

Corrective Action

Name	Date	Corrective Action
Lisa Antonson	07/10/2007	The samples were rerun, and the technician was alerted to the missed tracer.

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

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

7/6/2007 3:56:06 PM

Lot No., Due Date: J7F140354; 06/29/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7179567; RAMCMISO AmCmIso by ALP

SDG, Matrix: J00115; 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?	✓		

5.0 Comments on any No response:
NCM 10-10313

First Level Review Lisa Antonson **Date** 7/6/07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7179567

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: See NCM

Second Level Review: Sheryl A Adam Date: 7-9-07

Clouseau
Nonconformance Memo

STL

NCM #: 10-10313
NCM Initiated By: Lisa Antonson
Date Opened: 07/06/2007
Date Closed:

Classification: **Anomaly**
Status: **GLREVIEW**
Production Area: Environmental - Prep
Tests: AmCmIso by ALP
Lot #'s (Sample #'s): J7F140354 (1), J7F280000 (567),
QC Batches: 7179567,

Nonconformance: Other (describe in detail)
Subcategory: Other (explanation required)

Problem Description / Root Cause

Name	Date	Description
Lisa Antonson	07/06/2007	This Am batch is a rerun of batch 7166492. There was no recovery at all in the sample.

Corrective Action

Name	Date	Corrective Action
Lisa Antonson	07/06/2007	The batch was rerun with good results.

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

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

6/29/2007 3:58:06 PM

Lot No., Due Date: J7F140354; 06/29/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7178189; RSRTOT SrTot by GPC

SDG, Matrix: J00115; 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:
NCM 10-10269

First Level Review Lisa Autonson **Date** 6/29/07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7178189

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: [signature] Date: 7/3/07

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

Clouseau
Nonconformance Memo

STL

NCM #: 10-10269
NCM Initiated By: Lisa Antonson
Date Opened: 06/29/2007
Date Closed:

Classification: **Anomaly**
Status: **GLREVIEW**
Production Area: Environmental - Sep
Tests: SrTot by GPC
Lot #'s (Sample #'s): J7F140354 (1), J7F150000 (495),
QC Batches: 7178189,

Nonconformance: Other (describe in detail)
Subcategory: Other (explanation required)

Problem Description / Root Cause

Name	Date	Description
Lisa Antonson	06/29/2007	During processing, the centrifuge malfunctioned spilling the samples inside. Samples were lost

Corrective Action

Name	Date	Corrective Action
Lisa Antonson	06/29/2007	A rerun was initiated and the centrifuge was taken out of service until it can be fixed.

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

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

6/22/2007 3:30:29 PM

Lot No., Due Date: J7F140354; 06/29/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7166489; RGAMMA Gamma by GER

SDG, Matrix: J00115; 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

0 Comments on any No response:
NCM 10-10209

First Level Review [signature] Date 6/22/07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7166489

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: See NCM

Second Level Review: Sheryl A. Adam Date: 6-25-07

Clouseau
Nonconformance Memo

STL

NCM #: 10-10209
NCM Initiated By: Lisa Antonson
Date Opened: 06/22/2007
Date Closed:

Classification: **Anomaly**
Status: **GLREVIEW**
Production Area: Environmental - Prep
Tests: Gamma by GER
Lot #'s (Sample #'s): J7F140354 (1), J7F150000 (489),
QC Batches: 7166489,

Nonconformance: Other (describe in detail)
Subcategory: Other (explanation required)

Problem Description / Root Cause

Name	Date	Description
Lisa Antonson	06/22/2007	In this soil Gamma there was not enough sample to prepare a duplicate. The sample was recounted on a different detector.

Corrective Action

Name	Date	Corrective Action
Lisa Antonson	06/22/2007	NA

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

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

6/25/2007 7:48:49 AM

Lot No., Due Date: J7F140354; 06/29/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7166498; RC14 C-14 by LSC

SDG, Matrix: J00115; 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

.0 Comments on any No response:

First Level Review [signature] Date 6-25-7

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

OC Batch Number: 7106498 ~~7106489~~ 6/27/7

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: Erika Jordan Date: 6/27/7

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

7/13/2007 10:37:37 AM

Lot No., Due Date: J7F140354; 06/29/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7166494; RNI63 Ni-63 by LSC

SDG, Matrix: J00115; SOIL

1.0 COC

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

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet? Yes ✓ No N/A

2.2 Are the QC appropriate for the analysis included in the batch? Yes ✓ No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc? Yes ✓ No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample? Yes ✓ No N/A

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits? Yes ✓ No N/A

3.2 Is the LCS result, yield, and MDA within contract limits? Yes No ✓ N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits? Yes No N/A ✓

3.4 Are the duplicate result, yields, and MDAs within contract limits? Yes ✓ No N/A

3.5 Are the sample yields and MDAs within contract limits? Yes ✓ No N/A

4.0 Raw Data

4.1 Were results calculated in the correct units? Yes ✓ No N/A

4.2 Were analysis volumes entered correctly? Yes ✓ No N/A

4.3 Were Yields entered correctly? Yes ✓ No N/A

4.4 Were spectra reviewed/meet contractual requirements? Yes No N/A ✓

4.5 Were raw counts reviewed for anomalies? Yes ✓ No N/A

5.0 Other

5.1 Are all nonconformances included and noted? Yes ✓ No N/A

5.2 Are all required forms filled out? Yes ✓ No N/A

5.3 Was the correct methodology used? Yes ✓ No N/A

5.4 Was transcription checked? Yes ✓ No N/A

5.5 Were all calculations checked at a minimum frequency? Yes ✓ No N/A

5.6 Are worksheet entries complete and correct? Yes ✓ No N/A

5.0 Comments on any No response:
NCM 10-10368

First Level Review Lisa Autonson Date 7/13/07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7166494

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

Comments on any "No" response:

Second Level Review: Jodie C Date: 7/16/07

Clouseau Nonconformance Memo

STL

NCM #: 10-10368
NCM Initiated By: Lisa Antonson
Date Opened: 07/13/2007
Date Closed:

Classification: **Anomaly**
Status: **GLREVIEW**
Production Area: Environmental - Prep
Tests: Ni-63 by LSC
Lot #'s (Sample #'s): J7F140354 (1), J7F150000 (494),
QC Batches: 7166494,

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

Problem Description / Root Cause

Name	Date	Description
Lisa Antonson	07/13/2007	In this Ni-63 batch, the LCS was recovered low at 74%. A recount confirmed the recovery. The client was contacted and will accept the 74%.

Corrective Action

Name	Date	Corrective Action
Lisa Antonson	07/13/2007	None at this time, will monitor.

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: 7/13/2007

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

6/22/2007 7:22:36 AM

Lot No., Due Date: J7F140354; 06/29/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7166497; RTRITIUM H-3 by LSC

SDG, Matrix: J00115; SOIL

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

5.0 Comments on any No response:

First Level Review [signature] Date 6-22-7

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7160497

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: Erika Fowler Date: 6/27/07

SEVERN TRENT STL

Richland Laboratory
Data Review Check List
Hexavalent Chromium

Work Order Number(s): **J06JN, J02P1**

Lab Sample Numbers or SDG: **J00015**

Method/Test/Parameter: **Cr+6 in SOLID / RICH-WC-5003, Rev 7**

Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level Review (✓)
A. Initial Calibration				
1. Performed at required frequency with required number of levels?	✓			✓
2. Correlation coefficient within QC limits?	✓			✓
3. Initial calibration verification (ICV) analyzed immediately after calibration and results within QC limits?	✓			✓
4. Initial calibration blank (ICB) analyzed immediately after ICV and concentrations of all parameters ≤ reporting limit?	✓			✓
B. Continuing Calibration				
1. CCV analyzed at required frequency and all parameters within QC limits?	✓			✓
2. CCB analyzed at required frequency and all results ≤ reporting limit?	✓			✓
C. Sample Analysis				
1. Were any samples with concentrations above the linear range for any parameter diluted and reanalyzed?	✓			✓
2. Were all sample holding times met?	✓			✓
D. QC Samples				
1. All results for the preparation blank below limits?	✓			✓
2. MS or MS/MSD recoveries within QC limits and %RPD (for MSD) acceptable?	✓			✓
3. LCS percent recovery within QC limits and %RPD (for LCSD) acceptable?	✓			✓
4. Analytical spikes within QC limits where applicable?			✓	✓
5. ICP only: One serial dilution performed per SDG?			✓	✓
6. ICP only: CRDL standard (CRI or CRA) analyzed at required frequency?			✓	✓
7. ICP only: Interference check samples (ICSA, ICSAB) and HICAL analyzed at the required frequencies and within QC limits?			✓	✓

Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level Review (✓)
E. Other	✓			
1. Are all nonconformances included and noted?				✓
2. Is the correct date and time of analysis shown?	✓			✓
3. Did the analyst sign and date the front page of the analytical run?	✓			✓
4. Correct methodology used?	✓			✓
5. Transcriptions checked?	✓			✓
6. Calculations checked at minimum frequency?	✓			✓
7. Units checked?	✓			✓

Comments on any "No" response

Analyst: [signature] Date: 7/3/07

Second-Level Review: [signature] Date: 7-18-07

J15 14053-7 J00113 Rec'd 06 [illegible]

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-119	Page 1 of 1

Collector: Coffman/DeBuigne	Company Contact: R.T. Coffman	Telephone No.: 528-6409	Project Coordinator: KESSNER, JH
Price Code: 8F	Data Turnaround: 7DAY		
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 118-F-8:4 FSB Verification/Shallow Zone		SAF No.: RC-032
Ice Chest No.: NA	Field Logbook No.: EFL-1174-2	COA: R118F82000	Method of Shipment: ~~FED EX~~ Gov-vch. 6-14-07
Shipped To: Severn Trent Incorporated, Richland	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

SAMPLE ANALYSIS J02P1

Sample No.	Matrix *	Sample Date	Sample Time	See item (1) in Special Instructions. RK 6/13/07	Chromium Hex - 7196	PCBs - 8082 RK 6/13/07	See item (2) in Special Instructions.	Carbon-14; Tritium - H3	Nickel-63; Strontium-89,90 – Total Sr	Isotopic Plutonium	Isotopic Uranium	Americium-241/Curium-244 (Americium-241, Curium-244)	
Preservation				None	Cool 4C	Cool 4C	None	None	None	None	None	None	
Type of Container				P	P	aG	P	P	P	P	P	P	
No. of Container(s)				1	1	1	1	1	1	1	1	1	
Volume				125mL	125mL	50mL	500mL	125mL	125mL	125mL	125mL	125mL	
J15520	SOIL	6/13/07	0850		X		X	X	X	X	X	X	S-A1

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
RT Coffman / RT Coffman	6/13/07 1515	Receiver #3C, 3728	6/13/07 1515
Receiver #3C 3728	6-14-07 1400	KM Singleton	6-14-07 1400
KM Singleton	6-14-07 1440	S. Smith / S. Smith	06 14 07 1440

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} ADD Ba-133

Sample unavailable to relinquish sample from Refer #3C. Samples removed from refer #3 by KMSingleton on 6-14-07 @ 1440 hrs.

