0073620

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 7/30/07 INITIAL/DATE
Jeanette Duncan	H4-21	KW 7/30/07 INITIAL/DATE

COMMENTS:

SDG J00116 SAF-RC-032

Rad only Chem only X Rad & Chem

X Complete Partial

Waste Site: 118-F-8:4 FSB Verification/BCL Stockpiles

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AUG 09 2007
EDMC

Analytical Data Package Prepared For

Washington Closure Hanford

RECEIVED
JUL 2007

Radiochemical Analysis By

TAL Richland

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

Assigned Laboratory Code: STLRL

Data Package Contains 89 ***Pages***

Report No.: 36076

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
J00116	RC-032	J15591	J7F190104-1	J09G31AM	9J09G310	7170533
		J15591	J7F190104-1	J09G31AP	9J09G310	7170537
		J15591	J7F190104-1	J09G31AN	9J09G310	7170538
		J15591	J7F190104-1	J09G31AJ	9J09G310	7170546
		J15591	J7F190104-1	J09G31AK	9J09G310	7170551
		J15591	J7F190104-1	J09G31AA	9J09G310	7170552
		J15591	J7F190104-1	J09G32AD	9J09G320	7178193
		J15591	J7F190104-1	J09G34AC	9J09G340	7184279
		J15591	J7F190104-1	J09G32AE	9J09G320	7187452

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 26, 2007

Attention: Joan Kessner

SAF Number	:	RC-032
Date SDG Closed	:	June 18, 2007
Number of Samples	:	One (1)
Sample Type	:	Soil
SDG Number	:	J00116
Data Deliverable	:	15 – Day / Summary

CASE NARRATIVE

I. Introduction

On June 18, 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
J15591	J09G3	SOIL	6/18/07

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 LCS, batch blank, sample and sample duplicate (J15591) results are within contractual requirements.

Uranium 234, 235 and 238 by method RICH-RC-5039:
The FWHM for the U-232 tracer for sample J15591 exceeded 100 keV. The sample was recounted and the FWHM was less than 100 keV. Except as noted, the LCS, batch blank, sample and sample duplicate (J15591) results are within contractual requirements.

Americium 241/Curium 244 by method RICH-RC- 5087:
The LCS, batch blank, sample and sample duplicate (J15591) results are within contractual requirements.

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 (J15591) results are within contractual requirements.

Washington Closure Hanford
July 26, 2007

Gamma Spectroscopy

Gamma Spec by method RICH-RC-5017:

There was insufficient volume for a duplicate. Sample J15591 was recounted on a different detector for a duplicate. Except as noted, the LCS, batch blank, sample and sample duplicate (J15591) results are within contractual requirements.

Liquid Scintillation Counter

Carbon-14 by method RICH-RC-5022:

The LCS, batch blank, sample and sample duplicate (J15591) results are within contractual requirements.

Nickel-63 by method RICH-RC-5069:

The duplicates did not agree on the first analysis. The samples were reanalyzed. The reanalysis results did not confirm the original results so the samples were analyzed for a third time. The results from the third analysis confirmed the results from the second analysis. The results from the second analysis are being reported. Except as noted, the LCS, batch blank, sample and sample duplicate (J13J10) results are within contractual requirements.

Tritium by method RICH-RC-5007

The LCS, batch blank, sample and sample duplicate (J15591) results are within contractual requirements.

Chemical Analysis

Hexavalent Chromium by EPA method 7196A:

The matrix spike (J15591 MS) recovered low at 63%. The insoluble matrix spike recovered at 94% and two other matrix spikes were run concurrently and they recovered within limits. All other QC was acceptable including the LCS, ICV and CCV. Except as noted, the LCS, batch blank, sample and sample duplicate (J15591) results are within contractual requirements.

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

Reviewed and approved:

Sandra Seger
Project Manager

Drinking Water Method Cross References

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

Uncertainty Estimation

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, R = constants * f(x,y,z,...). The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

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

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

Report Definitions

Action Lev	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
Bias	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or STL Richland.
Count Error (#s)	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
Total Uncert (#s) ***u_c - Combined Uncertainty.***	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, ***u_c the combined uncertainty.*** The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
CRDL (RL)	Contractual Required Detection Limit as defined in the Client's Statement Of Work or STL Richland "default" nominal detection limit. Often referred to the reporting level (RL)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. Lc=(1.645 * Sqrt(2*(BkgrndCnt/BkgrndCntMin)/SCntMin)) * (ConvFct/(Eff*Yld*Abn*Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC|MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. MDC = (4.65 * Sqrt((BkgrndCnt/BkgrndCntMin)/SCntMin) + 2.71/SCntMin) * (ConvFct/(Eff * Yld * Abn * Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the **Work Order** Number.
RER	The equation Replicate Error Ratio = (S-D)/[sqrt($TPUs^2$ + $TPUd^2$)] as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt.
Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
Work Order	The LIMS software assign test specific identifier.
Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

Sample Results Summary

TAL Richland STLRL

Ordered by Client Sample ID, Batch No.

Date: 26-Jul-07

Report No. : 36076

SDG No: J00116

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RPD
J15591	J09G31AM	AG-108M	-2.42E-03 +- 8.11E-03	U	pCi/g		1.36E-02	
		BA-133	7.86E-05 +- 1.20E-02	U	pCi/g		1.70E-02	
		CO-60	3.70E-03 +- 1.23E-02	U	pCi/g		2.16E-02	
		CS-137	5.34E-02 +- 1.80E-02		pCi/g		1.96E-02	
		EU-152	-1.58E-02 +- 2.63E-02	U	pCi/g		4.16E-02	
		EU-154	-2.16E-02 +- 4.04E-02	U	pCi/g		6.77E-02	
		EU-155	4.34E-02 +- 2.88E-02	U	pCi/g		4.87E-02	
J15591	J09G31AP	PU-238	1.63E-02 +- 3.34E-02	U	pCi/g	42%	7.81E-02	
		PU239/40	-9.79E-03 +- 3.46E-02	U	pCi/g	42%	1.03E-01	
J15591	J09G31AN	AM-241	3.37E-02 +- 3.82E-02	U	pCi/g	87%	5.28E-02	
		CM-243/244	2.81E-02 +- 3.30E-02	U	pCi/g	87%	4.48E-02	
J15591	J09G31AJ	H-3	5.28E-03 +- 9.65E-03	U	pCi/g	100%	1.95E-02	
J15591	J09G31AK	C-14	-2.25E-01 +- 6.76E-01	U	pCi/g	100%	8.35E-01	
J15591	J09G31AA	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A	3.50E-01	
J15591	J09G32AD	STRONTIUM	8.18E-03 +- 7.66E-02	U	pCi/g	67%	1.79E-01	
J15591	J09G34AC	U-234	5.70E-01 +- 1.63E-01		pCi/g	82%	4.71E-02	
		U-235	-2.98E-03 +- 1.55E-02	U	pCi/g	82%	4.22E-02	
		U-238	5.27E-01 +- 1.54E-01		pCi/g	82%	4.22E-02	
J15591	J09G32AE	NI-63	1.42E+00 +- 4.08E+00	U	pCi/g	91%	5.49E+00	
J15591 DUP	J09G31AQ	AG-108M	3.75E-03 +- 6.96E-03	U	pCi/g		1.21E-02	928.1
		BA-133	-6.82E-03 +- 1.16E-02	U	pCi/g		1.58E-02	-204.7
		CO-60	-4.65E-04 +- 1.02E-02	U	pCi/g		1.77E-02	257.5
		CS-137	4.25E-02 +- 1.68E-02		pCi/g		1.65E-02	22.6
		EU-152	-3.33E-04 +- 2.50E-02	U	pCi/g		3.91E-02	-191.7
		EU-154	1.46E-02 +- 3.31E-02	U	pCi/g		5.83E-02	-1034.8
		EU-155	1.05E-01 +- 4.93E-02	U	pCi/g		4.87E-02	83.2
J15591 DUP	J09G31AR	PU-238	-7.61E-03 +- 2.69E-02	U	pCi/g	53%	8.01E-02	550.0
		PU239/40	3.30E-02 +- 4.48E-02	U	pCi/g	53%	7.17E-02	368.8
J15591 DUP	J09G31AT	AM-241	3.84E-02 +- 3.92E-02	U	pCi/g	83%	4.60E-02	13.2
		CM-243/244	2.89E-02 +- 3.39E-02	U	pCi/g	83%	4.61E-02	2.7
J15591 DUP	J09G31AX	H-3	8.09E-03 +- 9.77E-03	U	pCi/g	100%	1.96E-02	42.1

TAL Richland

rptSTLRchSaSum
V5.1.3 A2002

RPD - Relative Percent Difference.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

Sample Results Summary

TAL Richland STLRL

Ordered by Client Sample ID, Batch No.

Date: 26-Jul-07

Report No. : 36076

SDG No: J00116

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RPD
J15591 DUP	J09G31A0	C-14	-1.62E-01 +- 6.81E-01	U	pCi/g	100%	8.34E-01	-32.6
J15591 DUP	J09G31A2	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A	3.50E-01	0.0
J15591 DUP	J09G32AW	STRONTIUM	3.84E-02 +- 7.08E-02	U	pCi/g	70%	1.56E-01	129.8
J15591 DUP	J09G31A4	U-234	8.57E-01 +- 2.15E-01		pCi/g	83%	4.53E-02	40.2
		U-235	2.73E-02 +- 2.92E-02	U	pCi/g	83%	3.44E-02	249.2
		U-238	9.24E-01 +- 2.27E-01		pCi/g	83%	3.44E-02	54.8
J15591 DUP	J09G31A5	NI-63	1.95E+00 +- 4.21E+00	U	pCi/g	85%	5.62E+00	31.7

Number of Results: 38

TAL Richland

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V5.1.3 A2002

RPD - Relative Percent Difference.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

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

Date: 26-Jul-07

Report No. : 36076

SDG No.: J00116

QC Type	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
BLANK QC	J1CEC1AA	AG-108M	4.76E-04 +- 3.13E-03	U	pCi/g				5.59E-03
		BA-133	1.71E-03 +- 4.78E-03	U	pCi/g				7.29E-03
		CO-60	7.11E-04 +- 4.10E-03	U	pCi/g				7.74E-03
		CS-137	-2.60E-03 +- 3.58E-03	U	pCi/g				5.92E-03
		EU-152	3.07E-03 +- 1.04E-02	U	pCi/g				1.82E-02
		EU-154	-3.52E-03 +- 9.46E-03	U	pCi/g				1.68E-02
		EU-155	6.17E-03 +- 1.06E-02	U	pCi/g				1.89E-02
BLANK QC	J1CEG1AA	PU-238	0.00E+00 +- 3.61E-02	U	pCi/g	38%			8.47E-02
		PU239/40	-7.07E-03 +- 3.68E-02	U	pCi/g	38%			9.99E-02
BLANK QC	J1CEG1AD	PU-238	-3.82E-03 +- 1.99E-02	U	pCi/g	65%			5.40E-02
		PU239/40	1.72E-02 +- 2.75E-02	U	pCi/g	65%			4.58E-02
BLANK QC	J1CEM1AA	AM-241	1.72E-02 +- 2.48E-02	U	pCi/g	100%			4.13E-02
		CM-243/244	2.59E-02 +- 3.04E-02	U	pCi/g	100%			4.14E-02
BLANK QC	J1CEM1AD	AM-241	4.59E-02 +- 4.12E-02	U	pCi/g	103%			4.64E-02
		CM-243/244	7.23E-02 +- 5.09E-02		pCi/g	103%			3.93E-02
BLANK QC	J1CE91AA	H-3	1.94E-01 +- 1.67E-01	U	pCi/g	100%			3.25E-01
BLANK QC	J1CFG1AA	C-14	-9.06E-02 +- 2.75E-01	U	pCi/g	100%			3.39E-01
BLANK QC	J1CE62AA	STRONTIUM	1.60E-02 +- 9.63E-02	U	pCi/g	48%			2.25E-01
BLANK QC	J19QN1AA	U-234	1.02E-02 +- 3.02E-02	U	pCi/g	59%			7.48E-02
		U-235	-6.10E-03 +- 2.15E-02	U	pCi/g	59%			6.41E-02
		U-238	-7.62E-06 +- 2.23E-02	U	pCi/g	59%			7.48E-02
BLANK QC	J2GA81AA	NI-63	4.73E-01 +- 4.06E+00	U	pCi/g	97%			5.53E+00
LCS	J1CEC1AC	CS-137	2.58E-01 +- 4.73E-02		pCi/g		100%	0.0	2.82E-02
		K-40	1.81E+01 +- 2.28E+00		pCi/g		93%	-0.1	2.02E-01
		RA-226	9.11E-01 +- 1.30E-01		pCi/g		79%	-0.2	4.42E-02
		RA-228	1.90E+00 +- 2.68E-01		pCi/g		102%	0.0	8.72E-02
		U-238	1.08E+00 +- 1.46E-01		pCi/g		102%	0.0	4.77E-02
LCS	J1CEG1AC	PU239/40	6.71E+00 +- 1.17E+00		pCi/g	82%	92%	-0.1	3.92E-02
LCS	J1CEG1AE	PU239/40	6.75E+00 +- 1.20E+00		pCi/g	74%	92%	-0.1	5.04E-02

TAL Richland
rptSTLRchQcSum
V5.1.3 A2002

Bias - (Result/Expected)-1 as defined by ANSI N13.30.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

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

Date: 26-Jul-07

Report No. : 36076

SDG No.: J00116

QC Type	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
LCS	J1CEM1AC	AM-241	1.05E+01 +- 1.90E+00		pCi/g	109%	112%	0.1	4.10E-02
LCS	J1CEM1AE	AM-241	8.36E+00 +- 1.37E+00		pCi/g	107%	89%	-0.1	5.65E-02
LCS	J1CE91AC	H-3	2.67E+00 +- 2.67E-01		pCi/g	100%	99%	0.0	3.25E-01
LCS	J1CFG1AC	C-14	7.21E+00 +- 1.03E+00		pCi/g	100%	100%	0.0	3.40E-01
LCS	J1CE62AC	STRONTIUM	1.10E+00 +- 3.27E-01		pCi/g	63%	97%	0.0	1.71E-01
LCS	J19QN1AC	U-234	3.11E+00 +- 6.00E-01		pCi/g	87%	96%	0.0	3.17E-02
		U-235	9.91E-02 +- 5.39E-02		pCi/g	87%	67%	-0.3	3.17E-02
		U-238	2.85E+00 +- 5.54E-01		pCi/g	87%	84%	-0.2	3.17E-02
LCS	J2GA81AC	NI-63	4.66E+02 +- 4.69E+01		pCi/g	102%	77%	-0.2	5.38E+00
MATRIX SPIK	J09G31A1	HEXCHROME	6.48E+00 +- 0.00E+00		mg/kg	N/A	63%	-0.4	3.50E-01
LCS	J1CFM1AC	HEXCHROME	1.73E+01 +- 0.00E+00		mg/kg	N/A	87%	-0.1	3.50E-01
BLANK QC	J1CFM1AA	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A			3.50E-01