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

STL RICHLAND

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SEVERN TRENT STL

Sample Check-in List

Date/Time Received: 06-14-07 1440

Client: WCH SDG #: J00115 NA [ ] SAF #: RC-032 NA [ ]

Work Order Number: J7F140354 Chain of Custody # _____

Shipping Container ID: _____ Air Bill # _____

1. Custody Seals on shipping container intact? NA [ ] Yes [✓] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [✓] No [ ]
3. Chain of Custody record present? Yes [✓] No [ ]
4. Cooler temperature: _____ NA [✓] 5. Vermiculite/packing materials is NA [✓] Wet [ ] Dry [ ]
6. Number of samples in shipping container: 1
7. Sample holding times exceeded? NA [✓] Yes [ ] No [ ]
8. Samples have:
   _____tape
   _____custody seals
   _____hazard labels
   1 appropriate samples labels
9. Samples are:
   1 in good condition
   _____broken
   _____leaking
   _____have air bubbles
   (Only for samples requiring head space)
10. Sample pH taken? NA [✓] Soil 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: S. Smith Date: 06-14-07

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

SEVERN TRENT STL

*** RE-ANALYSIS REQUEST ***

DUE DATE 11/29/07

CUSTOMER WCH

ANALYSIS Pu

MATRIX Soil

LOT NUMBER J7F110351

SAMPLE DELIVERY GROUP

OLD BATCH NUMBER 7110U91

NEW BATCH NUMBER

LAB SAMPLE ID	REASON FOR REQUEST & ANALYSIS COMMENTS
1) all	NO tracer yield in sample
2)	
3)	
4)	
5)	
6)	
7)	
8)	
9)	
10)	
11)	
12)	
13)	
14)	
15)	
16)	
17)	
18)	
19)	
20)	
LAB QC ID	Assigned with new batch.

RC-048, 10/03, Rev 7

STL RICHLAND

7/1/2007 7:01:57 AM

STL RICHLAND

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

Sample Preparation/Analysis

7I PuAmCm PrpRC5013/RC5019, ~~SepRC5080(5003)/RC5010~~(5039)
SO Plutonium-238,239/40 by Alpha Spec
5I CLIENT: HANFORD

Balance Id:1120373922
Pipet #:

AnalyDueDate: 06/29/2007

Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech: ,WoodT

Batch: 7179566 SOIL pCi/g PM, Quote: SS , 27038
SEQ Batch, Test: 7166492, 7ISN 7166492, 7ISN 7179567, 7ISN 7179567, 7ISN

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 J02P1-2-AQ J7F140354-1-SAMP 06/13/2007 08:50		1.02g,in AmtRec: 6X125ML,500G	PATB4394 06/20/07,pd 03/13/07,r #Containers: 7	200		Scr:	Alpha:	Beta:
2 J02P1-2-AT-X J7F140354-1-DUP 06/13/2007 08:50		1.00g,in AmtRec: 6X125ML,500G	PATB4395 06/20/07,pd 03/13/07,r #Containers: 7			Scr:	Alpha:	Beta:
3 J12RD-1-AA-B J7F280000-566-BLK 06/13/2007 08:50		1.00g,in AmtRec:	PATB4396 06/20/07,pd 03/13/07,r #Containers: 1			Scr:	Alpha:	Beta:
4 J12RD-1-AC-C J7F280000-566-LCS 06/13/2007 08:50		1.00g,in AmtRec:	PASI0175 06/28/07,pd 03/13/07,r #Containers: 1			Scr:	Alpha:	Beta:
5 J12RD-1-AD-BX J7F280000-566-MBLK 06/13/2007 08:50		1.03g,in AmtRec:	PATB4397 06/28/07,pd 03/13/07,r #Containers: 1			Scr:	Alpha:	Beta:
6 J12RD-1-AE-CM J7F280000-566-MLCS 06/13/2007 08:50		1.04g,in AmtRec:	PASI0176 06/28/07,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: 6
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep_SamplePrep v4.8.26

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STL RICHLAND

Sample Preparation/Analysis

7I PuAmCm PrpRC5013/RC5019, SepRC5080(5003)/RC5010(5039)
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

AnalyDueDate: 06/29/2007

Batch: 7179566 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:

Comments: Samples have been muffled & bomixed 7/1/07 JSN

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

J02P12AQ-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						
J12RD1AA-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						
J12RD1AC-LCS:											
PU-239	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	Pu-242	RDL:	pCi/g	LCL:20	UCL:105	RPD:35
J12RD1AD-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						
J12RD1AE-MLCS:											
PU-239	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	Pu-242	RDL:	pCi/g	LCL:20	UCL:105	RPD:35

J02P12AQ-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J12RD1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J12RD1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J12RD1AD-MBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J12RD1AE-MLCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

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7/6/2007 4:00:19 PM

ICOC Fraction Transfer/Status Report

ByDate: 7/6/2006, 7/11/2007, Batch: '7179566', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7179566						
AC		CalcC	WoodT	6/29/2007 10:06:28		
SC			antonsonl	IsBatched	6/28/2007 4:19:50 PM	ICOC_RADCALC v4.8.26
SC			WoodT	InPrep	6/29/2007 10:06:28 AM	RICH-RC-5013 REVISION 7
SC			WoodT	Prep1C	7/1/2007 7:13:38 AM	RICH-RC-5013 REVISION 7
SC			WoodT	InPrep2	7/1/2007 7:14:26 AM	RICH-RC-5019 REVISION 6
SC			WoodT	Prep2C	7/1/2007 7:14:54 AM	RICH-RC-5019 REVISION 6
SC			HarveyK	Sep1C	7/2/2007 8:00:35 PM	RICH-RC-5087 REV1
SC			HarveyK	Sep2C	7/3/2007 12:38:02 PM	RICH-RC-5039 REV5
SC			BlackCL	InCnt1	7/3/2007 12:42:00 PM	RICH-RD-0008 REVISION 4
SC			DAWKINSO	CalcC	7/3/2007 5:36:31 PM	RICH-RD-0008 REVISION 4
AC			WoodT	7/1/2007 7:13:38 AM		
AC			WoodT	7/1/2007 7:14:26 AM		
AC			WoodT	7/1/2007 7:14:54 AM		
AC			HarveyK	7/2/2007 8:00:35 PM		
AC			HarveyK	7/3/2007 12:38:02 PM		
AC			BlackCL	7/3/2007 12:42:00 PM		
AC			DAWKINSO	7/3/2007 5:36:31 PM		

AC: Accepting Entry, SC: Status Change

SEVERN TRENT STL

*** RE-ANALYSIS REQUEST ***

DUE DATE 6/29/07

CUSTOMER WCH

ANALYSIS Uiso

MATRIX Soil

LOT NUMBER JTF140352

SAMPLE DELIVERY GROUP

OLD BATCH NUMBER 7146496 (MA 6/28/07) 7146493

NEW BATCH NUMBER 7179563

LAB SAMPLE ID	REASON FOR REQUEST & ANALYSIS COMMENTS
1) all	No tracer recovery on SA
2)	
3)	
4)	
5)	
6)	
7)	
8)	
9)	
10)	
11)	
12)	
13)	
14)	
15)	
16)	
17)	
18)	
19)	
20)	
LAB QC ID	Assigned with new batch.

7/2/2007 6:40:05 AM

Sample Preparation/Analysis

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

7S Uiso PrpRC5013/RC5019, ~~SepRC5079~~(5039) 5086/5086 KH 7/2/07 per J.C.
SR Uranium-234,235,238 by Alpha Spec
5I CLIENT: HANFORD

Balance Id:1120373922
Pipet #:

AnalyDueDate: 06/29/2007

Sep1 DT/Tm Tech:

Batch: 7179563 SOIL pCi/g PM, Quote: SS , 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None All Tests: 7166489 AXTA, 7166490 88OV, 7166491 7ISO, 7166492 7ISN, 7166493 7SSR, 7166494 AFS4, 7166495 CHTH, 7166496 DWEA, 7166497 ATS6, 7166498 5SS3, 7178189 CHTH, 7179563 7SSR, 7179566 7ISO, 7179567 7ISN

Prep Tech: ,WoodT

STL RICHLAND

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 J02P1-2-AC J7F140354-1-SAMP 06/13/2007 08:50	AmtRec: 6X125ML,500G	1.03g,in	UITC17590 06/19/07,pd 01/20/04,r #Containers: 7	200		Scr:	Alpha:	Beta:
2 J02P1-2-AV-X J7F140354-1-DUP 06/13/2007 08:50	AmtRec: 6X125ML,500G	1.04g,in	UITC17591 06/19/07,pd 01/20/04,r #Containers: 7			Scr:	Alpha:	Beta:
3 J12QD-1-AA-B J7F280000-563-BLK 06/13/2007 08:50	AmtRec:	1.00g,in	UITC17592 06/19/07,pd 01/20/04,r #Containers: 1			Scr:	Alpha:	Beta:
4 J12QD-1-AC-C J7F280000-563-LCS 06/13/2007 08:50	AmtRec:	1.00g,in	UISH0503 05/29/07,pd 01/20/04,r #Containers: 1			Scr:	Alpha:	Beta:

Comments: Samples have been muffled, bombed & crushed 7/2/07 JGN

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

J02P12AC-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:

J12QD1AA-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:

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Sample Preparation/Analysis

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

Balance Id:1120373922
Pipet #:

AnalyDueDate: 06/29/2007

Sep1 DT/Tm Tech:

Batch: 7179563 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:

J12QD1AC-LCS:
U-232 RDL: pCi/g LCL:20 UCL:105 RPD:35 Uranium RDL: pCi/g LCL:70 UCL:130 RPD:35

J02P12AC-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J12QD1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J12QD1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

STL RICHLAND

7/10/2007 10:42:41 AM

ICOC Fraction Transfer/Status Report

ByDate: 7/10/2006, 7/15/2007, Batch: '7179563', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7179563						
AC		CalcC	WoodT	6/29/2007 10:06:36		
SC			antonsonl	IsBatched	6/28/2007 4:19:50 PM	ICOC_RADCALC v4.8.26
SC			WoodT	InPrep	6/29/2007 10:06:36 AM	RICH-RC-5013 REVISION 7
SC			WoodT	Prep1C	7/1/2007 7:13:30 AM	RICH-RC-5013 REVISION 7
SC			WoodT	InPrep2	7/1/2007 7:14:34 AM	RICH-RC-5019 REVISION 6
SC			WoodT	Prep2C	7/1/2007 7:15:00 AM	RICH-RC-5019 REVISION 6
SC			HarveyK	Sep1C	7/2/2007 8:01:00 PM	RICH-RC-5067 REV8
SC			HarveyK	Sep2C	7/3/2007 12:38:22 PM	RICH-RC-5039 REV5
SC			BlackCL	InCnt1	7/3/2007 12:42:12 PM	RICH-RD-0008 REVISION 4
SC			DAWKINSO	CalcC	7/3/2007 5:36:37 PM	RICH-RD-0008 REVISION 4
SC			DAWKINSO	CalcC	7/6/2007 6:59:06 PM	RICH-RD-0008 REVISION 4
AC			WoodT	7/1/2007 7:13:30 AM		
AC			WoodT	7/1/2007 7:14:34 AM		
AC			WoodT	7/1/2007 7:15:00 AM		
AC			HarveyK	7/2/2007 8:01:00 PM		
AC			HarveyK	7/3/2007 12:38:22 PM		
AC			BlackCL	7/3/2007 12:42:12 PM		
AC			DAWKINSO	7/3/2007 5:36:37 PM		
AC			DAWKINSO	7/6/2007 6:59:06 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 9

ICOCFractions v4.8.27

SEVERN TRENT STL

*** RE-ANALYSIS REQUEST ***

DUE DATE 4/29/07

CUSTOMER WCH

ANALYSIS Am

MATRIX Soil

LOT NUMBER J7F140352

SAMPLE DELIVERY GROUP

OLD BATCH NUMBER 7146492

NEW BATCH NUMBER

LAB SAMPLE ID	REASON FOR REQUEST & ANALYSIS COMMENTS
1) all	Sample has no tracer
2)	recovery.
3)	
4)	
5)	
6)	
7)	
8)	
9)	
10)	
11)	
12)	
13)	
14)	
15)	
16)	
17)	
18)	
19)	
20)	
LAB QC ID	Assigned with new batch.

RC-048, 10/03, Rev 7

STL RICHLAND

7/1/2007 7:02:05 AM

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AnalyDueDate: 06/29/2007

Sample Preparation/Analysis

500 kit 7/2 per J.C.

7I PuAmCm PrpRC5013/RC5019, ~~SepRC5000~~(5003)/~~RC5010(5030)~~
SN Americium-241 and Curium-242,243,244 by Alpha Spec
5I CLIENT: HANFORD

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

Batch: 7179567 SOIL pCi/g **PM, Quote: SS , 27038**
SEQ Batch, Test: 7166491, 7ISO 7166491, 7ISO 7179566, 7ISO 7179566, 7ISO

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:
39 1 J02P1-2-AP J7F140354-1-SAMP 06/13/2007 08:50	AmtRec: 6X125ML,500G	1.02g,in #Containers: 7	PATB4394 06/20/07,pd 03/13/07,r	200		Scr:	Alpha:	Beta:
40 2 J02P1-2-AU-X J7F140354-1-DUP 06/13/2007 08:50	AmtRec: 6X125ML,500G	1.00g,in #Containers: 7	PATB4395 06/20/07,pd 03/13/07,r			Scr:	Alpha:	Beta:
42 3 J12RK-1-AA-B J7F280000-567-BLK 06/13/2007 08:50	AmtRec:	1.00g,in #Containers: 1	PATB4396 06/20/07,pd 03/13/07,r			Scr:	Alpha:	Beta:
44 4 J12RK-1-AC-C J7F280000-567-LCS 06/13/2007 08:50	AmtRec:	1.00g,in #Containers: 1	PASI0175 06/28/07,pd 03/13/07,r			Scr:	Alpha:	Beta:
121 5 J12RK-1-AD-BX J7F280000-567-MBLK 06/13/2007 08:50	AmtRec:	1.03g,in #Containers: 1	PATB4397 06/28/07,pd 03/13/07,r			Scr:	Alpha:	Beta:
128 6 J12RK-1-AE-CM J7F280000-567-MLCS 06/13/2007 08:50	AmtRec:	1.04g,in #Containers: 1	PASI0176 06/28/07,pd 03/13/07,r			Scr:	Alpha:	Beta:

71

7/1/2007 7:02:07 AM

Sample Preparation/Analysis

7I PuAmCm PrpRC5013/RC5019, SepRC5080(5003)/RC5010(5039)
SN Americium-241 and Curium-242,243,244 by Alpha Spec
5I CLIENT: HANFORD

Balance Id:1120373922
Pipet #: _____

AnalyDueDate: 06/29/2007

Sep1 DT/Tm Tech:

Batch: 7179567 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	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:

Comments:

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

J02P12AP-SAMP Constituent List:

Am-241	RDL:1.00E+00	pCi/g	LCL:70	UCL:130	RPD:35	AM-243	RDL:	pCi/g	LCL:20	UCL:105	RPD:35
Cm-242	RDL:1.00E+00	pCi/g	LCL:	UCL:	RPD:	Cm-244	RDL:1.00E+00	pCi/g	LCL:	UCL:	RPD:

J12RK1AA-BLK:

Am-241	RDL:1.00E+00	pCi/g	LCL:	UCL:	RPD:	AM-243	RDL:	pCi/g	LCL:20	UCL:105	RPD:35
Cm-242	RDL:1.00E+00	pCi/g	LCL:	UCL:	RPD:	Cm-244	RDL:1.00E+00	pCi/g	LCL:	UCL:	RPD:

J12RK1AC-LCS:

Am-241	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	AM-243	RDL:	pCi/g	LCL:20	UCL:105	RPD:35

J12RK1AD-MBLK:

Am-241	RDL:1.00E+00	pCi/g	LCL:	UCL:	RPD:	AM-243	RDL:	pCi/g	LCL:20	UCL:105	RPD:35
Cm-242	RDL:1.00E+00	pCi/g	LCL:	UCL:	RPD:	Cm-244	RDL:1.00E+00	pCi/g	LCL:	UCL:	RPD:

J12RK1AE-MLCS:

Am-241	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	AM-243	RDL:	pCi/g	LCL:20	UCL:105	RPD:35

J02P12AP-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J12RK1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J12RK1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J12RK1AD-MBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J12RK1AE-MLCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

7/6/2007 3:54:38 PM

ICOC Fraction Transfer/Status Report

ByDate: 7/6/2006, 7/11/2007, Batch: '7179567', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7179567						
AC		CalcC	WoodT	6/29/2007 10:06:19		
SC			antonsonl	IsBatched	6/28/2007 4:19:50 PM	ICOC_RADCALC v4.8.26
SC			WoodT	InPrep	6/29/2007 10:06:19 AM	RICH-RC-5013 REVISION 7
SC			WoodT	Prep1C	7/1/2007 7:13:17 AM	RICH-RC-5013 REVISION 7
SC			WoodT	InPrep2	7/1/2007 7:13:56 AM	RICH-RC-5019 REVISION 6
SC			WoodT	Prep2C	7/1/2007 7:14:48 AM	RICH-RC-5019 REVISION 6
SC			HarveyK	Sep1C	7/2/2007 8:00:48 PM	RICH-RC-5087 REV1
SC			NortonJ	InEd	7/3/2007 1:44:18 PM	RICHRC5003 REV 7
SC			BlackCL	InCnt1	7/3/2007 1:54:23 PM	RICH-RD-0008 REVISION 4
SC			DAWKINSO	InCnt1	7/3/2007 6:45:01 PM	RICH-RD-0008 REVISION 4
SC			DAWKINSO	CalcC	7/4/2007 10:20:58 AM	RICH-RD-0008 REVISION 4
AC			WoodT	7/1/2007 7:13:17 AM		
AC			WoodT	7/1/2007 7:13:56 AM		
AC			WoodT	7/1/2007 7:14:48 AM		
AC			HarveyK	7/2/2007 8:00:48 PM		
AC			NortonJ	7/3/2007 1:44:18 PM		
AC			BlackCL	7/3/2007 1:54:23 PM		
AC			DAWKINSO	7/3/2007 6:45:01 PM		
AC			DAWKINSO	7/4/2007 10:20:58		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 9

ICOCFractions v4.8.27

SEVERN TRENT STL

*** RE-ANALYSIS REQUEST ***

DUE DATE 6-29-7

CUSTOMER CLOSURE

ANALYSIS F_{Sr}

MATRIX SOIL

LOT NUMBER J7F140354

SAMPLE DELIVERY GROUP

OLD BATCH NUMBER 7166495

NEW BATCH NUMBER 7178189

LAB SAMPLE ID	REASON FOR REQUEST & ANALYSIS COMMENTS
1)	
2) ALL	CENTRFUGE FAILURE
3)	
4)	
5)	
6)	
7)	
8)	
9)	
10)	
11)	
12)	
13)	
14)	
15)	
16)	
17)	
18)	
19)	
20)	
LAB QC ID	Assigned with new batch.