Number of Results: 41

TAL Richland
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V5.1.3 A2002

Bias - (Result/Expected)-1 as defined by ANSI N13.30.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 26-Jul-07

Lab Name:	TA Richland	SDG:	J00116	Collection Date:	6/14/2007 12:30:00 PM
Lot-Sample No.:	J7F190104-1	Report No. :	36076	Received Date:	6/18/2007 1:35:00 PM
Client Sample ID:	J15591	COC No. :	RC-032-121	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: 7170533	Work Order: J09G31AM			Report DB ID: 9J09G310								
AG-108M	***-2.42E-03***	U	8.1E-03	8.1E-03	1.36E-02	pCi/g		*-0.18*	6/26/07 09:39 a		744.9	GAMMA_GS
						6.79E-03		*-0.6*			g	GER6$1
BA-133	***7.86E-05***	U	1.2E-02	1.2E-02	1.70E-02	pCi/g		*0.*	6/26/07 09:39 a		744.9	GAMMA_GS
						8.52E-03		*0.01*			g	GER6$1
CO-60	***3.70E-03***	U	1.2E-02	1.2E-02	2.16E-02	pCi/g		*0.17*	6/26/07 09:39 a		744.9	GAMMA_GS
							5.00E-02	*0.6*			g	GER6$1
CS-137	***5.34E-02***		1.8E-02	1.8E-02	1.96E-02	pCi/g		*(2.7)*	6/26/07 09:39 a		744.9	GAMMA_GS
							1.00E-01	*(5.9)*			g	GER6$1
EU-152	***-1.58E-02***	U	2.6E-02	2.6E-02	4.16E-02	pCi/g		*-0.38*	6/26/07 09:39 a		744.9	GAMMA_GS
							1.00E-01	*-(1.2)*			g	GER6$1
EU-154	***-2.16E-02***	U	4.0E-02	4.0E-02	6.77E-02	pCi/g		*-0.32*	6/26/07 09:39 a		744.9	GAMMA_GS
							1.00E-01	*-(1.1)*			g	GER6$1
EU-155	***4.34E-02***	U	2.9E-02	2.9E-02	4.87E-02	pCi/g		*0.89*	6/26/07 09:39 a		744.9	GAMMA_GS
							1.00E-01	*(3.)*			g	GER6$1
Batch: 7170537	Work Order: J09G31AP			Report DB ID: 9J09G310								
PU-238	***1.63E-02***	U	3.3E-02	3.3E-02	7.81E-02	pCi/g	42%	*0.21*	6/27/07 01:44 p		1.0	PUISO_IE_PLATE_A
						1.70E-02	1.00E+00	*0.98*			G	ALP128
PU239/40	***-9.79E-03***	U	3.5E-02	3.5E-02	1.03E-01	pCi/g	42%	*-0.1*	6/27/07 01:44 p		1.0	PUISO_IE_PLATE_A
						2.94E-02	1.00E+00	*-0.57*			G	ALP128
Batch: 7170538	Work Order: J09G31AN			Report DB ID: 9J09G310								

TAL Richland
rptSTLRchSample
V5.1.3 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 26-Jul-07

Lab Name:	TA Richland	SDG:	J00116	Collection Date:	6/14/2007 12:30:00 PM
Lot-Sample No.:	J7F190104-1	Report No. :	36076	Received Date:	6/18/2007 1:35:00 PM
Client Sample ID:	J15591	COC No. :	RC-032-121	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
AM-241	***3.37E-02***	U	3.8E-02	3.8E-02	5.28E-02	pCi/g	87%	*0.64*	6/27/07 01:38 p		1.0	AMCMISO_IE_PLATE
						1.38E-02	1.00E+00	*(1.8)*			G	ALP39
CM-243/244	***2.81E-02***	U	3.3E-02	3.3E-02	4.48E-02	pCi/g	87%	*0.63*	6/27/07 01:38 p		1.0	AMCMISO_IE_PLATE
						9.74E-03	1.00E+00	*(1.7)*			G	ALP39
Batch: 7170546	Work Order: J09G31AJ			Report DB ID: 9J09G310								
H-3	***5.28E-03***	U	8.1E-03	9.6E-03	1.95E-02	pCi/g	100%	*0.27*	6/23/07 12:46 a		90.4	906.0_H3_LSC
						9.33E-03	4.00E+02	*(1.1)*			G	LSC6
Batch: 7170551	Work Order: J09G31AK			Report DB ID: 9J09G310								
C-14	***-2.25E-01***	U	3.4E-01	6.8E-01	8.35E-01	pCi/g	100%	*-0.27*	6/22/07 11:10 p		2.028	C14_CHEM_LSC
						4.01E-01	5.00E+01	*-0.67*			G	LSC4
Batch: 7170552	Work Order: J09G31AA			Report DB ID: 9J09G310								
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	
Batch: 7178193	Work Order: J09G32AD			Report DB ID: 9J09G320								
STRONTIUM	***8.18E-03***	U	7.7E-02	7.7E-02	1.79E-01	pCi/g	67%	*0.05*	6/29/07 08:49 a		6.03	SRTOT_SEP_PRECIP
						8.39E-02		*0.21*			G	GPC26A
Batch: 7184279	Work Order: J09G34AC			Report DB ID: 9J09G340								
U-234	***5.70E-01***		1.3E-01	1.6E-01	4.71E-02	pCi/g	82%	*(12.1)*	7/12/07 08:15 a		1.01	UISO_IE_PLATE_AE
						1.34E-02	1.00E+00	*(7.)*			G	ALP1
U-235	***-2.98E-03***	U	1.6E-02	1.6E-02	4.22E-02	pCi/g	82%	*-0.07*	7/12/07 08:15 a		1.01	UISO_IE_PLATE_AE
						1.10E-02	1.00E+00	*-0.38*			G	ALP1

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.
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FORM I

SAMPLE RESULTS

Date: 26-Jul-07

Lab Name:	TA Richland	SDG:	J00116	Collection Date:	6/14/2007 12:30:00 PM
Lot-Sample No.:	J7F190104-1	Report No. :	36076	Received Date:	6/18/2007 1:35:00 PM
Client Sample ID:	J15591	COC No. :	RC-032-121	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
U-238	***5.27E-01***		1.3E-01	1.5E-01	4.22E-02	pCi/g	82%	*(12.5)*	7/12/07 08:15 a		1.01	UISO_IE_PLATE_AE
						1.10E-02	1.00E+00	*(6.8)*			G	ALP1
								Ratio U-234/238 = 1.1				
Batch: 7187452	**Work Order:** J09G32AE			**Report DB ID:** 9J09G320								
NI-63	***1.42E+00***	U	2.3E+00	4.1E+00	5.49E+00	pCi/g	91%	*0.26*	7/12/07 05:33 a		0.27	NI63_LSC
						2.67E+00	3.00E+01	*0.7*			G	LSC4

Number of Results: 19

Comments:

TAL Richland
rptSTLRchSample
V5.1.3 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

Date: 26-Jul-07

DUPLICATE RESULTS

Lab Name:	TA Richland	SDG:	J00116	Collection Date:	6/14/2007 12:30:00 PM
Lot-Sample No.:	J7F190104-1	Report No. :	36076	Received Date:	6/18/2007 1:35:00 PM
Client Sample ID:	J15591 DUP	COC No. :	RC-032-121	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: 7170533	Work Order: J09G31AQ				Report DB ID: J09G31QR		Orig Sa DB ID: 9J09G310						
AG-108M	3.75E-03	U		7.0E-03	7.0E-03	1.21E-02	pCi/g		0.31	6/26/07 01:12 p		744.9	GAMMA_GS
	-2.42E-03	U	RPD	928.1					(1.1)			g	GER7$1
BA-133	-6.82E-03	U		1.2E-02	1.2E-02	1.58E-02	pCi/g		-0.43	6/26/07 01:12 p		744.9	GAMMA_GS
	7.86E-05	U	RPD	-204.7					-(1.2)			g	GER7$1
CO-60	-4.65E-04	U		1.0E-02	1.0E-02	1.77E-02	pCi/g		-0.03	6/26/07 01:12 p		744.9	GAMMA_GS
	3.70E-03	U	RPD	257.5			5.00E-02		-0.09			g	GER7$1
CS-137	4.25E-02			1.7E-02	1.7E-02	1.65E-02	pCi/g		(2.6)	6/26/07 01:12 p		744.9	GAMMA_GS
	5.34E-02		RPD	22.6			1.00E-01		(5.1)			g	GER7$1
EU-152	-3.33E-04	U		2.5E-02	2.5E-02	3.91E-02	pCi/g		-0.01	6/26/07 01:12 p		744.9	GAMMA_GS
	-1.58E-02	U	RPD	-191.7			1.00E-01		-0.03			g	GER7$1
EU-154	1.46E-02	U		3.3E-02	3.3E-02	5.83E-02	pCi/g		0.25	6/26/07 01:12 p		744.9	GAMMA_GS
	-2.16E-02	U	RPD	-1034.8			1.00E-01		0.88			g	GER7$1
EU-155	1.05E-01	U		4.9E-02	4.9E-02	4.87E-02	pCi/g		(2.2)	6/26/07 01:12 p		744.9	GAMMA_GS
	4.34E-02	U	RPD	83.2			1.00E-01		(4.3)			g	GER7$1
Batch: 7170537	Work Order: J09G31AR				Report DB ID: J09G31RR		Orig Sa DB ID: 9J09G310						
PU-238	-7.61E-03	U		2.7E-02	2.7E-02	8.01E-02	pCi/g	53%	-0.1	6/27/07 06:11 p		1.04	PUISO_IE_PLATE_A
	1.63E-02	U	RPD	550.0			1.00E+00		-0.57			G	ALP127
PU239/40	3.30E-02	U		4.5E-02	4.5E-02	7.17E-02	pCi/g	53%	0.46	6/27/07 06:11 p		1.04	PUISO_IE_PLATE_A
	-9.79E-03	U	RPD	368.8			1.00E+00		(1.5)			G	ALP127
											Alpha Spec Result Sum = 2.5E-02		
Batch: 7170538	Work Order: J09G31AT				Report DB ID: J09G31TR		Orig Sa DB ID: 9J09G310						
AM-241	3.84E-02	U		3.9E-02	3.9E-02	4.60E-02	pCi/g	83%	0.84	6/27/07 01:38 p		1.04	AMCMISO_IE_PLATE
	3.37E-02	U	RPD	13.2			1.00E+00		(2.)			G	ALP40

TAL Richland
rptSTLRchDupV5.1
.3 A2002

RPD - Relative Percent Difference.
MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

Date: 26-Jul-07

DUPLICATE RESULTS

Lab Name:	TA Richland	SDG:	J00116	Collection Date:	6/14/2007 12:30:00 PM
Lot-Sample No.:	J7F190104-1	Report No. :	36076	Received Date:	6/18/2007 1:35:00 PM
Client Sample ID:	J15591 DUP	COC No. :	RC-032-121	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
CM-243/244	2.89E-02	U		3.4E-02	3.4E-02	4.61E-02	pCi/g	83%	0.63	6/27/07 01:38 p		1.04	AMCMISO_IE_PLATE
	2.81E-02	U	RPD	2.7			1.00E+00		(1.7)			G	ALP40
													Alpha Spec Result Sum = 2.9E-02
Batch: 7170546	Work Order: J09G31AX				Report DB ID: J09G31XR		Orig Sa DB ID: 9J09G310						
H-3	8.09E-03	U		8.3E-03	9.8E-03	1.96E-02	pCi/g	100%	0.41	6/23/07 02:08 a		87.6	906.0_H3_LSC
	5.28E-03	U	RPD	42.1			4.00E+02		(1.7)			G	LSC6
													Alpha Spec Result Sum = 2.9E-02
Batch: 7170551	Work Order: J09G31A0				Report DB ID: J09G310R		Orig Sa DB ID: 9J09G310						
C-14	-1.62E-01	U		3.4E-01	6.8E-01	8.34E-01	pCi/g	100%	-0.19	6/22/07 11:52 p		2.032	C14_CHEM_LSC
	-2.25E-01	U	RPD	-32.6			5.00E+01		-0.48			G	LSC4
													Alpha Spec Result Sum = 2.9E-02
Batch: 7170552	Work Order: J09G31A2				Report DB ID: J09G31A2		Orig Sa DB ID: 9J09G310						
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			3.50E-01		N/A			G	
													Alpha Spec Result Sum = 2.9E-02
Batch: 7178193	Work Order: J09G32AW				Report DB ID: J09G32WR		Orig Sa DB ID: 9J09G320						
STRONTIUM	3.84E-02	U		7.0E-02	7.1E-02	1.56E-01	pCi/g	70%	0.25	6/29/07 08:49 a		6.05	SRTOT_SEP_PRECIP
	8.18E-03	U	RPD	129.8					(1.1)			G	GPC26B
													Alpha Spec Result Sum = 2.9E-02
Batch: 7184279	Work Order: J09G31A4				Report DB ID: J09G314R		Orig Sa DB ID: 9J09G340						
U-234	8.57E-01			1.6E-01	2.2E-01	4.53E-02	pCi/g	83%	(18.9)	7/10/07 09:59 p		1.04	UISO_IE_PLATE_AE
	5.70E-01		RPD	40.2			1.00E+00		(8.)			G	ALP1
U-235	2.73E-02	U		2.9E-02	2.9E-02	3.44E-02	pCi/g	83%	0.79	7/10/07 09:59 p		1.04	UISO_IE_PLATE_AE
	-2.98E-03	U	RPD	249.2			1.00E+00		(1.9)			G	ALP1

TAL Richland
rptSTLRchDupV5.1
.3 A2002

RPD - Relative Percent Difference.
MDC|MDA.Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

Date: 26-Jul-07

DUPLICATE RESULTS

Lab Name:	TA Richland	SDG:	J00116	Collection Date:	6/14/2007 12:30:00 PM
Lot-Sample No.:	J7F190104-1	Report No. :	36076	Received Date:	6/18/2007 1:35:00 PM
Client Sample ID:	J15591 DUP	COC No. :	RC-032-121	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
U-238	9.24E-01		1.6E-01	2.3E-01	3.44E-02	pCi/g	83%	(26.9)	7/10/07 09:59 p		1.04	UISO_IE_PLATE_AE
	5.27E-01	RPD	54.8			1.00E+00		(8.1)			G	ALP1
												Alpha Spec Result Sum = 9.2E-01
Batch: 7187452	Work Order: J09G31A5			Report DB ID: J09G315R		Orig Sa DB ID: 9J09G320						
NI-63	1.95E+00	U	2.4E+00	4.2E+00	5.62E+00	pCi/g	85%	0.35	7/12/07 03:51 a		0.28	NI63_LSC
	1.42E+00	U RPD	31.7			3.00E+01		0.93			G	LSC4
												Alpha Spec Result Sum = 9.2E-01

Number of Results: 19

Comments:

TAL Richland
rptSTLRchDupV5.1
.3 A2002

RPD - Relative Percent Difference.
MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

BLANK RESULTS

Date: 26-Jul-07

Lab Name: TA Richland SDG: J00116

Lot-Sample No.: #Error Report No. : 36076 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: 7170552	Work Order: J1CFM1AA			Report DB ID: J1CFM1AB								
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: 26-Jul-07

Lab Name: TA Richland

SDG: J00116

Lot-Sample No.: J7F190000-533

Report No. : 36076

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: 7170533	Work Order: J1CEC1AA			Report DB ID: J1CEC1AB								
AG-108M	4.76E-04	U	3.1E-03	3.1E-03	5.59E-03	pCi/g		0.09	6/26/07 09:40 a		859.27	GAMMA_GS
					2.80E-03			0.3			g	GER7$1
BA-133	1.71E-03	U	4.8E-03	4.8E-03	7.29E-03	pCi/g		0.24	6/26/07 09:40 a		859.27	GAMMA_GS
					3.65E-03			0.72			g	GER7$1
CO-60	7.11E-04	U	4.1E-03	4.1E-03	7.74E-03	pCi/g		0.09	6/26/07 09:40 a		859.27	GAMMA_GS
						5.00E-02		0.35			g	GER7$1
CS-137	-2.60E-03	U	3.6E-03	3.6E-03	5.92E-03	pCi/g		-0.44	6/26/07 09:40 a		859.27	GAMMA_GS
						1.00E-01		-(1.5)			g	GER7$1
EU-152	3.07E-03	U	1.0E-02	1.0E-02	1.82E-02	pCi/g		0.17	6/26/07 09:40 a		859.27	GAMMA_GS
						1.00E-01		0.59			g	GER7$1
EU-154	-3.52E-03	U	9.5E-03	9.5E-03	1.68E-02	pCi/g		-0.21	6/26/07 09:40 a		859.27	GAMMA_GS
						1.00E-01		-0.74			g	GER7$1
EU-155	6.17E-03	U	1.1E-02	1.1E-02	1.89E-02	pCi/g		0.33	6/26/07 09:40 a		859.27	GAMMA_GS
						1.00E-01		(1.2)			g	GER7$1

Number of Results: 7

Comments:

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: 26-Jul-07

Lab Name: TA Richland

SDG: J00116

Lot-Sample No.: J7F190000-537

Report No. : 36076

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: 7170537	Work Order: J1CEG1AA			Report DB ID: J1CEG1AB								
PU-238	0.00E+00	U	0.0E+00	3.6E-02	8.47E-02	pCi/g	38%	0.	6/27/07 06:11 p		1.0	PUISO_IE_PLATE_A
					1.84E-02	1.00E+00		0.			G	ALP128
PU239/40	-7.07E-03	U	3.7E-02	3.7E-02	9.99E-02	pCi/g	38%	-0.07	6/27/07 06:11 p		1.0	PUISO_IE_PLATE_A
					2.60E-02	1.00E+00		-0.38			G	ALP128
Batch: 7170537	Work Order: J1CEG1AD			Report DB ID: J1CEG1DX								
PU-238	-3.82E-03	U	2.0E-02	2.0E-02	5.40E-02	pCi/g	65%	-0.07	6/27/07 06:11 p		1.04	PUISO_IE_PLATE_A
					1.41E-02	1.00E+00		-0.38			G	ALP39
PU239/40	1.72E-02	U	2.7E-02	2.7E-02	4.58E-02	pCi/g	65%	0.38	6/27/07 06:11 p		1.04	PUISO_IE_PLATE_A
					9.94E-03	1.00E+00		(1.3)			G	ALP39

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: 26-Jul-07

Lab Name: TA Richland SDG: J00116

Lot-Sample No.: J7F190000-538 Report No. : 36076 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: 7170538	Work Order: J1CEM1AA			Report DB ID: J1CEM1AB								
AM-241	1.72E-02	U	2.5E-02	2.5E-02	4.13E-02	pCi/g	100%	0.42	6/27/07 01:39 p		1.0	AMCMISO_IE_PLATE
					8.97E-03	1.00E+00		(1.4)			G	ALP42
CM-243/244	2.59E-02	U	3.0E-02	3.0E-02	4.14E-02	pCi/g	100%	0.63	6/27/07 01:39 p		1.0	AMCMISO_IE_PLATE
					8.99E-03	1.00E+00		(1.7)			G	ALP42
Batch: 7170538	Work Order: J1CEM1AD			Report DB ID: J1CEM1DX								
AM-241	4.59E-02	U	4.0E-02	4.1E-02	4.64E-02	pCi/g	103%	0.99	6/27/07 01:40 p		1.04	AMCMISO_IE_PLATE
					1.21E-02	1.00E+00		(2.2)			G	ALP46
CM-243/244	7.23E-02		4.9E-02	5.1E-02	3.93E-02	pCi/g	103%	(1.8)	6/27/07 01:40 p		1.04	AMCMISO_IE_PLATE
					8.55E-03	1.00E+00		(2.8)			G	ALP46

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

BLANK RESULTS

Date: 26-Jul-07

Lab Name: TA Richland

SDG: J00116

Lot-Sample No.: J7F190000-545

Report No. : 36076

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: 7178193	Work Order: J1CE62AA			Report DB ID: J1CE62AB								
STRONTIUM	1.60E-02	U	9.6E-02	9.6E-02	2.25E-01	pCi/g	48%	0.07	6/29/07 08:49 a		6.0	SRTOT_SEP_PRECIP
					1.04E-01			0.33			G	GPC26C

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 lessThan the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

BLANK RESULTS

Date: 26-Jul-07

Lab Name: TA Richland SDG: J00116

Lot-Sample No.: J7F190000-546 Report No. : 36076 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: 7170546	Work Order: J1CE91AA			Report DB ID: J1CE91AB								
H-3	1.94E-01	U	1.4E-01	1.7E-01	3.25E-01	pCi/g	100%	0.6	6/22/07 10:01 p		5.0	906.0_H3_LSC
					1.55E-01	4.00E+02		(2.3)			G	LSC6

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: 26-Jul-07

Lab Name: TA Richland

SDG: J00116

Lot-Sample No.: J7F190000-551

Report No. : 36076

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: 7170551	Work Order: J1CFG1AA			Report DB ID: J1CFG1AB								
C-14	-9.06E-02	U	1.4E-01	2.7E-01	3.39E-01	pCi/g	100%	-0.27	6/22/07 09:45 p		5.0	C14_CHEM_LSC
					1.63E-01	5.00E+01		-0.66			G	LSC4

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: 26-Jul-07

Lab Name: TA Richland

SDG: J00116

Lot-Sample No.: J7G030000-279

Report No. : 36076

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: 7184279	Work Order: J19QN1AA			Report DB ID: J19QN1AB								
U-234	1.02E-02	U	3.0E-02	3.0E-02	7.48E-02	pCi/g	59%	0.14	7/10/07 09:59 p		1.0	UISO_IE_PLATE_AE
					2.36E-02	1.00E+00		0.67			G	ALP4
U-235	-6.10E-03	U	2.2E-02	2.2E-02	6.41E-02	pCi/g	59%	-0.1	7/10/07 09:59 p		1.0	UISO_IE_PLATE_AE
					1.83E-02	1.00E+00		-0.57			G	ALP4
U-238	-7.62E-06	U	2.2E-02	2.2E-02	7.48E-02	pCi/g	59%	0.	7/10/07 09:59 p		1.0	UISO_IE_PLATE_AE
					2.36E-02	1.00E+00		0.			G	ALP4

Ratio U-234/238 = -1332.4

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.

FORM II

BLANK RESULTS

Date: 26-Jul-07

Lab Name: TA Richland

SDG: J00116

Lot-Sample No.: J7G060000-452

Report No. : 36076

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: 7187452	Work Order: J2GA81AA			Report DB ID: J2GA81AB								
NI-63	4.73E-01	U	2.3E+00	4.1E+00	5.53E+00	pCi/g	97%	0.09	7/12/07 07:15 a		0.25	NI63_LSC
					2.69E+00	3.00E+01		0.23			G	LSC4

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
LCS RESULTS

Date: 26-Jul-07

Lab Name: TA Richland

SDG: J00116

Lot-Sample No.: #Error

Report No. : 36076

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: 7170552	Work Order: J1CFM1AC			Report DB ID: J1CFM1AS									
HEXCHROME	1.73E+01			0.0E+00	3.50E-01	mg/kg	N/A	2.00E+01		87%	7/2/07	2.5	7196_CR6
							Rec Limits:	80.	120.	-0.1		G	

Number of Results: 1

Comments:

FORM II

LCS RESULTS

Date: 26-Jul-07

Lab Name: TA Richland

SDG: J00116

Lot-Sample No.: J7F190000-533

Report No. : 36076

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: 7170533	Work Order: J1CEC1AC			Report DB ID: J1CEC1CS									
CS-137	2.58E-01		4.7E-02	4.7E-02	2.82E-02	pCi/g		2.59E-01	1.2E-02	100%	6/26/07 09:40 a	457.79	GAMMA_GS
							Rec Limits:	70.	130.	0.0		g	GER8$1
K-40	1.81E+01		2.3E+00	2.3E+00	2.02E-01	pCi/g		1.95E+01	1.9E+00	93%	6/26/07 09:40 a	457.79	GAMMA_GS
							Rec Limits:	70.	130.	-0.1		g	GER8$1
RA-226	9.11E-01		1.3E-01	1.3E-01	4.42E-02	pCi/g		1.15E+00	5.2E-02	79%	6/26/07 09:40 a	457.79	GAMMA_GS
							Rec Limits:	70.	130.	-0.2		g	GER8$1
RA-228	1.90E+00		2.7E-01	2.7E-01	8.72E-02	pCi/g		1.87E+00	9.6E-02	102%	6/26/07 09:40 a	457.79	GAMMA_GS
							Rec Limits:	70.	130.	0.0		g	GER8$1
U-238	1.08E+00		1.5E-01	1.5E-01	4.77E-02	pCi/g		1.05E+00	5.4E-02	102%	6/26/07 09:40 a	457.79	GAMMA_GS
							Rec Limits:	70.	130.	0.0		g	GER8$1

Number of Results: 5

Comments:

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

rptSTLRchLcs
V5.1.3 A2002

FORM II

LCS RESULTS

Date: 26-Jul-07

Lab Name: TA Richland

SDG: J00116

Lot-Sample No.: J7F190000-537

Report No. : 36076

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: 7170537	Work Order: J1CEG1AC			Report DB ID: J1CEG1CS									
PU239/40	6.71E+00		4.7E-01	1.2E+00	3.92E-02	pCi/g	81.72%	7.31E+00	2.5E-01	92%	6/27/07 06:11 p	1.0	PUISO_IE_PLATE_A
							Rec Limits:	70.	130.	-0.1		G	ALP37
Batch: 7170537	Work Order: J1CEG1AE			Report DB ID: J1CEG1EM									
PU239/40	6.75E+00		4.9E-01	1.2E+00	5.04E-02	pCi/g	73.75%	7.31E+00	2.5E-01	92%	6/27/07 06:11 p	1.0	PUISO_IE_PLATE_A
							Rec Limits:	70.	130.	-0.1		G	ALP40

Number of Results: 2

Comments:

FORM II

LCS RESULTS

Date: 26-Jul-07

Lab Name: TA Richland

SDG: J00116

Lot-Sample No.: J7F190000-538

Report No. : 36076

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: 7170538	Work Order: J1CEM1AC			Report DB ID: J1CEM1CS									
AM-241	1.05E+01		6.0E-01	1.9E+00	4.10E-02	pCi/g	109.10%	9.39E+00	2.9E-01	112%	6/27/07 01:39 p	1.0	AMCMISO_IE_PLATE
							Rec Limits:	70.	130.	0.1		G	ALP44
Batch: 7170538	Work Order: J1CEM1AE			Report DB ID: J1CEM1EM									
AM-241	8.36E+00		5.5E-01	1.4E+00	5.65E-02	pCi/g	107.49%	9.36E+00	2.9E-01	89%	6/27/07 01:42 p	1.0	AMCMISO_IE_PLATE
							Rec Limits:	70.	130.	-0.1		G	ALP127

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: 26-Jul-07

Lab Name: TA Richland

SDG: J00116

Lot-Sample No.: J7F190000-545

Report No. : 36076

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: 7178193	Work Order: J1CE62AC			Report DB ID: J1CE62CS									
STRONTIUM	1.10E+00		1.6E-01	3.3E-01	1.71E-01	pCi/g	62.60%	1.14E+00	2.3E-02	97%	6/29/07 08:49 a	6.0	SRTOT_SEP_PRECIP
							Rec Limits:	70.	130.	0.0		G	GPC26D

Number of Results: 1

Comments:

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

rptSTLRchLcs
V5.1.3 A2002

FORM II

LCS RESULTS

Date: 26-Jul-07

Lab Name: TA Richland

SDG: J00116

Lot-Sample No.: J7F190000-546

Report No. : 36076

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: 7170546	Work Order: J1CE91AC			Report DB ID: J1CE91CS									
H-3	2.67E+00		2.2E-01	2.7E-01	3.25E-01	pCi/g	100.00%	2.71E+00	8.1E-02	99%	6/22/07 11:24 p	5.0	906.0_H3_LSC
							Rec Limits:	70.	130.	0.0		G	LSC6

Number of Results: 1

Comments:

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

rptSTLRchLcs
V5.1.3 A2002

FORM II

LCS RESULTS

Date: 26-Jul-07

Lab Name: TA Richland

SDG: J00116

Lot-Sample No.: J7F190000-551

Report No. : 36076

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: 7170551	Work Order: J1CFG1AC			Report DB ID: J1CFG1CS									
C-14	7.21E+00		3.0E-01	1.0E+00	3.40E-01	pCi/g	100.00%	7.19E+00	2.4E-01	100%	6/22/07 10:27 p	5.0	C14_CHEM_LSC
							Rec Limits:	70.	130.	0.0		G	LSC4

Number of Results: 1

Comments:

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

rptSTLRchLcs
V5.1.3 A2002

FORM II

LCS RESULTS

Date: 26-Jul-07

Lab Name: TA Richland

SDG: J00116

Lot-Sample No.: J7G030000-279

Report No. : 36076

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: 7184279	Work Order: J19QN1AC			Report DB ID: J19QN1CS									
U-234	3.11E+00		2.9E-01	6.0E-01	3.17E-02	pCi/g	86.82%	3.25E+00	1.8E-02	96%	7/10/07 09:59 p	1.0	UISO_IE_PLATE_AE
							Rec Limits:	70.	130.	0.0		G	ALP8
U-235	9.91E-02		5.1E-02	5.4E-02	3.17E-02	pCi/g	86.82%	1.48E-01	8.3E-04	67%	7/10/07 09:59 p	1.0	UISO_IE_PLATE_AE
							Rec Limits:	70.	130.	-0.3		G	ALP8
U-238	2.85E+00		2.7E-01	5.5E-01	3.17E-02	pCi/g	86.82%	3.40E+00	1.9E-02	84%	7/10/07 09:59 p	1.0	UISO_IE_PLATE_AE
							Rec Limits:	70.	130.	-0.2		G	ALP8

Number of Results: 3

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: 26-Jul-07

Lab Name: TA Richland

SDG: J00116

Lot-Sample No.: J7G060000-452

Report No. : 36076

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: 7187452	Work Order: J2GA81AC			Report DB ID: J2GA81CS									
NI-63	4.66E+02		7.6E+00	4.7E+01	5.38E+00	pCi/g	102.42%	6.06E+02	2.0E+01	77%	7/12/07 08:58 a	0.25	NI63_LSC
							Rec Limits:	70.	130.	-0.2		G	LSC4

Number of Results: 1

Comments:

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

rptSTLRchLcs
V5.1.3 A2002

FORM II

MATRIX SPIKE RESULTS

Date: 26-Jul-07

Lab Name: TA Richland

SDG: J00116

Lot-Sample No.: J7F190104-1, J15591 MS

Report No. : 36076

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: 7170552	Work Order: J09G31A1			Report DB ID: J09G31A1			Orig Sa DB ID: 9J09G310						
HEXCHROME	6.48E+00			0.0E+00	3.50E-01	mg/kg	N/A	62.73%	1.03E+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

6/28/2007 3:24:53 PM

Lot No., Due Date: J7F190104; 07/03/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7170537; RPUISO Pulso by ALP

SDG, Matrix: J00116; SOIL

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

6.0 Comments on any No response:

First Level Review [signature] Date 6-28-7

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7170537

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: 6/28/17

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

7/12/2007 12:01:47 PM

Lot No., Due Date: J7F190104; 07/03/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7184279; RUISO Uiso by ALP

SDG, Matrix: J00116; 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:

See NCM # 10-10348 for information on FWHM for sample J09G33AC.