RC-048, 10/03, Rev 7

STL RICHLAND

6/28/2007 6:57:41 PM

Sample Preparation/Analysis

Balance Id:1120421763,112037392214 A

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

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

Pipet #: _____

AnalyDueDate: 06/29/2007

Sep1 DT/Tm Tech: 06/28/2007 17:34,ManisD

Batch: 7178189 SOIL pCi/g PM, Quote: SS , 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,WoodT

STL RICHLAND

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 (24hr) Off Circle	CR Analyst, Init/Date	Comments:
1 J02P1-2-AD J7F140354-1-SAMP		6.01g,in	SRTA16894 05/31/07,pd 05/22/07,r	1.5	71.9	50	27a	0914	6/29/07	
06/13/2007 08:50		AmtRec: 6X125ML,500G	#Containers: 7		06/28/2007 17:34,s1		Scr:	Alpha:		Beta:
2 J02P1-2-AX-X J7F140354-1-DUP		6.00g,in	SRTA16895 05/31/07,pd 05/22/07,r	1.5	72.9	50	27b			
06/13/2007 08:50		AmtRec: 6X125ML,500G	#Containers: 7		06/28/2007 17:34,s1		Scr:	Alpha:		Beta:
3 J06JL-2-AA-B J7F150000-495-BLK		6.00g,in	SRTA16896 05/31/07,pd 05/22/07,r	1.5	63	50	27c			
06/13/2007 08:50		AmtRec:	#Containers: 1		06/28/2007 17:34,s1		Scr:	Alpha:		Beta:
4 J06JL-2-AC-C J7F150000-495-LCS		6.00g,in	STSB1219 05/31/07,pd 05/22/07,r	1.5	66.5	50	27d			
06/13/2007 08:50		AmtRec:	#Containers: 1		06/28/2007 17:34,s1		Scr:	Alpha:		Beta:

Comments:

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

J02P12AD-SAMP Constituent List:
  Sr-90       RDL:1        pCi/g     LCL:70     UCL:130    RPD:35
J06JL2AA-BLK:
  Sr-90       RDL:1        pCi/g     LCL:       UCL:       RPD:
J06JL2AC-LCS:
  Sr-90       RDL:1        pCi/g     LCL:70     UCL:130    RPD:35
J02P12AD-SAMP Calc Info:
```

Sample Preparation/Analysis

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

Balance Id:1120421763,112037392214 A
Pipet #: _____

AnalyDueDate: 06/29/2007

Sep1 DT/Tm Tech: 06/28/2007 17:34,ManisD

Batch: 7178189 pCi/g
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,WoodT

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

Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J06JL2AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J06JL2AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

STL RICHLAND

6/29/2007 3:57:31 PM

ICOC Fraction Transfer/Status Report

ByDate: 6/29/2006, 7/4/2007, Batch: '7178189', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7178189						
AC		CalcC	WoodT	6/27/2007 9:19:20		
SC			nortonj	IsBatched	6/27/2007 8:33:51 AM	ICOC_RADCALC v4.8.26
SC			WoodT	InPrep	6/27/2007 9:19:20 AM	RICH-RC-5013 REVISION 7
SC			WoodT	Prep1C	6/27/2007 9:19:49 AM	RICH-RC-5013 REVISION 7
SC			ManisD	InSep1	6/28/2007 6:36:47 AM	RICH-RC-5006 REV 7
SC			DAWKINSO	InCnt1	6/28/2007 7:21:05 PM	RICH-RD-0003 REVISION 5
SC			StringerR	CalcC	6/29/2007 11:14:49 AM	RICH-RD-0003 REVISION 5
AC			WoodT	6/27/2007 9:19:49		
AC			ManisD	6/28/2007 6:36:47		
AC			DAWKINSO	6/28/2007 7:21:05 PM		
AC			StringerR	6/29/2007 11:14:49		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 5

ICOCFractions v4.8.27

STL RICHLAND

6/19/2007 10:10:44 AM

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AnalyDueDate: 06/29/2007

Sample Preparation/Analysis

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

PRIORITY

Balance Id:1120421763

Pipet #: _____

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: ,WoodT

Batch: 7166489 SOIL pCi/g PM, Quote: SS , 27038
SEQ Batch, Test: None

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 J02P1-1-AN J7F140354-1-SAMP 06/13/2007 08:50	AmtRec: 6X125ML,500G	806.20g,in		#Containers: 7	SMA	200	16	1507	6/19/07	Scr: Alpha: Beta:
2 J02P1-1-AR-X * see comments J7F140354-1-DUP 06/13/2007 08:50	AmtRec: 6X125ML,500G			#Containers: 7			68	1637	6/19/07	Scr: Alpha: Beta:
3 J06HT-1-AA-B J7F150000-489-BLK 06/13/2007 08:50	AmtRec:	859.27g,in	CAL827	#Containers: 1	SMA		68	1508	6/19/07	Scr: Alpha: Beta:
4 J06HT-1-AC-C J7F150000-489-LCS 06/13/2007 08:50	AmtRec:	457.79g,in	CAL816 01/01/03,pd 01/01/02,r	#Containers: 1	MA		67	1508		Scr: Alpha: Beta:

Comments: Not enough sample for dup. Please recount on a separate detector. 6/19/07 JGW

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

J02P11AN-SAMP Constituent List:

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

J06HT1AA-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:

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Sample Preparation/Analysis

PRIORITY

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

Balance Id:1120421763
Pipet #: _____

AnalyDueDate: 06/29/2007

Sep1 DT/Tm Tech:

Batch: 7166489 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:

Eu-154	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:	Eu-155	RDL:1.00E-01	pCi/g	LCL:	UCL:	RPD:
J06HT1AC-LCS:											
Cs-137	RDL:0.1	pCi/g	LCL:70	UCL:130	RPD:35	Cs-137DA	RDL:0.1	pCi/g	LCL:70	UCL:130	RPD:35
K-40	RDL:--	pCi/g	LCL:70	UCL:130	RPD:35	Ra-226	RDL:0.1	pCi/g	LCL:70	UCL:130	RPD:35
RA-228	RDL:0.2	pCi/g	LCL:70	UCL:130	RPD:35	RA-228DA	RDL:0.2	pCi/g	LCL:70	UCL:130	RPD:35
U-238	RDL:	pCi/g	LCL:70	UCL:130	RPD:35						

J02P11AN-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J06HT1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J06HT1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

STL RICHLAND

6/22/2007 3:28:08 PM

ICOC Fraction Transfer/Status Report

ByDate: 6/22/2006, 6/27/2007, Batch: '7166489', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7166489						
AC		CalcC	WoodT	6/16/2007 11:12:25		
SC			wagarr	IsBatched	6/15/2007 3:53:56 PM	ICOC_RADCALC v4.8.26
SC			WoodT	InPrep	6/16/2007 11:12:25 AM	RICH-RC-5013 Revision 5
SC			BlackCL	InCnt1	6/19/2007 11:44:55 AM	RICH-RD-0007 REVISION 6
SC			DAWKINSO	CalcC	6/19/2007 8:37:02 PM	RICH-RD-0007 REVISION 6
AC			BlackCL	6/19/2007 11:44:55		
AC			DAWKINSO	6/19/2007 8:37:02 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt:3

ICOCFractions v4.8.26

06/13/2007 3:32:29 PM

STL RICHLAND

Sample Preparation/Analysis

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

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

AnalyDueDate: 06/29/2007 J0005

Batch: 7166498 SOIL pCi/g PM, Quote: SS , 27038
SEQ Batch, Test: None

Balance Id: 12430
Pipet #:
Sep1 DT/Tm Tech: 6/18 07 pm
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 J02P1-1-AK J7F140354-1-SAMP 06/13/2007 08:50	AmtRec: 6X125ML,500G	#Containers: 7				Scr:	Alpha:	Beta:
2 J02P1-1-A4-X J7F140354-1-DUP 06/13/2007 08:50	AmtRec: 6X125ML,500G	#Containers: 7				Scr:	Alpha:	Beta:
3 J06J2-1-AA-B J7F150000-498-BLK 06/13/2007 08:50	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:
4 J06J2-1-AC-C J7F150000-498-LCS 06/13/2007 08:50	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:
5 J06J2-1-AD-BN J7F150000-498-IBLK 06/13/2007 08:50	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:

Comments:

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

J02P11AK-SAMP Constituent List:
C-14 RDL:50 pCi/g LCL:70 UCL:130 RPD:35

Sample Preparation/Analysis

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

PRIORITY

Balance Id: 12430
Pipet #:
Sep1 DT/Tm Tech: 6 18-0 Rom
Sep2 DT/Tm Tech:
Prep Tech:

STL RICHLAND

AnalyDueDate: 06/29/2007

Batch: 7166498 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:

```
J06J21AA-BLK:
  C-14        RDL:50        pCi/g    LCL:      UCL:      RPD:
J06J21AC-LCS:
  C-14        RDL:50        pCi/g    LCL:70    UCL:130   RPD:35
J06J21AD-IBLK:
  C-14        RDL:50        pCi/g    LCL:      UCL:      RPD:
J02P11AK-SAMP Calc Info:
     Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
J06J21AA-BLK:
     Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
J06J21AC-LCS:
     Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
J06J21AD-IBLK:
     Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
```

Approved By _____ Date: _____

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6/25/2007 7:47:10 AM

ICOC Fraction Transfer/Status Report

ByDate: 6/25/2006, 6/30/2007, Batch: '7166498', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7166498						
AC		CalcC	McDowellD	6/19/2007 9:37:34		
SC			wagarr	IsBatched	6/15/2007 3:53:56 PM	ICOC_RADCALC v4.8.26
SC			McDowellD	Sep1C	6/19/2007 9:37:34 AM	RICH-RC-5022 REVISION 3
SC			BlackCL	InCnt1	6/19/2007 11:45:01 AM	RICH-RD-0001 REVISION 4
SC			BlackCL	CalcC	6/20/2007 6:51:25 AM	RICH-RD-0001 REVISION 4
AC			BlackCL	6/19/2007 11:45:01		
AC			BlackCL	6/20/2007 6:51:25		

AC: Accepting Entry; SC: Status Change

6/20/2007 12:01:30 PM

Sample Preparation/Analysis

Balance Id:1120373922

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

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

PRIORITY

Pipet #:

AnalyDueDate: 06/29/2007

Sep1 DT/Tm Tech:

Batch: 7166494 SOIL pCi/g PM, Quote: SS , 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

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 (24hr)	On | Off Circle	CR Analyst, Init/Date	Comments:
1 J02P1-1-AE J7F140354-1-SAMP 06/13/2007 08:50		AmtRec: 6X125ML,500G	0.25g,in	0.25g #Containers: 7	NITA2416 05/31/07	100 Scr:			Alpha:	Beta:	
2 J02P1-1-AW-X J7F140354-1-DUP 06/13/2007 08:50		AmtRec: 6X125ML,500G	0.27g,in	0.27g #Containers: 7	NITA2417 05/31/07	Scr:			Alpha:	Beta:	
3 J06JK-1-AA-B J7F150000-494-BLK 06/13/2007 08:50		AmtRec:	0.25g,in	0.25g #Containers: 1	NITA2418 05/31/07	Scr:			Alpha:	Beta:	
4 J06JK-1-AC-C J7F150000-494-LCS 06/13/2007 08:50		AmtRec:	0.25g,in	0.25g #Containers: 1	NISA0761 05/31/07	Scr:			Alpha:	Beta:	
5 J06JK-1-AD-BN J7F150000-494-IBLK 06/13/2007 08:50		AmtRec:		#Containers: 1		Scr:			Alpha:	Beta:	

Comments: Samples have been muffled & bottled. 6/20/07 JGW

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

J02P11AE-SAMP Constituent List:
Ni-63 RDL:30 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

STL RICHLAND

84

STL RICHLAND

6/20/2007 12:01:32 PM

Sample Preparation/Analysis

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

PRIORITY

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

AnalyDueDate: 06/29/2007

Batch: 7166494 pCi/g
SEQ Batch, Test: None

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

```
J06JK1AA-BLK:
  Ni-63        RDL:30          pCi/g     LCL:        UCL:        RPD:
J06JK1AC-LCS:
  Ni-63        RDL:30          pCi/g     LCL:70      UCL:130     RPD:35
J06JK1AD-IBLK:
  Ni-63        RDL:30          pCi/g     LCL:        UCL:        RPD:
J02P11AE-SAMP Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
J06JK1AA-BLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
J06JK1AC-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
J06JK1AD-IBLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

Approved By _____ Date: _____

SEVERN TRENT STL

*** RE-COUNT REQUEST ***

DUE DATE 6/29/07

CUSTOMER WCH

ANALYSIS Ni 63

MATRIX Soil

LOT NUMBER J7F1403SU

SAMPLE DELIVERY GROUP

OLD BATCH NUMBER 7146619U

7187464

LAB SAMPLE ID	REASON FOR REQUEST & ANALYSIS COMMENTS
1) J6L0JK 1ACL	7440 163
2)	
3)	
4)	
5)	
6)	
7)	
8)	
9)	
10)	
11)	
12)	
13)	
14)	
15)	
16)	
17)	
18)	
19)	
20)	

RC-126 10/03 REV 4

Sample Preparation/Analysis

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

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

Batch: 7187464 pCi/g
SEQ Batch, Test: None

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 J06JK-2-AC-C J7F150000-494-LCS 06/13/2007 08:50	AmtRec:	#Containers: 1						Scr:	Alpha:	Beta:
2 J06JK-2-AD-B J7F150000-494-BLK 06/13/2007 08:50	AmtRec:	#Containers: 1						Scr:	Alpha:	Beta:

Comments:

All Clients for Batch:

J06JK2AC-LCS Constituent List:
Ni-63 RDL:30 pCi/g LCL:70 UCL:130 RPD:35
J06JK2AD-BLK Constituent List:
Ni-63 RDL:30 pCi/g LCL: UCL: RPD:

J06JK2AC-LCS Calc Info:
Uncert Level (#s).: 4 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J06JK2AD-BLK Calc Info:
Uncert Level (#s).: 4 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

STL RICHLAND

7/13/2007 10:36:27 AM

ICOC Fraction Transfer/Status Report

ByDate: 7/13/2006, 7/18/2007, Batch: '7166494', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus		Accepting		Comments
7166494						
AC		CalcC	WoodT	6/16/2007 10:40:36		
SC			wagarr	IsBatched	6/15/2007 3:53:56 PM	ICOC_RADCALC v4.8.26
SC			WoodT	InPrep	6/16/2007 10:40:36 AM	RICH-RC-5013 REVISION 5
SC			WoodT	Prep2C	6/20/2007 12:00:12 PM	RICH-RC-5019 REVISION 6
SC			FABREM	InSep1	6/20/2007 2:07:56 PM	RICH-RC-5069 REVISION 6
SC			FABREM	Sep1C	6/25/2007 6:32:52 PM	RICH-RC-5069 REVISION 6
SC			DAWKINSO	InCnt1	6/25/2007 6:42:32 PM	RICH-RD-0001 REVISION 4
SC			BlackCL	CalcC	7/5/2007 10:32:52 AM	RICH-RD-0001 REVISION 4
AC			WoodT	6/20/2007 12:00:12		
AC			FABREM	6/20/2007 2:07:56 PM		
AC			FABREM	6/25/2007 6:32:52 PM		
AC			DAWKINSO	6/25/2007 6:42:32 PM		rEVISION 4
AC			BlackCL	7/5/2007 10:32:52		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt:6

ICOCFractions v4.8.27

6/15/2007 3:52:28 PM

Sample Preparation/Analysis

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AnalyDueDate: 06/29/2007 J00015

Batch: 7166497 SOIL pCi/g

SEQ Batch, Test: None

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

PM, Quote: SS , 27038

PRIORITY

Balance Id: 12445
Pipet #:
Sep1 DT/Tm Tech: 6-19-07am
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:
1 J02P1-1-AJ J7F140354-1-SAMP 06/13/2007 08:50		AmtRec: 6X125ML,500G	#Containers: 7			Scr:	Alpha:	Beta:
2 J02P1-1-A3-X J7F140354-1-DUP 06/13/2007 08:50		AmtRec: 6X125ML,500G	#Containers: 7			Scr:	Alpha:	Beta:
3 J06JX-1-AA-B J7F150000-497-BLK 06/13/2007 08:50		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
4 J06JX-1-AC-C J7F150000-497-LCS 06/13/2007 08:50		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
5 J06JX-1-AD-BN J7F150000-497-IBLK 06/13/2007 08:50		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:

Comments:

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

J02P11AJ-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

STL RICHLAND

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6/15/2007 3:52:29 PM

Sample Preparation/Analysis

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

PRIORITY

Balance Id: 12445
Pipet #:
Sep1 DT/Tm Tech: 6-19-07 bm
Sep2 DT/Tm Tech:
Prep Tech:

AnalyDueDate: 06/29/2007

Batch: 7166497 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:

```
J06JX1AA-BLK:
 H-3        RDL:400      pCi/g    LCL:      UCL:      RPD:
J06JX1AC-LCS:
 H-3        RDL:400      pCi/g    LCL:70    UCL:130   RPD:35
J06JX1AD-IBLK:
 H-3        RDL:400      pCi/g    LCL:      UCL:      RPD:
J02P11AJ-SAMP Calc Info:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
J06JX1AA-BLK:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
J06JX1AC-LCS:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
J06JX1AD-IBLK:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
```

Approved By _____ Date: _____

STL RICHLAND

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6/22/2007 7:21:27 AM

ICOC Fraction Transfer/Status Report

ByDate: 6/22/2006, 6/27/2007, Batch: '7166497', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7166497						
AC		Rev1C	McDowellD	6/19/2007 1:28:32 PM		
SC			wagarr	IsBatched	6/15/2007 3:53:56 PM	ICOC_RADCALC v4.8.26
SC			McDowellD	Sep1C	6/19/2007 1:28:32 PM	RICH-RC-5037 REVISION 3
SC			DAWKINSO	InCnt1	6/19/2007 1:44:25 PM	RICH-RD-0001 REVISION 4
SC			BlackCL	CalcC	6/20/2007 6:51:38 AM	RICH-RD-0001 REVISION 4
SC			NortonJ	Rev1C	6/22/2007 7:12:41 AM	RICHRC0002 REV7
AC			DAWKINSO	6/19/2007 1:44:25 PM		Revision 4
AC			BlackCL	6/20/2007 6:51:38		
AC			NortonJ	6/22/2007 7:12:41		

AC: Accepting Entry; SC: Status Change

STL RICHLAND

6/15/2007 3:52:26 PM

Sample Preparation/Analysis

Balance Id:

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

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

PRIORITY

Pipet #:

AnalyDueDate: 06/29/2007 J00015

Sep1 DT/Tm Tech:

Batch: 7166496 SOIL mg/kg PM, Quote: SS , 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech:

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 J02P1-1-AA J7F140354-1-SAMP 06/13/2007 08:50		2.5138 AmtRec: 6X125ML,500G	#Containers: 7					Scr:	Alpha:	Beta:
2 J02P1-1-A0-S J7F140354-1-MS 06/13/2007 08:50		2.5066 AmtRec: 6X125ML,500G	#Containers: 7					Scr:	Alpha:	Beta:
3 J02P1-1-A1-X J7F140354-1-DUP 06/13/2007 08:50		2.5251 AmtRec: 6X125ML,500G	#Containers: 7					Scr:	Alpha:	Beta:
4 J02P1-1-A2-S J7F140354-1-MS 06/13/2007 08:50		2.5836 (12.2mg) AmtRec: 6X125ML,500G	#Containers: 7					Scr:	Alpha:	Beta:
5 J06JN-1-AA-B J7F150000-496-BLK 06/13/2007 08:50		AmtRec:	#Containers: 1					Scr:	Alpha:	Beta:
6 J06JN-1-AC-C J7F150000-496-LCS 06/13/2007 08:50		AmtRec:	#Containers: 1					Scr:	Alpha:	Beta:

6/15/2007 3:52:27 PM

Sample Preparation/Analysis

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

PRIORITY

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

AnalyDueDate: 06/29/2007

Batch: 7166496 mg/kg
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:

Comments:

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

J02P11AA-SAMP Constituent List:
HEXCHROME RDL:0.35 mg/kg LCL:80 UCL:120 RPD:20
J02P11A0-MS Constituent List:
HEXCHROME RDL:0.35 mg/kg LCL:75 UCL:125 RPD:20
J02P11A2-MS:
HEXCHROME RDL:0.35 mg/kg LCL:75 UCL:125 RPD:20
J06JN1AA-BLK:
HEXCHROME RDL:0.35 mg/kg LCL: UCL: RPD:
J06JN1AC-LCS:
HEXCHROME RDL:0.35 mg/kg LCL:80 UCL:120 RPD:20

J02P11AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J02P11A0-MS Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J02P11A2-MS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J06JN1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J06JN1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

STL RICHLAND

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STL

STL St. Louis
13715 Rider Trail North
Earth City, MO 63045

Tel: 314 298 8566 Fax: 314 298 8757
www.stl-inc.com

ANALYTICAL REPORT

RECEIVED
JUL 12 2007

RC-032

Lot #: F7F150176
SDG #: J00115

Joan Kessner

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

TESTAMERICA LABORATORIES, INC. (FKA STL)

Jaus M. Klegis
for
Brian O'Donnell
Project Manager

July 11, 2007

Case Narrative
Lot Number: F7F150176
SDG: J00115

This report contains the analytical results for the sample received under chain of custody by STL St. Louis on June 15, 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 below.

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.

PCBs by SW846 8082

CCVs PCAL112, 123, and 143 recovered low for surrogate DCB. All samples associated with these CCVs recovered DCB within method acceptance criteria.
Affected Samples:
F7F150176 (1): J15520

ICP Metals by SW846 6010B

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

The MS and/or MSD recoveries for Barium, Silicon, Zinc, Chromium and Antimony 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 associated sample was analyzed at a dilution due to high concentrations of salts. The reporting limit has been adjusted only for those targets reported from the dilution run.
Affected Samples:
F7F150176 (1): J15520

Mercury by SW846 7471A

The MS/MSD recoveries 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.
Affected Samples:
F7F150176 (1): J15520

METHODS SUMMARY

F7F150176

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
PCBs by SW-846 8082	SW846 8082	SW846 3550B/366
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

F7F150176

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
J04EF	001	J15520	06/13/07	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.

J00115 AR1711

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-119	Page 1 of 1

Collector: Coffman/DeBuigne	Company Contact: R.T. Coffman	Telephone No.: 528-6409	Project Coordinator: KESSNER, JH
Price Code: 8F	Data Turnaround: 7 DAY		
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 118-F-8:4 FSB Verification/Shallow Zone		SAF No.: RC-032
Ice Chest No.: ERC-99-003	Field Logbook No.: EFL-1174-2	COA: R118F82000	Method of Shipment: FED EX
Shipped To: Severn Trent Incorporated, ~~Richland~~ ST LOUIS	Offsite Property No.: A070308		Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS
NA
JG 6-14-07

Special Handling and/or Storage
NA

Preservation	None	Cool 4C	Cool 4C	None	None	None	None	None	None	
Type of Container	P	P	aG	P	P	P	P	P	P	
No. of Container(s)	1	1	1	1	1	1	1	1	1	
Volume	125mL	125mL	60mL	500mL	125mL	125mL	125mL	125mL	125mL	
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hexavalent 1196	PCBs - 8082	See item (2) in Special Instructions.	Carbon-14; Tritium - H3	Nickel-63; Strontium-89,90 – Total Sr	Isotopic Plutonium	Isotopic Uranium	Americium-241/Curium-244 (Americium-241, Curium-244)	
Sample No. / Matrix * / Sample Date / Sample Time										
J15520 / SOIL / 6/13/07 / 0850	X		X							S-21

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
RT Coffman / RT Coffman	6/13/07 1515	REFER #3C 3728	6/13/07 1515
Refer #3C 3728	6-14-07 1130	KM Singleton	6-14-07 1130
KM Singleton	6-14-07 1500	FED EX	

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) ~~ASP~~ JRD 6-5-07
ADD Ba-133

Sampler unavailable to relinquish samples from 3728 Ref# 3C
3728 Custodian removed samples for shipping on 6-14-07.

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
	Jill Clarke	0920	6-15-07

FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

JT# F7F150176 J00115 6 OF 26 TL ST. LOUIS

TL ST. LOUIS

STL

Lot #(s): F7F150176
- 1711 -

Condition Upon Receipt Form

Client: Hanford
Quote No: 71497
COC/RFA No: RC-032-119
Initiated By: [illegible]
Date: 6-15-07
Time: 0920

Shipping Information

Shipper Name: Fed Ex
Multiple Packages Y (N)

Shipping # (s):*		Sample Temperature (s):**	
1. 7907 6231 5039	6.	1. 4	6.
2.	7.	2.	7.
3.	8.	3.	8.
4.	9.	4.	9.
5.	10.	5.	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:

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: 6-18-07

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.

PCBs

Washington Closure Hanford

Client Sample ID: J15520

GC Semivolatiles

Lot-Sample #...: F7F150176-001 **Work Order #...:** J04EF1A7 **Matrix.....:** SOLID
Date Sampled...: 06/13/07 **Date Received..:** 06/15/07
Prep Date.....: 06/18/07 **Analysis Date..:** 06/20/07
Prep Batch #...: 7169259
Dilution Factor: 1
% Moisture.....: 1.8 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Aroclor 1016	ND	17	ug/kg	6.1
Aroclor 1221	ND	17	ug/kg	6.1
Aroclor 1232	ND	17	ug/kg	6.1
Aroclor 1242	ND	17	ug/kg	6.1
Aroclor 1248	ND	17	ug/kg	6.1
Aroclor 1254	ND	17	ug/kg	6.7
Aroclor 1260	ND	17	ug/kg	6.7

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Decachlorobiphenyl	66	(37 - 150)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F7F150176 **Work Order #...:** J08LF1AA **Matrix.....:** SOLID
MB Lot-Sample #: F7F180000-259

Prep Date.....: 06/18/07
Analysis Date..: 06/20/07 **Prep Batch #...:** 7169259
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	16	ug/kg	SW846 8082
Aroclor 1221	ND	16	ug/kg	SW846 8082
Aroclor 1232	ND	16	ug/kg	SW846 8082
Aroclor 1242	ND	16	ug/kg	SW846 8082
Aroclor 1248	ND	16	ug/kg	SW846 8082
Aroclor 1254	ND	16	ug/kg	SW846 8082
Aroclor 1260	ND	16	ug/kg	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Decachlorobiphenyl	74	(37 - 150)

NOTE(S):

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

LABORATORY CONTROL SAMPLE DATA REPORT

GC Semivolatiles

Client Lot #...: F7F150176 **Work Order #...:** J08LF1AC **Matrix.....:** SOLID
LCS Lot-Sample#: F7F180000-259
Prep Date.....: 06/18/07 **Analysis Date..:** 06/20/07
Prep Batch #...: 7169259
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Aroclor 1016	**167**	**145**	**ug/kg**	**87**	**SW846 8082**
Aroclor 1260	**167**	**138**	**ug/kg**	**83**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Decachlorobiphenyl	79	(70 - 130)

NOTE(S):

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

Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC Semivolatiles

Client Lot #...: F7F150176 **Work Order #...:** J04EF1CP-MS **Matrix.....:** SOLID
MS Lot-Sample #: F7F150176-001 J04EF1CQ-MSD
Date Sampled...: 06/13/07 **Date Received..:** 06/15/07
Prep Date.....: 06/18/07 **Analysis Date..:** 06/20/07
Prep Batch #...: 7169259
Dilution Factor: 1 **% Moisture.....:** 1.8

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Aroclor 1016	**ND**	**169**	**154**	**ug/kg**	**91**		**SW846 8082**
	ND	**169**	**157**	**ug/kg**	**93**	**2.0**	**SW846 8082**
Aroclor 1260	**ND**	**169**	**141**	**ug/kg**	**83**		**SW846 8082**
	ND	**169**	**145**	**ug/kg**	**86**	**3.0**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Decachlorobiphenyl	69	(37 - 150)
	82	(37 - 150)

NOTE(S):

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

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

METALS

Washington Closure Hanford

Client Sample ID: J15520

TOTAL Metals

Lot-Sample #...: F7F150176-001 **Matrix.....:** SOLID
Date Sampled...: 06/13/07 **Date Received..:** 06/15/07
% Moisture.....: 1.8