First Level Review Brett Lerdy **Date** 7-12-07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7184279

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

Comments on any "No" response: _____

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

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

Clouseau
Nonconformance Memo

STL

NCM #: 10-10348
NCM Initiated By: Matt Lardy
Date Opened: 07/12/2007
Date Closed:

Classification: Deficiency
Status: GLREVIEW
Production Area: Environmental - Prep
Tests: Ulso by ALP
Lot #'s (Sample #'s): J7F190104 (1),
QC Batches: 7184279,

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

Problem Description / Root Cause

Name	Date	Description
Matt Lardy	07/12/2007	The FWHM for the U-232 tracer for sample J09G33AC exceeded 100 keV. THe sample was recounted with ID of J09G34AC and the FWHM was less that 100 keV.

Corrective Action

Name	Date	Corrective Action
Matt Lardy	07/12/2007	Report the results for J09G34AC.

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: 7/12/2007

SEVERN TRENT **STL**

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

6/28/2007 3:23:14 PM

Lot No., Due Date: J7F190104; 07/03/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7170538; RAMCMISO AmCmIso by ALP

SDG, Matrix: J00116; 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** 6-28-7

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7170538

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 Ford Date: 6/28/7

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

6/29/2007 3:52:50 PM

Lot No., Due Date: J7F190104; 07/03/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7178193; RSRTOT SrTot by GPC

SDG, Matrix: J00116; 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 10-10268

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

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7178193

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: 7/2/07

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

Clouseau
Nonconformance Memo

STL

NCM #: 10-10268
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): J7F190000 (545), J7F190104 (1),
QC Batches: 7170545,

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

Problem Description / Root Cause

Name	Date	Description
Lisa Antonson	06/29/2007	During processing, one of the centrifuges malfunctioned, causing the samples inside to spill.

Corrective Action

Name	Date	Corrective Action
Lisa Antonson	06/29/2007	Reruns were started immediately 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

6/28/2007 2:54:02 PM

Lot No., Due Date: J7F190104; 07/03/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7170533; RGAMMA Gamma by GER

SDG, Matrix: J00116; SOIL

1.0 COC

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

2.0 QC Batch

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

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

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

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

3.0 QC & Samples

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

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

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

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

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

4.0 Raw Data

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

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

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

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

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

5.0 Other

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

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

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

5.4 Was transcription checked? Yes ✓ No N/A

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

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

6.0 Comments on any No response:

First Level Review [signature] Date 11/28/07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7170533

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 Jorda Date: 6/28/7

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

6/25/2007 2:10:03 PM

Lot No., Due Date: J7F190104; 07/03/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7170551; RC14 C-14 by LSC

SDG, Matrix: J00116; SOIL

		Yes	No	N/A
8.01	The Appropriate Methods Were Used To Analyze the Samples OK	✓		
8.02	Final Results Are in the Appropriate Activity Units OK	✓		
8.03	Batch Contains the Required QC Appropriate for the Method OK	✓		
8.04	The Correct Tracer and QC Vials Where Used in the Samples OK	✓		
8.05	Sample was Appropriately Traced Before or After Fractionating the Sample OK	✓		
8.06	At Least the Minimum Sample Volume Was Used OK	✓		
8.07	The Correct Count Geometry was Used. OK	✓		
8.08	The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	✓		
8.09	Method Blank is within Control Limits. OK	✓		
8.1	Comments:			
3.11	Matrix Blank is within Control Limits. No Matrix Blanks (MBlks) found in Batch!			✓
3.12	Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	✓		
3.13	QAS Specified Duplicate Equation Value within Control Limits. No Duplicate Limit Found in QAS! OK (RPD)			✓
3.14	LCS within Control Limits. OK	✓		
3.15	MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch!			✓
3.16	MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!			✓
3.17	Tracer within Control Limits. No Tracers found in Batch!			✓
3.18	Samples are above Minimum Tracer Yield (No Failed Samples) No Tracers found in Batch!			✓
3.19	Sample Specific MDC <= CRDL. OK	✓		
.2	Comments:			
.21	Result < Lc, Activity Not Detected, U Flag. No Limit Specified!			✓
.22	Result < Mdc, Activity Not Detected, U Flag. No Limit Specified!			✓
.23	Result <= Action Level, when Defined. OK; No Action Level Found => C-14 OK; No Callin Level Found => C-14	✓		
.24	Result + 3s >=0, Not Too Negative. OK	✓		
.25	Counting Spectrum are within FWHM Limits. No FWHM found in Batch Data!			✓
.26	Instruments have Current Calibrations.			
.27	Correct Count Library Used. No Count Library found in Batch Data!			✓

8.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions) Yes No N/A

8.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions) Yes No N/A

8.3 Comments:

First Level Review Angela Long Date 6/25/07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7170551

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

7/25/2007 2:16:07 PM

Lot No., Due Date: J7F190104; 07/03/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7187452; RNI63 Ni-63 by LSC

SDG, Matrix: J00116; 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 10-10471

First Level Review Lisa Antonson **Date** 7/25/07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7187452

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: 7/26/07

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

Clouseau Nonconformance Memo

STL

NCM #: 10-10471
NCM Initiated By: Lisa Antonson
Date Opened: 07/25/2007
Date Closed:

Classification: Anomaly
Status: GLREVIEW
Production Area: Environmental - Prep
Tests: Ni-63 by LSC
Lot #'s (Sample #'s): J7F190104 (1), J7G060000 (452),
QC Batches: 7187452,

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

Problem Description / Root Cause

Name	Date	Description
Lisa Antonson	07/25/2007	This Nickel batch is a rerun of 7170541. The dups were out on the first batch. When compared, the results from each batch didn't match. The samples were rerun in a third batch, 7197290, to verify the results. The third batch confirms the results of the second batch. The second results will be transferred. The cause of the results in the first batch is unknown.

Corrective Action

Name	Date	Corrective Action
Lisa Antonson	07/25/2007	The batch was rerun for dup agreement, then run again to confirm 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

Date Printed: 7/25/2007

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

6/25/2007 1:56:55 PM

Lot No., Due Date: J7F190104; 07/03/2007

Client, Site: 127642; HANFORD

QC Batch No., Method Test: 7170546; RTRITIUM H-3 by LSC

SDG, Matrix: J00116; SOIL

		Yes	No	N/A
8.01	The Appropriate Methods Were Used To Analyze the Samples OK	✓		
8.02	Final Results Are in the Appropriate Activity Units OK	✓		
8.03	Batch Contains the Required QC Appropriate for the Method OK	✓		
8.04	The Correct Tracer and QC Vials Where Used in the Samples OK	✓		
8.05	Sample was Appropriately Traced Before or After Fractionating the Sample OK	✓		
8.06	At Least the Minimum Sample Volume Was Used Analysis Volume => J09G31AJ 90.40<100.00 Q:VB		✓	
8.07	The Correct Count Geometry was Used. Count Geometry => J1CE91AD SVP15/5<>SVP10/10 J1CE91AA SVP15/5<>SVP10/10 J1CE91AC SVP15/5<>SVP10/10 J09G31AJ SVP15/5<>SVP10/10 J09G31AX SVP15/5<>SVP10/10 Q:VC		✓	
8.08	The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	✓		
8.09	Method Blank is within Control Limits. OK	✓		
8.1	Comments:			
8.11	Matrix Blank is within Control Limits. No Matrix Blanks (MBlks) found in Batch!			✓
8.12	Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	✓		
8.13	QAS Specified Duplicate Equation Value within Control Limits. No Duplicate Limit Found in QAS! OK (RPD)			✓
8.14	LCS within Control Limits. OK	✓		
8.15	MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch!			✓
8.16	MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!			✓
8.17	Tracer within Control Limits. No Tracers found in Batch!			✓
8.18	Samples are above Minimum Tracer Yield (No Failed Samples) No Tracers found in Batch!			✓
8.19	Sample Specific MDC <= CRDL. OK	✓		
8.2	Comments:			
8.21	Result < Lc, Activity Not Detected, U Flag. No Limit Specified!			✓
8.22	Result < Mdc, Activity Not Detected, U Flag. No Limit Specified!			✓
8.23	Result <= Action Level, when Defined. OK; No Action Level Found => H-3 OK; No Callin Level Found => H-3	✓		
8.24	Result + 3s >=0, Not Too Negative. OK	✓		
8.25	Counting Spectrum are within FWHM Limits. No FWHM found in Batch Data!			✓

OK AL 6/25/07

OK AL 6/25/07

8.26 Instruments have Current Calibrations. Yes No N/A

8.27 Correct Count Library Used. Yes No N/A ✓
No Count Library found in Batch Data!

8.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions) Yes No N/A

8.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions) Yes No N/A

8.3 Comments:

First Level Review Angela Long Date 6/25/07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7170546

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: 10/27/7

SEVERN TRENT STL

Richland Laboratory
Data Review Check List
Hexavalent Chromium

Work Order Number(s): **J1CFM, J09G3**

Lab Sample Numbers or SDG: **J00116**

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 MS recovered at 62.7% Insoluble MS recovered at 94.17% All other QC see NCM

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

Second-Level Review: [signature] Date: 7/26/07

Clouseau
Nonconformance Memo

STL

NCM #: 10-10299
NCM Initiated By: Steven Wheland
Date Opened: 07/03/2007
Date Closed:

Classification: Anomaly
Status: GLREVIEW
Production Area: Classical Chemistry
Tests: 7196A
Lot #'s (Sample #'s): J7F190000 (552), J7F190104 (1),
QC Batches: 7170552,

Nonconformance: QC data exceeded criteria
Subcategory: MS/MSD accuracy and/or precision out of control

Problem Description / Root Cause

Name	Date	Description
Steven Wheland	07/03/2007	MS recovered low at 63% Insoluble MS recovered at 94% Two other MS were run concurrently and they recovereed within limits. All other QC was acceptable including LCS, ICV and CCV.

Corrective Action

Name	Date	Corrective Action
Steven Wheland	07/03/2007	Report data

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note
	Response	Response Note			

Quality Assurance Verification

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

Approval History

Date Approved	Approved By	Position

Date Printed: 7/3/2007

STL RICHLAND

J1F110107 J00116 Due 06-26-07 KW 6/18/07

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-121	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/BCL Stockpiles		SAF No.: RC-032
Ice Chest No.: NA	Field Logbook No.: EFL-1174-2	COA: R118F82000	Method of Shipment: ~~FED EX~~ Gov-veh
Shipped To: Severn Trent Incorporated, Richland	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	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 Hex - 7196	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										
J15591 / SOIL / 6-14-07 / 1230		X	X	X	X	X	X	X	X	5
~~J293-93~~										
J09G3										

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
JR DeBuigne	6-14-07 1600	3728/3A	6-14-07 1600
3728/3A	6-18-07 1330	KM Singleton	6-18-07 1330
KM Singleton	6-18-07 1350	F Kheradmand	6/18/07 1335

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

Sampler unavailable to relinquish samples from 3728 Ref# 1A. 3728 Custodian removed samples for shipping on 6/18/07

Matrix *

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

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

WCH-EE-011

60

SEVERN TRENT STL

Sample Check-in List

Date/Time Received: 6/18/07 13:35

Client: WHC SDG #: J00116 NA [ ] SAF #: RC-032 NA [ ]

Work Order Number: J7F190104 Chain of Custody # RC-032-121

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: 7
7. Sample holding times exceeded? NA [ ] Yes [ ] No [ ]
8. Samples have:
   - ✓ tape
   - ✓ custody seals
   - ____ hazard labels
   - ____ appropriate samples labels
9. Samples are:
   - ✓ in good condition
   - ____ broken
   - ____ leaking
   - ____ have air bubbles (Only for samples requiring head space)
10. Sample pH taken? NA [✓] pH<2 [ ] pH>2 [ ] pH>9 [ ]
11. Sample Location, Sample Collector Listed? * Yes [✓] No [ ]
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [✓]
13. Description of anomalies (include sample numbers): _____

Sample Custodian: [signature] Date: 6/18/07

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

STL RICHLAND

6/25/2007 8:34:27 AM

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AnalyDueDate: 07/03/2007

Sample Preparation/Analysis

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

PRIORITY

Balance Id:1120373922

Pipet #:

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: ,WoodT

Batch: 7170537 SOIL pCi/g
SEQ Batch, Test: 7170538, 7ISN 7170538, 7ISN

PM, Quote: SS , 27038

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 J09G3-1-AP J7F190104-1-SAMP 06/14/2007 12:30		1.00g,in AmtRec: 6X120ML,500MLP	PATB4389 06/09/07,pd 03/13/07,r #Containers: 7	200		Scr:	Alpha:	Beta:
2 J09G3-1-AR-X J7F190104-1-DUP 06/14/2007 12:30		1.04g,in AmtRec: 6X120ML,500MLP	PATB4390 06/09/07,pd 03/13/07,r #Containers: 7			Scr:	Alpha:	Beta:
3 J1CEG-1-AA-B J7F190000-537-BLK 06/14/2007 12:30		1.00g,in AmtRec:	PATB4392 06/20/07,pd 03/13/07,r #Containers: 1			Scr:	Alpha:	Beta:
4 J1CEG-1-AC-C J7F190000-537-LCS 06/14/2007 12:30		1.00g,in AmtRec:	PASI0174 06/09/07,pd 03/13/07,r #Containers: 1			Scr:	Alpha:	Beta:
5 J1CEG-1-AD-BX J7F190000-537-MBLK 06/14/2007 12:30		1.04g,in AmtRec:	PATB4393 06/20/07,pd 03/13/07,r #Containers: 1			Scr:	Alpha:	Beta:
6 J1CEG-1-AE-CM J7F190000-537-MLCS 06/14/2007 12:30		1.00g,in AmtRec:	PASI0173 06/09/07,pd 03/13/07,r #Containers: 1			Scr:	Alpha:	Beta:

STL RICHLAND

6/25/2007 8:34:30 AM

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: 07/03/2007

Sep1 DT/Tm Tech:

Batch: 7170537 pCi/g
SEQ Batch, Test: None

PRIORITY

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: Samples have been muffled and bombed 6/25/07 JKN

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

J09G31AP-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						
J1CEG1AA-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						
J1CEG1AC-LCS:											
PU-239	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	Pu-242	RDL:	pCi/g	LCL:20	UCL:105	RPD:35
J1CEG1AD-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						
J1CEG1AE-MLCS:											
PU-239	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	Pu-242	RDL:	pCi/g	LCL:20	UCL:105	RPD:35

J09G31AP-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J1CEG1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J1CEG1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J1CEG1AD-MBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J1CEG1AE-MLCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

63

6/28/2007 3:24:01 PM

ICOC Fraction Transfer/Status Report

ByDate: 6/28/2006, 7/3/2007, Batch: '7170537', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7170537						
AC		CalcC	WoodT	6/20/2007 7:25:39		7170540
SC			wagarr	IsBatched	6/19/2007 4:22:04 PM	ICOC_RADCALC v4.8.26
SC			WoodT	InPrep	6/20/2007 7:25:39 AM	RICH-RC-5013 REVISION 7
SC			WoodT	Prep1C	6/25/2007 8:32:45 AM	RICH-RC-5013 REVISION 7
SC			WoodT	InPrep2	6/25/2007 8:33:31 AM	RICH-RC-5019 REVISION 6
SC			WoodT	Prep2C	6/25/2007 8:33:51 AM	RICH-RC-5019 REVISION 6
SC			HarveyK	InSep1	6/25/2007 2:47:32 PM	RICH-RC-5087 REV1
SC			HarveyK	Sep1C	6/25/2007 8:06:02 PM	RICH-RC-5087 REV1
SC			HarveyK	Sep2C	6/26/2007 5:41:06 PM	RICH-RC-5039 REV5
SC			DAWKINSO	InCnt1	6/26/2007 6:28:27 PM	RICH-RD-0008 REVISION 4
SC			DAWKINSO	CalcC	6/27/2007 8:28:29 PM	RICH-RD-0008 REVISION 4
AC			WoodT	6/25/2007 8:32:45		
AC			WoodT	6/25/2007 8:33:17		
AC			WoodT	6/25/2007 8:33:31		
AC			WoodT	6/25/2007 8:33:51		
AC			HarveyK	6/25/2007 2:47:32 PM		
AC			HarveyK	6/25/2007 8:06:02 PM		
AC			HarveyK	6/26/2007 5:41:06 PM		
AC			DAWKINSO	6/26/2007 6:28:27 PM		
AC			DAWKINSO	6/27/2007 8:28:29 PM		rEVISION 4

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 10

ICOCFractions v4.8.27

SEVERN TRENT STL

*** RE-COUNT REQUEST ***

DUE DATE 7/13/07

CUSTOMER WCH

ANALYSIS LUISO

MATRIX Soil

LOT NUMBER J7F190104

SAMPLE DELIVERY GROUP

OLD BATCH NUMBER 7184279

	LAB SAMPLE ID	REASON FOR REQUEST & ANALYSIS COMMENTS
1)	J09G33AC	FWHM - please recount on low
2)		background detector.
3)		
4)		
5)		
6)		
7)		
8)		
9)		
10)		
11)		
12)		
13)		
14)		
15)		
16)		
17)		
18)		
19)		
20)		

07/11/2007 3:30:43 PM

Sample Preparation/Analysis

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

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

Balance Id:1120373922
Pipet #:

AnalyDueDate: 07/03/2007

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

Batch: 7184279 SOIL pCi/g PM, Quote: SS , 27038

SEQ Batch, Test: None All Tests: 7170533 AXTA, 7170535 8OV, 7170537 7ISO, 7170538 7ISN, 7170540 7SSR, 7170541 AFS4, 7170545 CHTH, 7170546 ATS6, 7170551 5SS3, 7170552 DWEA, 7178193 CHTH, 7184279 7SSR, 7187452 AFS4

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 J09G3-1-A4-X J7F190104-1-DUP 06/14/2007 12:30	AmtRec: 6X120ML,500MLP	1.04g,in	UITC17608 06/19/07,pd 01/20/04,r	#Containers: 7	Scr:	Alpha:	Beta:	
2 J09G3-3-AC J7F190104-1-SAMP 06/14/2007 12:30	AmtRec: 6X120ML,500MLP	1.01g,in	UITC17609 06/19/07,pd 01/20/04,r	#Containers: 7	Scr:	Alpha:	Beta:	
3 J09G3-4-AC J7F190104-1-SAMP 06/14/2007 12:30	AmtRec: 6X120ML,500MLP	1.01g	UITC 17609	#Containers: 7	Scr:	Alpha:	Beta:	200
4 J19QN-1-AA-B J7G030000-279-BLK 06/14/2007 12:30	AmtRec:	1.00g,in	UITC17610 06/19/07,pd 01/20/04,r	#Containers: 1	Scr:	Alpha:	Beta:	
5 J19QN-1-AC-C J7G030000-279-LCS 06/14/2007 12:30	AmtRec:	1.00g,in	UISH0504 07/03/07,pd 01/20/04,r	#Containers: 1	Scr:	Alpha:	Beta:	

Comments:

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

J09G31A4-DUP Constituent List:

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

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: 07/03/2007

Batch: 7184279
SEQ Batch, Test: None

pCi/g

Sep1 DT/Tm Tech:
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:

U-235 RDL:1 pCi/g LCL: UCL: RPD: U-238 RDL:1 pCi/g LCL: UCL: RPD:

J19QN1AA-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:

J19QN1AC-LCS:
U-232 RDL: pCi/g LCL:20 UCL:105 RPD:35 Uranium RDL: pCi/g LCL:70 UCL:130 RPD:35

J09G31A4-DUP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

J19QN1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

J19QN1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

7/12/2007 11:53:17 AM

ICOC Fraction Transfer/Status Report

ByDate: 7/12/2006, 7/17/2007, Batch: '7184279', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7184279						
AC		CalcC	WoodT	7/3/2007 12:59:38 PM		
SC			antonsonl	IsBatched	7/3/2007 11:10:16 AM	ICOC_RADCALC v4.8.26
SC			WoodT	InPrep	7/3/2007 12:59:38 PM	RICH-RC-5019 REVISION 6
SC			WoodT	Prep1C	7/9/2007 1:41:23 PM	RICH-RC-5013 REVISION 7
SC			WoodT	InPrep2	7/9/2007 1:41:36 PM	RICH-RC-5019 REVISION 6
SC			WoodT	Prep2C	7/9/2007 1:41:53 PM	RICH-RC-5019 REVISION 6
SC			HarveyK	InSep1	7/9/2007 1:52:45 PM	RICH-RC-5067 REV8
SC			HarveyK	Sep1C	7/10/2007 2:17:53 PM	RICH-RC-5067 REV8
SC			HarveyK	InSep2	7/10/2007 2:18:58 PM	RICH-RC-5039 REV5
SC			HarveyK	Sep2C	7/10/2007 7:36:15 PM	RICH-RC-5039 REV5
SC			DAWKINSO	InCnt1	7/10/2007 8:24:31 PM	RICH-RD-0008 REVISION 4
SC			BlackCL	CalcC	7/11/2007 8:45:09 AM	RICH-RD-0008 REVISION 4
SC			DAWKINSO	InCnt1	7/11/2007 4:21:10 PM	RICH-RD-0008 REVISION 4
SC			BlackCL	CalcC	7/12/2007 10:38:32 AM	RICH-RD-0008 REVISION 4
AC			WoodT	7/9/2007 1:41:23 PM		
AC			WoodT	7/9/2007 1:41:36 PM		
AC			WoodT	7/9/2007 1:41:53 PM		
AC			HarveyK	7/9/2007 1:52:45 PM		REV8
AC			HarveyK	7/10/2007 2:17:53 PM		
AC			HarveyK	7/10/2007 2:18:58 PM		
AC			HarveyK	7/10/2007 7:36:15 PM		
AC			DAWKINSO	7/10/2007 8:24:31 PM		
AC			BlackCL	7/11/2007 8:45:09		
AC			DAWKINSO	7/11/2007 4:21:10 PM		
AC			BlackCL	7/12/2007 10:38:32		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 12

ICOCFractions v4.8.27

STL RICHLAND

6/25/2007 8:34:32 AM

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AnalyDueDate: 07/03/2007

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

Batch: 7170538 SOIL pCi/g
SEQ Batch, Test: 7170537, 7ISO 7170537, 7ISO

PM, Quote: SS , 27038

PRIORITY

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 J09G3-1-AN J7F190104-1-SAMP 06/14/2007 12:30		1.00g,in AmtRec: 6X120ML,500MLP	PATB4389 06/09/07,pd 03/13/07,r #Containers: 7	300		Scr:	Alpha:	Beta:
2 J09G3-1-AT-X J7F190104-1-DUP 06/14/2007 12:30		1.04g,in AmtRec: 6X120ML,500MLP	PATB4390 06/09/07,pd 03/13/07,r #Containers: 7			Scr:	Alpha:	Beta:
3 J1CEM-1-AA-B J7F190000-538-BLK 06/14/2007 12:30		1.00g,in AmtRec:	PATB4392 06/20/07,pd 03/13/07,r #Containers: 1			Scr:	Alpha:	Beta:
4 J1CEM-1-AC-C J7F190000-538-LCS 06/14/2007 12:30		1.00g,in AmtRec:	PASI0174 06/09/07,pd 03/13/07,r #Containers: 1			Scr:	Alpha:	Beta:
5 J1CEM-1-AD-BX J7F190000-538-MBLK 06/14/2007 12:30		1.04g,in AmtRec:	PATB4393 06/20/07,pd 03/13/07,r #Containers: 1			Scr:	Alpha:	Beta:
6 J1CEM-1-AE-CM J7F190000-538-MLCS 06/14/2007 12:30		1.00g,in AmtRec:	PASI0173 06/09/07,pd 03/13/07,r #Containers: 1			Scr:	Alpha:	Beta:

39 40 42 69 44 46 127

STL RICHLAND

6/25/2007 8:34:34 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: 07/03/2007

Sep1 DT/Tm Tech:

Batch: 7170538 pCi/g
SEQ Batch, Test: None

PRIORITY

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: Samples have been muffled and burned 6/25/07 JBW

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

J09G31AN-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:

J1CEM1AA-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:

J1CEM1AC-LCS:

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

J1CEM1AD-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:

J1CEM1AE-MLCS:

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

J09G31AN-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

J1CEM1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

J1CEM1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

J1CEM1AD-MBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

J1CEM1AE-MLCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

6/28/2007 3:21:44 PM

ICOC Fraction Transfer/Status Report

ByDate: 6/28/2006, 7/3/2007, Batch: '7170538', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7170538						
AC		CalcC	WoodT	6/25/2007 8:32:59		
SC			wagarr	IsBatched	6/19/2007 4:19:46 PM	ICOC_RADCALC v4.8.26
SC			WoodT	Prep1C	6/25/2007 8:32:59 AM	RICH-RC-5013 REVISION 7
SC			WoodT	InPrep2	6/25/2007 8:33:40 AM	RICH-RC-5019 REVISION 6
SC			WoodT	Prep2C	6/25/2007 8:33:56 AM	RICH-RC-5019 REVISION 6
SC			HarveyK	InSep1	6/25/2007 2:47:41 PM	RICH-RC-5087 REV1
SC			HarveyK	Sep1C	6/26/2007 8:30:34 AM	RICH-RC-5087 REV1
SC			FABREM	Sep2C	6/26/2007 2:09:09 PM	RICH-RC-5003 REVISION 7
SC			DAWKINSO	InCnt1	6/26/2007 2:19:08 PM	RICH-RD-0008 REVISION 4
SC			DAWKINSO	InCnt1	6/26/2007 6:28:01 PM	RICH-RD-0008 REVISION 4
SC			DAWKINSO	CalcC	6/27/2007 5:57:48 PM	RICH-RD-0008 REVISION 4
AC			WoodT	6/25/2007 8:33:40		
AC			WoodT	6/25/2007 8:33:56		
AC			HarveyK	6/25/2007 2:47:41 PM		
AC			HarveyK	6/26/2007 8:30:34		
AC			FABREM	6/26/2007 2:09:09 PM		
AC			DAWKINSO	6/26/2007 2:19:08 PM		
AC			DAWKINSO	6/26/2007 6:28:01 PM		
AC			DAWKINSO	6/27/2007 5:57:48 PM		

AC: Accepting Entry; SC: Status Change

6/28/2007 6:56:31 PM

Sample Preparation/Analysis

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

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

Balance Id:1120421763,112037392214 A
Pipet #: _____

AnalyDueDate: 07/03/2007

Sep1 DT/Tm Tech: 06/28/2007 17:35,ManisD

Batch: 7178193 SOIL pCi/g PM, Quote: SS , 27038

Sep2 DT/Tm Tech:

SEQ Batch, Test: None All Tests: 7170533 AXTA, 7170535 88OV, 7170537 7ISO, 7170538 7ISN, 7170540 7SSR, 7170541 AFS4, 7170545 CHTH, 7170546 ATS6, 7170551 5SS3, 7170552 DWEA, 7178193 CHTH,

Prep Tech: ,WoodT

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 J09G3-2-AD J7F190104-1-SAMP 06/14/2007 12:30		6.03g,in AmtRec: 6X120ML,500MLP	SRTA16897 05/31/07,pd 05/22/07,r #Containers: 7	1.5 06/28/2007 17:35,s1	67.3	50	26A Scr:	0914 Alpha:	6/29/07 R Beta:	
2 J09G3-2-AW-X J7F190104-1-DUP 06/14/2007 12:30		6.05g,in AmtRec: 6X120ML,500MLP	SRTA16898 05/31/07,pd 05/22/07,r #Containers: 7	1.5 06/28/2007 17:35,s1	69.6	50	26B Scr:	Alpha:	Beta:	
3 J1CE6-2-AA-B J7F190000-545-BLK 06/14/2007 12:30		6.00g,in AmtRec:	SRTA16899 05/31/07,pd 05/22/07,r #Containers: 1	1.5 06/28/2007 17:35,s1	47.7	50	26C Scr:	Alpha:	Beta:	
4 J1CE6-2-AC-C J7F190000-545-LCS 06/14/2007 12:30		6.00g,in AmtRec:	STSB1220 05/31/07,pd 05/22/07,r #Containers: 1	1.5 06/28/2007 17:35,s1	62.6	50	26d Scr:	Alpha:	Beta:	

Comments:

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

J09G32AD-SAMP Constituent List:

Sr-90	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35

J1CE62AA-BLK:

Sr-90	RDL:1	pCi/g	LCL:	UCL:	RPD:

J1CE62AC-LCS:

Sr-90	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35

J09G32AD-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: 07/03/2007

Sep1 DT/Tm Tech: 06/28/2007 17:35,ManisD

Batch: 7178193 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
J1CE62AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J1CE62AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

STL RICHLAND

73

6/29/2007 3:48:30 PM

ICOC Fraction Transfer/Status Report

ByDate: 6/29/2006, 7/4/2007, Batch: '7178193', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7178193						
AC		CalcC	WoodT	6/27/2007 9:21:04		
SC			nortonj	IsBatched	6/27/2007 8:34:20 AM	ICOC_RADCALC v4.8.26
SC			WoodT	InPrep	6/27/2007 9:21:04 AM	RICH-RC-5013 REVISION 7
SC			WoodT	Prep1C	6/27/2007 6:09:50 PM	RICH-RC-5013 REVISION 7
SC			ManisD	InSep1	6/28/2007 6:36:31 AM	RICH-RC-5006 REV 7
SC			DAWKINSO	InCnt1	6/28/2007 7:20:46 PM	RICH-RD-0003 REVISION 5
SC			StringerR	CalcC	6/29/2007 11:14:59 AM	RICH-RD-0003 REVISION 5
AC			WoodT	6/27/2007 6:09:50 PM		
AC			ManisD	6/28/2007 6:36:31		
AC			DAWKINSO	6/28/2007 7:20:46 PM		
AC			StringerR	6/29/2007 11:14:59		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 5

ICOCFractions v4.8.27

STL RICHLAND

6/26/2007 9:21:36 AM

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AnalyDueDate: 07/03/2007

Sample Preparation/Analysis

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

Balance Id:1120421763

Pipet #: _____

PRIORITY

Sep1 DT/Tm Tech:

Batch: 7170533 SOIL pCi/g PM, Quote: SS , 27038

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,WoodT

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 J09G3-1-AM J7F190104-1-SAMP 06/14/2007 12:30		744.90g,in AmtRec: 6X120ML,500MLP	#Containers: 7		SMA	200		G6	1259	6/24/07 r
2 J09G3-1-AQ-X J7F190104-1-DUP 06/14/2007 12:30	* Not enough sample for a dup, please recount on seperate detector JSW 6/26/07	AmtRec: 6X120ML,500MLP	#Containers: 7					G7	1632	6/26/07 r
3 J1CEC-1-AA-B J7F190000-533-BLK 06/14/2007 12:30		859.27g,in AmtRec:	CAL827 #Containers: 1		SMA			G7	1300	6/26/07 r
4 J1CEC-1-AC-C J7F190000-533-LCS 06/14/2007 12:30		457.79g,in AmtRec:	CAL816 01/01/03,pd 01/01/02,r #Containers: 1		MA			G8	1301	6/26/07 r

Comments: * Sample J09G3 ~ Not enough sample for a duplicate, please recount on a seperate ~~detector~~ detector. 6/26/07 JSW

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

J09G31AM-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:

J1CEC1AA-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:

75

6/26/2007 9:21:38 AM

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

AnalyDueDate: 07/03/2007

Batch: 7170533 pCi/g
SEQ Batch, Test: None

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

```
 Eu-154      RDL:1.00E-01    pCi/g    LCL:      UCL:      RPD:      Eu-155      RDL:1.00E-01    pCi/g    LCL:      UCL:      RPD:

J1CEC1AC-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
J09G31AM-SAMP Calc Info:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
J1CEC1AA-BLK:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
J1CEC1AC-LCS:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
```

Approved By _____ Date: _____

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2 ISV - Insufficient Volume for Analysis WO Cnt: 4
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep_SamplePrep v4.8.26

6/28/2007 2:51:55 PM

ICOC Fraction Transfer/Status Report

ByDate: 6/28/2006, 7/3/2007, Batch: '7170533', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7170533						
AC		CalcC	WoodT	6/20/2007 7:24:50		
SC			wagarr	IsBatched	6/19/2007 4:19:46 PM	ICOC_RADCALC v4.8.26
SC			WoodT	InPrep	6/20/2007 7:24:50 AM	RICH-RC-5013 REVISION 7
SC			WoodT	Prep1C	6/26/2007 9:29:05 AM	RICH-RC-5013 REVISION 7
SC			WoodT	InPrep2	6/26/2007 9:29:28 AM	RICH-RC-5017 REVISION 6
SC			WoodT	Prep2C	6/26/2007 9:29:39 AM	RICH-RC-5017 REVISION 6
SC			StringerR	InCnt1	6/26/2007 9:37:22 AM	RICH-RD-0007 REVISION 6
SC			DAWKINSO	CalcC	6/26/2007 8:19:04 PM	RICH-RD-0007 REVISION 6
AC			WoodT	6/26/2007 9:29:05		
AC			WoodT	6/26/2007 9:29:28		
AC			WoodT	6/26/2007 9:29:39		
AC			StringerR	6/26/2007 9:37:22		
AC			DAWKINSO	6/26/2007 8:19:04 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 6

ICOCFractions v4.8.27

6/19/2007 4:17:34 PM

Sample Preparation/Analysis

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

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

PRIORITY

Balance Id: N/A
Pipet #:

AnalyDueDate: 07/03/2007 J000116

Sep1 DT/Tm Tech: 6-22-07 [illegible]

Batch: 7170551 SOIL pCi/g PM, Quote: SS , 27038

SEQ Batch, Test: None

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 J09G3-1-AK J7F190104-1-SAMP 06/14/2007 12:30	AmtRec: 6X120ML,500MLP	#Containers: 7				Scr:	Alpha:	Beta:
2 J09G3-1-A0-X J7F190104-1-DUP 06/14/2007 12:30	AmtRec: 6X120ML,500MLP	#Containers: 7				Scr:	Alpha:	Beta:
3 J1CFG-1-AA-B J7F190000-551-BLK 06/14/2007 12:30	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:
4 J1CFG-1-AC-C J7F190000-551-LCS 06/14/2007 12:30	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:
5 J1CFG-1-AD-BN J7F190000-551-IBLK 06/14/2007 12:30	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:

Comments:

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

J09G31AK-SAMP Constituent List:
C-14 RDL:50 pCi/g LCL:70 UCL:130 RPD:35

STL RICHLAND

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6/19/2007 4:17:35 PM

Sample Preparation/Analysis

PRIORITY

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

Balance Id: N/A
Pipet #:
Sep1 DT/Tm Tech: 6-22-07 ZAK
Sep2 DT/Tm Tech:
Prep Tech:

AnalyDueDate: 07/03/2007

Batch: 7170551 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:

J1CFG1AA-BLK:
C-14 RDL:50 pCi/g LCL: UCL: RPD:
J1CFG1AC-LCS:
C-14 RDL:50 pCi/g LCL:70 UCL:130 RPD:35
J1CFG1AD-IBLK:
C-14 RDL:50 pCi/g LCL: UCL: RPD:
J09G31AK-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J1CFG1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J1CFG1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J1CFG1AD-IBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

6/25/2007 2:09:34 PM

ICOC Fraction Transfer/Status Report

ByDate: 6/25/2006, 6/30/2007, Batch: '7170551', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7170551						
AC		CalcC	McDowellD	6/20/2007 7:56:55		Revision 3
SC			wagarr	IsBatched	6/19/2007 4:19:46 PM	ICOC_RADCALC v4.8.26
SC			McDowellD	InSep1	6/20/2007 7:56:55 AM	RICH-RC-5022 REVISION 3
SC			McDowellD	Sep1C	6/22/2007 11:10:39 AM	RICH-RC-5022 REVISION 3
SC			StringerR	InCnt1	6/22/2007 11:14:08 AM	RICH-RD-0001 REVISION 4
SC			StringerR	CalcC	6/23/2007 12:28:26 PM	RICH-RD-0001 REVISION 4
AC			McDowellD	6/22/2007 11:10:39		
AC			StringerR	6/22/2007 11:14:08		
AC			StringerR	6/23/2007 12:28:26		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 4

ICOCFractions v4.8.27

SEVERN TRENT STL

*** RE-ANALYSIS REQUEST ***

DUE DATE 7/3/07

CUSTOMER WCH

ANALYSIS Ni 63

MATRIX Soil

LOT NUMBER J7F190104

SAMPLE DELIVERY GROUP

OLD BATCH NUMBER 71705L11

NEW BATCH NUMBER 7187452

LAB SAMPLE ID	REASON FOR REQUEST & ANALYSIS COMMENTS
1) all	dupsout.
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.

7/9/2007 6:41:44 AM

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AnalyDueDate: 07/03/2007

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

Batch: 7187452 SOIL pCi/g PM, Quote: SS , 27038
SEQ Batch, Test: None All Tests: 7170533 AXTA, 7170535 88OV, 7170537 7ISO, 7170538 7ISN, 7170540 7SSR, 7170541 AFS4, 7170545 CHTH, 7170546 ATS6, 7170551 5SS3, 7170552 DWEA, 7178193 CHTH, 7184279 7SSR, 7187452 AFS4

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 J09G3-1-A5-X J7F190104-1-DUP 06/14/2007 12:30			0.28g,in	0.28g	NITA2422 05/31/07	100				
	AmtRec: 6X120ML,500MLP		#Containers: 7					Scr:	Alpha:	Beta:
2 J09G3-2-AE J7F190104-1-SAMP 06/14/2007 12:30			0.27g,in	0.27g	NITA2423 05/31/07					
	AmtRec: 6X120ML,500MLP		#Containers: 7					Scr:	Alpha:	Beta:
3 J2GA8-1-AA-B J7G060000-452-BLK 06/14/2007 12:30			0.25g,in	0.25g	NITA2424 05/31/07					
	AmtRec:		#Containers: 1					Scr:	Alpha:	Beta:
4 J2GA8-1-AC-C J7G060000-452-LCS 06/14/2007 12:30			0.25g,in	0.25g	NISA0766 06/19/07					
	AmtRec:		#Containers: 1					Scr:	Alpha:	Beta:
5 J2GA8-1-AD-BN J7G060000-452-IBLK 06/14/2007 12:30										
	AmtRec:		#Containers: 1					Scr:	Alpha:	Beta:

Comments: Samples have been muffled & bombed ~~7/6/07~~ 7/1/07 JGW

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

J09G31A5-DUP 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

82

7/9/2007 6:41:58 AM

Sample Preparation/Analysis PRIORITY

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

Balance Id:
Pipet #:

AnalyDueDate: 07/03/2007

Sep1 DT/Tm Tech:

Batch: 7187452 pCi/g
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech:

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

```
J2GA81AA-BLK:
  Ni-63        RDL:30        pCi/g     LCL:        UCL:        RPD:
J2GA81AC-LCS:
  Ni-63        RDL:30        pCi/g     LCL:70      UCL:130     RPD:35
J2GA81AD-IBLK:
  Ni-63        RDL:30        pCi/g     LCL:        UCL:        RPD:
J09G31A5-DUP Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
J2GA81AA-BLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
J2GA81AC-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
J2GA81AD-IBLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

Approved By _____ Date: _____

7/25/2007 2:06:32 PM

ICOC Fraction Transfer/Status Report

ByDate: 7/25/2006, 7/30/2007, Batch: '7187452', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7187452						
AC		CalcC	WoodT	7/6/2007 8:08:51 PM		
SC			antonsonl	IsBatched	7/6/2007 3:04:51 PM	ICOC_RADCALC v4.8.26
SC			WoodT	InPrep	7/6/2007 8:08:51 PM	RICH-RC-5013 Revision 7
SC			WoodT	InPrep2	7/9/2007 6:53:15 AM	RICH-RC-5019 REVISION 6
SC			WoodT	Prep2C	7/9/2007 6:53:29 AM	RICH-RC-5019 REVISION 6
SC			FABREM	InSep1	7/9/2007 12:13:36 PM	RICH-RC-5069 REVISION 6
SC			FABREM	Sep1C	7/11/2007 7:38:17 PM	RICH-RC-5069 REVISION 6
SC			DAWKINSO	InCnt1	7/11/2007 7:48:46 PM	RICH-RD-0001 REVISION 4
SC			BlackCL	CalcC	7/13/2007 8:28:44 AM	RICH-RD-0001 REVISION 4
AC			WoodT	7/9/2007 6:53:15 AM		
AC			WoodT	7/9/2007 6:53:29 AM		
AC			FABREM	7/9/2007 12:13:36 PM		
AC			FABREM	7/11/2007 7:38:17 PM		
AC			DAWKINSO	7/11/2007 7:48:46 PM		
AC			BlackCL	7/13/2007 8:28:44		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 7

ICOCFractions v4.8.27

STL RICHLAND

6/19/2007 4:17:33 PM

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AnalyDueDate: 07/03/2007 J000116

Batch: 7170546 SOIL pCi/g
SEQ Batch, Test: None

Sample Preparation/Analysis

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

PM, Quote: SS , 27038

PRIORITY

Balance Id: 12445
Pipet #:
Sep1 DT/Tm Tech: 6-22-07 bm
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 J09G3-1-AJ J7F190104-1-SAMP 06/14/2007 12:30	AmtRec: 6X120ML,500MLP	#Containers: 7				Scr:	Alpha:	Beta:-
2 J09G3-1-AX-X J7F190104-1-DUP 06/14/2007 12:30	AmtRec: 6X120ML,500MLP	#Containers: 7				Scr:	Alpha:	Beta:
3 J1CE9-1-AA-B J7F190000-546-BLK 06/14/2007 12:30	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:
4 J1CE9-1-AC-C J7F190000-546-LCS 06/14/2007 12:30	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:
5 J1CE9-1-AD-BN J7F190000-546-IBLK 06/14/2007 12:30	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:

Comments:

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

J09G31AJ-SAMP Constituent List:
H-3 RDL:400 pCi/g LCL:70 UCL:130 RPD:35

Sample Preparation/Analysis

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

AnalyDueDate: 07/03/2007

Batch: 7170546 pCi/g
SEQ Batch, Test: None

Balance Id: 17445
Pipet #:
Sep1 DT/Tm Tech: 6-22 0 7am
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:

```
J1CE91AA-BLK:
  H-3        RDL:400      pCi/g    LCL:      UCL:      RPD:
J1CE91AC-LCS:
  H-3        RDL:400      pCi/g    LCL:70    UCL:130   RPD:35
J1CE91AD-IBLK:
  H-3        RDL:400      pCi/g    LCL:      UCL:      RPD:
J09G31AJ-SAMP Calc Info:
     Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
J1CE91AA-BLK:
     Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
J1CE91AC-LCS:
     Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
J1CE91AD-IBLK:
     Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
```

Approved By _____ Date: _____

STL RICHLAND

6/25/2007 1:56:31 PM

ICOC Fraction Transfer/Status Report

ByDate: 6/25/2006, 6/30/2007, Batch: '7170546', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7170546						
AC		CalcC	McDowellD	6/20/2007 7:57:09		
SC			wagarr	IsBatched	6/19/2007 4:19:46 PM	ICOC_RADCALC v4.8.26
SC			McDowellD	InSep1	6/20/2007 7:57:09 AM	RICH-RC-5037 REVISION 3
SC			McDowellD	Sep1C	6/22/2007 11:10:57 AM	RICH-RC-5037 REVISION 3
SC			StringerR	InCnt1	6/22/2007 11:14:12 AM	RICH-RD-0001 REVISION 4
SC			StringerR	CalcC	6/23/2007 12:16:20 PM	RICH-RD-0001 REVISION 4
AC			McDowellD	6/22/2007 11:10:57		
AC			StringerR	6/22/2007 11:14:12		
AC			StringerR	6/23/2007 12:16:20		

C: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 4

ICOCFractions v4.8.27

STL RICHLAND

6/19/2007 4:17:35 PM

127642, Washington Closure Hanford
Bechtel Hanford, Inc.

AnalyDueDate: 07/03/2007 J000116

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:

Batch: 7170552 SOIL mg/kg
SEQ Batch, Test: None

PM, Quote: SS , 27038

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 J09G3-1-AA J7F190104-1-SAMP 06/14/2007 12:30		2.5205 AmtRec: 6X120ML,500MLP	#Containers: 7					Scr:	Alpha:	Beta:
2 J09G3-1-A1-S J7F190104-1-MS 06/14/2007 12:30		2.5048 AmtRec: 6X120ML,500MLP	#Containers: 7					Scr:	Alpha:	Beta:
3 J09G3-1-A2-X J7F190104-1-DUP 06/14/2007 12:30		2.5524 AmtRec: 6X120ML,500MLP	#Containers: 7					Scr:	Alpha:	Beta:
4 J09G3-1-A3-S J7F190104-1-MS 06/14/2007 12:30		2.5291 (14.8mg) AmtRec: 6X120ML,500MLP	#Containers: 7					Scr:	Alpha:	Beta:
5 J1CFM-1-AA-B J7F190000-552-BLK 06/14/2007 12:30		AmtRec:	#Containers: 1					Scr:	Alpha:	Beta:
6 J1CFM-1-AC-C J7F190000-552-LCS 06/14/2007 12:30		AmtRec:	#Containers: 1					Scr:	Alpha:	Beta:

STL RICHLAND

6/19/2007 4:17:36 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: 07/03/2007

Batch: 7170552 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

J09G31AA-SAMP Constituent List:
HEXCHROME RDL:0.35 mg/kg LCL:80 UCL:120 RPD:20
J09G31A1-MS Constituent List:
HEXCHROME RDL:0.35 mg/kg LCL:75 UCL:125 RPD:20
J09G31A3-MS:
HEXCHROME RDL:0.35 mg/kg LCL:75 UCL:125 RPD:20
J1CFM1AA-BLK:
HEXCHROME RDL:0.35 mg/kg LCL: UCL: RPD:
J1CFM1AC-LCS:
HEXCHROME RDL:0.35 mg/kg LCL:80 UCL:120 RPD:20

J09G31AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J09G31A1-MS Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J09G31A3-MS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J1CFM1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J1CFM1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

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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

RECEIVED
JUL 2007

ANALYTICAL REPORT

RC-032

Lot #: F7F190216
SDG #: J00116

Joan Kessner

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

TESTAMERICA LABORATORIES, INC. (FKA STL)

James M. Klyce
for
Brian O'Donnell
Project Manager

July 10, 2007

Case Narrative
Lot Number: F7F190216
SDG: J00116

This report contains the analytical results for the sample received under chain of custody by STL St. Louis on June 19, 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.

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 Silicon, Silver, Zinc, Antimony, Cadmium, Magnesium and Selenium 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 for Aluminum, Boron, Iron, Potassium, Sodium and Silicon due to the high concentrations of Iron. The reporting limit has been adjusted only for those targets reported from the dilution run.
Affected Samples:
F7F190216 (1): J15591

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

PCBs by SW846 8082
Mercury by SW846 7471A

METHODS SUMMARY

F7F190216

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

F7F190216

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
J1AKA	001	J15591	06/14/07	12:30

NOTE(S):

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

PCBs

Washington Closure Hanford

Client Sample ID: J15591

GC Semivolatiles

Lot-Sample #...: F7F190216-001 **Work Order #...:** J1AKA2A7 **Matrix.....:** SOLID
Date Sampled...: 06/14/07 **Date Received..:** 06/19/07
Prep Date.....: 06/26/07 **Analysis Date..:** 06/27/07
Prep Batch #...: 7177307
Dilution Factor: 1
% Moisture.....: 3.3 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Aroclor 1016	ND	17	ug/kg	6.2
Aroclor 1221	ND	17	ug/kg	6.2
Aroclor 1232	ND	17	ug/kg	6.2
Aroclor 1242	ND	17	ug/kg	6.2
Aroclor 1248	ND	17	ug/kg	6.2
Aroclor 1254	ND	17	ug/kg	6.8
Aroclor 1260	ND	17	ug/kg	6.8

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Decachlorobiphenyl	81	(37 - 150)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F7F190216 **Work Order #...:** J1R2N1AA **Matrix.....:** SOLID
MB Lot-Sample #: F7F260000-307

Prep Date.....: 06/26/07
Analysis Date..: 06/27/07 **Prep Batch #...:** 7177307
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	93	(51 - 145)

NOTE(S):

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

LABORATORY CONTROL SAMPLE DATA REPORT

GC Semivolatiles

Client Lot #...: F7F190216 **Work Order #...:** J1R2N1AC **Matrix.....:** SOLID
LCS Lot-Sample#: F7F260000-307
Prep Date.....: 06/26/07 **Analysis Date..:** 06/27/07
Prep Batch #...: 7177307
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Aroclor 1016	**167**	**161**	**ug/kg**	**97**	**SW846 8082**
Aroclor 1260	**167**	**158**	**ug/kg**	**95**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Decachlorobiphenyl	87	(41 - 140)

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 #...: F7F190216 **Work Order #...:** J1AKA1D1-MS **Matrix.....:** SOLID
MS Lot-Sample #: F7F190216-001 J1AKA1D2-MSD
Date Sampled...: 06/14/07 **Date Received..:** 06/19/07
Prep Date.....: 06/26/07 **Analysis Date..:** 06/27/07
Prep Batch #...: 7177307
Dilution Factor: 1 **% Moisture.....:** 3.3

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Aroclor 1016	**ND**	**170**	**167**	**ug/kg**	**98**		**SW846 8082**
	ND	**170**	**168**	**ug/kg**	**99**	**0.61**	**SW846 8082**
Aroclor 1260	**ND**	**170**	**163**	**ug/kg**	**95**		**SW846 8082**
	ND	**170**	**174**	**ug/kg**	**102**	**6.7**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Decachlorobiphenyl	92	(51 - 145)
	98	(51 - 145)

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: J15591

TOTAL Metals

Lot-Sample #...: F7F190216-001 **Matrix.....:** SOLID
Date Sampled...: 06/14/07 **Date Received..:** 06/19/07
% Moisture.....: 3.3

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 7171073						
Silver	ND N	1.0	mg/kg	SW846 6010B	06/20-06/22/07	J1AKA1A1
		Dilution Factor: 1		MDL.....: 0.38		
Aluminum	**8060 D,N**	**41.4**	**mg/kg**	**SW846 6010B**	**06/20-06/27/07**	**J1AKA1AD**
		Dilution Factor: 2		MDL.....: 10.5		
Arsenic	**2.2**	**1.0**	**mg/kg**	**SW846 6010B**	**06/20-06/22/07**	**J1AKA1AF**
		Dilution Factor: 1		MDL.....: 0.25		
Barium	**61.7**	**5.2**	**mg/kg**	**SW846 6010B**	**06/20-06/22/07**	**J1AKA1AG**
		Dilution Factor: 1		MDL.....: 0.24		
Beryllium	**0.16 B**	**0.52**	**mg/kg**	**SW846 6010B**	**06/20-06/22/07**	**J1AKA1AH**
		Dilution Factor: 1		MDL.....: 0.072		
Boron	ND D	51.7	mg/kg	SW846 6010B	06/20-06/27/07	J1AKA1AJ
		Dilution Factor: 5		MDL.....: 7.8		
Calcium	**3580**	**259**	**mg/kg**	**SW846 6010B**	**06/20-06/22/07**	**J1AKA1AL**
		Dilution Factor: 1		MDL.....: 31.0		
Cadmium	ND N	0.52	mg/kg	SW846 6010B	06/20-06/22/07	J1AKA1AK
		Dilution Factor: 1		MDL.....: 0.063		
Cobalt	**9.9**	**5.2**	**mg/kg**	**SW846 6010B**	**06/20-06/22/07**	**J1AKA1AM**
		Dilution Factor: 1		MDL.....: 0.24		
Chromium	**9.2**	**1.0**	**mg/kg**	**SW846 6010B**	**06/20-06/22/07**	**J1AKA1A5**
		Dilution Factor: 1		MDL.....: 0.23		
Copper	**11.8**	**2.6**	**mg/kg**	**SW846 6010B**	**06/20-06/22/07**	**J1AKA1AN**
		Dilution Factor: 1		MDL.....: 0.41		
Iron	**24900 D,N**	**51.7**	**mg/kg**	**SW846 6010B**	**06/20-06/27/07**	**J1AKA1AP**
		Dilution Factor: 5		MDL.....: 19.4		
Potassium	**1740 C,D**	**1030**	**mg/kg**	**SW846 6010B**	**06/20-06/27/07**	**J1AKA1AW**
		Dilution Factor: 2		MDL.....: 310		
Magnesium	**4300 N**	**103**	**mg/kg**	**SW846 6010B**	**06/20-06/22/07**	**J1AKA1AR**
		Dilution Factor: 1		MDL.....: 9.3		

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Washington Closure Hanford

Client Sample ID: J15591

TOTAL Metals

Lot-Sample #...: F7F190216-001 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Manganese	**315 N**	**1.0**	**mg/kg**	**SW846 6010B**	**06/20-06/22/07**	**J1AKA1AT**
		Dilution Factor: 1		MDL.....: 0.41		
Molybdenum	ND	4.1	mg/kg	SW846 6010B	06/20-06/22/07	J1AKA1AU
		Dilution Factor: 1		MDL.....: 0.92		
Sodium	**153 B,D**	**207**	**mg/kg**	**SW846 6010B**	**06/20-06/27/07**	**J1AKA1A2**
		Dilution Factor: 2		MDL.....: 24.8		
Nickel	**11.5**	**4.1**	**mg/kg**	**SW846 6010B**	**06/20-06/22/07**	**J1AKA1AV**
		Dilution Factor: 1		MDL.....: 1.2		
Lead	**4.0**	**1.0**	**mg/kg**	**SW846 6010B**	**06/20-06/22/07**	**J1AKA1AQ**
		Dilution Factor: 1		MDL.....: 0.31		
Antimony	ND N	1.0	mg/kg	SW846 6010B	06/20-06/22/07	J1AKA1AE
		Dilution Factor: 1		MDL.....: 0.53		
Selenium	ND B,N	1.6	mg/kg	SW846 6010B	06/20-06/22/07	J1AKA1AX
		Dilution Factor: 1		MDL.....: 0.46		
Silicon	**816 D,N**	**82.8**	**mg/kg**	**SW846 6010B**	**06/20-06/28/07**	**J1AKA1A0**
		Dilution Factor: 2		MDL.....: 18.6		
Vanadium	**51.1**	**1.0**	**mg/kg**	**SW846 6010B**	**06/20-06/22/07**	**J1AKA1A3**
		Dilution Factor: 1		MDL.....: 0.55		
Zinc	**34.9 N**	**5.2**	**mg/kg**	**SW846 6010B**	**06/20-06/22/07**	**J1AKA1A4**
		Dilution Factor: 1		MDL.....: 1.6		

Prep Batch #...: 7171178

Mercury	ND	0.034	mg/kg	SW846 7471A	06/21/07	J1AKA1A6
		Dilution Factor: 1		MDL.....: 0.0069		

NOTE(S):

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.

N Spike sample recovery is outside control limits.

B Estimated result. Result is less than RL.

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

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F7F190216 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: F7F200000-073 **Prep Batch #...:** 7171073						
Aluminum	ND	20.0	mg/kg	SW846 6010B	06/20-06/27/07	J1CRC1AA
		Dilution Factor: 1				
Antimony	ND	1.0	mg/kg	SW846 6010B	06/20-06/22/07	J1CRC1AC
		Dilution Factor: 1				
Arsenic	ND	1.0	mg/kg	SW846 6010B	06/20-06/22/07	J1CRC1AD
		Dilution Factor: 1				
Barium	ND	5.0	mg/kg	SW846 6010B	06/20-06/22/07	J1CRC1AE
		Dilution Factor: 1				
Beryllium	ND	0.50	mg/kg	SW846 6010B	06/20-06/22/07	J1CRC1AF
		Dilution Factor: 1				
Boron	ND	10.0	mg/kg	SW846 6010B	06/20-06/27/07	J1CRC1AG
		Dilution Factor: 1				
Cadmium	ND	0.50	mg/kg	SW846 6010B	06/20-06/22/07	J1CRC1AH
		Dilution Factor: 1				
Calcium	ND	250	mg/kg	SW846 6010B	06/20-06/22/07	J1CRC1AJ
		Dilution Factor: 1				
Chromium	ND	1.0	mg/kg	SW846 6010B	06/20-06/22/07	J1CRC1A3
		Dilution Factor: 1				
Cobalt	ND	5.0	mg/kg	SW846 6010B	06/20-06/22/07	J1CRC1AK
		Dilution Factor: 1				
Copper	ND	2.5	mg/kg	SW846 6010B	06/20-06/22/07	J1CRC1AL
		Dilution Factor: 1				
Iron	ND	10.0	mg/kg	SW846 6010B	06/20-06/27/07	J1CRC1AM
		Dilution Factor: 1				
Lead	ND	1.0	mg/kg	SW846 6010B	06/20-06/22/07	J1CRC1AN
		Dilution Factor: 1				
Magnesium	ND	100	mg/kg	SW846 6010B	06/20-06/22/07	J1CRC1AP
		Dilution Factor: 1				
Manganese	ND	1.0	mg/kg	SW846 6010B	06/20-06/22/07	J1CRC1AQ
		Dilution Factor: 1				

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METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F7F190216 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Molybdenum	ND	4.0	mg/kg	SW846 6010B	06/20-06/22/07	J1CRC1AR