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 7169062						
Silver	ND	1.0	mg/kg	SW846 6010B	06/18-06/21/07	J04EF1A1
		Dilution Factor: 1		MDL.....: 0.37		
Aluminum	**7720 D,N**	**40.7**	**mg/kg**	**SW846 6010B**	**06/18-06/22/07**	**J04EF1AD**
		Dilution Factor: 2		MDL.....: 10.3		
Arsenic	**2.8**	**1.0**	**mg/kg**	**SW846 6010B**	**06/18-06/21/07**	**J04EF1AF**
		Dilution Factor: 1		MDL.....: 0.24		
Barium	**87.6 N**	**5.1**	**mg/kg**	**SW846 6010B**	**06/18-06/21/07**	**J04EF1AG**
		Dilution Factor: 1		MDL.....: 0.23		
Beryllium	**0.20 B**	**0.51**	**mg/kg**	**SW846 6010B**	**06/18-06/21/07**	**J04EF1AH**
		Dilution Factor: 1		MDL.....: 0.071		
Boron	**3.5 B,D**	**20.4**	**mg/kg**	**SW846 6010B**	**06/18-06/22/07**	**J04EF1AJ**
		Dilution Factor: 2		MDL.....: 3.1		
Calcium	**5610**	**255**	**mg/kg**	**SW846 6010B**	**06/18-06/21/07**	**J04EF1AL**
		Dilution Factor: 1		MDL.....: 30.5		
Cadmium	ND	0.51	mg/kg	SW846 6010B	06/18-06/21/07	J04EF1AK
		Dilution Factor: 1		MDL.....: 0.062		
Cobalt	**10**	**5.1**	**mg/kg**	**SW846 6010B**	**06/18-06/21/07**	**J04EF1AM**
		Dilution Factor: 1		MDL.....: 0.24		
Chromium	**13.8 N**	**1.0**	**mg/kg**	**SW846 6010B**	**06/18-06/21/07**	**J04EF1A5**
		Dilution Factor: 1		MDL.....: 0.23		
Copper	**13.5**	**2.5**	**mg/kg**	**SW846 6010B**	**06/18-06/21/07**	**J04EF1AN**
		Dilution Factor: 1		MDL.....: 0.41		
Iron	**20600 N**	**10.2**	**mg/kg**	**SW846 6010B**	**06/18-06/21/07**	**J04EF1AP**
		Dilution Factor: 1		MDL.....: 3.8		
Potassium	**1270 D**	**1020**	**mg/kg**	**SW846 6010B**	**06/18-06/22/07**	**J04EF1AW**
		Dilution Factor: 2		MDL.....: 305		
Magnesium	**4820**	**102**	**mg/kg**	**SW846 6010B**	**06/18-06/21/07**	**J04EF1AR**
		Dilution Factor: 1		MDL.....: 9.1		

(Continued on next page)

Washington Closure Hanford

Client Sample ID: J15520

TOTAL Metals

Lot-Sample #...: F7F150176-001 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Manganese	**327 N**	**1.0**	**mg/kg**	**SW846 6010B**	**06/18-06/21/07**	**J04EF1AT**
		Dilution Factor: 1		MDL.....: 0.41		
Molybdenum	ND	4.1	mg/kg	SW846 6010B	06/18-06/21/07	J04EF1AU
		Dilution Factor: 1		MDL.....: 0.91		
Sodium	**202 B,D**	**204**	**mg/kg**	**SW846 6010B**	**06/18-06/22/07**	**J04EF1A2**
		Dilution Factor: 2		MDL.....: 24.4		
Nickel	**11.9**	**4.1**	**mg/kg**	**SW846 6010B**	**06/18-06/21/07**	**J04EF1AV**
		Dilution Factor: 1		MDL.....: 1.2		
Lead	**8.8**	**1.0**	**mg/kg**	**SW846 6010B**	**06/18-06/21/07**	**J04EF1AQ**
		Dilution Factor: 1		MDL.....: 0.31		
Antimony	**0.82 B,N**	**1.0**	**mg/kg**	**SW846 6010B**	**06/18-06/21/07**	**J04EF1AE**
		Dilution Factor: 1		MDL.....: 0.52		
Selenium	ND	1.5	mg/kg	SW846 6010B	06/18-06/21/07	J04EF1AX
		Dilution Factor: 1		MDL.....: 0.45		
Silicon	**825 D,N**	**81.5**	**mg/kg**	**SW846 6010B**	**06/18-06/22/07**	**J04EF1A0**
		Dilution Factor: 2		MDL.....: 18.3		
Vanadium	**51.6**	**1.0**	**mg/kg**	**SW846 6010B**	**06/18-06/21/07**	**J04EF1A3**
		Dilution Factor: 1		MDL.....: 0.54		
Zinc	**38.1 N**	**5.1**	**mg/kg**	**SW846 6010B**	**06/18-06/21/07**	**J04EF1A4**
		Dilution Factor: 1		MDL.....: 1.5		
Prep Batch #...: 7171178						
Mercury	**0.27 N**	**0.034**	**mg/kg**	**SW846 7471A**	**06/21/07**	**J04EF1A6**
		Dilution Factor: 1		MDL.....: 0.0068		

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

D Result was obtained from the analysis of a dilution.

N Spike sample recovery is outside control limits.

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F7F150176 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION+ ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: F7F180000-062 **Prep Batch #...:** 7169062						
Aluminum	ND	20.0	mg/kg	SW846 6010B	06/18-06/22/07	J07771AA
		Dilution Factor: 1				
Antimony	ND	1.0	mg/kg	SW846 6010B	06/18-06/21/07	J07771AC
		Dilution Factor: 1				
Arsenic	ND	1.0	mg/kg	SW846 6010B	06/18-06/21/07	J07771AD
		Dilution Factor: 1				
Barium	ND	5.0	mg/kg	SW846 6010B	06/18-06/21/07	J07771AE
		Dilution Factor: 1				
Beryllium	ND	0.50	mg/kg	SW846 6010B	06/18-06/21/07	J07771AF
		Dilution Factor: 1				
Boron	ND	10.0	mg/kg	SW846 6010B	06/18-06/22/07	J07771AG
		Dilution Factor: 1				
Cadmium	ND	0.50	mg/kg	SW846 6010B	06/18-06/21/07	J07771AH
		Dilution Factor: 1				
Calcium	ND	250	mg/kg	SW846 6010B	06/18-06/21/07	J07771AJ
		Dilution Factor: 1				
Chromium	ND	1.0	mg/kg	SW846 6010B	06/18-06/21/07	J07771A3
		Dilution Factor: 1				
Cobalt	ND	5.0	mg/kg	SW846 6010B	06/18-06/21/07	J07771AK
		Dilution Factor: 1				
Copper	ND	2.5	mg/kg	SW846 6010B	06/18-06/21/07	J07771AL
		Dilution Factor: 1				
Iron	ND	10.0	mg/kg	SW846 6010B	06/18-06/21/07	J07771AM
		Dilution Factor: 1				
Lead	ND	1.0	mg/kg	SW846 6010B	06/18-06/21/07	J07771AN
		Dilution Factor: 1				
Magnesium	ND	100	mg/kg	SW846 6010B	06/18-06/21/07	J07771AP
		Dilution Factor: 1				
Manganese	ND	1.0	mg/kg	SW846 6010B	06/18-06/21/07	J07771AQ
		Dilution Factor: 1				

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METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F7F150176 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Molybdenum	ND	4.0	mg/kg	SW846 6010B	06/18-06/21/07	J07771AR
		Dilution Factor: 1				
Nickel	ND	4.0	mg/kg	SW846 6010B	06/18-06/21/07	J07771AT
		Dilution Factor: 1				
Potassium	ND	500	mg/kg	SW846 6010B	06/18-06/22/07	J07771AU
		Dilution Factor: 1				
Selenium	ND	1.5	mg/kg	SW846 6010B	06/18-06/21/07	J07771AV
		Dilution Factor: 1				
Silicon	ND	40.0	mg/kg	SW846 6010B	06/18-06/22/07	J07771AW
		Dilution Factor: 1				
Silver	ND	1.0	mg/kg	SW846 6010B	06/18-06/21/07	J07771AX
		Dilution Factor: 1				
Sodium	ND	100	mg/kg	SW846 6010B	06/18-06/22/07	J07771A0
		Dilution Factor: 1				
Vanadium	ND	1.0	mg/kg	SW846 6010B	06/18-06/21/07	J07771A1
		Dilution Factor: 1				
Zinc	ND	5.0	mg/kg	SW846 6010B	06/18-06/21/07	J07771A2
		Dilution Factor: 1				

MB Lot-Sample #: F7F200000-178 **Prep Batch #...:** 7171178

Mercury	ND	0.033	mg/kg	SW846 7471A	06/21/07	J1C3N1AA
		Dilution Factor: 1				

NOTE(S):

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

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F7F150176 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: F7F180000-062 **Prep Batch #...:** 7169062							
Aluminum	6320	6430	mg/kg	102	SW846 6010B	06/18-06/22/07	J07771A4
			Dilution Factor: 1				
Antimony	60.9	54.5	mg/kg	90	SW846 6010B	06/18-06/21/07	J07771A5
			Dilution Factor: 1				
Arsenic	161	169	mg/kg	105	SW846 6010B	06/18-06/21/07	J07771A6
			Dilution Factor: 1				
Barium	252	259	mg/kg	103	SW846 6010B	06/18-06/21/07	J07771A7
			Dilution Factor: 1				
Beryllium	94.4	102	mg/kg	108	SW846 6010B	06/18-06/21/07	J07771A8
			Dilution Factor: 1				
Boron	97.4	101	mg/kg	104	SW846 6010B	06/18-06/22/07	J07771A9
			Dilution Factor: 1				
Cadmium	128	131	mg/kg	103	SW846 6010B	06/18-06/21/07	J07771CA
			Dilution Factor: 1				
Calcium	3320	3490	mg/kg	105	SW846 6010B	06/18-06/21/07	J07771CC
			Dilution Factor: 1				
Cobalt	35.2	35.5	mg/kg	101	SW846 6010B	06/18-06/21/07	J07771CD
			Dilution Factor: 1				
Copper	148	149	mg/kg	100	SW846 6010B	06/18-06/21/07	J07771CE
			Dilution Factor: 1				
Iron	11200	12800	mg/kg	114	SW846 6010B	06/18-06/21/07	J07771CF
			Dilution Factor: 1				
Lead	142	147	mg/kg	103	SW846 6010B	06/18-06/21/07	J07771CG
			Dilution Factor: 1				
Magnesium	2040	2160	mg/kg	106	SW846 6010B	06/18-06/21/07	J07771CH
			Dilution Factor: 1				
Manganese	408	408	mg/kg	100	SW846 6010B	06/18-06/21/07	J07771CJ
			Dilution Factor: 1				