		Dilution Factor: 1				
Nickel	ND	4.0	mg/kg	SW846 6010B	06/20-06/22/07	J1CRC1AT
		Dilution Factor: 1				
Potassium	165 B	500	mg/kg	SW846 6010B	06/20-06/27/07	J1CRC1AU
		Dilution Factor: 1				
Selenium	ND	1.5	mg/kg	SW846 6010B	06/20-06/22/07	J1CRC1AV
		Dilution Factor: 1				
Silicon	ND	40.0	mg/kg	SW846 6010B	06/20-06/28/07	J1CRC1AW
		Dilution Factor: 1				
Silver	ND	1.0	mg/kg	SW846 6010B	06/20-06/22/07	J1CRC1AX
		Dilution Factor: 1				
Sodium	ND	100	mg/kg	SW846 6010B	06/20-06/27/07	J1CRC1A0
		Dilution Factor: 1				
Vanadium	ND	1.0	mg/kg	SW846 6010B	06/20-06/22/07	J1CRC1A1
		Dilution Factor: 1				
Zinc	ND	5.0	mg/kg	SW846 6010B	06/20-06/22/07	J1CRC1A2
		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.

B Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F7F190216 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: F7F200000-073 **Prep Batch #...:** 7171073							
Aluminum	6320	6710	mg/kg	106	SW846 6010B	06/20-06/27/07	J1CRC1A4
			Dilution Factor: 1				
Antimony	60.9	57.0	mg/kg	94	SW846 6010B	06/20-06/22/07	J1CRC1A5
			Dilution Factor: 1				
Arsenic	161	159	mg/kg	99	SW846 6010B	06/20-06/22/07	J1CRC1A6
			Dilution Factor: 1				
Barium	252	239	mg/kg	95	SW846 6010B	06/20-06/22/07	J1CRC1A7
			Dilution Factor: 1				
Beryllium	94.4	96.3	mg/kg	102	SW846 6010B	06/20-06/22/07	J1CRC1A8
			Dilution Factor: 1				
Boron	97.4	116	mg/kg	119	SW846 6010B	06/20-06/27/07	J1CRC1A9
			Dilution Factor: 1				
Cadmium	128	124	mg/kg	97	SW846 6010B	06/20-06/22/07	J1CRC1CA
			Dilution Factor: 1				
Calcium	3320	3110	mg/kg	94	SW846 6010B	06/20-06/22/07	J1CRC1CC
			Dilution Factor: 1				
Cobalt	35.2	33.8	mg/kg	96	SW846 6010B	06/20-06/22/07	J1CRC1CD
			Dilution Factor: 1				
Copper	148	141	mg/kg	95	SW846 6010B	06/20-06/22/07	J1CRC1CE
			Dilution Factor: 1				
Iron	11200	14000	mg/kg	125	SW846 6010B	06/20-06/27/07	J1CRC1CF
			Dilution Factor: 1				
Lead	142	136	mg/kg	96	SW846 6010B	06/20-06/22/07	J1CRC1CG
			Dilution Factor: 1				
Magnesium	2040	1960	mg/kg	96	SW846 6010B	06/20-06/22/07	J1CRC1CH
			Dilution Factor: 1				
Manganese	408	393	mg/kg	96	SW846 6010B	06/20-06/22/07	J1CRC1CJ
			Dilution Factor: 1				

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LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F7F190216 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Molybdenum	84.1	84.8	mg/kg	101	SW846 6010B	06/20-06/22/07	J1CRC1CK
			Dilution Factor: 1				
Nickel	147	140	mg/kg	95	SW846 6010B	06/20-06/22/07	J1CRC1CL
			Dilution Factor: 1				
Potassium	1920	2170	mg/kg	113	SW846 6010B	06/20-06/27/07	J1CRC1CM
			Dilution Factor: 1				
Selenium	64.2	63.5	mg/kg	99	SW846 6010B	06/20-06/22/07	J1CRC1CN
			Dilution Factor: 1				
Silicon	754	961	mg/kg	127	SW846 6010B	06/20-06/28/07	J1CRC1CP
			Dilution Factor: 1				
Silver	130	137	mg/kg	105	SW846 6010B	06/20-06/22/07	J1CRC1CQ
			Dilution Factor: 1				
Sodium	445	470	mg/kg	106	SW846 6010B	06/20-06/27/07	J1CRC1CR
			Dilution Factor: 1				
Vanadium	97.3	96.2	mg/kg	99	SW846 6010B	06/20-06/22/07	J1CRC1CT
			Dilution Factor: 1				
Zinc	165	151	mg/kg	91	SW846 6010B	06/20-06/22/07	J1CRC1CU
			Dilution Factor: 1				
Chromium	69.5	65.6	mg/kg	94	SW846 6010B	06/20-06/22/07	J1CRC1CV
			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 #...: F7F190216 **Matrix.....:** SOLID
Date Sampled...: 06/14/07 **Date Received..:** 06/19/07

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: F7F190216-001 **Prep Batch #...:** 7171073									
								% Moisture.....: 3.3	
Aluminum									
	8060	103	8930	mg/kg	843		SW846 6010B	06/20-06/27/07	J1AKA1CR
			Qualifiers: N,D						
	8060	103	9300	mg/kg	1200	4.1	SW846 6010B	06/20-06/27/07	J1AKA1CT
			Qualifiers: N,D						
			Dilution Factor: 2						
Antimony									
	ND	25.9	11.0 N	mg/kg	43		SW846 6010B	06/20-06/22/07	J1AKA1CU
	ND	25.9	12.2 N	mg/kg	47	10	SW846 6010B	06/20-06/22/07	J1AKA1CV
			Dilution Factor: 1						
Arsenic									
	2.2	103	90.6	mg/kg	86		SW846 6010B	06/20-06/22/07	J1AKA1CW
	2.2	103	93.6	mg/kg	88	3.2	SW846 6010B	06/20-06/22/07	J1AKA1CX
			Dilution Factor: 1						
Barium									
	61.7	103	144	mg/kg	79		SW846 6010B	06/20-06/22/07	J1AKA1C0
	61.7	103	149	mg/kg	84	3.5	SW846 6010B	06/20-06/22/07	J1AKA1C1
			Dilution Factor: 1						
Beryllium									
	0.16	2.59	2.45	mg/kg	88		SW846 6010B	06/20-06/22/07	J1AKA1C2
	0.16	2.59	2.55	mg/kg	92	4.1	SW846 6010B	06/20-06/22/07	J1AKA1C3
			Dilution Factor: 1						
Boron									
	ND	103	118 D	mg/kg	114		SW846 6010B	06/20-06/27/07	J1AKA1C4
	ND	103	123 D	mg/kg	119	4.6	SW846 6010B	06/20-06/27/07	J1AKA1C5
			Dilution Factor: 5						
Cadmium									
	ND	2.59	1.85 N	mg/kg	71		SW846 6010B	06/20-06/22/07	J1AKA1C6
	ND	2.59	1.95	mg/kg	75	5.4	SW846 6010B	06/20-06/22/07	J1AKA1C7
			Dilution Factor: 1						
Calcium									
	3580	2590	5770	mg/kg	85		SW846 6010B	06/20-06/22/07	J1AKA1C8
	3580	2590	5940	mg/kg	91	2.9	SW846 6010B	06/20-06/22/07	J1AKA1C9
			Dilution Factor: 1						

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MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F7F190216 **Matrix.....:** SOLID
Date Sampled...: 06/14/07 **Date Received..:** 06/19/07

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Chromium									
	9.2	10.3	17.3	mg/kg	79		SW846 6010B	06/20-06/22/07	J1AKA1CK
	9.2	10.3	17.5	mg/kg	81	0.92	SW846 6010B	06/20-06/22/07	J1AKA1CL
			Dilution Factor: 1						
Cobalt									
	9.9	25.9	30.4	mg/kg	79		SW846 6010B	06/20-06/22/07	J1AKA1DA
	9.9	25.9	31.4	mg/kg	83	3.3	SW846 6010B	06/20-06/22/07	J1AKA1DC
			Dilution Factor: 1						
Copper									
	11.8	12.9	22.2	mg/kg	81		SW846 6010B	06/20-06/22/07	J1AKA1DD
	11.8	12.9	22.7	mg/kg	84	1.9	SW846 6010B	06/20-06/22/07	J1AKA1DE
			Dilution Factor: 1						
Iron									
	24900	51.7	24900	mg/kg	69		SW846 6010B	06/20-06/27/07	J1AKA1DF
			Qualifiers: N,D						
	24900	51.7	24900	mg/kg	11	0.12	SW846 6010B	06/20-06/27/07	J1AKA1DG
			Qualifiers: N,D						
			Dilution Factor: 5						
Lead									
	4.0	25.9	24.5	mg/kg	79		SW846 6010B	06/20-06/22/07	J1AKA1DH
	4.0	25.9	25.4	mg/kg	83	3.7	SW846 6010B	06/20-06/22/07	J1AKA1DJ
			Dilution Factor: 1						
Magnesium									
	4300	2590	6010 N	mg/kg	66		SW846 6010B	06/20-06/22/07	J1AKA1DK
	4300	2590	6350	mg/kg	79	5.6	SW846 6010B	06/20-06/22/07	J1AKA1DL
			Dilution Factor: 1						
Manganese									
	315	25.9	305 N	mg/kg	0.0		SW846 6010B	06/20-06/22/07	J1AKA1DM
	315	25.9	318 N	mg/kg	14	0.0	SW846 6010B	06/20-06/22/07	J1AKA1DN
			Dilution Factor: 1						
Molybdenum									
	ND	51.7	43.1	mg/kg	83		SW846 6010B	06/20-06/22/07	J1AKA1DP
	ND	51.7	44.6	mg/kg	86	3.4	SW846 6010B	06/20-06/22/07	J1AKA1DQ
			Dilution Factor: 1						

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MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F7F190216 **Matrix.....:** SOLID
Date Sampled...: 06/14/07 **Date Received..:** 06/19/07

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Nickel									
	11.5	25.9	34.7	mg/kg	90		SW846 6010B	06/20-06/22/07	J1AKA1DR
	11.5	25.9	31.4	mg/kg	77	9.8	SW846 6010B	06/20-06/22/07	J1AKA1DT
			Dilution Factor: 1						
Potassium									
	1740	2590	4460 D	mg/kg	105		SW846 6010B	06/20-06/27/07	J1AKA1DU
	1740	2590	4390 D	mg/kg	103	1.5	SW846 6010B	06/20-06/27/07	J1AKA1DV
			Dilution Factor: 2						
Selenium									
	ND	103	75.1 N	mg/kg	73		SW846 6010B	06/20-06/22/07	J1AKA1DW
	ND	103	78.4	mg/kg	76	4.2	SW846 6010B	06/20-06/22/07	J1AKA1DX
			Dilution Factor: 1						
Silicon									
	816	517	900 N,D	mg/kg	16		SW846 6010B	06/20-06/28/07	J1AKA1A8
	816	517	977 N,D	mg/kg	31	8.2	SW846 6010B	06/20-06/28/07	J1AKA1A9
			Dilution Factor: 2						
Silver									
	ND	2.59	1.38 N	mg/kg	53		SW846 6010B	06/20-06/22/07	J1AKA1CA
	ND	2.59	1.70 N	mg/kg	66	21	SW846 6010B	06/20-06/22/07	J1AKA1CC
			Dilution Factor: 1						
Sodium									
	153	2590	3060 D	mg/kg	112		SW846 6010B	06/20-06/27/07	J1AKA1CD
	153	2590	3190 D	mg/kg	117	4.2	SW846 6010B	06/20-06/27/07	J1AKA1CE
			Dilution Factor: 2						
Vanadium									
	51.1	25.9	72.1	mg/kg	81		SW846 6010B	06/20-06/22/07	J1AKA1CF
	51.1	25.9	72.6	mg/kg	83	0.79	SW846 6010B	06/20-06/22/07	J1AKA1CG
			Dilution Factor: 1						
Zinc									
	34.9	25.9	53.6 N	mg/kg	72		SW846 6010B	06/20-06/22/07	J1AKA1CH
	34.9	25.9	55.8	mg/kg	81	4.0	SW846 6010B	06/20-06/22/07	J1AKA1CJ
			Dilution Factor: 1						

MS Lot-Sample #: F7F190216-001 **Prep Batch #...:** 7171178

% Moisture.....: 3.3

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MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F7F190216 **Matrix.....:** SOLID
Date Sampled...: 06/14/07 **Date Received..:** 06/19/07

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Mercury									
	ND	0.172	0.176	mg/kg	102		SW846 7471A	06/21/07	J1AKA1CM
	ND	0.172	0.193	mg/kg	112	9.3	SW846 7471A	06/21/07	J1AKA1CN

Dilution Factor: 1

NOTE(S):

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

N Spiked analyte recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

D Result was obtained from the analysis of a dilution.

WET CHEMISTRY

Washington Closure Hanford

Client Sample ID: J15591

General Chemistry

Lot-Sample #...: F7F190216-001 **Work Order #...:** J1AKA **Matrix.....:** SOLID
Date Sampled...: 06/14/07 **Date Received..:** 06/19/07
% Moisture.....: 3.3

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	3.3	0.10	%	MCAWW 160.3 MOD	06/20/07	7171311

Dilution Factor: 1 MDL.....:

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F7F190216 **Work Order #...:** J1AKA-SMP J1AKA-DUP **Matrix.....:** SOLID

Date Sampled...: 06/14/07 **Date Received..:** 06/19/07

% Moisture.....: 3.3

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture						SD Lot-Sample #:	F7F190216-001	
	3.3	3.2	%	4.9	(0-30)	MCAWW 160.3 MOD	06/20/07	7171311

Dilution Factor: 1

J00116

STL ST. LOUIS

CUR 1799

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-032-121 | Page 1 of 1

Collector: Coffman/DeBuigne	Company Contact: R.T. Coffman	Telephone No.: 528-6409	Project Coordinator: KESSNER, JH
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 118-F-8:4 FSB Verification/BCL Stockpiles		SAF No.: RC-032
Ice Chest No.: SAWS-020	Field Logbook No.: EFL-1174-2	COA: R118F82000	Method of Shipment: FED EX
Shipped To: Severn Trent Incorporated, ~~Richland~~ St. Louis JRD 6-12-07	Offsite Property No.: A070309		Bill of Lading/Air Bill No.: See OSPC

Price Code: 86 | Data Turnaround: 15 DAY

POSSIBLE SAMPLE HAZARDS/REMARKS
NA

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 Hex - 7196	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)	

JRD 6-12-07 JRD 6-12-07

Sample No.	Matrix *	Sample Date	Sample Time										
J15591	SOIL	6-14-07	1230	X		X							S

CHAIN OF POSSESSION

Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
JRDeBuigne JRD Buigne	1600 6-14-07	3728/3A	1600 6-14-07
3728/3A	6-18-07 0900	KMSingleton	6-18-07 0900
KMSingleton	6-18-07 WCH 1500	FED EX	06.18.07 1500
FedX	06.19.07 0915		

SPECIAL INSTRUCTIONS

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

Sampler unavailable to relinquish samples from 3728 Ref # 3A.
3728 Custodian removed samples for shipping on 6/18/07.

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

LABORATORY SECTION	Received By: Jill Clarke	Title: 10-19-07 0915	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

T# F7F190216

SDG# J00116

STL

Lot #(s): F7F190216
- 1799 -

Condition Upon Receipt Form

Client: Hanford
Quote No:
COC/RFA No: RC-032-121
Initiated By: [illegible]
Date: 6-19-07
Time: 0915

Shipping Information

Shipper Name: Fed Ex
Multiple Packages Y (N)

Shipping # (s):*
1. 7996 5998 2648
2.
3.
4.
5.
6.
7.
8.
9.
10.

Sample Temperature (s):**
1. 6
2.
3.
4.
5.
6.
7.
8.
9.
10.

*Numbered shipping lines correspond to Numbered Sample Temp lines

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

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

1.	Y (N)	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: 06-26-07

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.

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