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LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F7F150176 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Molybdenum	84.1	88.3	mg/kg	105	SW846 6010B	06/18-06/21/07	J07771CK
			Dilution Factor: 1				
Nickel	147	149	mg/kg	101	SW846 6010B	06/18-06/21/07	J07771CL
			Dilution Factor: 1				
Potassium	1920	2040	mg/kg	106	SW846 6010B	06/18-06/22/07	J07771CM
			Dilution Factor: 1				
Selenium	64.2	68.8	mg/kg	107	SW846 6010B	06/18-06/21/07	J07771CN
			Dilution Factor: 1				
Silicon	754	446	mg/kg	59	SW846 6010B	06/18-06/22/07	J07771CP
			Dilution Factor: 1				
Silver	130	148	mg/kg	114	SW846 6010B	06/18-06/21/07	J07771CQ
			Dilution Factor: 1				
Sodium	445	444	mg/kg	100	SW846 6010B	06/18-06/22/07	J07771CR
			Dilution Factor: 1				
Vanadium	97.3	102	mg/kg	105	SW846 6010B	06/18-06/21/07	J07771CT
			Dilution Factor: 1				
Zinc	165	159	mg/kg	96	SW846 6010B	06/18-06/21/07	J07771CU
			Dilution Factor: 1				
Chromium	69.5	72.5	mg/kg	104	SW846 6010B	06/18-06/21/07	J07771CV
			Dilution Factor: 1				

LCS Lot-Sample#: F7F200000-178 **Prep Batch #...:** 7171178

Mercury	16.9	16.7	mg/kg	99	SW846 7471A	06/21/07	J1C3N1AC
			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 #...: F7F150176 **Matrix.....:** SOLID
Date Sampled...: 06/13/07 **Date Received..:** 06/15/07

MS Lot-Sample #: F7F150176-001 **Prep Batch #...:** 7169062
% Moisture.....: 1.8

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Aluminum									
	7720	102	8280	mg/kg	547		SW846 6010B	06/18-06/22/07	J04EF1CR
			Qualifiers: N,D						
	7720	102	8190	mg/kg	463	1.0	SW846 6010B	06/18-06/22/07	J04EF1CT
			Qualifiers: N,D						
			Dilution Factor: 2						
Antimony									
	0.82	25.5	13.2 N	mg/kg	49		SW846 6010B	06/18-06/21/07	J04EF1CU
	0.82	25.5	13.1 N	mg/kg	48	0.63	SW846 6010B	06/18-06/21/07	J04EF1CV
			Dilution Factor: 1						
Arsenic									
	2.8	102	99.7	mg/kg	95		SW846 6010B	06/18-06/21/07	J04EF1CW
	2.8	102	108	mg/kg	103	7.9	SW846 6010B	06/18-06/21/07	J04EF1CX
			Dilution Factor: 1						
Barium									
	87.6	102	161 N	mg/kg	72		SW846 6010B	06/18-06/21/07	J04EF1C0
	87.6	102	184	mg/kg	95	13	SW846 6010B	06/18-06/21/07	J04EF1C1
			Dilution Factor: 1						
Beryllium									
	0.20	2.55	2.72	mg/kg	99		SW846 6010B	06/18-06/21/07	J04EF1C2
	0.20	2.55	2.93	mg/kg	107	7.3	SW846 6010B	06/18-06/21/07	J04EF1C3
			Dilution Factor: 1						
Boron									
	3.5	102	111 D	mg/kg	106		SW846 6010B	06/18-06/22/07	J04EF1C4
	3.5	102	108 D	mg/kg	103	3.0	SW846 6010B	06/18-06/22/07	J04EF1C5
			Dilution Factor: 2						
Cadmium									
	ND	2.55	2.17	mg/kg	85		SW846 6010B	06/18-06/21/07	J04EF1C6
	ND	2.55	2.34	mg/kg	92	7.7	SW846 6010B	06/18-06/21/07	J04EF1C7
			Dilution Factor: 1						
Calcium									
	5610	2550	8030	mg/kg	95		SW846 6010B	06/18-06/21/07	J04EF1C8
	5610	2550	8310	mg/kg	106	3.4	SW846 6010B	06/18-06/21/07	J04EF1C9
			Dilution Factor: 1						

(Continued on next page)

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F7F150176 **Matrix.....:** SOLID
Date Sampled...: 06/13/07 **Date Received..:** 06/15/07

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Chromium									
	13.8	10.2	21.1 N	mg/kg	72		SW846 6010B	06/18-06/21/07	J04EF1CK
	13.8	10.2	21.6	mg/kg	77	2.3	SW846 6010B	06/18-06/21/07	J04EF1CL
			Dilution Factor: 1						
Cobalt									
	10	25.5	32.3	mg/kg	88		SW846 6010B	06/18-06/21/07	J04EF1DA
	10	25.5	35.3	mg/kg	100	8.9	SW846 6010B	06/18-06/21/07	J04EF1DC
			Dilution Factor: 1						
Copper									
	13.5	12.7	23.9	mg/kg	81		SW846 6010B	06/18-06/21/07	J04EF1DD
	13.5	12.7	26.6	mg/kg	103	11	SW846 6010B	06/18-06/21/07	J04EF1DE
			Dilution Factor: 1						
Iron									
	20600	50.9	18100 N	mg/kg	0.0		SW846 6010B	06/18-06/21/07	J04EF1DF
	20600	50.9	19400 N	mg/kg	0.0	0.0	SW846 6010B	06/18-06/21/07	J04EF1DG
			Dilution Factor: 1						
Lead									
	8.8	25.5	34.6	mg/kg	102		SW846 6010B	06/18-06/21/07	J04EF1DH
	8.8	25.5	33.4	mg/kg	97	3.6	SW846 6010B	06/18-06/21/07	J04EF1DJ
			Dilution Factor: 1						
Magnesium									
	4820	2550	6860	mg/kg	80		SW846 6010B	06/18-06/21/07	J04EF1DK
	4820	2550	7150	mg/kg	92	4.2	SW846 6010B	06/18-06/21/07	J04EF1DL
			Dilution Factor: 1						
Manganese									
	327	25.5	299 N	mg/kg	0.0		SW846 6010B	06/18-06/21/07	J04EF1DM
	327	25.5	321 N	mg/kg	0.0	0.0	SW846 6010B	06/18-06/21/07	J04EF1DN
			Dilution Factor: 1						
Molybdenum									
	ND	50.9	48.0	mg/kg	94		SW846 6010B	06/18-06/21/07	J04EF1DP
	ND	50.9	51.5	mg/kg	101	7.0	SW846 6010B	06/18-06/21/07	J04EF1DQ
			Dilution Factor: 1						
Nickel									
	11.9	25.5	33.7	mg/kg	85		SW846 6010B	06/18-06/21/07	J04EF1DR
	11.9	25.5	35.8	mg/kg	94	6.2	SW846 6010B	06/18-06/21/07	J04EF1DT
			Dilution Factor: 1						

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MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F7F150176 **Matrix.....:** SOLID
Date Sampled...: 06/13/07 **Date Received..:** 06/15/07

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Potassium									
	1270	2550	4160 D	mg/kg	113		SW846 6010B	06/18-06/22/07	J04EF1DU
	1270	2550	3920 D	mg/kg	104	6.1	SW846 6010B	06/18-06/22/07	J04EF1DV
			Dilution Factor: 2						
Selenium									
	ND	102	86.2	mg/kg	85		SW846 6010B	06/18-06/21/07	J04EF1DW
	ND	102	90.2	mg/kg	89	4.5	SW846 6010B	06/18-06/21/07	J04EF1DX
			Dilution Factor: 1						
Silicon									
	825	509	905 N,D	mg/kg	16		SW846 6010B	06/18-06/22/07	J04EF1A8
	825	509	1100	mg/kg	54	19	SW846 6010B	06/18-06/22/07	J04EF1A9
			Qualifiers: N,D						
			Dilution Factor: 2						
Silver									
	ND	2.55	2.02	mg/kg	79		SW846 6010B	06/18-06/21/07	J04EF1CA
	ND	2.55	2.05	mg/kg	80	1.6	SW846 6010B	06/18-06/21/07	J04EF1CC
			Dilution Factor: 1						
Sodium									
	202	2550	2950 D	mg/kg	108		SW846 6010B	06/18-06/22/07	J04EF1CD
	202	2550	2900 D	mg/kg	106	2.0	SW846 6010B	06/18-06/22/07	J04EF1CE
			Dilution Factor: 2						
Vanadium									
	51.6	25.5	72.1	mg/kg	80		SW846 6010B	06/18-06/21/07	J04EF1CF
	51.6	25.5	74.8	mg/kg	91	3.7	SW846 6010B	06/18-06/21/07	J04EF1CG
			Dilution Factor: 1						
Zinc									
	38.1	25.5	56.2 N	mg/kg	71		SW846 6010B	06/18-06/21/07	J04EF1CH
	38.1	25.5	67.8	mg/kg	117	19	SW846 6010B	06/18-06/21/07	J04EF1CJ
			Dilution Factor: 1						

MS Lot-Sample #: F7F150176-001 **Prep Batch #...:** 7171178
% Moisture.....: 1.8

Mercury									
	0.27	0.170	0.523 N	mg/kg	150		SW846 7471A	06/21/07	J04EF1CM
	0.27	0.170	0.519 N	mg/kg	148	0.65	SW846 7471A	06/21/07	J04EF1CN
			Dilution Factor: 1						

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MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F7F150176 **Matrix.....:** SOLID
Date Sampled...: 06/13/07 **Date Received..:** 06/15/07

NOTE(S):

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

Results and reporting limits have been adjusted for dry weight.

N Spiked analyte recovery is outside stated control limits.

D Result was obtained from the analysis of a dilution.

WET CHEMISTRY

Washington Closure Hanford

Client Sample ID: J15520

General Chemistry

Lot-Sample #...: F7F150176-001 **Work Order #...:** J04EF **Matrix.....:** SOLID
Date Sampled...: 06/13/07 **Date Received..:** 06/15/07
% Moisture.....: 1.8

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	**1.8**	**0.10**	**%**	**MCAWW 160.3 MOD**	**06/16-06/17/07**	**7167019**

Dilution Factor: 1 MDL.....:

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F7F150176 **Work Order #...:** J00XF-SMP J00XF-DUP **Matrix.....:** SOLID

Date Sampled...: 06/13/07 **Date Received..:** 06/14/07

% Moisture.....: 9.0

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture						SD Lot-Sample #:	F7F140125-001	
	9.0	9.0	%	0.22	(0-30)	MCAWW 160.3 MOD	06/16-06/17/07	7167019

Dilution Factor: 1